Council Chambers | 751 W 4th Street, Kuna, Idaho 83634 | 6:00 PM

PLANNING & ZONING COMMISSION
AGENDA
Tuesday, August 11, 2020
6:00 PM

Per the Order issued by Central District Health on July 14, 2020, Social distancing and face masks will be required.

Due to social distancing protocol, the Council Chambers Audience Occupancy Capacity is 15. The first 15 persons who appear will be allowed in Council Chambers. All other persons may access the meeting via Live Streaming.

Public testimony will be received on the cases listed under Public Hearings within this Agenda. The instructions and options available for public testimony are listed below.

Live Streaming Instructions: *Members of the public may watch the June 9, 2020 Planning & Zoning Commission meeting via Facebook Live. The live feed will start at 6:00 PM on the City of Kuna Idaho Facebook page linked below:* https://www.facebook.com/CityofKunaIdaho/

APPLICANT AND PUBLIC WRITTEN AND ORAL HEARING TESTIMONY PROCESS:

Written - In Advance to be included in the Agenda Packet that is distributed to the Decision-Making body.

1. Submit any option prior to 5:00 pm the Thursday before Public Hearing meeting. *Late submissions will not be included in the packet but will be provided at the meeting.*
2. Submit testimony via our website on the Public Testimony Form. This form will email directly to the City for inclusion in the Agenda Packet.
3. Submit testimony via email to PublicHearingTestimony@KunaID.gov
4. Submit via mail to:
   City of Kuna
   Attention: City Clerk
   PO Box 13
   Kuna ID 83634

Written – Up to noon the day of the Public Hearing

1. Submit any option prior to noon the day of the Public Hearing meeting. *Late submissions will not be included.*
2. Submit testimony via our website on the Public Testimony Form
3. Submit testimony via email to PublicHearingTestimony@KunaID.gov
4. Submit via mail to:
   City of Kuna
   Attention: City Clerk
   PO Box 13
   Kuna ID 83634

Oral – Via electronic call during the Public Hearing

1. Submit request no later than noon the day of the Public Hearing meeting.
2. Email PublicHearingTestimony@KunaID.gov

- ✓ Your name
- ✓ Address
- ✓ Phone Number you will be calling from to give testimony
- ✓ Email Address
- ✓ Date of Public Hearing
- ✓ Case number or Identification of Public Hearing

3. Watch your email for a reply email with the information to join the meeting electronically. (Check your spam/junk folder as a precaution)
4. Follow the dial in information.
5. Call into the virtual lobby a minimum of 5 minutes prior to the meeting.

Oral – In Person Testimony during the Public Hearing.

Due to social distancing protocol, the Council Chambers Audience Occupancy Capacity is 15. Social Distancing will be required. The first 15 persons who appear, in addition to Mayor, City Council, and staff, will be allowed in Council Chambers. All other persons may access the meeting via Live Streaming on the City of Kuna Facebook page, https://www.facebook.com/CityofKunaIdaho/. All persons wishing to testify must, state their name and residential address. No person shall speak until recognized by the Mayor. A three (3) minute time limit will be placed on all testimonies.

Information provided at the public hearing will be available, upon request, five (5) days prior to the hearing. The hearing will be held in a facility that is accessible to persons with disabilities. Special accommodations will be available, upon request, five (5) days prior to the hearing in a format that is usable to persons with disabilities.

1. *CALL TO ORDER AND ROLL CALL*

COMMISSIONERS:

Chairman Lee Young
Vice Chairman Dana Hennis
Commissioner Cathy Gealy
Commissioner Stephen Damron
Commissioner John Laraway

2. *CONSENT AGENDA:* *All Listed Consent Agenda Items are Action Items*

A. Planning and Zoning Commission Meeting Minutes

1. July 28, 2020

B. Findings of Fact & Conclusions of Law

1. 19-11-AN (Annexation), 19-29-DR (Design Review) & 19-08-S (Preliminary Plat) Ashton Estates East

3. *PUBLIC HEARING:*

A. Case Nos. 20-01-AN (Annexation), 20-03-S (Preliminary Plat) & 20-07-DR (Design Review) Ledgestone South Subdivision - ACTION ITEM

Trilogy Development, Inc and Gem State Planning request to annex approximately 97 acres into Kuna City Limits with R-6 (Medium Density Residential) and R-8 (Medium Density Residential) zoning district classifications and to subdivide the 97 acres into 437 total lots (393 buildable lots and 44 common lots). The subject sites are located along North Locust Grove Road and future extensions of Ardell Road and Stroebel Road, within Section 18, Township 2 North, Range 1 East; (APNs: S1418123460, S1418123485, S1418427800 and S1418417200).

B. **Case No. 19-14-AN (Annexation), 19-11-S (Preliminary Plat) & 19-32-DR (Design Review) Patagonia East, Ridge, & Lakes Subdivision – ACTION ITEM**

Westpark Companies, requests annexation of approximately 163.60 acres into Kuna and to apply the following zones; R-4, R-6 and R-8. Applicant also requests preliminary plat approval in order to subdivide the approx. 163.60 acres into 574 total lots including a school site. The proposed gross density is 3.28 DUA, and the proposed net density is approximately 4.26 DUA with 12.4% (20.29 ac.) of common space. The project site is in Sections 7, 8, & 17 all T2N, R1E, on the northwest, northeast and southeast corner of Locust Grove and Hubbard Roads, Kuna, Id. 83634.

C. **Case No. 20-13-DR (Design Review) & 20-03-SUP (Special Use Permit) New Eagle Christian Church – ACTION ITEM**

Rennison Design seeks a Special Use Permit (SUP) to construct and operate a new church. The property is located at the northwest corner of W. Ardell Road and N. Ten Mile Road (APN: S1315142250). The applicant also seeks design review approval for an approximately 16,983 square foot church building, parking lot and landscaping.

D. **Case No. 20-01-V (Variance) Harry Knox Lot Split – ACTION ITEM**

The applicant is seeking approval of this Variance request, in order to create parcels smaller than the minimum lot size permitted within the Central Business District through the Lot Split Process for Ada County Assessor's Parcel No. R5070001086.

E. **Case No. 20-01-ZC (Rezone), 20-02-S (Preliminary Plat) & 20-05-DR (Design Review) Sera Sole Subdivision – ACTION ITEM**

Riley Planning, LLC requests to rezone two parcels consisting of approximately 19.22 acres in Kuna City, from Agriculture (Ag.) TO the R-6 (Medium Density Residential) zoning district and to subdivide the same lands into 89 total lots (78 buildable lots and 11 common lots). The subject site is located near the NWC of Swan Falls Road and Sunbeam Street within Section 26, Township 2 North, Range 1 West; (APNs: S1326141870 & S1326142025.).

F. **Case No. 19-13-AN (Annexation) Blackrock Market Place/Village – ACTION ITEM**

SH69 Holdings, LLC requests approval to annex approximately (approx.) 40.82 acres (ac) into Kuna City limits in order to develop the same lands utilizing 2 separate zones; the R-20, High Density Residential (HDR) & C-2 (Area Commercial) zones. The R-20 HDR is proposed to be approx. 13.22 ac in size, and the C-2 (Commercial) is proposed to be approx. 27.45 ac. The applicant will propose multi-family housing units within the R-20 zone in the future, and Commercial uses will be proposed within the C-2 zone, in the future. The site is located at the hard-northwest corner of Meridian and Deer Flat Roads in Kuna, ID 83634, Section 13, Township 2 North, Range 1 West; (APN: S1313449900).

4. *BUSINESS ITEMS:*

A. **Findings of Fact & Conclusions of Law**

1. 20-01-V Harry Knox Lot Split

5. *ADJOURNMENT:*

Council Chambers | 751 W 4th Street, Kuna, Idaho 83634 | 6:00 PM

PLANNING & ZONING COMMISSION
MINUTES
Tuesday, July 28, 2020
6:00 PM

Under authority of the Governor's partial Open Meeting Law Suspension Proclamation dated March 13, 2020, and due to social distancing protocol, the Council Chambers Audience Occupancy Capacity was 15. Social Distancing was required.

Public testimony was received on the cases listed under Public Hearings within this Agenda.

This meeting was also streamed Live on the City of Kuna Facebook page:
https://www.facebook.com/CityofKunaIdaho/

1. *CALL TO ORDER AND ROLL CALL 6:00 PM*

COMMISSIONERS:
Chairman Lee Young
Vice Chairman Dana Hennis
Commissioner Cathy Gealy
Commissioner Stephen Damron – Absent
Commissioner John Laraway – Absent

CITY STAFF PRESENT:
Wendy Howell, Planning and Zoning Director
Doug Hanson, Planner
Jessica Reid, Planning & Zoning Staff

2. *CONSENT AGENDA:* *All Listed Consent Agenda Items are Action Items*

A. **Planning and Zoning Commission Meeting Minutes**

1. July 28, 2020

B. **Findings of Fact & Conclusions of Law**

1. 20-01-CPF Ensign Subdivision No. 1 (Combination Preliminary & Final Plat)

Commissioner Cathy Gealy moved to approve the Consent Agenda. Seconded by Commissioner Dana Hennis. Approved by the following roll call vote:
Voting Aye: Chairman Lee Young, Commissioner Dana Hennis and Commissioner Cathy Gealy.
Voting No: None
Absent: 2
Motion carried: 3-0-2

3. *PUBLIC HEARING:*

A. **Case No. 20-01-AN (Annexation), 20-03-S (Preliminary Plat) & 20-07-DR (Design Review) Ledgestone South Subdivision - ACTION ITEM**

C/Young: It appears that staff requested that this item be tabled to a date certain pending final agency comments. **Jessica Reid:** Correct. **C/Young:** Is there an anticipated time of arrival? **JR:** August 11th, if the Commission would approve. **C/Young:** Ok.

Commissioner Cathy Gealy moved to table 20-01-AN (Annexation), 20-03-S (Preliminary Plat) and 20-07-DR (Design Review) for Ledgestone South Subdivision to August 11, 2020. Seconded by Commissioner Dana Hennis. Approved by the following roll call vote:
Voting Aye: Chairman Lee Young, Commissioner Dana Hennis and Commissioner Cathy Gealy.
Voting No: None
Absent: 2
Motion carried: 3-0-2

B. **Case No. 19-14-AN (Annexation), 19-11-S (Preliminary Plat) & 19-32-DR (Design Review) Patagonia East, Ridge, & Lakes Subdivision – ACTION ITEM**

C/Young: This item also, staff requests it be tabled to a date certain pending agency comments. **Jessica Reid:** August 11th please, if that's possible. **C/Hennis:** That's going to be a busy night.

Commissioner Cathy Gealy moved to table 19-14-AN (Annexation), 19-11-S (Preliminary Plat) and 19-32-DR (Design Review) for Patagonia East, Ridge, and Lakes Subdivision to August 11, 2020. Seconded by Commissioner Dana Hennis. Approved by the following roll call vote:
Voting Aye: Chairman Lee Young, Commissioner Danna Hennis and Commissioner Cathy Gealy.
Voting No: None
Absent: 2
Motion carried: 3-0-2

C. **Case No. 19-11-AN (Annexation), 19-29-DR (Design Review) & 19-08-S (Preliminary Plat) Ashton Estates East – ACTION ITEM**

Doug Hanson: Good evening Chairman and Commissioners, for the record, Doug Hanson, Kuna Planning and Zoning staff, 751 W 4th Street, Kuna, Idaho, 83634. The applications before you this evening are the annexation of an approximately 38.47-acre parcel into Kuna City Limits with an R-8 (Medium Density Residential) zoning district classification, and the subdivision of the 38.47-acre parcel into 175 buildable lots and 25 common lots. Additionally, the applicant has submitted a design review application for the projects landscaping and open space. Ashton Estates East sewage is anticipated to flow to the Danskin Lift Station. At this time, lift station capacity is over-committed; the applicant has met with the Public Works department and discussed that they are willing to cost share for improvements in Danskin Lift Station so they can move forward with this project. Staff would note that if the Commission recommends approval of this project that the applicant be conditioned to work with the Kuna City Engineer to provide a solution regarding the creation of additional capacity. This condition has been provided as condition number 6 in section "I" of the Staff Report. Following review, staff has determined the annexation, preliminary plat and design review are within compliance of Kuna City Code, Idaho State Code and the Kuna Comprehensive Plan. As a reminder, the annexation and preliminary plat are before you as a recommendation to the City Council, and the design review is seeking your decision this evening. If the Commission approves the design review and recommends approval of the annexation/pre-plat, staff would recommend that the applicant be subject to the conditions of the approval listed in section "I" of your Staff Report, as well as any other additional

conditions this decision-making body decides to impose. Thank you. **C/Young:** Are there any questions for staff at this time? **C/Gealy:** I have no questions at this time. **C/Hennis:** Me neither. **Jessica Reid:** Commissioners Gealy and Young, if you could be closer to your microphone please so we can pick it up on the (Facebook) Live. Thank you. **C/Young:** Ok then, can we please have the applicant come forward and tell us about your project. Please state your name and address for the record. **Stephanie Leonard:** Hi, Stephanie Leonard with KM Engineering, 9233 W State Street, Boise, Idaho, 83714. Thank you for having us here this evening, especially with current circumstances, we appreciate the possibility to speak here tonight. We're here tonight to ask for your favorable recommendation and approval of our application on Ashton Estates East. We are asking to annex into the City of Kuna with an R-8 zoning district and a preliminary plat of 200 lots in total. Doug did a good job summarizing our project, I'm not going to wordy as far as the description. We're about 38.6-acres in total, we are currently zoned Rural Residential in Ada County; we're asking for the R-8 zoning district, Medium Density Residential in Kuna. We are contiguous to be annexed, as you can see, Ashton Estates to the west and there's also property to the south that has been annexed into Kuna. Ashton Estates, as I'm sure you're all aware, is a mix of commercial and residential properties; we were hoping to continue on with the residential product in Ashton Estates East. In preparing for this application, as Doug mentioned, we spoke with Public Works and staff several times before we managed to meet all the requirements for Sewer, Water, and Pressurized Irrigation. And we've also *unintelligible.* In designing this plat, we did review the city's goals in the Comprehensive Plan and you can see in the Future Land Use Map shows that our property is located in High Density Residential land use designation; that High Density designation does correlate with the R-8 which allows up to eight dwelling units per acre, we have hit that with 4.53 Gross dwelling units per acre or 6.07 Net dwelling unit per acre. We are fulfilling several Comp Plan goals with this subdivision, specifically with construction of a pathway that I will show you later with the landscape plan; and by providing a variety of different housing opportunities, especially adjacent the commercial development to the west. As Doug had mentioned, our development is 200 lots overall, 135 of those are single family residential lots, 21 common lots and then 4 shared driveway lots that are located throughout the site. Our minimum lot size is approximately 3,984 square feet, we have an average lot size of 5,206 square feet; both of which meet the R-8 minimum lot size requirements. We are requesting for the R-8 dimensional standards primarily; we have a section of lots on the southside of the site that are just a little bit more narrow than the R-6 district would allow so, the R-8 incorporates with this subdivision. As mentioned, we are proposing a density of 4.53 dwelling units per Gross acre and 6.07 dwelling units per Net acre which are *unintelligible* in the R-8 district. Our main entrance is going to be via Stone Falls which is to the south, and it will be accessing Meadow View Drive which is not currently constructed but we will construct it with part of this application. *Unintelligible* direct access from Meadow View and we will be constructing three stub streets and continuing one which is currently stubbed at Ashton Estates. ACHD determined in their staff report that we should work with roadway improvements on Stroebel which is the eastern boundary of our site. They recommended that we work with them before they sign our Final Plat, to determine what development patterns are like and what is appropriate, whether that be *unintelligible* or constructing the roadway, it just depends on what is needed at the time. We will be providing public roads throughout the subdivision to Kuna & ACHD's standards. This is our landscape plan; we are requesting approval for design review. There is approximately 7.7 acres of open space which is considered useable open space, it's over 15% of the site, and is in compliance with the requirements. The Kuna Canal that crosses the site from north to south, we are proposing to leave that panel open and install a 9-foot walking path just west of the canal; this is in compliance with the Kuna Pathways Plan. Our plan does anticipate that

they are going to be putting in some type of tot-lot too, in one of the bigger open space areas. They have also incorporated a school bus pickup area at the entrance to Meadow View Drive, which was a request from the School District. Open space will be maintained by the Homeowners Association as well. This is the phasing plan that we are planning on at this point, it will be 5 phases. The first phase will contain approximately 49 lots and include two access points, there will also be a stub street that would lead to the undeveloped property to the west; as I mentioned before, we will be including that bus stop off of Meadow View. As mentioned earlier, we are requesting an R-8 zone for this site so we can accommodate a different product type which is to the south in grey; they are a little bit more narrow than some of the other lots. The ones in blue and yellow are actually around 5,000 – 6,000 thousand square feet, I don't remember the average on them but, the ones in grey are right around 4,000 square feet. *Unintelligible* is kind of close to the thoroughfare, its right near Ashton Estates on the west. We feel the development is consistent with the Kuna Comprehensive Plan in providing a variety of other residential opportunities. We're close to services; we've been working with Public Works to make sure that we can serve the site. We also feel that this will be a complimentary continuation of the Ashton Estates Subdivision that is already there. We are compliant with the standards of the R-8 zone and in fact those areas exceed the minimum requirements. I believe that this is going to be a great product for Kuna, especially in the transportation areas and services. With that, I will stand for any questions. **C/Hennis:** There was one question that I had, I believe it was in one of the irrigation districts reports that they had requested a full bridge over the canal; it looks like it shows that on your plat, is that the plan to continue the roadway over? **SL:** That is correct, it's on the northside of the plat. **C/Gealy:** I have no questions. **C/Young:** I do have a quick one and it's probably more for the people in the area because they're always, especially in an area like Kuna, people are always fearful of their water rights and access to their existing irrigation. I know the canal was going to stay open and maintain being open, any of the existing water rights off of that canal will be maintained; the water will still be accessible to all those parcels? **SL:** That is correct. We are required to do that. **C/Young:** As far as the stub streets to the north and adjacent parcels, it's your intent that when you are putting the fencing around the subdivision that even though those are future streets, to run that fence the full length of the norther property boundary, correct? **SL:** I believe so, that's the plan. **C/Young:** Until something is developed, then they can modify that? **SL:** ACHD requires there's a sign on the road that says the road will be extended in the future. **C/Young:** It looks like there are three different flag lots, blocks 2, 3 and 9; the shared driveway for those, is that maintained by the HOA? The landscaping that borders that driveway? **SL:** Yes, that is correct, it will be maintained by the HOA. **C/Young:** Ok, those are all the questions I had at this time. **SL:** Thank you. **C/Young:** Thank you. We'll go ahead and open up the public testimony at 6:17 PM. Each person will have three minutes to make their comments then, after everybody has had a chance to speak, the applicant has a chance to come back and answer those questions that have been brought up. With that, I have listed under Neutral, Harvy Kohn. Did I even come close? Ok, if you could just come up and state your name and address for the record please. **Harry Kohn:** Harry Kohn, I live at 2211 E Deer Flat, Kuna. My property borders on the west side and what would be the south side. The problem I'm having right now is the subdivision they're working on to the west side, I've got neighbors coming to me constantly complaining about water in their yard because when I flood irrigate my pasture, it runs over into their yards. There's a drain there but the drain is higher than their yards so it's going to go in their yards before it goes into the drain. This has been going on ever since they built the place, I'm just fed up with the guys coming over and bothering me with it when there's nothing I can do about it. I think before they build a subdivision, they should fix the one they got. That's the way I see it, and I think Rod wants to talk about irrigation so I'll let him talk

about irrigation but I do appreciate you listening to me. Thank you. **C/Young:** Thank you. next I have listed, Deb Schull. Is that right? **Debra Schenk:** No. **C/Young:** Man, I'm not doing too good. **DS:** Do I take this? **Jessica Reid:** Yes, go ahead and use the microphone for me. **DS:** *Unintelligible.* **JR:** I'm sorry Deb, if you could just hold on, they accidentally shut the microphone off on you. **DS:** Is that better? **JR:** Yes. **DS:** Debra Schenk, 2405 E Deer Flat Road, Kuna, Idaho. Could you bring the picture of the plat back up please? Rod, Harry, and I are all neighbors and we get our water, there's the canal, just to this side of it. This road comes down, and right now it is an open ditch that follows that road; that's Rod's place and that's Harry's place. Right there is where our water is piped so I don't know if you guys have an idea to do that, but that would be a good way to get it to our place and not be under anybody's yard. The only problem is that No. 18 on the other side, that would go under somebody's house right there; that's what we don't want because when everything is said and done, that's not fair to who lives there in the future. So, that's what we're concerned about, and it looks like *unintelligible* with the plat because it kind of drops down. So, that's all we want. Thank you. **C/Young:** Thank you very much. And next I have listed, Rod…. **Rod Wiens:** Wiens. **C/Young:** Thank you; I just gave up. **RW:** Is it working? **C/Hennis:** Yup. **RW:** The first question is, how the developers plan to work with our water which is open ditch that runs into a pipe? How do they plan to do this? Is it going to be an underground pipe that goes down the middle of the road? Will we have access? We need to know what is going to happen there. **Jessica Reid:** Rod, if I could interrupt you. Please state your name and address for the record. **RW:** Oh, yes. Rod Wiens, 2329 E Deer Flat Road. **JR:** Thank you Rod. **RW:** We need our water like I was saying, and I want to ask the developer how they are going to do that. Currently, at the very top there on the north side, the RR is my property; over on the other side here is Harry Kohn's property. As you can see, this is the second issue I have, there are three temporary road spurs and I would definitely like to see some kind of temporary fence at the end of those so that residents, children, pets, etcetera, etcetera, don't keep coming across to our property. Basically, that's it, we are concerned about our water and a little concerned about the temporary fence. Thank you. **C/Young:** Thank you. I don't see anybody else on the sign-in sheet, is there anybody here that has not signed in and wanted to testify on this application? Ok, and just to verify, there isn't anyone on Zoom. **JR:** There is not. **C/Young:** Ok, then we'll have the applicant please come back up. **SL:** Hi, Stephanie Leonard, 9233 W State Street, Boise, 83714; I guess I will address some of the questions. I think we addressed Harry's question before the meeting, we gave a number to call for someone to kind of coordinate the water and what has been going on with the flood irrigation; we'll work through that. For the water and delivery to properties that are currently being served, we have met with the ditch company a couple times and addressed that issue. We will be accomplishing anything that needs to be done for them to get their water during this project. There is actually a state statute that requires us to maintain water rights for anyone, its of the utmost importance *unintelligible*. As far as the fencing that Rod thought of, we will be placing a temporary fence behind or kind of across that area and there is also a barricade, we are required by ACHD, to make sure that folks can't go to on his property. I think with that I will stand for any question you may have. **C/Young:** Ok, are there any other questions? **C/Gealy:** I have another question and I appreciate the variety of they housing type and the useable open space. I am concerned about access to the open space, there's the pathway and then the two larger parcels seem to be pretty well surrounded by homes except for there at the north and the south. It seems that there's really minimal…. there's not easy access for the smaller lots to the open space. **SL:** Thank you Commissioner Gealy. I think that the idea would be that they would use the pathway that is within that common lot then go up to the bridge to the smaller area or, I don't know how far that is all the way in feet, walk up to the central open space there. Do you think there may be inadequate pathway to those areas? We

will be installing sidewalks on these roads so, that will provide folks who are maybe down in this section where they can walk up to one of those linear open spaces then up to the larger open space too. **C/Gealy:** So, there will be access from that southern portion from that cul-de-sac to the pathway? **SL:** Correct. What I think is this is actually a common lot and I don't exactly remember what the design is but, I imagine there is an area or a way to get there. **C/Gealy:** I was wondering if it would be possible to consider a pathway, maybe not at Stone Falls, but somewhere in there across to the open area. **SL:** I'm not sure if we considered that but I think that the 5-foot sidewalk provides a pretty…. I mean, it's a little bit of a jaunt but, I think that's adequate to the central open space. Each of those lots are 40-feet wide and with twenty of them that's 240-feet long; it's not terribly long, it maybe looks like that. **C/Gealy:** Thank you. **C/Young:** Are there any other questions at this time? **C/Hennis:** No. **C/Young:** Ok, thank you. **SL:** Thank you. **C/Young:** Then I'll close the public testimony at 6:30 PM, which then brings up our conversation or discussion. Does anybody want to go first? **C/Hennis:** I think things have been answered with regards to the flag lots. I think for the most part it's a well laid out area; I kind of like the open spaces with how wide and long and you can get to them pretty easy for the most part. With how the canal is, they can't do anything with water rights, it's against state law; otherwise I think it lays out pretty well. **C/Gealy:** The other concern I have is the city sewer capacity. Staff indicated they would be willing to work with the city on shared cost for increasing sewer capacity. **C/Hennis:** Yes, it's one of the conditions in the report. I think the condition intends to be continual across there, they said they will and that seems to be the only thing not in the condition. **C/Young:** I agree, I think that they can't build until they get the sewer issues figured out anyway. **C/Hennis:** Right. **C/Young:** It all has to be permitted and approved by the City Engineer to accept everything. **C/Hennis:** It all has to be permitted. **C/Gealy:** Before they do anything? **C/Young:** Right. For me, the layout looks pretty good and I do like the multiple areas of open space. I think it fits as a transition from the future commercial to the west and a transition to the future uses to the east as it develops. I think the landscaping looks appropriate; I don't see any issues. I agree with ACHD shifting one street over to the east a little bit to provide some traffic calming coming from the north at *unintelligible* avenue. I think it all looks pretty good myself. Anything else that anyone else wants to discuss?

Commissioner Dana Hennis moved to recommend approval for 19-11-AN (Annexation) and 19-08-S (Preliminary Plat) to City Council for Ashton Estates East Subdivision with the conditions as outlined in the staff report as well as the additional condition that the fences bordering the north side of the property continue across the stub streets.

C/Young: Did we want to include the item in section 6, item "I"? **C/Hennis:** It was already in the conditions for the sewer. **C/Young:** Was it? **C/Hennis:** Mhm. **C/Young:** Ok.

Seconded by Commissioner Cathy Gealy. Approved by the following roll call vote:
Voting Aye: Chairman Lee Young, Commissioner Danna Hennis and Commissioner Cathy Gealy.
Voting No: None
Absent: 2
Motion carried: 3-0-2

Commissioner Dana Hennis moved to approve 19-29-DR (Design Review) for Ashton Estates East Subdivision with the conditions as outlined in the staff report as well as the additional condition that the fences bordering the north side of the property

continue across the stub streets. Seconded by Commissioner Cathy Gealy. Approved by the following roll call vote:
Voting Aye: Chairman Lee Young, Commissioner Danna Hennis and Commissioner Cathy Gealy.
Voting No: None
Absent: 2
Motion carried: 3-0-2

4. *BUSINESS ITEMS:*

A. 20-02-DR (Design Review) Fossil Creek Subdivision – ACTION ITEM

C/Young: Didn't we already approve this? **Wendy Howell:** This is a confusing one because the Commission technically did approve this last time, but the design review portion of the case was not on the agenda so it is being brought back to you, to allow it to be on record as well as the agenda. **C/Gealy:** But we did review the design review? **WH:** You did, yes. **C/Gealy:** And we voted on it, it just wasn't on the agenda. **WH:** It was not on the agenda. **C/Gealy:** Alright, thank you for explaining because I was confused. **C/Young:** Yeah, I was looking through the minutes and going up and down. **C/Hennis:** So, then we need to revote on this? **WH:** Yes please. *Unintelligible.* **C/Young:** I could re-read the motion from last time. **C/Gealy:** That would be great, and I believe that Commissioner Hennis wasn't here. **C/Hennis:** Right, but I reviewed it again today because I was confused. **C/Young:** Ok, let me get to it here, it's on the last page. I'm just going to recount from the minutes of the last meeting, the motion was: "Commissioner Cathy Gealy moved to approve 20-02-DR (Design Review) for Fossil Creek Subdivision with conditions as outlined in the staff report. Seconded by Commissioner Laraway." **C/Gealy:** And there were no additional conditions on the design review? **C/Young:** Not in the motion, no. **C/Hennis:** Do we need to re-motion then? **WH:** Yes.

Commissioner Cathy Gealy moved to approve 20-02-DR (Design Review) for Fossil Creek Subdivision with the conditions as outlined in the staff. Seconded by Commissioner Dana Hennis. Approved by the following roll call vote:
Voting Aye: Chairman Lee Young, Commissioner Danna Hennis and Commissioner Cathy Gealy.
Voting No: None
Absent: 2
Motion carried: 3-0-2

B. Findings of Fact & Conclusions of Law

1. 20-01-S (Preliminary Plat) & 20-02-DR (Design Review) Fossil Creek Subdivision

Wendy Howell: Then this one is the Findings of Fact for Fossil Creek approval. **C/Young:** So, we need to do a motion for approval.

Commissioner Cathy Gealy moved to approve the Findings of Fact for 20-02-DR (Design Review) for Fossil Creek Subdivision.

C/Hennis: And 20-01-S. **C/Gealy:** I don't have anything. **Wendy Howell:** It's the Findings of Fact for both the preliminary plat and the design review, the preliminary plat was already

approved last time. **C/Young:** It's here. **C/Gealy:** Maybe I could get you to make the motion since I am messing up the numbers.

Commissioner Dana Hennis moved to approve the Findings of Fact for 20-01-S (Preliminary Plat) and 20-02-DR (Design Review) for the Fossil Creek Subdivision with the conditions as outlined in the staff report. Seconded by Commissioner Cathy Gealy. Approved by the following roll call vote:
Voting Aye: Chairman Lee Young, Commissioner Danna Hennis and Commissioner Cathy Gealy.
Voting No: None
Absent: 2
Motion carried: 3-0-2

5. *ADJOURNMENT:* 6:40 PM

Wendy Howell: I just wanted to remind you that when you are talking with your mask on, we need you right up on the microphone so that it comes through on the record.

Commissioner Dana Hennis moved adjourn. Seconded by Commissioner Cathy Gealy. Approved by the following roll call vote:
Voting Aye: Chairman Lee Young, Commissioner Danna Hennis and Commissioner Cathy Gealy.
Voting No: None
Absent: 2
Motion carried: 3-0-2

_____
Lee Young, Chairman
Kuna Planning and Zoning Commission

ATTEST:

_____
Wendy I. Howell, Planning and Zoning Director
Kuna Planning and Zoning Department

City of Kuna

Planning and Zoning Commission
Findings of Fact and Conclusions of Law

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www.Kunacity.id.gov

To: Planning and Zoning Commission

Case Numbers: 19-11-AN (Annexation), 19-08-S (Preliminary Plat) & 19-29-DR (Design Review) **Ashton Estates East Subdivision**

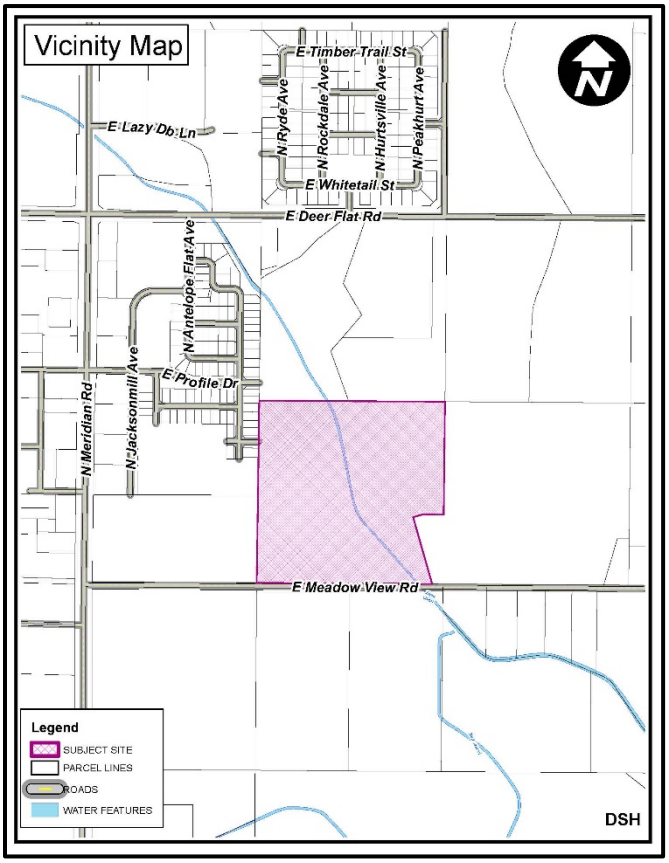
Site Location: 2320 E. Meadow View Road, Kuna, ID 83634

Planner: Doug Hanson, Planner I

Hearing Date: July 28, 2020
Findings: **August 11, 2020**

Owner: Kuna East LLC
P.O. Box 1939
Eagle, ID 83616

Applicant: KM Engineering
9233 West State Street
Boise, ID 83714
208.639.6939
kgrabo@kmengllp.com



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A. Process and Noticing:

1. Kuna City Code (KCC), Title 1, Chapter 14, Section 3, states that design reviews are designated as *public meetings*, with the Planning and Zoning Commission (acting as the Design Review Board) as the decision-making body; and that preliminary plats and annexations are designated as public hearings, with the Planning and Zoning Commission as a recommending body and City Council as the decision-making body. These land use applications were given proper public notice and followed the requirements set forth in Idaho Code, Chapter 65, Local Planning Act.

a. Notifications

i.	Neighborhood Meeting	September 11, 2019 (5 people attended)
ii.	Agency Comment Request	December 5, 2019
iii.	400' Property Owners Notice	July 8, 2020
iv.	Kuna Melba Newspaper	July 8, 2020

v. Site Posted July 9, 2020

B. Applicant's Request:

Kuna East, LLC and KM Engineering requests to annex one 38.47-acre parcel into Kuna City Limits with an R-8 (Medium Density Residential) zoning district classification and to subdivide the 38.47 acres into 200 total lots (175 buildable lots, 25 common lots). The subject site is located at 2320 East Meadow View Road, Kuna, ID 83634, within Section 19, Township 2 North, Range 1 East; (APN: S1419241000).

C. Site History:

The parcel is currently zoned Rural Residential (RR) within unincorporated Ada County. Historically this parcel has served as farmland.

D. General Projects Facts:

1. **Comprehensive Plan Map:** The Future Land Use Map (FLUM) is intended to serve as a *guide* for the decision-making body for the City. The FLUM indicates land use designations generally speaking, it is not the actual zone. The Future Land Use Map identifies the 38.47-acre site as High Density Residential.

2. **Recreation and Pathways Map:** The Recreation and Pathways Master Plan Map does indicate a future pathway/trail through the subject site.

3. **Surrounding Land Uses:**

North	RR	Rural Residential – Ada County
South	A	Agriculture – Kuna City
East	RR	Rural Residential – Ada County
West	A R-6	Agriculture – Kuna City Medium Density Residential – Kuna City

4. **Parcel Sizes, Current Zoning, Parcel Numbers:**

Property Owner	Parcel Size	Current Zone:	Parcel Numbers
Kuna East, LLC	38.47 acres	RR (Rural Residential)	S1419241000

5. **Services:**

Sanitary Sewer– City of Kuna
Potable Water – City of Kuna
Pressurized Irrigation – City of Kuna (KMIS)
Fire Protection – City of Kuna (KRFD)
Police Protection – Kuna Police (Ada County Sheriff's office)
Sanitation Services – J & M Sanitation

6. **Existing Structures, Vegetation and Natural Features:**

The proposed project site currently contains one single-family home and two outbuildings. Vegetation on-site is consistent with that of farmland. The sites have an estimated average slope of 1% to 1.4%. Bedrock depth is estimated to be 20 to 40 inches according to the USDA Soil Survey for Ada County.

7. **Transportation / Connectivity:**

The applicant proposes a connection to the existing public street E Porter Street within Ashton Estates No. 3 Subdivision. The projects main ingress/egress will be S Stone Falls Avenue.

8. **Environmental Issues:**

Staff is not aware of any environmental issues, health or safety conflicts beyond the designation of being in the nitrate priority area. Idaho Department of Environmental Quality (DEQ) has provided recommendations for surface and groundwater protection practices and requirements for development of the site.

9. **Agency Responses:** The following responding agency comments are included as exhibits with this case file:

- Central District Health Department ..... Exhibit B-1
- Boise Project Board of Control ..... Exhibit B-2
- Department of Environmental Quality ..... Exhibit B-3
- Nampa & Meridian Irrigation District ..... Exhibit B-4
- Idaho Transportation Department ..... Exhibit B-5
- Ada County Highway District ..... Exhibit B-6
- Kuna City Engineer ..... Exhibit B-7
- Parks and Recreation ..... Exhibit B-8
- COMPASS ..... Exhibit B-9
- Ada County Development Services ..... Exhibit B-10

E. Staff Analysis:

The applicant proposes to annex one parcel consisting of approximately 38.47 acres into Kuna City Limits with an R-8 (Medium Density Residential) zoning district classification and to subdivide the 38.47 acres into 200 total lots (175 buildable lots and 25 common lots). On August 8, 2019, Staff held a pre-application meeting with the applicant, Public Works, Kuna School District, and Kuna Rural Fire District to discuss the project. The applicant held a neighborhood meeting with residents within 400 feet of the subject site on September 11, 2019. There were five residents who attended the meeting. A recap of the neighborhood meeting was provided as a part of the application.

The project proposes to take its main access from S Stone Falls Avenue. Additionally, the applicant proposes connections into the existing stub street E Porter Street. The property's southern border aligns with the proposed mid-mile collector, Meadow View Road. Staff would recommend that the applicant construct Meadow View Road as half of a 36 foot street section with vertical curb, gutter, 8-ft wide detached sidewalk, plus 12 feet of additional pavement widening, 3 foot wide shoulder and borrow ditch abutting the site. The property's eastern border aligns with the proposed minor collector Stroebel Road. Staff recommends that Stroebel Road be constructed as half of a 36 foot street section with vertical curb, gutter, 8 foot wide detached sidewalk, plus 12 feet of additional pavement widening, 3 foot wide shoulder and borrow ditch abutting the site. ACHD has recommended that that the applicant terminate Barley Avenue at the Barley Ave/Cave Falls Street intersection and construct a new stub street to the east between Barley Avenue and Stout Way to reduce the length of the Barley Avenue roadway, staff supports this recommendation.

The installation of streetlights are a required public improvement (Kuna City Code 6-4-2). The applicant has not identified streetlight locations on the preliminary plat. Applicant will be required to work with staff in order to comply with Kuna City code and install street lights with a maximum spacing of 250 feet along the site's frontage. The locations of street lights will be approved at the time of construction document review. Staff would note that these street lights must be designed and installed according to "Dark skies" standards and Kuna City Code.

Ashton Estates East sewage is anticipated to flow to the Danskin Lift Station. At this time, lift station capacity is over-committed. Staff would note that if the Commission recommends approval of this project, that the applicant be required to work with the Kuna City Engineer to provide a solution regarding the creation of additional capacity. This condition has been provided as condition number 6 in section "I" of this report.

Kuna's Comprehensive Plan (Comp Plan), encourages a variety of housing types for all income levels numerous times throughout the document. Additionally, the City attempts to balance all housing types within the City. Pertinent sections of the Comprehensive Plan that address housing types are included below, in Section "G" (Comprehensive Plan Analysis) of this report.

A design review application for common area landscaping and open space was included as a part of the overall application. The applicant has proposed approximately 15.7% useable open space, staff finds the proposed open space to be in substantial conformance with Kuna City Code 5-17-12. Staff finds the proposed landscaping and buffers to be in compliance with Kuna City Code. Staff notes that if this project is approved, at the time of civil plan development, landscaping cannot be placed within ten (10) feet of any and all meter pits, pressurized irrigation valves, and ACHD underground facilities.

The applicant has not proposed a subdivision sign, which will require a separate sign permit application. The proposed sign(s) shall be submitted in conformance with Kuna City Code 5-10.

Staff has determined the preliminary plat and design review generally complies with the goals and policies for Kuna City, Title 5 and Title 6 of Kuna City Code; Idaho Statute § 67-6511; and Kuna Comprehensive Plan. Staff recommends that if the Planning and Zoning Commission recommends approval of case nos. 19-11-AN (Annexation) and 19-08-S (Preliminary Plat) and approves case no. 19-29-DR (Design Review), the applicant be subject to the conditions of approval listed in section "I" of this report, as well as any additional conditions requested by the Planning and Zoning Commission.

F. Applicable Standards:

1. City of Kuna Zoning Ordinance Title 5.
2. City of Kuna Subdivision Ordinance Title 6.
3. City of Kuna Comprehensive Plan.
4. Idaho Code, Title 67, Chapter 65- the Local Land Use Planning Act.

G. Comprehensive Plan Analysis:

Kuna Planning and Zoning Commission accepts the Comprehensive Plan components, and shall determine if the proposed annexation and preliminary plat requests for the site *are* consistent with the following Comprehensive Plan components as described below:

Goal Area 3: Kuna's land uses will support a desirable, distinctive and well-designed community.

- Goal 3.D: Encourage development of housing options and strong neighborhoods.
  - Objective 3.D.1: Encourage development of housing options for all citizens.
    - Policy 3.D.1.a: Encourage preservation and development of housing that meets demand for household sizes, lifestyles and settings.
- Goal 3.G: Respect and protect private property rights.
  - Objective 3.G.1: Ensure land use policies, restrictions, and fees do not violate private property rights.
    - Policy 3.G.1.b: Ensure City land use actions, decisions and regulations will not cause an unconstitutional regulatory taking of private property; and do not effectively eliminate all economic value of the subject property.
    - Policy 3.G.1.c: Ensure City land use actions, decisions and regulations do not prevent a private property owner from taking advantage of a fundamental property right. Ensure city actions do not impose a substantial and significant limitation on the use of the property.

Goal Area 4: Kuna will be a connected community through strong transportation and infrastructure systems.

- Goal 4.D: Promote a connected street network that incorporates mid-mile collectors and crossing for improved neighborhood connectivity.

- Objective 4.D.2: Ensure the continued expansion/development of mid-mile collector system throughout the community.
  - Policy 4.D.2.a: Extend and expand mid-mile roads as growth occurs.
  - Policy 4.D.1.b: Preserve adequate right-of-way along all mid-mile roads or other approved alternative locations to align roads.

H. Kuna City Code Analysis:

1. This request appears to be consistent and in compliance with all Kuna City Code (KCC).

   Comment: *The proposed applications adhere to the applicable requirements of Title 5 and Title 6 of KCC.*

2. The Planning and Zoning Commission feels the site *is* physically suitable for the proposed development.

   Comment: *The 38.47-acre (approximate) site does appear to be suitable for the proposed development.*

3. The preliminary plat request *is not likely* to cause substantial environmental damage or avoidable injury to wildlife or their habitat.

   Comment: *The land to be developed is not used as wildlife habitat. Roads, driveways, family units and open spaces are planned for construction according the City and ACHD requirements and best practices and will therefore not cause environmental damage or loss of habitat.*

4. These applications *are not* likely to cause adverse public health problems.

   Comment: *The project would connect to public sewer and potable water systems, therefore eliminating the occurrence of adverse public health problems.*

5. The application appears to avoid detriment to the present and potential surrounding uses; to the health, safety, and general welfare of the public taking into account the physical features of the site, public facilities and existing adjacent uses.

   Comment*: The preliminary plat request considers the location of the property and adjacent uses. The adjacent uses are agriculture (Kuna City), medium density residential (Kuna City) and rural residential (Ada County).*

6. The existing and proposed street and utility services in proximity to the site are suitable *or* adequate for a commercial development.

   Comment: *Correspondence from ACHD confirms that the streets and utility services are suitable and adequate for this project. However, per Kuna City Engineer comments (exhibit B-7) and correspondence from Public Works, a commensurate impact of City services will result with this development. Danskin Lift Station capacity is over-committed and may be unable to support this project at this time.*

I. Commission's Recommendation:

Based on the facts outlined in staff's report and public testimony as presented, the Planning and Zoning Commission of Kuna, Idaho, hereby recommends *approval* of Case Nos*. 19-11-AN (Annexation) and 19-08-S* (Preliminary Plat), a subdivision request from Accurate Surveyors requests to annex one parcel consisting of approximately 38.47 acres into Kuna City Limits with an R-8 (Medium Density Residential) zone and to subdivide the 38.47 acres into 200 total lots (175 buildable lots and 25 common lots); AND *approves* Case No. 19-29-DR (Design Review), subject to the following conditions of approval:

1. The applicant and/or owner shall obtain written approval on letterhead or may be written/stamped on the approved plans of the construction plans from the agencies noted below. All submittals are required to include the lighting, landscaping, drainage, and development plans. All site improvements are prohibited prior to approval of the following agencies:
    a. The City Engineer shall approve the sewer hook-ups.
    b. The City Engineer shall approve all civil plans. No construction, grading, filling, clearing or excavation of any kind shall be initiated until the applicant has received approval of the drainage plan.
    c. Central District Health Department recommends the plan be designed and constructed in conformance with standards contained in, "Catalog for Best Management Practices for Idaho Cities and Counties".
    d. The Kuna Fire District shall approve fire flow requirements and/or building plans. Installation of fire protection facilities shall be as required by Kuna Fire District.
    e. The Kuna Municipal Irrigation System and Boise Project Board of Control shall approve any modifications to the existing irrigation system.
    f. Approval from Ada County Highway District (ACHD) shall be obtained and Impact Fees shall be paid prior to *issuance* of any building permit.
    g. All public rights-of-way shall be dedicated and constructed to standards of the City and Ada County Highway District. No public street construction may commence without the approval and permit from Ada County Highway District.
2. Installation of service facilities shall comply with the requirements of the public utility or irrigation district providing the services. All utilities shall be installed underground.
3. Compliance with Idaho Code, Section §31-3805 pertaining to irrigation waters is required. Irrigation/drainage waters shall not be impeded by any construction on site. Compliance with the requirements of the Boise Project Board of Control is required.
4. When required, submit a petition to the City (as necessary, confirmed with the City engineer) consenting to the pooling of irrigation surface water rights for delivery purposes and annex the irrigation surface water rights appurtenant to the property to the Kuna Municipal Pressure Irrigation system.
5. Connection to City Services (Sewer, Water, Pressurized Irrigation) is required. The applicant shall conform all corresponding Master Plans.
6. The Developer/owner/applicant shall be required to participate, as determined by the City Engineer, in the development of additional lift station capacity.
7. Curb, gutter and sidewalk (attached and detached) shall be installed in accordance with Kuna City Code Title 5 Chapter 17.
8. Applicant shall work with staff in order to provide locations of street lights as required by Kuna City Code.
9. Street lights for the site shall be LED lighting, must comply with Kuna City Code and established Dark Skies practices.
10. Fencing within and around the site shall comply with Kuna City Code (Unless specifically approved otherwise and permitted).
11. All required landscaping shall be permanently maintained in a healthy growing condition. The property owner shall remove and replace unhealthy or dead plant material within 3 days or as the planting season permits as required to meet the standards of these requirements. Maintenance and planting within public rights-of-way shall be approved from the public entities owning the property.
12. If any revisions are made, the applicant shall provide the Planning and Zoning Staff with a revised copy of the preliminary plat.
13. Any revisions of the plat are subject to administrative determination to rule if the revision is substantial.
14. The land owner/applicant/developer, and any future assigns having an interest in the subject property, shall fully comply with all conditions of development as approved by the City Council, or seek amending them through public the hearing processes.
15. Developer/owner/applicant shall follow staff, City engineers and other agency requirements as applicable.
16. Developer/owner/applicant shall comply with all local, state and federal laws.

17. Developer/owner/applicant shall install perimeter fencing around the entire subdivision, including future stub streets.

DATED this 11th day of August, 2020

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Based upon the record contained in Case Nos. 19-11-AN, 19-08-S and 19-29-DR including the Comprehensive Plan, Kuna City Code, Staff's Memorandums, including the exhibits, and the testimony during the public hearing, the Kuna Commission hereby *approves* Case No. 19-29-DR and *recommends approval* of the Findings of Fact and Conclusions of Law, and conditions of approval for Case No's 19-11-AN and 19-08-S, a request from KM Engineering to annex one parcel consisting of approximately 38.47 acres into Kuna City Limits with an R-8 (Medium Density Residential) zone and to subdivide the 38.47 acres into 200 total lots (one hundred seventy-five (175) buildable lots, twenty-five (25) common lots).

1. *Based on the evidence contained in Case Nos. 19-11-AN, 19-08-S and 19-29-DR, this proposal does generally comply with the City Code.*

   Finding: *The applicant has submitted a complete application, and following staff review for technical compliance the application appears to be in general compliance with the design requirements, public improvement requirements, objectives and considerations listed in Kuna City Code Title 5 and Title 6.*

2. The public notice requirements have been met and the neighborhood meeting was conducted within the guidelines of applicable Idaho Code and City Ordinances.

   Finding: *Neighborhood Notices were mailed out to residents within 400-FT of the proposed project site on July 8, 2020 and a legal notice was published in the Kuna Melba Newspaper on July 8, 2020. The applicant posted sign on the property on July 9, 2020.*

3. *Based on the evidence contained in Case Nos. 19-11-AN, 19-08-S and 19-29-DR, this proposal does generally comply with the Comprehensive Plan.*

   Finding: *The Comp Plan has listed numerous goals for providing a variety of housing densities and types to accommodate various lifestyles, ages and economic group in Kuna. The proposed zoning designation is R-8 (Medium Density Residential). The Comp Plan Map designates the property as High Density.*

4. The contents of the proposed preliminary plat application *does* contain all of the necessary requirements as listed in Kuna City Code 6-2-3: - Preliminary Plat.

   Finding: *Review by Staff of the proposed preliminary plat confirms all technical requirements listed in KCC 6-2-3 were provided.*

5. The availability of existing and proposed public services and streets *can* accommodate the proposed development.

   Finding: *Correspondence from ACHD and Kuna Public Works confirms that the streets and utility services and suitable and adequate to accommodate the proposed project. It should be noted that installation of this project will place a commensurate impact on City services.*

6. The proposed development *is* continuous with Master Utility Plans (Sewer/Water/Pressurized Irrigation).

   Finding: *Correspondence from Kuna Public Works recommends the applicant be required to conform to the Master Sewer Plan, Master Water Plan and Master Pressurized Irrigation Plan, therefore satisfying this requirement.*

7. The public *does* have the financial capability to provide supporting services to the proposed development.

   Finding: *Throughout the development of the project and beyond, connection fees, impact fees (Fire, police, Park and Ada County Highway District), and property taxes will be collected, therefore satisfying the financial capability to provide supporting services.*

8. The proposed project *does* consider health and safety of the public and the surrounding area's environment**.**

   Finding: *Connection to City services, as well as other public improvements such as streetlights, fire hydrants, sidewalks, bike lanes, etc. are required to be implemented as a part of this project. No major wildlife habitats will be impacted by the proposed development.*

9. All private landowners *have* consented to annexation.

   Finding: *An affidavit of legal interest was signed by Don Newell allowing KM Engineering LLP to act on their behalf of this project, therefore consenting to the annexation of the proposed project site.*

10. The proposed project lands *are* contiguous or adjacent to property within Kuna City Limits.

    Finding: *The parcel is contiguous with City limits to the south and east.*

DATED this 11th day of August, 2020.

_____

Lee Young, Chairman
Kuna Planning and Zoning Commission

ATTEST:

_____

Doug Hanson, Planner I
Kuna Planning and Zoning Department

City of Kuna

Planning and Zoning Commission
Staff Report

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To: Planning and Zoning Commission

Case Numbers: 20-03-S (Preliminary Plat), 20-01-AN (Annexation) and 20-07-DR (Design Review) – **Ledgestone South Subdivision.**

Site Location: 2425 N. Locust Grove Road, and Surrounding Parcels, Kuna, ID 83634

Planner: Jace Hellman, Planner II

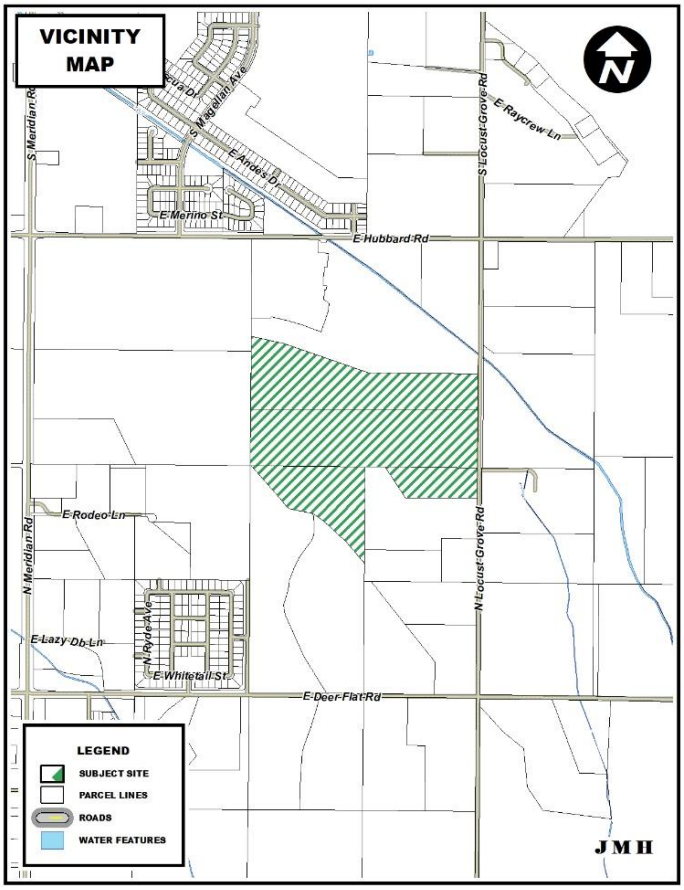
Hearing Date: July 28, 2020
Tabled To: **August 11, 2020**

Owners: TJ Johnson
2425 N. Locust Grove Road
Kuna, ID 83634

Heartland Townhomes Property Management LLC
9839 W Cable Car St., Suite 101
Boise, ID 83709

Applicant: Trilogy Development, Inc
9839 W. Cable Car St., Suite 101
Boise, ID 83709
208.895.8858

Representative: Gem State Planning – Jane Suggs
9840 W. Overland Road, Suite 120
Boise, ID 83709
208.895.8858
jane@gemstateplanning.com



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F. Applicable Standards
G. Proposed Comprehensive Plan Analysis
H. Proposed Kuna City Code Analysis
I. Commission's Recommendation

A. Process and Noticing:

1. Kuna City Code (KCC), Title 1, Chapter 14, Section 3, states that design reviews are designated as *public meetings*, with the Planning and Zoning Commission (acting as the Design Review Board) as the decision-making body; and that preliminary plats and annexations are designated as public hearings, with the Planning and Zoning Commission as a recommending body and City Council as the decision-making body. These land

use applications were given proper public notice and followed the requirements set forth in Idaho Code, Chapter 65, Local Planning Act.

a. Notifications

i.	Neighborhood Meeting	November 14, 2019 (3 people attended) & February 19, 2020 (1 person attended)
ii.	Agency Comment Request	May 20, 2020
iii.	400' Property Owners Notice	July 8, 2020
iv.	Kuna Melba Newspaper	July 8, 2020
v.	Site Posted	July 17, 2020

B. Applicant's Request:

Trilogy Development, Inc and Gem State Planning request to annex approximately 97 acres into Kuna City Limits with R-6 (Medium Density Residential) and R-8 (Medium Density Residential) zoning district classifications and to subdivide the 97 acres into 437 total lots (393 buildable lots and 44 common lots). The subject sites are located along North Locust Grove Road and future extensions of Ardell Road and Stroebel Road, within Section 18, Township 2 North, Range 1 East; (APNs: S1418123460, S1418123485, S1418427800 and S1418417200).

C. Site History:

All included parcels are zoned Rural Residential (RR) within unincorporated Ada County. Historically these parcels have served as farmland.

D. General Projects Facts:

1. **Comprehensive Plan Map:** The Future Land Use Map (FLUM) is intended to serve as a *guide* for the decision-making body for the City. The FLUM indicates land use designations generally speaking, it is not the actual zone. The Future Land Use Map identifies the approximately 97-acre site as Medium Density Residential.

2. **Recreation and Pathways Map:** The Recreation and Pathways Master Plan Map does not indicate a future pathway/trail through the subject site; however, bike routes are proposed along future extensions of Stroebel Road and Ardell Road.

3. **Surrounding Land Uses:**

North	R-8	Medium Density Residential – Kuna City
South	RR	Rural Residential – Ada County
East	RR	Rural Residential – Ada County
West	C-1 R-4	Neighborhood Commercial – Kuna City Medium Density Residential – Kuna City

4. **Parcel Sizes, Current Zoning, Parcel Numbers:**

Property Owner	Parcel Size:	Current Zone:	APN:
Heartland Townhomes Property Management	32.54	RR (Rural Residential)	S1418123460
TJ Johnson	40.40	RR (Rural Residential)	S1418123485
TJ Johnson	16.80	RR (Rural Residential)	S1418427800
TJ Johnson	7.88	RR (Rural Residential)	S1418417200

5. **Services:**

Sanitary Sewer– City of Kuna
Potable Water – City of Kuna
Pressurized Irrigation – City of Kuna (KMIS)
Fire Protection – City of Kuna (KRFD)
Police Protection – Kuna Police (Ada County Sheriff's office)

Sanitation Services – J & M Sanitation

6. **Existing Structures, Vegetation and Natural Features:**
The proposed project sites contain one single-family home, which will remain on the property, and five (5) outbuildings. vegetation on-site is consistent with that of crop fields. The sites have an estimated average slope of 1% to 2%. According to the USDA Soil Survey for Ada County, bedrock depth is estimated to be greater than 60 inches across a majority of proposed development area, however there are some areas where bedrock depth is between 20" and 40" along the southern boundaries of the development area.

7. **Transportation / Connectivity:**
The applicant proposes connections to classified roadways in three locations, North Locust Grove, and two new sections of mid mile collectors, South Stroebel Road and East Ardell Road. Additionally, the project proposes to connect into two existing stub streets located within Ledgestone Subdivision (approved March 5, 2019) and provide three new stub streets into adjacent properties. A pathway along the northern boundary of the project, as well as various internal pathways are being proposed.

8. **Environmental Issues:**
Staff is not aware of any environmental issues, health or safety conflicts beyond the designation of being in the nitrate priority area. Idaho Department of Environmental Quality (DEQ) has provided recommendations for surface and groundwater protection practices and requirements for development of the site.

9. **Agency Responses:** The following responding agency comments are included as exhibits with this case file:
   - Boise Project Board of Control ..... Exhibit B-2
   - Department of Environmental Quality ..... Exhibit B-3
   - Ada County Development Services ..... Exhibit B-4
   - Central District Health Department ..... Exhibit B-5
   - Community Planning Association of Southwest Idaho (COMPASS)..... Exhibit B-6
   - Kuna School District ..... Exhibit B-7
   - Kuna City Engineer ..... Exhibit B-8
   - Ada County Highway District ..... Exhibit B-9

E. Staff Analysis:

On February 14, 2020 Planning and Zoning staff held a pre-application meeting with the applicant, Public Works, the Parks Department, The Kuna School District, Kuna Rural Fire District and Kuna Police Department to discuss the project. The applicant held two neighborhood meetings with residents with 450 ft of the proposed project area on November 14, 2019 and February 19, 2020. There was a total of four resident who attended the meetings. Neighborhood meeting minutes as well as mailed materials have been provided as a part of this application.

The applicant is proposing to annex the approximately 97-acres into Kuna City Limits. Of those 97-acres, the applicant has proposed to zone approximately 84% of the development site R-6 (Medium Density Residential) as defined via legal description. The proposed areas of R-6 will accommodate 291 standard single-family home lots. The remaining development area, as defined by legal description, is proposed to be zoned R-8 (Medium Density Residential). Similar to the original Ledgestone preliminary plat, Ledgestone South proposes to incorporate 102 alley-load lots. These single-family homes will face the street; however, driveway and garage access will be available from the rear of the house via a 20 ft wide public alley way. With 393 lots over approximately 97 acres, the overall gross density of the project is 4.07 dwelling units per acre (DUA). The net density is 5.65 (DUA).

14.68 acres, or 15.2% of the project is proposed to be open space. This includes all buffers, parks, and pathways. 11.8 acres, or 11.6% of the project, are considered useable open space, as defined by KCC 5-1-6-2. Included in the useable open space is a five ft wide pathway that spans over ½ mile long along the northern boundary of the proposed project area and an approximately 3.9-acre park, which contains a pool, playground and picnic shelter. KCC 5-17 requires developments with a range of 351 to 400 homes/dwelling units to devote 10.50% of the

development area to useable open space. Staff views the open space to be in substantial compliance with Kuna City Code.

With this proposed project, the applicant is constructing a new section of stroebel road along the east property line, which will serve as one of the main entrances into the subdivision. Stroebel Road is listed a north-south minor collector according to Kuna's Street Circulation Map. The applicant also proposes to construct an entirely new section of Ardell Road which will span from Stroebel Road to Locust Grove Road. Ardell Road is classified as an east-west major collector. Along Ardell Road the applicant has proposed a five-foot attached sidewalk. The sidewalk width requirement for Collector Roads is an eight-foot detached sidewalk with vertical curb and gutter. Staff would note that the applicant will be required to install sidewalks in accordance with KCC 5-17-13 and 6-4-2. Additionally, the project proposes to connect into two existing stub streets located within Ledgestone Subdivision (approved March 5, 2019) and provide three new stub streets into adjacent properties. Within the development, the applicant proposes several alley ways to access the proposed alley-loaded home product. The applicant will be required to install "NO PARKING" signs within all alleys. Additionally, the applicant will be required to obtain written approval from the Kuna Rural Fire District regarding proposed alley widths. The applicant will be required to install a sign at the terminus of Ardell Road and Stroebel Road, as well as each proposed stub street stating that these roads will continue in the future. Staff will defer the applicant to comments provided by Ada County Highway District for preferred language. Several internal roadways within the proposed project exceed Ada County Highway Districts maximum roadway length of 750-feet with out traffic calming measures. The applicant will be required to submit a revised preliminary plat showing re-designed roadways to the City of Kuna and Ada County Highway District for review and approval prior to signature on the first final plat.

The installation of streetlights are required public improvements are a required public improvement listed under Kuna City Code 6-4-2. The applicant has included proposed locations of streetlights on the preliminary plat. Staff will require the applicant to work with staff in order to comply with KCC and install street lights a maximum spacing of 250 ft. The final location of street lights will be approved at the time of construction document review. Staff would note that these streetlights must be designed and installed according to "Dark Sky" standards.

Ledgestone South sewage is anticipated to flow to the Patagonia Lift Station. The Sewage is subsequently lifted to the Danskin Lift Station. At this time, neither lift station can support this project as they are currently configured. Staff would note that if the Commission recommends approval of this project, that the applicant be required to work with the Kuna City Engineer to provide a solution regarding the creation of additional capacity. This condition has been provided as condition number 6 in section "I" of this report.

Additionally, as a part of this application there is an existing single-family home located on parcel no. S1418123485 that is being included with the annexation proposal, however, this house and approximately 1.04 acres that surround it will not be included in the preliminary plat, and will be listed as an out parcel on the plat. Ada County Highway District recommends the frontage along this site be improved consistent with the proposed improvements along Locust Grove Road and Ardell Road so there is not a gap in improvements. Staff agrees with this recommendation and will require the applicant to install curb, gutter and sidewalk in accordance with Kuna City Code 5-17 and 6-4.

A design review application for common area landscaping and open space was included as a part of the overall application. The proposed application includes several internal pathways. Staff will require the applicant to comply with KCC 5-5-5-F and install "see-through" fence. Staff finds the proposed landscaping, buffers and common space to be in compliance with Kuna City Code. However, staff will require the applicant be conditioned to place sod wherever the landscape plan (dated March 23, 2020) identifies "Lawn" and provide staff an updated landscaping plan accommodating the requested change. Additionally, staff notes that if this project is approved, at the time of civil plan development, landscaping cannot be placed within ten (10) feet of any and all meter pits, pressurized irrigation valves, and ACHD underground facilities. In the event that locations of landscaping are within the locations listed above, the landscaping in that area must be moved to an alternate location, and an updated landscape plan must be provided to staff prior to scheduling a final landscape inspection. No design review

application has been submitted for the pool and pool house area; however, design review approval will be required prior to submitting for a building permit.

The developer, owner and/or applicant is hereby notified that this project is subject to design review inspection fees. Required inspections (post construction), are to verify landscaping compliance prior to signature on the final plat.

Kuna's Comprehensive Plan (Comp Plan) encourages a variety of housing types for all income levels, open space and pathways numerous times throughout the document. Pertinent sections of the Comp Plan that address the above listed items are included below in Section G of this staff report. Staff has reviewed the proposed preliminary plat for technical compliance with KCC, and finds the pre-plat and landscape plan are in compliance Kuna City, Title 5 and Title 6 of the Kuna City Code; Idaho Statute § 67-6511; and the Kuna Comprehensive Plan. The applicant will be required to work with Kuna's staff, Ada County Highway District (ACHD), the Kuna Rural Fire District (KRFD) and any other applicable agencies to ensure conformance to each agency's requirements. Staff recommends that if the Planning and Zoning Commission recommends approval of case nos. 20-01-AN (Annexation) and 20-03-S (Preliminary Plat) and approves case no. 20-07-DR (Design Review), the applicant be subject to the conditions of approval listed in section "I" of this report, as well as any additional conditions requested by the Planning and Zoning Commission.

F. Applicable Standards:

1. City of Kuna Zoning Ordinance Title 5.
2. City of Kuna Subdivision Ordinance Title 6.
3. City of Kuna Comprehensive Plan.
4. Idaho Code, Title 67, Chapter 65- the Local Land Use Planning Act.

G. Proposed Comprehensive Plan Analysis:

Kuna Planning and Zoning Commission may (accept or reject) the Comprehensive Plan components, and shall determine if the proposed annexation and preliminary plat requests for the site (*are/are not)* consistent with the following Comprehensive Plan components as described below:

Goal Area 2: Kuna will be a healthy, safe community.

- Goal 2.A: Maintain and expand an interconnected greenbelt, pathways and trail system.
  - Objective 2.A.2: Maintain and expand the pathway and trail network with a focus on building connectivity to key activity and population centers that serve all areas of Kuna.
    - Policy 2.A.2.d: Work with private developers and landowners to direct expansion of the trails and pathways system throughout Kuna, including:
      - Ensure appropriate polices and ordinances are in place to incentivize and require construction of new pathways and trails infrastructure as development and redevelopment occurs.
      - Require all new neighborhood and subdivision developments to incorporate pathway connectivity within the neighborhood and tie into existing or anticipated pathways and trails.
      - Clearly identify locations where trails and pathways infrastructure should be publicly accessible, and who will be responsible to provide regular maintenance for these areas.
- Goal 2.B: Maintain and expand parks and public gathering spaces.
  - Objective 2.B.1 Maintain and expand the parks system
    - Policy 2.B.1.b: Continue to require neighborhood park development through the subdivision development process.

Goal Area 3: Kuna's land uses will support a desirable, distinctive and well-designed community.

- Goal 3.D: Encourage development of housing options and strong neighborhoods.
  - Objective 3.D.1: Encourage development of housing options for all citizens.

        - Policy 3.D.1.a: Encourage preservation and development of housing that meets demand for household sizes, lifestyles and settings.
    - Objective 3.D.2: Create strong neighborhoods through preservation, new development, connectivity and programming.
        - Policy 3D.2.d: Work to ensure that all neighborhoods in Kuna benefit from good connectivity through sidewalk, pathway and trail, on-street and transit infrastructure.
- Goal 3.G: Respect and protect private property rights.
    - Objective 3.G.1: Ensure land use policies, restrictions, and fees do not violate private property rights.
        - Policy 3.G.1.b: Ensure City land use actions, decisions and regulations will not cause an unconstitutional regulatory taking of private property; and do not effectively eliminate all economic value of the subject property.
        - Policy 3.G.1.c: Ensure City land use actions, decisions and regulations do not prevent a private property owner from taking advantage of a fundamental property right. Ensure city actions do not impose a substantial and significant limitation on the use of the property.

Goal Area 4: Kuna will be a connected community through strong transportation and infrastructure systems.

- Goal 4.B: Increase sidewalk coverage and connectivity and invest in pedestrian facilities to increase walkability.
    - Objective 4.B.2: Maintain and expand sidewalks and pedestrian facilities within the community.
        - Policy 4.B.2b: Install detached sidewalks and/or protected pedestrian routes/facilities along high trafficked roads as development occurs.
        - Policy 4.B.2.c: Promote the installation of off-system pedestrian pathways to create neighborhood connections and reduce the length of non-motorized transportation routes.
        - Policy 4.B.2.g: Coordinate with developers to connect and/or enhance pedestrian facilities, including on and off-system pathways, footbridges (across canals, etc.), road bridges, sidewalks, pedestrian crossings and wayfinding signage.
- Goal 4.C: Increase pathway, trail and on-street bicycle facilities to create an expanded and connected bicycle network.
    - Objective 4.C.1: Maintain and enhance existing pathways, trails and on-street bicycle facilities.
        - Policy 4.C.1.a: Expand the bicycle network as identified in the Kuna Pathways Master Plan and ACHD Roadways to Bikeways Plans through land use developments and capital improvement projects.
        - Policy 4.C.1.e: Coordinate with developers to connect to and/or enhance bicycle facility connections, including pathways, non-motorized canal crossings, road bridges and wayfinding signage.
    - Objective 4.C.2: Ensure expansion of pathways, trails and on-street bicycle routes.
        - Policy 4.C.2.b: Promote the installation of off-system bicycle pathways to create neighborhood connections and reduce non-motorized transportation route lengths.
- Goal 4.D: Promote a connected street network that incorporates mid-mile collectors and crossing for improved neighborhood connectivity.
    - Objective 4.D.2: Ensure the continued expansion/development of mid-mile collector system throughout the community.
        - Policy 4.D.2.a: Extend and expand mid-mile roads as growth occurs.
        - Policy 4.D.1.b: Preserve adequate right-of-way along all mid-mile roads or other approved alternative locations to align roads.

H. Proposed Kuna City Code Analysis:

1. This request appears to be consistent and in compliance with all Kuna City Code (KCC).

   Comment: *The proposed applications (adhere/do not adhere) to the applicable requirements of Title 5 and Title 6 of KCC.*

2. The Planning and Zoning Commission feels the site (*is/is not)* physically suitable for the proposed development.

   Comment: *The 97-acre (approximate) site (does/does not) appear to be suitable for the proposed development.*

3. The preliminary plat request is not likely to cause substantial environmental damage or avoidable injury to wildlife or their habitat.

   Comment: *The land to be developed is not used as wildlife habitat. Roads, driveways, family units and open spaces are planned for construction according the City and ACHD requirements and best practices and will therefore not cause environmental damage or loss of habitat.*

4. These applications (*are/are not)* likely to cause adverse public health problems.

   Comment: *The project would connect to public sewer and potable water systems, therefore eliminating the occurrence of adverse public health problems.*

5. The application appears to avoid detriment to the present and potential surrounding uses; to the health, safety, and general welfare of the public taking into account the physical features of the site, public facilities and existing adjacent uses.

   Comment*: The preliminary plat request considers the location of the property and adjacent uses. The adjacent uses are medium density residential and neighborhood commercial (Kuna City) and rural residential (Ada County).*

6. The existing and proposed street and utility services in proximity to the site (are/are not) suitable *or* adequate for a commercial development.

   Comment: *Correspondence from ACHD confirms that the streets are suitable and adequate for this project. However, per Kuna City Engineer comments (Exhibit B8), a commensurate impact the City's water, sewer and irrigation will result with this development. Neither the Patagonia Lift Station, nor the Danskin Lift Station can support this project at this time.*

I. Commission's Recommendation:

Note: These motions are for the approval, conditional approval or denial of the design review application and the recommendation of approval, conditional approval or denial of the annexation and preliminary plat applications to the City Council. However, if the planning and Zoning Commission wishes to approve or deny specific parts of these requests as detailed in the report, those changes must be specified.

Based on the facts outlined in staff's report and public testimony as presented, the Planning and Zoning Commission of Kuna, Idaho, hereby recommends (*approval/conditional approval/denial)* of Case Nos*. 20-01-AN (Annexation) and 20-03-S* (Preliminary Plat), a request from Trilogy Development, Inc and Gem State Planning to annex approximately 97 acres into Kuna City Limits with R-6 (Medium Density Residential) and R-8 (Medium Density Residential) zoning district classifications and to subdivide the 97 acres into 437 total lots (393 buildable lots and 44 common lots); AND (*approves/conditionally approves/denies)* Case No. 20-07-DR (Design Review), subject to the following conditions of approval:

1. The applicant and/or owner shall obtain written approval on letterhead or may be written/stamped on the approved plans of the construction plans from the agencies noted below. All submittals are required to include the lighting, landscaping, drainage, and development plans. All site improvements are prohibited prior to approval of the following agencies:

a. The City Engineer shall approve the sewer hook-ups.
b. The City Engineer shall approve all civil plans. No construction, grading, filling, clearing or excavation of any kind shall be initiated until the applicant has received approval of the drainage plan.
c. Central District Health Department recommends the plan be designed and constructed in conformance with standards contained in, "Catalog for Best Management Practices for Idaho Cities and Counties".
d. The Kuna Fire District shall approve fire flow requirements and/or building plans. Installation of fire protection facilities as required by Kuna Fire District are required.
e. The Kuna Municipal Irrigation System and Boise Project Board of Control shall approve any modifications to the existing irrigation system.
f. Approval from Ada County Highway District (ACHD) shall be obtained and Impact Fees must be paid prior to *issuance* of any building permit(s).
g. All public rights-of-way shall be dedicated and constructed to standards of the City and Ada County Highway District. No public street construction may commence without the approval and permit from Ada County Highway District.

2. Installation of service facilities shall comply with the requirements of the public utility or irrigation district providing the services. All utilities shall be installed underground, see **KCC 6-4-2-W**.
3. Compliance with Idaho Code, Section §31-3805 pertaining to irrigation waters is required. Irrigation/drainage waters shall not be impeded by any construction on site. Compliance with the requirements of the Boise Project Board of Control is required.
4. When required, submit a petition to the City (as necessary, confirmed with the City engineer) consenting to the pooling of irrigation surface water rights for delivery purposes and request to annex the irrigation surface water rights appurtenant to the property over to the Kuna Municipal Pressure Irrigation system of the City (KMID).
5. Connection to City Services (Sewer, Water, Pressurized Irrigation) is required. The applicant shall conform all corresponding Master Plans.
6. The Developer/owner/applicant shall be required to participate, as determined by the City Engineer, in the development of additional lift station capacity.
7. Curb, gutter and sidewalk (attached and detached) shall be installed in accordance with Kuna City Code Title 5 Chapter 17 and Title 6 Chapter 4.
8. To ensure there is not a gap in improvements along Locust Grove Road and Ardell Road, the applicant shall install curb, gutter and sidewalk along 1.04-acre site in accordance with Kuna City Code Title 5 Chapter 17 and Title 6 Chapter 4.
9. Applicant shall install "NO PARKING" signs within all alley-ways.
10. Applicant shall obtain written approval from the Kuna Rural Fire District regarding proposed alley widths.
11. Regarding the excessive street section lengths, The applicant shall submit a revised preliminary plat showing re-designed roadways to the City of Kuna and Ada County Highway District for review and approval prior to signature on the first final plat.
12. All local roads intersecting Ardell Road shall either align or offset a minimum of 330-feet.
13. Applicant/Developer shall install a sign at the terminus of Ardell Road and Stroebel Road, as well as every proposed stub street stating these roads will continue in the future. Applicant/Developer shall obtain proper language from Ada County Highway District.
14. Applicant shall work with staff in order to provide final locations of street lights as required by Kuna City Code.
15. Street lights for the site shall be LED lighting and must comply with Kuna City Code and established Dark Sky practices.
16. Fencing within and around the site shall comply with Kuna City Code (Unless specifically approved otherwise and permitted).
17. All required landscaping shall be permanently maintained in a healthy growing condition. The property owner shall remove and replace unhealthy or dead plant material within 3 days or as the planting season

permits as required to meet the standards of these requirements. Maintenance and planting within public rights-of-way shall be with approval from the public entities owning the property.

18. Landscaping shall not be placed within ten (10) feet of any and all meter pits, pressurized irrigation valves and/or ACHD underground facilities and must honor all vision triangles.
19. The applicant shall install sod wherever the landscape plan (dated March 23, 2020) identifies "Lawn" and provide staff an updated landscaping plan accommodating the requested change.
20. Subdivision amenities such as the proposed pool and pool house are subject to Design Review approval.
21. All signage within/for the project shall comply with Kuna City Code, and shall be approved through the applicable sign approval process listed in KCC 5-10.
22. If any revisions are made, the applicant shall provide the Planning and Zoning Staff with a revised copy of the preliminary plat.
23. Any revisions of the plat are subject to administrative determination to rule if the revision is substantial.
24. The land owner/applicant/developer, and any future assigns having an interest in the subject property, shall fully comply with all conditions of development as approved by the City Council, or seek amending them through public hearing processes.
25. Developer/owner/applicant shall follow staff, City engineers and other agency recommended requirements as applicable.
26. Developer/owner/applicant shall comply with all local, state and federal laws.

DATED this 11th day of August, 2020.

P.O. Box 13
Phone: (208) 922-5274
Fax: (208) 922-5989
www.Kunacity.id.gov

Based upon the record contained in Case Nos. 20-01-AN, 20-03-S and 20-07-DR including the Comprehensive Plan, Kuna City Code, Staff's Memorandums, including the exhibits, and the testimony during the public hearing, the Kuna Commission hereby (approves/conditionally approves/denies) Case No. 20-07-DR and recommends (*approval/denial) of* the Findings of Fact and Conclusions of Law, and conditions of approval for Case Nos. 20-01-AN and 20-03-S, a request from Trilogy Development, Inc and Gem State Planning to annex approximately 97 acres into Kuna City Limits with R-6 (Medium Density Residential) and R-8 (Medium Density Residential) zoning district classifications and to subdivide the 97 acres into 437 total lots (393 buildable lots and 44 common lots).

If the planning and Zoning Commission wishes to approve, deny or modify specific parts of the Findings of Facts and Conclusions of Law as detailed below, those changes must be specified.

1. *Based on the evidence contained in Case Nos. 20-01-AN, 20-03-S and 20-07-DR, this proposal does generally comply with the City Code.*

   Staff Finding: *The applicant has submitted a complete application, and following staff review for technical compliance the application appears to be in general compliance with the design requirements, public improvement requirements, objectives and considerations listed in Kuna City Code Title 5 and Title 6.*

2. The public notice requirements have been met and the neighborhood meeting was conducted within the guidelines of applicable Idaho Code and City Ordinances.

   Staff Finding: *The applicant held neighborhood meetings on November 14, 2019 and February 19, 2020. A total of four residents attended the meetings. Neighborhood Notices were mailed out to residents within 450-FT of the proposed project site on July 8, 2020 and a legal notice was published in the Kuna Melba Newspaper on July 8, 2020. The applicant posted sign on the property on July 17, 2020.*

3. *Based on the evidence contained in Case Nos. 20-01-AN, 20-03-S and 20-07-DR, this proposal does generally comply with the Comprehensive Plan.*

   Staff Finding: *The Comp Plan has listed numerous goals for providing a variety of housing densities and types to accommodate various lifestyles, ages and economic group in Kuna, as well as the installation of pathways and open space. The proposed zoning districts are R-6 and R-8 (Medium Density Residential). The Comp Plan Map designates the properties as Medium Density.*

4. The contents of the proposed preliminary plat application *does* contain all of the necessary requirements as listed in Kuna City Code 6-2-3: - Preliminary Plat.

   Staff Finding: *Review by Staff of the proposed preliminary plat confirms all technical requirements listed in KCC 6-2-3 were provided.*

5. The availability of existing and proposed public services and streets *can* accommodate the proposed development.

   Staff Finding: *Correspondence from ACHD confirms that the streets are suitable and adequate for this project. However, per Kuna City Engineer comments (Exhibit B8), a commensurate impact the City's water, sewer and irrigation will result with this development. Neither the Patagonia Lift Station, nor the Danskin Lift Station can support this project at this time.*

6. The proposed development *is* continuous with Master Utility Plans (Sewer/Water/Pressurized Irrigation).

   Staff Finding: *Correspondence from Kuna Public Works recommends the applicant be required to conform to the Master Sewer Plan, Master Water Plan and Master Pressurized Irrigation Plan, therefore satisfying this requirement.*

7. The public *does* have the financial capability to provide supporting services to the proposed development.

   Staff Finding: *Throughout the development of the project and beyond, connection fees, impact fees (Fire, police, Park and Ada County Highway District), and property taxes will be collected, therefore satisfying the financial capability to provide supporting services.*

8. The proposed project *does* consider health and safety of the public and the surrounding area's environment**.**

   Staff Finding: *Connection to City services, as well as other public improvements such as streetlights, fire hydrants, sidewalks, bike lanes, etc. are required to be implemented as a part of this project. No major wildlife habitats will be impacted by the proposed development.*

9. All private landowners *have* consented to annexation.

   Staff Finding: *An affidavit of legal interest was signed by Heartland Townhomes Property Management, LLC and TJ and Elaine Johnson allowing Gem State Planning and Trilogy Development to act on their behalf of this project, therefore consenting to the annexation of the proposed project site.*

10. The proposed project lands *are* contiguous or adjacent to property within Kuna City Limits.

    Staff Finding: *The parcel is contiguous with City limits to the north and west.*

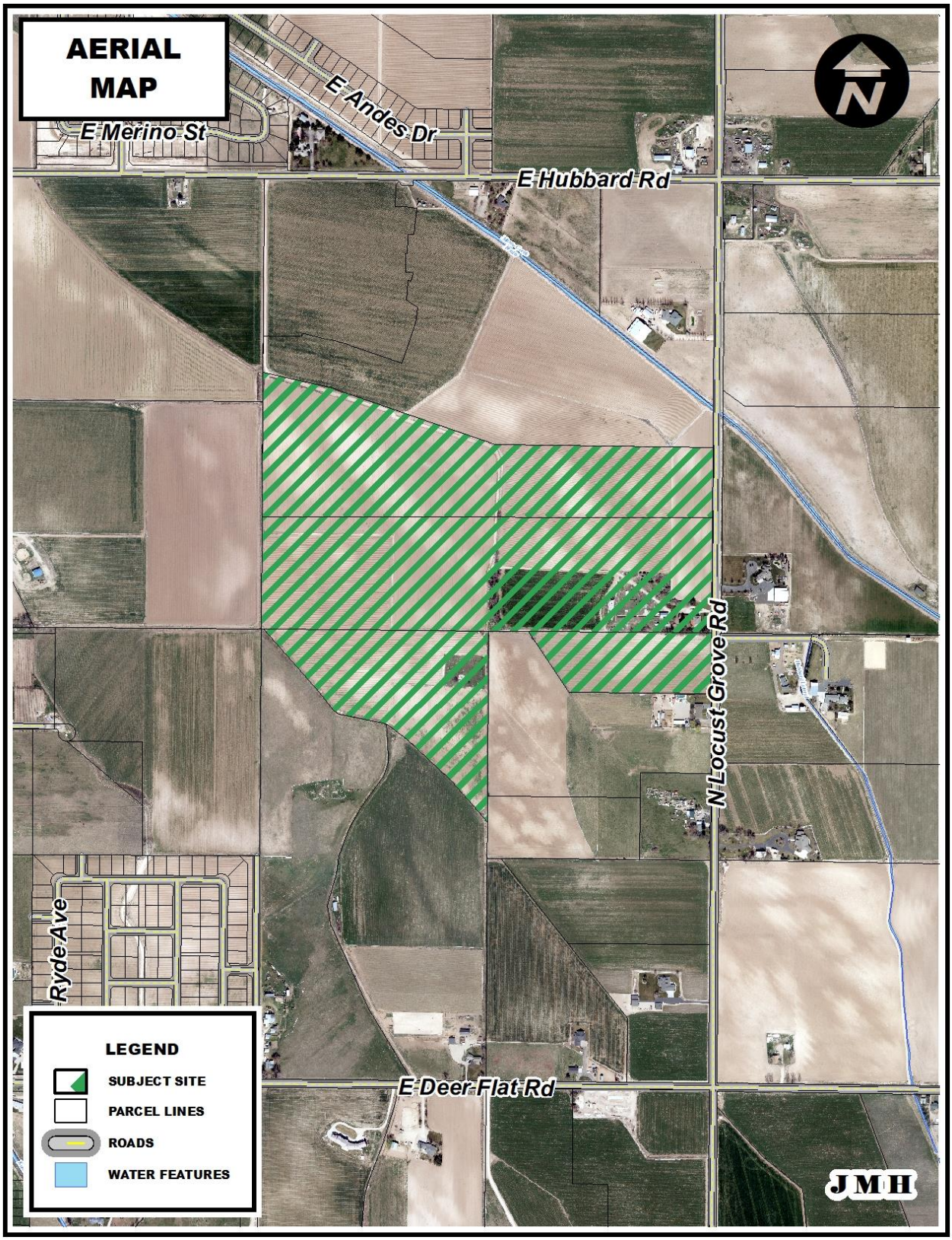
11. The site landscaping *does* minimize the impact on adjacent properties through the use of screening.

    Staff Finding: *Per the submitted landscape Plan, the applicant is proposing a 25-foot landscape buffer along all classified roadways. A six-foot vinyl fence is proposed around the entire project.*

12. The applicant and/or owner of the property have the right to request a written regulatory taking analysis.

    Staff Finding: *Pursuant to Idaho Code 67-8003, the owner of private property that is subject of such action may submit a written request for a regulatory taking analysis with the City Clerk. Not more that twenty-eight (28) days after the final decision concerning the matter at issue, the City shall prepare a written taking analysis concerning the action if requested.*

DATED this 11th day of August, 2020.


AERIAL MAP
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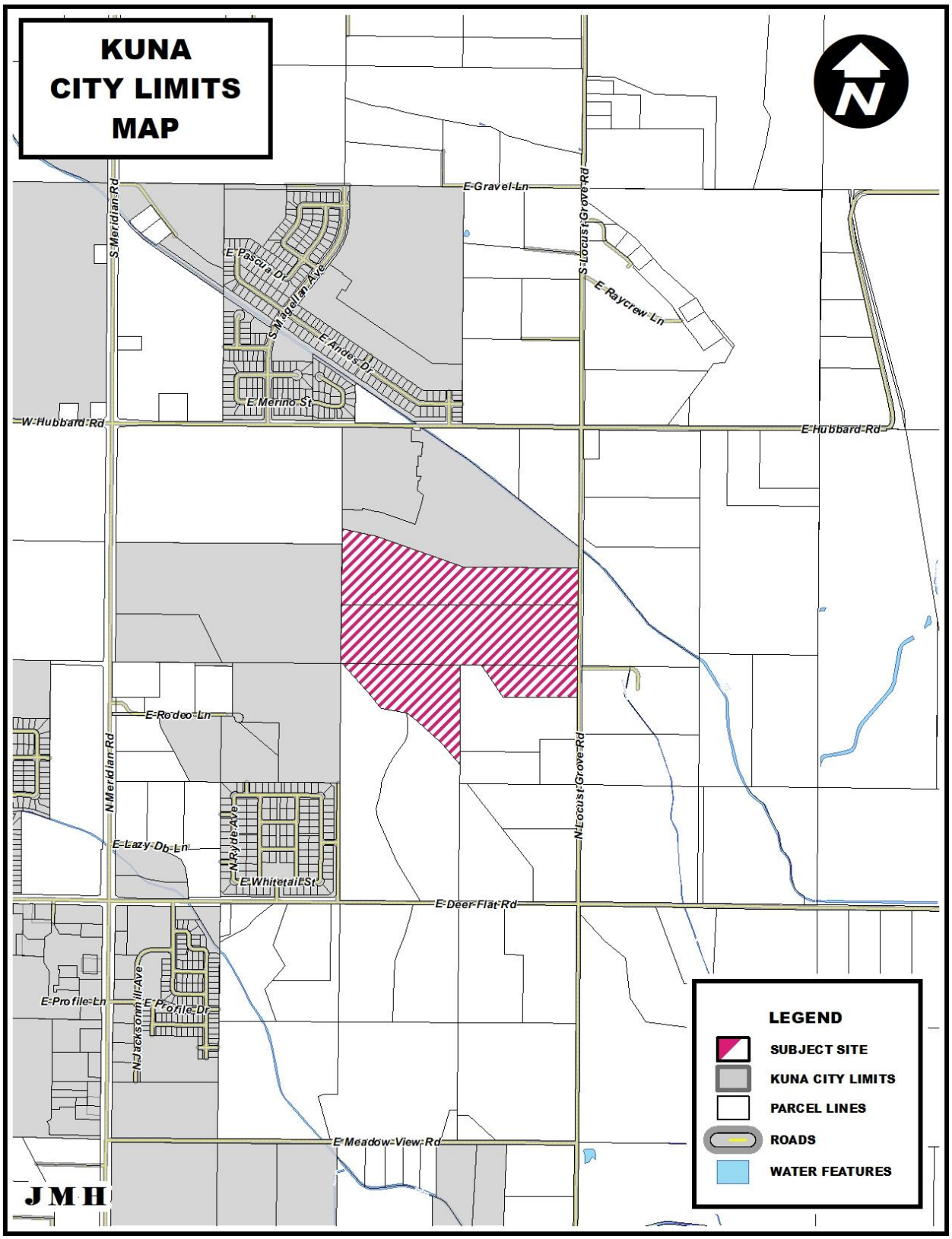
N Locust Grove Rd
Ryde Ave
E Deer Flat Rd
LEGEND
SUBJECT SITE
PARCEL LINES
ROADS
WATER FEATURES
JMH


KUNA
CITY LIMITS
MAP
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S Locust Grove Rd
E Pascua Dr
S Magellan Ave
E Andes Dr
E Raycrew Ln
E Merino St
W Hubbard Rd
E Hubbard Rd
E Rodeo Ln
N Meridian Rd
N Locust Grove Rd
N Ryde Ave
E Lazy Db Ln
E Whitetail St
E Deer Flat Rd
E Profile Ln
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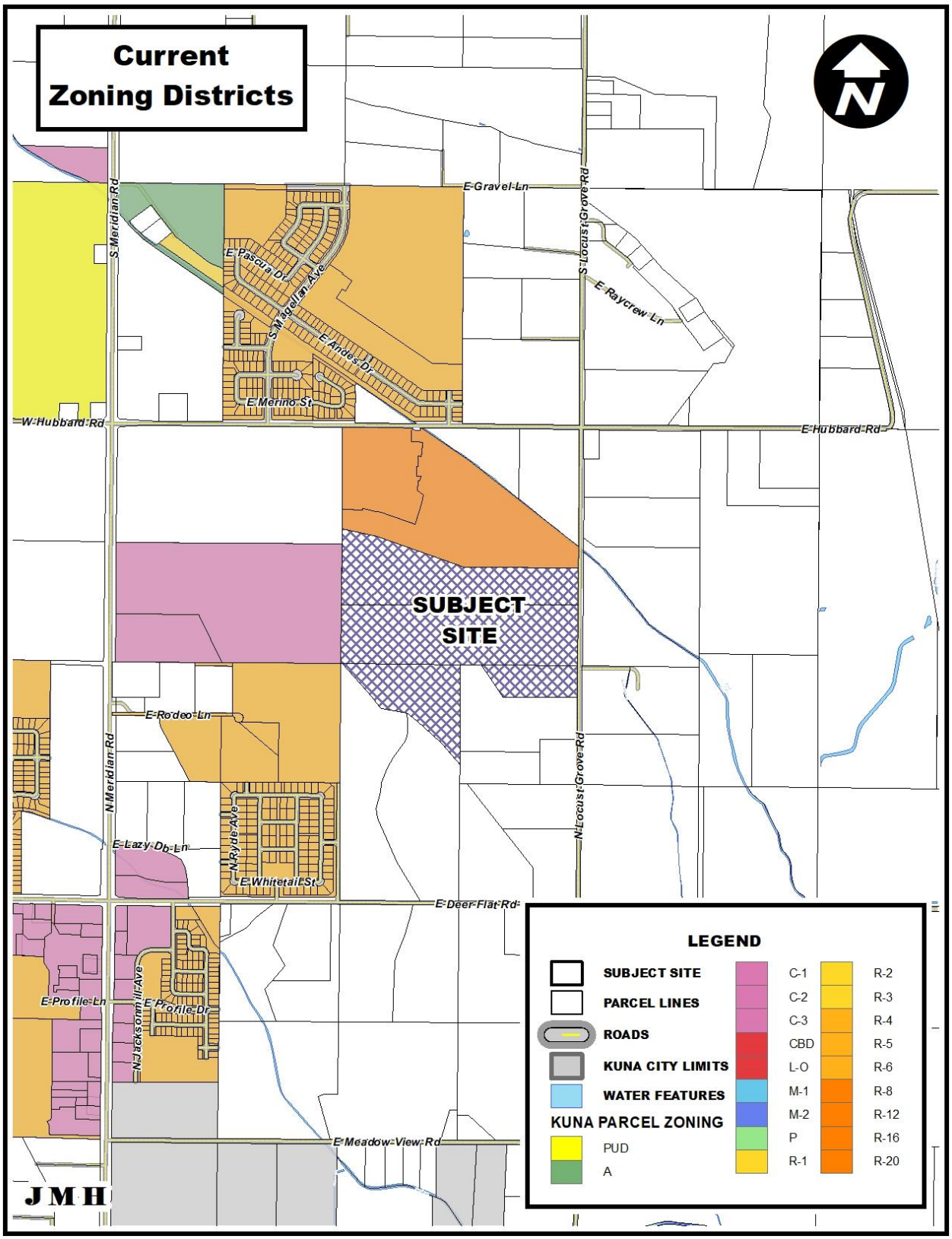
PARCEL LINES
ROADS
WATER FEATURES


Current
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S Meridian Rd
S Locust Grove Rd
E Pascua Dr
S Magellan Ave
E Andes Dr
E Raycrew Ln
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W Hubbard Rd
E Hubbard Rd
SUBJECT
SITE
E Rodeo Ln
N Meridian Rd
N Locust Grove Rd
E Lazy Dr Ln
N Ryde Ave
E Whitetail St
E Deer Flat Rd
E Profile Ln
E Profile Dr
N Jacksonville Ave
E Meadow View Rd
JMH
LEGEND
SUBJECT SITE
PARCEL LINES
ROADS
KUNA CITY LIMITS
WATER FEATURES
KUNA PARCEL ZONING
PUD
A
C-1
C-2
C-3
CBD
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M-1
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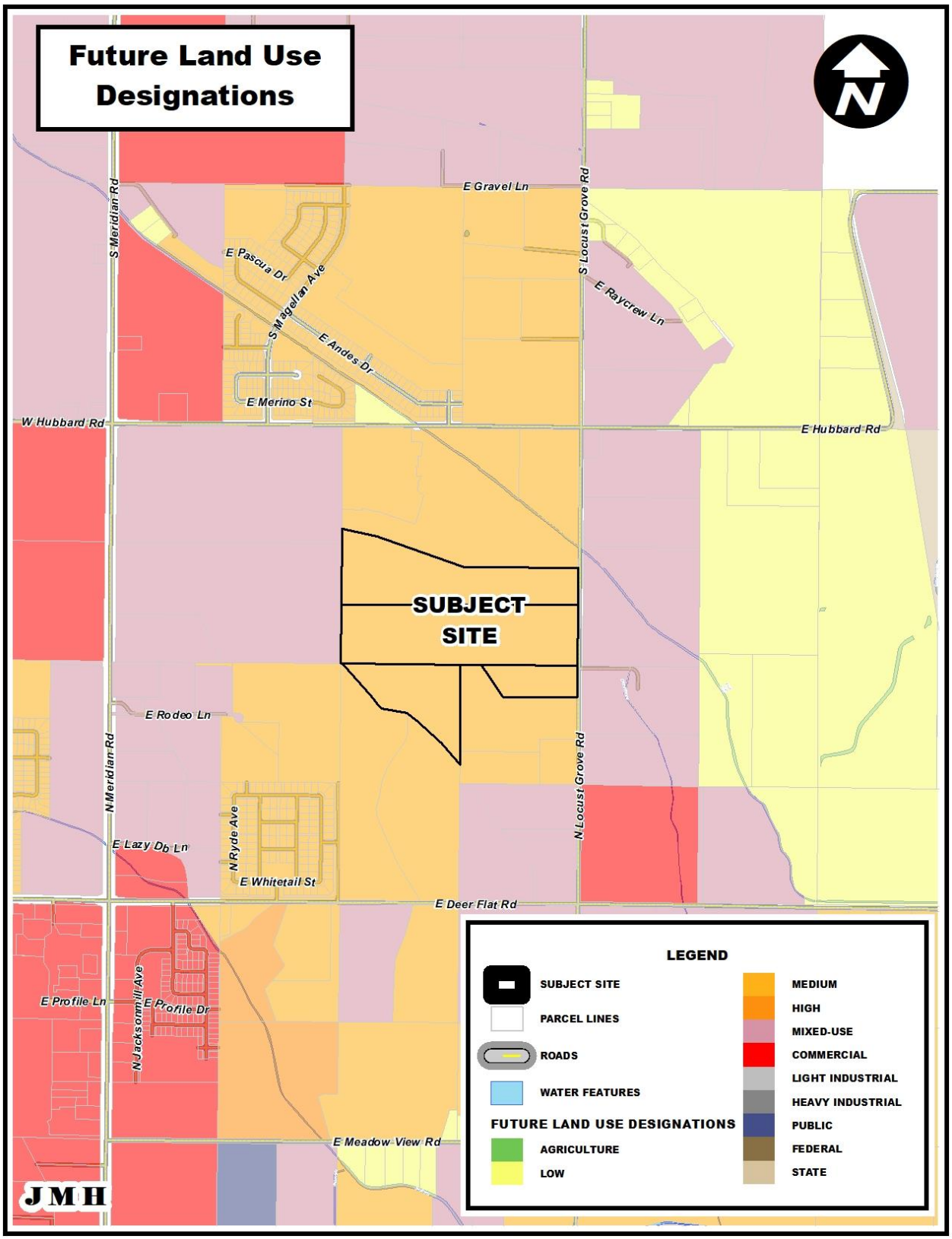
Future Land Use Designations
S Meridian Rd
E Gravel Ln
S Locust Grove Rd
E Pascua Dr
S Magellan Ave
E Raycrew Ln
E Andes Dr
E Merino St
W Hubbard Rd
E Hubbard Rd
SUBJECT SITE
E Rodeo Ln
N Meridian Rd
N Ryde Ave
N Locust Grove Rd
E Lazy Db Ln
E Whitetail St
E Deer Flat Rd
E Profile Ln
E Profile Dr
N Jacksonville Ave
E Meadow View Rd
JMH
LEGEND
SUBJECT SITE
PARCEL LINES
ROADS
WATER FEATURES
FUTURE LAND USE DESIGNATIONS
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MIXED-USE
COMMERCIAL
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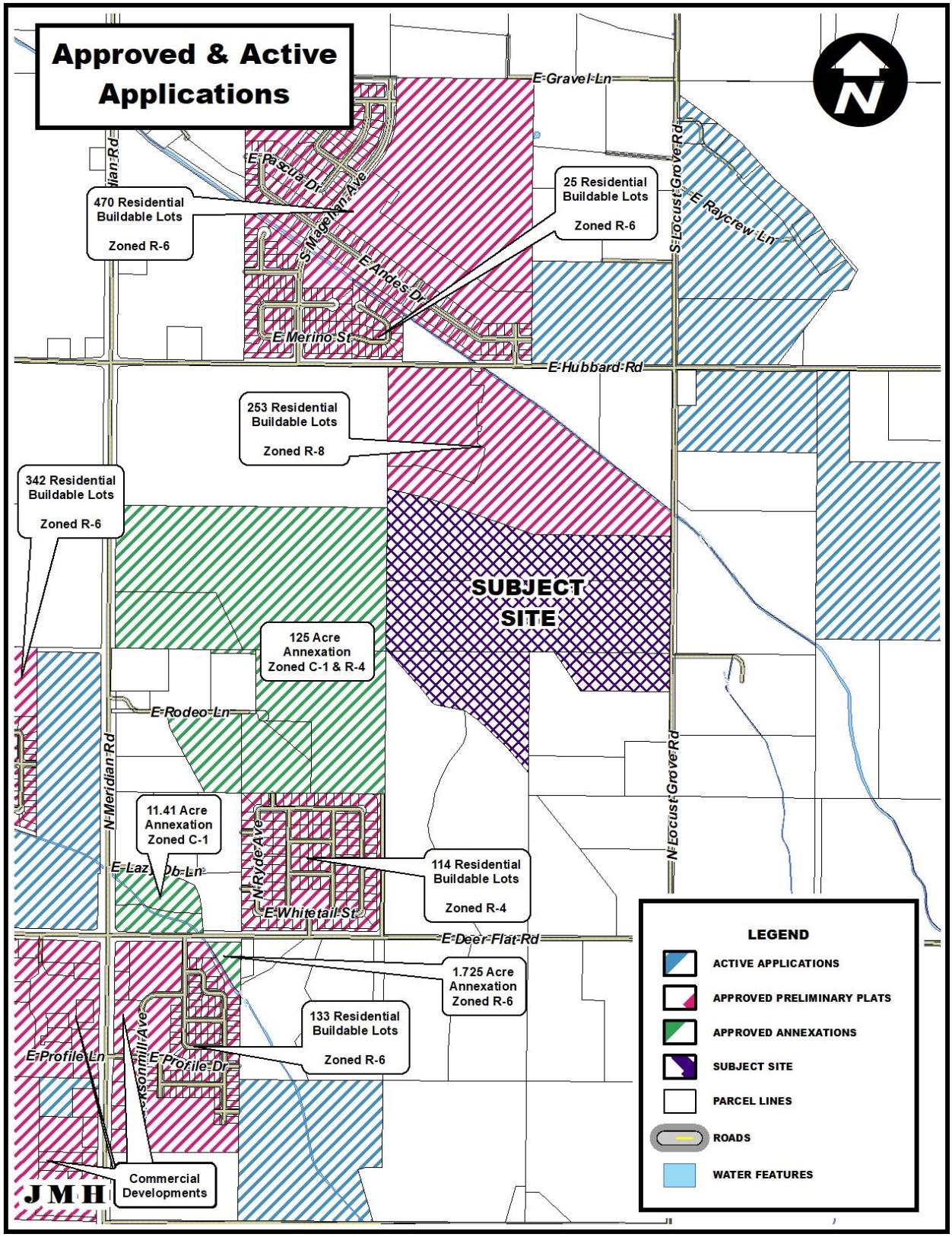
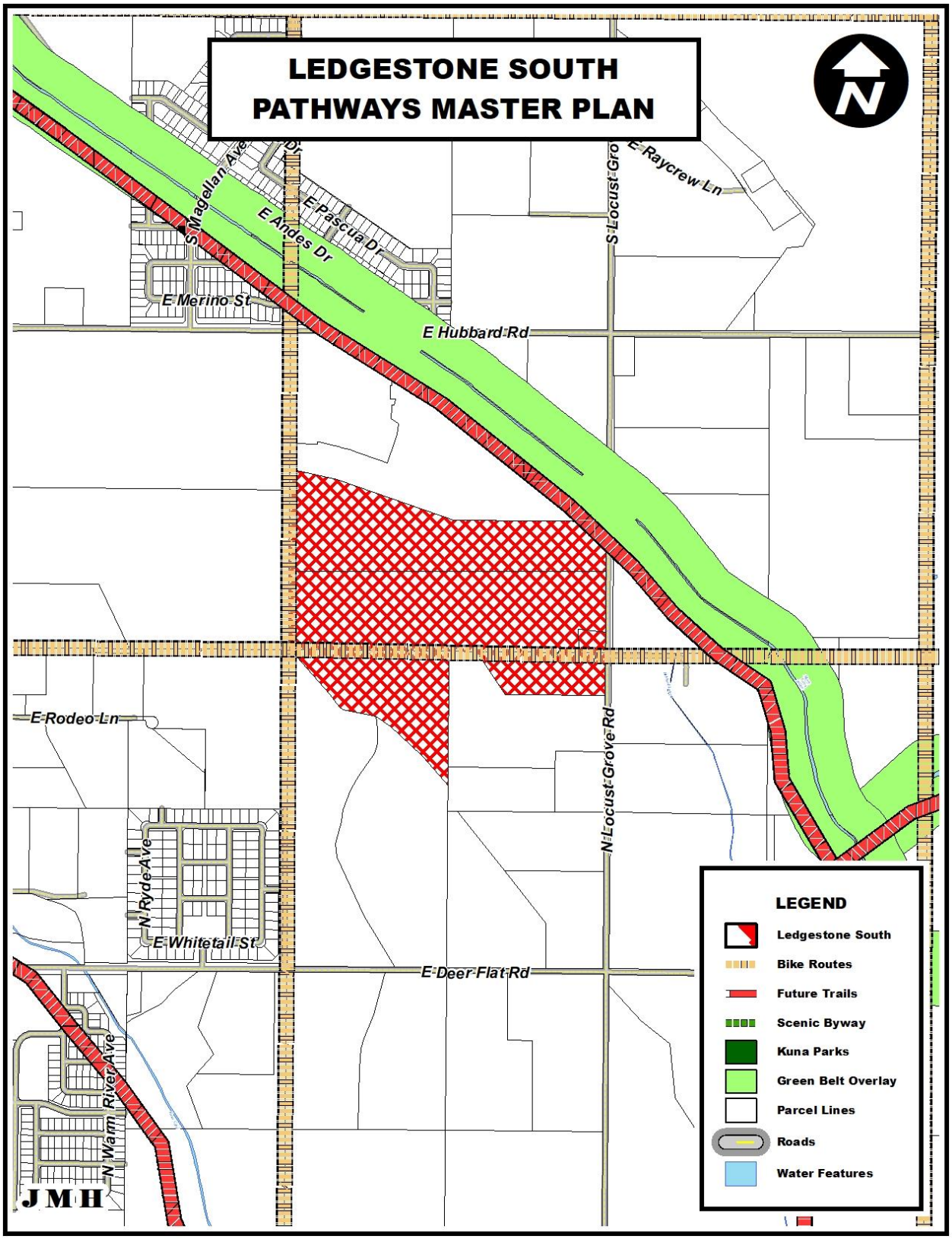
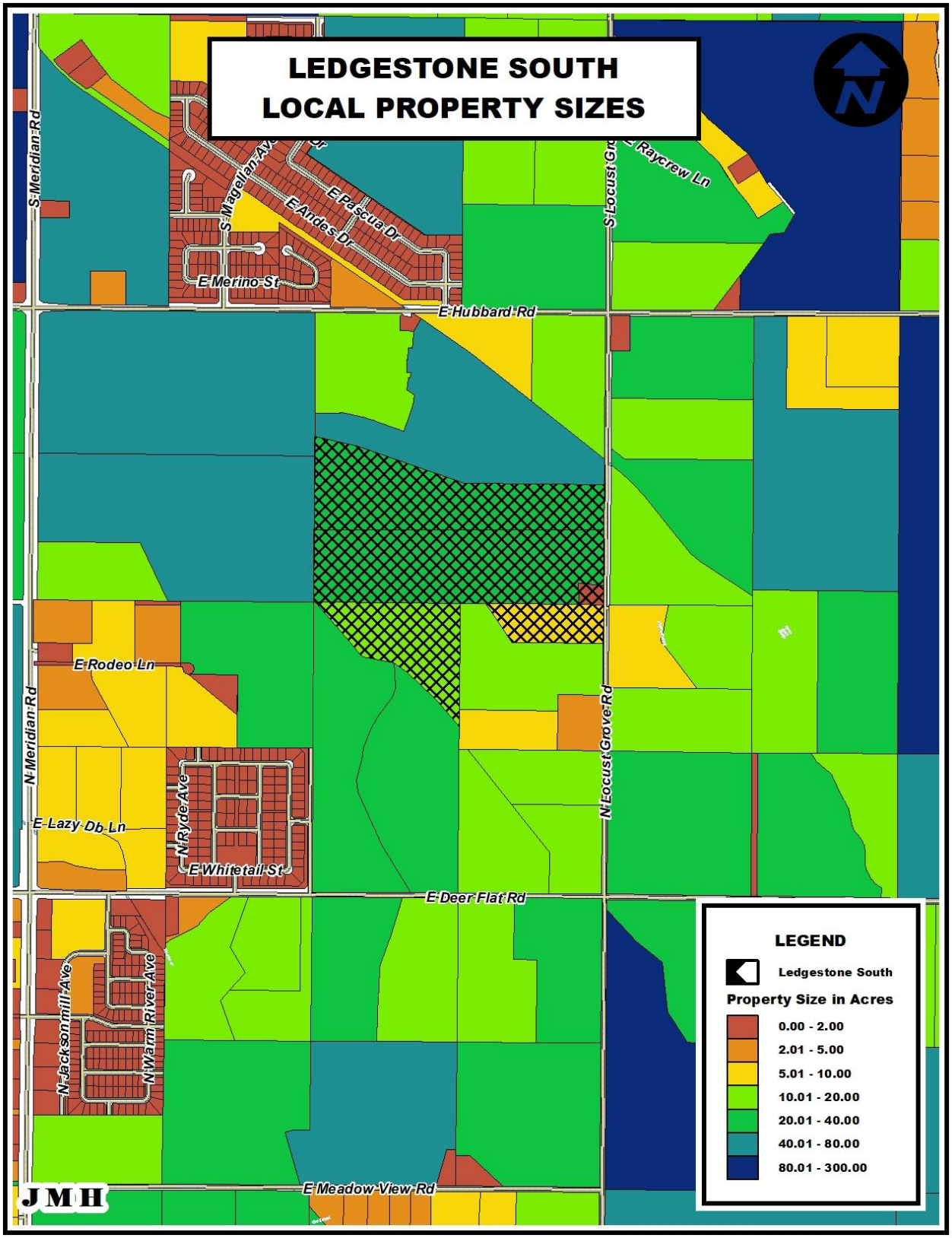
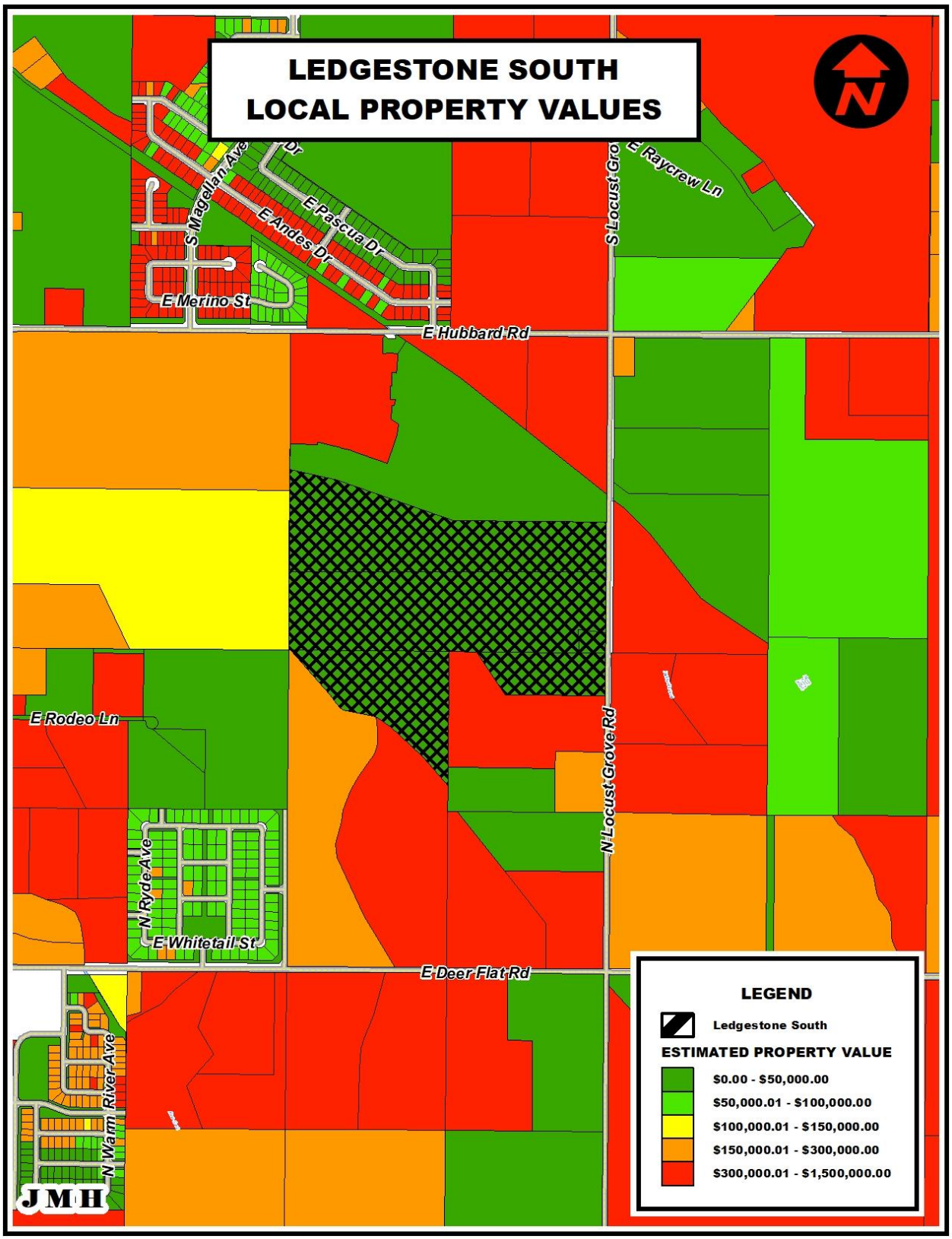
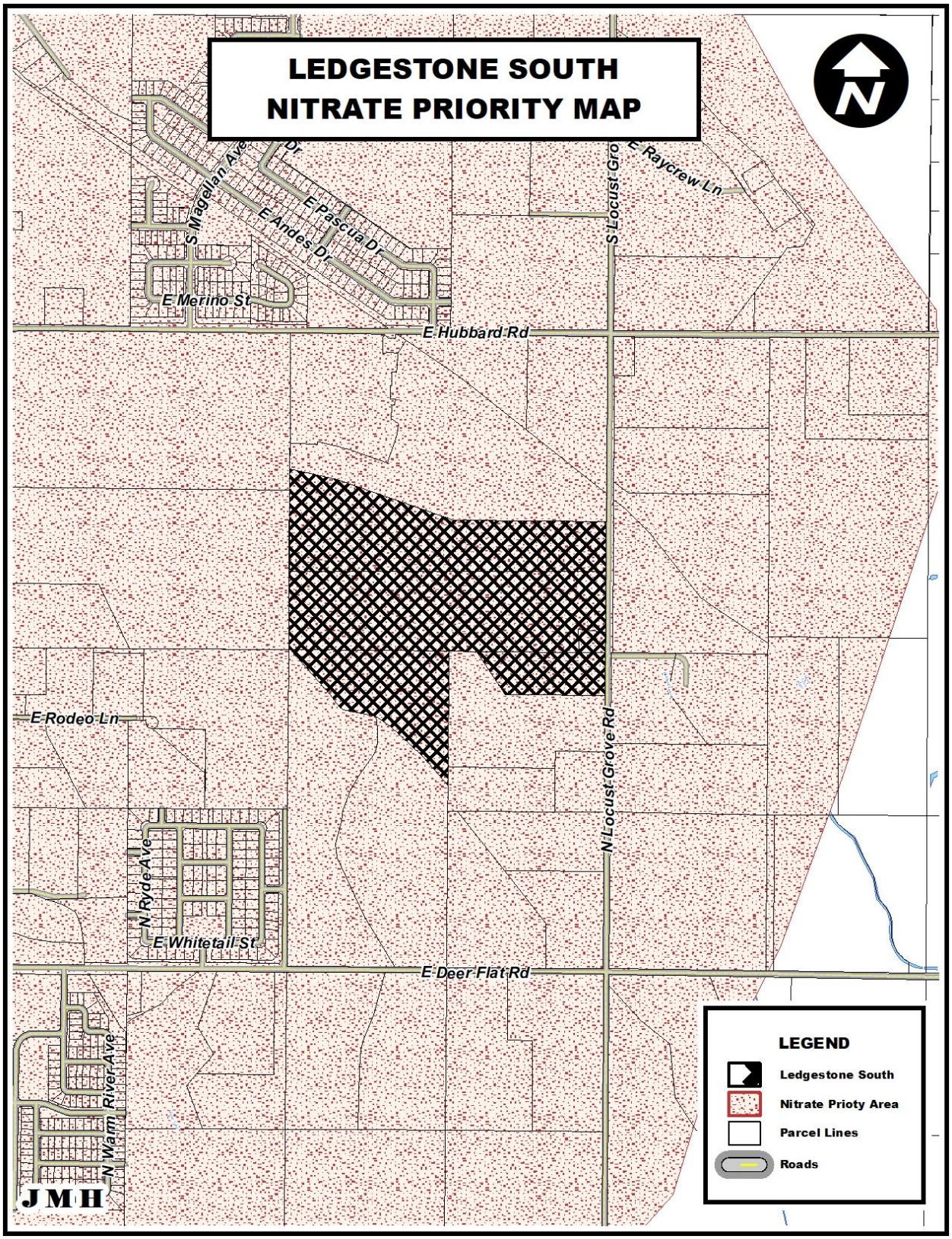
HEAVY INDUSTRIAL
PUBLIC
FEDERAL
STATE

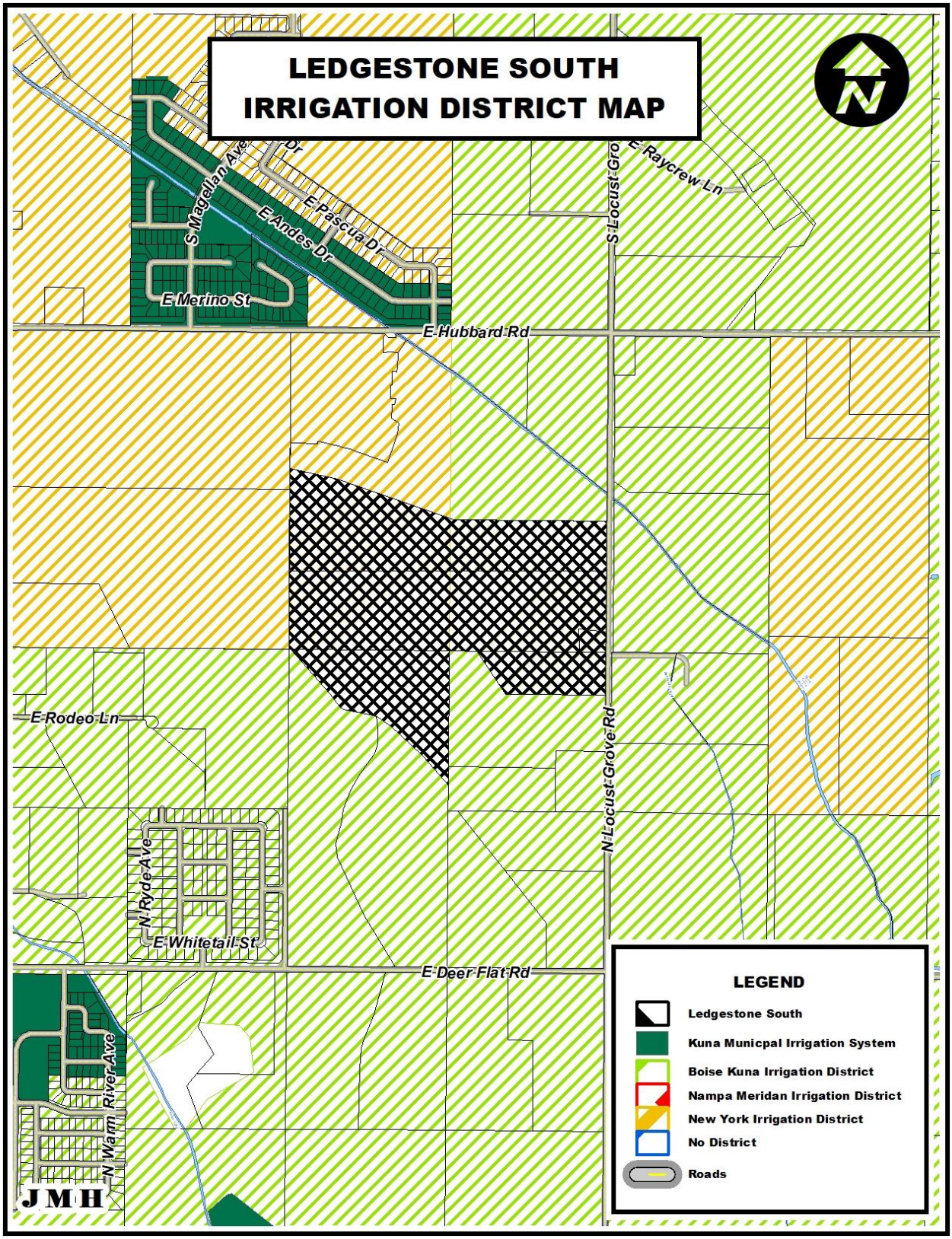

Approved & Active Applications
E Gravel Ln
E Pascua Dr
S Magellan Ave
470 Residential Buildable Lots
Zoned R-6
25 Residential Buildable Lots
Zoned R-6
S Locust Grove Rd
E Raycrew Ln
E Andes Dr
E Merino St
E Hubbard Rd
253 Residential Buildable Lots
Zoned R-8
342 Residential Buildable Lots
Zoned R-6
SUBJECT SITE
125 Acre Annexation Zoned C-1 & R-4
E Rodeo Ln
N Meridian Rd
N Locust Grove Rd
11.41 Acre Annexation Zoned C-1
N Ryde Ave
114 Residential Buildable Lots
Zoned R-4
E Whitetail St
E Deer Flat Rd
1.725 Acre Annexation Zoned R-6
133 Residential Buildable Lots
Zoned R-6
E Profile Ln
E Profile Dr
Commercial Developments
JMH
LEGEND
ACTIVE APPLICATIONS
APPROVED PRELIMINARY PLATS
APPROVED ANNEXATIONS
SUBJECT SITE
PARCEL LINES
ROADS
WATER FEATURES


LEDGESTONE SOUTH
PATHWAYS MASTER PLAN
S Magellan Ave
E Andes Dr
E Pascua Dr
E Raycrew Ln
S Locust Grove Rd
E Merino St
E Hubbard Rd
E Rodeo Ln
N Locust Grove Rd
N Ryde Ave
E Whitetail St
E Deer Flat Rd
N Warm River Ave
JMH
LEGEND
Ledgestone South
Bike Routes
Future Trails
Scenic Byway
Kuna Parks
Green Belt Overlay
Parcel Lines
Roads
Water Features


LEDGESTONE SOUTH
LOCAL PROPERTY SIZES
S Meridian Rd
S Magellan Ave
E Pescua Dr
E Andes Dr
E Merino St
E Hubbard Rd
S Locust Grove Rd
E Raycrew Ln
E Rodeo Ln
N Meridian Rd
E Lazy Db Ln
N Ryde Ave
E Whitetail St
N Locust Grove Rd
E Deer Flat Rd
N Jacksonmill Ave
N Wiami River Ave
E Meadow View Rd
JMH
LEGEND
Ledgestone South
Property Size in Acres
0.00 - 2.00
2.01 - 5.00
5.01 - 10.00
10.01 - 20.00
20.01 - 40.00
40.01 - 80.00
80.01 - 300.00


LEDGESTONE SOUTH
LOCAL PROPERTY VALUES
S Magellan Ave
E Andes Dr
E Pascua Dr
E Merino St
E Hubbard Rd
S Locust Gro
E Raycrew Ln
E Rodeo Ln
N Locust Grove Rd
N Ryde Ave
E Whitetail St
E Deer Flat Rd
N Warm River Ave
JMH
LEGEND
Ledgestone South
ESTIMATED PROPERTY VALUE
$0.00 - $50,000.00
$50,000.01 - $100,000.00
$100,000.01 - $150,000.00
$150,000.01 - $300,000.00
$300,000.01 - $1,500,000.00


LEDGESTONE SOUTH
NITRATE PRIORITY MAP
N
S Magellan Ave
E Andes Dr
E Pascua Dr
E Raycrew Ln
S Locust Grove Rd
E Merino St
E Hubbard Rd
E Rodeo Ln
N Locust Grove Rd
N Ryde Ave
E Whitetail St
E Deer Flat Rd
N River Ave
N Warm
JMH
LEGEND
Ledgestone South
Nitrate Prioty Area
Parcel Lines
Roads


LEDGESTONE SOUTH
IRRIGATION DISTRICT MAP
S Magellan Ave
E Andes Dr
E Pascua Dr
E Merino St
E Hubbard Rd
S Locust Grove Rd
E Raycrew Ln
E Rodeo Ln
N Locust Grove Rd
N Ryde Ave
E Whitetail St
E Deer Flat Rd
N Warm River Ave
JMH
LEGEND
Ledgestone South
Kuna Municpal Irrigation System
Boise Kuna Irrigation District
Nampa Meridan Irrigation District
New York Irrigation District
No District
Roads

CityofKuna
Planning& Zoning
Department
P.O. Box 13
Kuna, Idaho 83634
208.922.5274
Fax: 208.922.5989
Website: www.kunacity.id.gov

Commission & Council Review Application

Note: Engineering fees shall be paid by the applicant if required.

*Please submit the appropriate checklist (s) with application

For Office Use Only	
File Number (s)	20-03-S, 20-01-AN & 20-07-DR
Project name	Ledgestone South Subdivision
Date Received	5-1-20
Date Accepted/ Complete	5-20-2020
Cross Reference Files	
Commission Hearing Date	7-28-2020
City Council Hearing Date	

Type of Review (check all that apply):

- ☑ Annexation
- ☐ Appeal
- ☐ Comprehensive Plan Amendment
- ☐ Design Review
- ☐ Development Agreement
- ☐ Final Planned Unit Development
- ☐ Final Plat
- ☐ Lot Line Adjustment
- ☐ Lot Split
- ☐ Planned Unit Development
- ☑ Preliminary Plat
- ☑ ~~Rezone~~ Not required/Not apart of this application
- ☐ Special Use
- ☐ Temporary Business
- ☐ Vacation
- ☐ Variance

Contact/Applicant Information

Owners of Record: TJ Johnson / HTPM
Address: 2425 N. Locust Grove Road
City, State, Zip: Kuna, ID 83634
Phone Number:
E-Mail:
Fax #:

Applicant (Developer): Trilogy Development, Inc
Address: 9839 W. Cable Car St., Suite 101
City, State, Zip: Boise, ID 83709
Phone Number: 208-895-8858
E-Mail:
Fax #:

Engineer/Representative: Gem State Planning / Jane Suggs
Address: 9840 W. Overland Road, Suite 120
City, State, Zip: Boise, ID 83709
Phone Number: 208-602-6941
E-Mail: jane@gemstateplanning.com
Fax #:

Subject Property Information

Site Address: 2425 N. Locust Grove Road and surrounding parcels
Site Location (Cross Streets): Ardell Street extension, Stroebel Road extension, Locust Grove Road
Parcel Number (s): S1418123460, S1418123485, S1418427800, S1418417200
Section, Township, Range: 18, 2N, 1E
Property size : approximately 97 acres
Current land use: agriculture
Proposed land use: SF residential
Current zoning district: RR
Proposed zoning district: R-6 / R-8

Project Description

Project / subdivision name: Ledgestone South

General description of proposed project / request: annex, rezone and preliminary plat for single family subdivision for 393 buildable lots, plus substantial open space

Type of use proposed (check all that apply):

- [x] Residential
- [ ] Commercial
- [ ] Office
- [ ] Industrial
- [ ] Other

Amenities provided with this development (if applicable): swimming pool w/changing room, picnic shelter playgound equipment, open space/park, connecting pathways

Residential Project Summary (if applicable)

Are there existing buildings? [x] Yes [ ] No

Please describe the existing buildings: SF home to be annexed and zoned, but not part of plat

Any existing buildings to remain? [x] Yes [ ] No

Number of residential units: 393 Number of building lots: 393

Number of common and/or other lots: 44

Type of dwellings proposed:

- [x] Single-Family
- [ ] Townhouses
- [ ] Duplexes
- [ ] Multi-Family
- [ ] Other

Minimum Square footage of structure (s):

Gross density (DU/acre-total property): 4.07 Net density (DU/acre-excluding roads): 5.65

Percentage of open space provided: 15.2%/11.6% * Acreage of open space: 14.68 / 11.18*

Type of open space provided (i.e. landscaping, public, common, etc.): common, landscaping, park,

* = qualified open space

Non-Residential Project Summary (if applicable)

Number of building lots: Other lots:

Gross floor area square footage: Existing (if applicable):

Hours of operation (days & hours): Building height:

Total number of employees: Max. number of employees at one time:

Number and ages of students/children: Seating capacity:

Fencing type, size & location (proposed or existing to remain):

Proposed Parking:

a. Handicapped spaces: Dimensions:
b. Total Parking spaces: Dimensions:
c. Width of driveway aisle:

Proposed Lighting:

Proposed Landscaping (berms, buffers, entrances, parking areas, common areas, etc.):

Applicant's Signature: Jane Suggs Date: 04-07-20

City of Kuna
Planning & Zoning
Department
PO. Box 13
Kuna, ID 83634
208.922.5274
www.kunacity.id.gov

Preliminary Plat Checklist

Preliminary Plats require public hearings with both the Planning & Zoning Commission and City Council. Public hearing signs will be required to be posted by the applicant for both meetings. Sign posting regulations are available online.

Project Name: Ledgestone South **Applicant:** Jane Suggs

All applications are required to contain on copy of the following:

Applicant (√)	Description	Staff (√)
☑	**Electronic copy of all required submittal items.**	☐
☑	**Completed and signed Commission & Council Review Application.**	☐
☑	**Vicinity map showing relationship of the proposed plat to the surrounding area with a 2-mile radius.**	☐
☑	**Homeowner's maintenance agreement for the care of landscaped common areas.**	☐
☑	**Legal description of the preliminary plat area: Include a metes & bounds description to the section line of all adjacent roadways stamped & signed by a registered professional land surveyor with a calculated closure sheet & a map showing the boundaries of the legal description.**	☐
☑	**Proof of ownership—A copy of your deed and Affidavit of Legal Interest (for all interested parties involved).**	☐
☑	**Letter of intent indicating reasons and details for preliminary plat.**	☐
☑	**Commitment of Property Posting form signed by the applicant/agent.**	☐
☑	**If preliminary plat includes 100 lots or more, please submit a traffic impact study.**	☐
☑	**A letter from Ada County Engineer with the Subdivision Name reservation. A name change needs to be submitted and approved by the Planning & Zoning Director and Ada County Engineer.**	☐
☑	**Phasing Plan**	☐
☑	**Landscape plan for subdivision entrances, buffers, common areas, etc.**	☐
☑	**Neighborhood meeting certification (certification & neighborhood meeting list forms shall accompany this application).**	☐
☑	**8 1/2 x 11 proposed preliminary plat.**	☐
☑	**Preliminary plat drawing on 24x36 quality paper drawn to scale of 1 to 100' or more. The following information shall be contained on the preliminary plat:** ◊ **Topography at two-foot (2') intervals** ◊ **Land uses (location, layout, types & dimensions): residential, commercial & industrial land uses.** ◊ **Street right-of-way: dimensions of right-of-way dedication for all roadways, street sections, improvements, etc.** ◊ **Easements/common space: utility easements, parks, community spaces** ◊ **Lots: layout and dimensions of lots** ◊ **Preliminary improvement drawing: show water, sewer, drainage, electricity, irrigation, telephone, natural gas, proposed street lighting, proposed street names, proposed subdivision name, fire hydrant placement, storm water disposal, underground utilities, and sidewalks.**	☐

*NOTE: One copy of the above items need to be submitted when applying for multiple applications. This application shall not be considered complete (nor will a public hearing be set) until staff has received **all required information**. Once the application is deemed complete, staff will notify the applicant of the scheduled hearing date, fees due, additional copies needed, etc.*

City of Kuna
Planning & Zoning
Department
P.O. Box 13
Kuna, Idaho 83634
208.922.5274
Fax: 208.922.5989
Web: Kunacity.id.gov

Annexation Checklist

Annexation requires public hearings with both the Planning & Zoning Commission and City Council. Public hearing signs will be required to be posted by the applicant for both meetings. Sign posting regulations are available online.

Project name: Ledgestone South **Applicant:** Jane Suggs / Gem State Planning

All applications are required to contain one copy of the following:

Applicant (√)	Description	Staff (√)
✓	Completed and signed Commission & Council Review Application.	
✓	Letter of Intent indicating reasons for proposed annexation and the availability of public services.	
✓	Vicinity map drawn to scale, showing the location of the subject property. Map shall contain the following information: Shaded area showing the annexation property, Street names and names of surrounding subdivisions.	
✓	Legal description of the annexation area: Include a metes & bounds description to the section line of all adjacent roadways stamped & signed by a registered professional land surveyor with a calculated closure sheet & a map showing the boundaries of the legal description.	
✓	Recorded warranty deed for the property.	
✓	Proof of ownership—A copy of your deed **and** Affidavit of Legal Interest (All parties involved)	
n/a	Development Agreement & Development Agreement Checklist	
✓	Neighborhood meeting certification (certification & neighborhood meeting list forms shall accompany this application).	
✓	Commitment of Property Posting form signed by the applicant/agent.	

Note: Only one copy of the above items need to be submitted when applying for multiple applications.

This application shall not be considered complete (nor will a Public Hearing be set) until staff has received all required information. Once the application is deemed complete, staff will notify the applicant of the scheduled hearing date, fees due, additional copies needed, etc.

Gem State Planning, LLC

April 29, 2020

Ms. Wendy Howell, Planning Director
751 W. 4th Street
Kuna, ID 83634

Subject: Ledgestone South Subdivision
Applications for Annexation, Rezone, Preliminary Plat and Design Review

Dear Ms. Howell:

Please accept the attached applications and support materials for a new residential community in Kuna. Ledgestone South is the natural extension of the Ledgestone Subdivision that is currently under construction. This new subdivision is 96.6 acres and located south of the Ledgestone Subdivision, between Stroebel Road and Locust Grove Road (2N, 1W, 22). The extension of Ardell Road, an east-west mid-mile collector between Locust Grove and Stroebel Road, will be constructed as part of this new development. The community will include 393 single family home lots, along with substantial open space, a neighborhood swimming pool, play structure, picnic shelter and pathway connections throughout the community.

Annexation and Zone

Like Ledgestone Subdivision, we respectfully request annexation into the City of Kuna with Medium Density Residential Zoning designations, R-6 and R-8. Both zones are supported by the Kuna Comprehensive Plan that designates this property as Medium Density Residential. Kuna Zoning Code 5-5-5-B describes the R-6 zone as a district to promote the development of medium density living area, not to exceed six (6) dwelling units per net acre. The majority of Ledgestone South is developed with standard R-6 lots. Similarly, the R-8 zone promotes medium to high residential density at 8 dwelling units per acre. The R-8 zone is proposed for just those blocks that are alley loaded. The R-8 dimensional standards allow for narrower lots, since garages are located behind the homes and accessed via a public alleyway. The gross density of Ledgestone South is 4.07 dwelling units/acre.

We are requesting that the lot on Locus Grove Road, labeled as “not a part” on the preliminary plat, also be annexed and zoned R-6. This lot is the old homeplace of the original property owners, TJ and Eileen Johnson. The Johnsons did not wish to be included in the Ledgestone South subdivision; however, they wanted to keep a smaller acreage. This remaining homeplace lot does not meeting the minimum lot size for the County’s RR zone of 10 acres. We have included a copy of the Record of Survey that separates this homeplace lot from the Johnson farmland.

The legal descriptions for the 2 zoning designations are included in our application package.

Preliminary Plat

Ledgestone South is planned for 393 single family home lots and 44 common lots and is characterized by a traditional block layout and a large central open space. There are landscaped open areas in each quadrant of the community, providing passive recreation areas close to all homes. Each buildable lot meets the R-6 dimensional standards, except for the homes on 4 alley loaded blocks. Those blocks will be zoned R-8. As with our previous Ledgestone application, we request a director's allowance for a front setback of 15', instead of 20', and a lot coverage of 55%. This reduced front setback creates a nice streetscape and the lot coverage still allows 5' sideyard setbacks and a 20' rear setback. The standard 20' rear setback allows parking on the garage apron.

Open Space and Connectivity

A key feature of Ledgestone South is the large central park. As shown in the attached Landscape Plan and especially on the Landscape Plan rendering, this 3.9 acre park will include a neighborhood swimming pool that will serve both Ledgestone and Ledgestone South residents. The park will also include a play structure and a covered picnic shelter, along with a few off-street parking spaces.

The shared boundary between Ledgestone and Ledgestone South is a common lot that includes a 5'-wide pathway. This pathway is over ½ mile long and connects to other sidewalks and pathways in both Ledgestone and Ledgestone South. Pathways are considered one of the most used amenities in residential development. As noted previously, there are also landscaped open spaces close to all homes that serve as passive recreation and convenient gathering spots.

A substantial portion of Ledgestone South is open space. Over 14.6 acres of the 96.6 acre site, or 14.68%, is common/open space. The usable open space, which does not include our landscaped buffers and end caps, totals 11.18 acres or 11.6% of the site. This usable open space in Ledgestone South exceeds the 10.5% requirement in Kuna Code 5-12-12-D approved in January of this year.

We have included a Design Review application for approval of our extensive landscaping.

Streets and Utilities

A new mid-mile collector road, Ardell Road, runs east-west through the property. Construction of this collector, plus the extension of Stroebel Road to Ardell Road, will improve the traffic circulation in this area. Residents will be able to use these collectors to travel between neighborhoods instead of travelling on the arterial streets.

All local streets are public streets and constructed to ACHD and Kuna street standards: 36' back of curb to back of curb, with attached sidewalks, in a 50' right-of-way. There are two street connections to Ledgestone: at N. Moonshadow Avenue and N. Coosa Avenue, which connects to E. Rio Vallegas Street; and additional stub streets to properties to the south.

As described previously we have designed 4 blocks with attractive homes that face a public street, but with vehicle access from a 20' wide public alley in the rear of the homes.

A Traffic Impact Study has been completed and reviewed by both ACHD and ITD.

All necessary utilities will be available to the site, including pressurized irrigation that will be provided to each lot. The preliminary phasing of construction is shown on page 6 in the preliminary plat set.

Neighborhood Meeting

Our first neighborhood meeting was held on Thursday, November 14, 2019, at Kuna High School Library. The attendance sheet is attached. Neighbors who attended were concerned with maintaining property irrigation and drainage.

After our neighborhood meeting our plat was revised to include the Ardell Road extension and we held a 2nd neighborhood meeting. This meeting was held on Wednesday, February 19, 2020, also at Kuna High School. That attendance sheet is attached.

Summary

Ledgestone South will be a real asset to the City of Kuna; with multiple lot sizes, innovative alley loaded homes, a large park with swimming pool and amenities, extensive pathways and the construction of 2 collector streets.

We look forward to working with you and your staff throughout the approval process. Please contact me if you have any questions or comments.

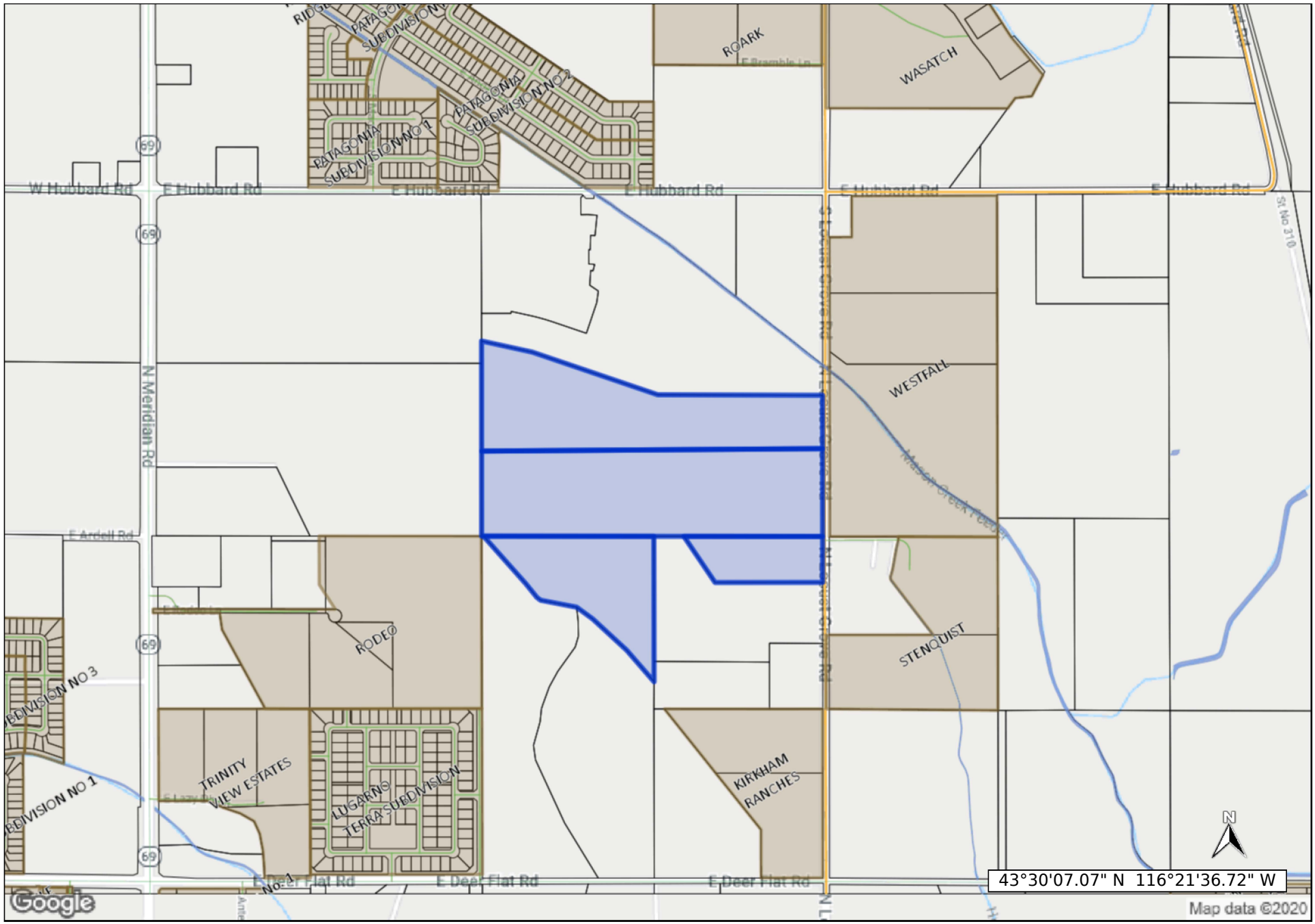
Sincerely,

Jane Suggs

Jane Suggs

Ledgestone South

Vicinity Map



Apr 28, 2020 - landproDATA.com
Scale: 1 inch approx 1000 feet

The materials available at this website are for informational purposes only and do not constitute a legal document.

City of Kuna
AFFIDAVIT OF LEGAL INTEREST

City of Kuna
P.O. Box 13
Kuna, Idaho 83634
Phone: (208) 922-5274
Fax: (208) 922-5989
Web: www.Kunacity.id.gov

State of Idaho)
) **ss.**
County of Ada)

I, John A Laude, Sr., Heartland Townhomes Property Management, LLC 9839 W. Cable Car Street, Suite 101
Name **Address**

Boise , Idaho 83709
City **State** **Zip Code**

being first duly sworn upon oath, depose and say:

(If Applicant is also Owner of Record, skip to B)

A. That I am the record owner of the property described on the attached, and I grant my permission to Gem State Planning (Name) 9840 W. Overland Road, Suite 120, Boise, ID 83709 (Address) to submit the accompanying application pertaining to that property.

B. I agree to indemnify, defend and hold City of Kuna and its employees harmless from any claim or liability resulting from any dispute as to the statements contained herein or as to the ownership of the property which is the subject of the application.

C. I hereby grant permission to the City of Kuna staff to enter the subject property for the purpose of site inspections related to processing said application(s),

Dated this 3rd day of April, 20 20

Signature

Subscribed and sworn to before me the day and year first above written.

Notary Public for Idaho

Residing at: Boise ID

My commission expires: 9/6/2025

DAVID LABRIE
Comm. No. 50738
NOTARY PUBLIC
Expires: 09/06/2025
STATE OF IDAHO

City of Kuna
AFFIDAVIT OF LEGAL INTEREST

City of Kuna
P.O. Box 13
Kuna, Idaho 83634
Phone: (208) 922-5274
Fax: (208) 922-5989
Web: www.Kunacity.id.gov

State of Idaho)
) ss.
County of Ada)

I, T J Johnson or Elaine Johnson , 2425 N. Locust Grove Road
Name **Address**

Kuna , Idaho 83634
City **State** **Zip Code**

being first duly sworn upon oath, depose and say:

(If Applicant is also Owner of Record, skip to B)

A. That I am the record owner of the property described on the attached, and I grant my permission to Gem State Planning (Name) 9840 W. Overland Road, Suite 120, Boise, ID 83709 (Address) to submit the accompanying application pertaining to that property.

B. I agree to indemnify, defend and hold City of Kuna and its employees harmless from any claim or liability resulting from any dispute as to the statements contained herein or as to the ownership of the property which is the subject of the application.

C. I hereby grant permission to the City of Kuna staff to enter the subject property for the purpose of site inspections related to processing said application(s),

Dated this 3rd day of April, 20 20

E. Elaine Johnson
Signature

Subscribed and sworn to before me the day and year first above written.

FRED DEPOLD NOTARY PUBLIC MY COMMISSION EXPIRES 12-18-2023 STATE OF IDAHO COMMISSION NUMBER 43783

Fred DePold
Notary Public for Idaho

Residing at: Meridian Idaho

My commission expires: 12-18-2023

ADA COUNTY RECORDER Phil McGrane BOISE IDAHO Pgs=3 CHE FOWLER TITLEONE BOISE	**2019-127517** **12/19/2019 12:34 PM** $15.00

TitleOne
a title & escrow co.

Order Number: 19350969

Warranty Deed

For Value Received,

T. J. Johnson also known as Theone J. Johnson and G. Elaine Johnson, husband and wife, the Grantor, does hereby grant, bargain sell and convey unto, **Heartland Townhomes Property Management, LLC, an Idaho limited liability company, as to an undivided 78.13% interest and JRL Properties L.P., an Idaho limited partnership, as to an undivided 21.87% interest**, whose current address is **9839 W. Cable Car St., Ste 101, Boise, ID 83709,** the Grantee, the following described premises, in **Ada County, Idaho,** To Wit:

EXHIBIT "A" ATTACHED HERETO AND MADE APART HEREOF

TO HAVE AND TO HOLD the said premises, with their appurtenances unto the said Grantee, its heirs and assigns forever. And the said Grantor does hereby covenant to and with the said Grantee, that Grantor is the owner in fee simple of said premises; that they are free from all encumbrances EXCEPT those to which this conveyance is expressly made subject and those made, suffered or done by the Grantee; and subject to all existing patent reservations, easements, right(s) of way, protective covenants, zoning ordinances, and applicable building codes, laws and regulations, general taxes and assessments, including irrigation and utility assessments (if any) for the current year, which are not due and payable, and that Grantor will warrant and defend the same from all lawful claims whatsoever. Whenever the context so requires, the singular number includes the plural.

Remainder of this page intentionally left blank.

Dated: 12/19/19

T. J. Johnson

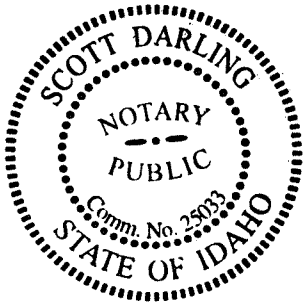
G. Elaine Johnson

State of Idaho, County of Ada, ss.

On this 19th day of December in the year of 2019, before me, the undersigned, a Notary Public in and for said State, personally appeared T. J. Johnson and G. Elaine Johnson, known or identified to me to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same.

Notary Public
Residing In:
My Commission Expires:
(seal)

Residing at: Boise, ID
Commission expires: 11/28/2025



DESCRIPTION FOR
32.54 ACRE PURCHASE PARCEL
LEDGESTONE SUBDIVISION

A parcel of land located in the NE 1/4 of Section 18, Township 2 North, Range 1 East, Boise Meridian, Ada County, Idaho being more particularly described as follows:

Commencing at the NE corner of said Section 18 from which the E 1/4 corner bears South 00°22'30" West, 2643.18 feet;

thence along the East boundary line of said Section 18 South 00°22'30" West, 1,561.24 feet to the **REAL POINT OF BEGINNING;**

thence continuing along said East boundary line South 00°22'30" West, 407.58 feet;

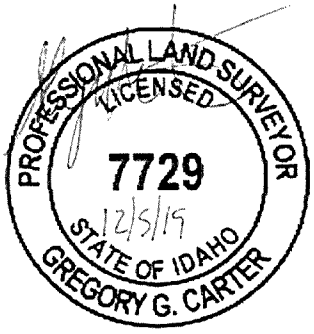
thence leaving said East boundary line North 90°00'00" West, 2652.12 feet to a point on the North-South centerline of said Section 18;

thence along said North-South centerline North 00°23'35" East, 843.50 feet;

thence leaving said North-South centerline South 77°18'25" East, 398.64 feet;

thence South 70°52'25" East, 1,021.82 feet;

thence South 89°24'07" East, 1,294.76 feet to the **REAL POINT OF BEGINNING**. Containing 32.54 acres, more or less.



8107831 **WARRANTY DEED** 548 1628

FOR VALUE RECEIVED, Kelsie L. Butler and Sheila D. Butler, Husband and wife

the grantor s, do hereby grant, bargain, sell and convey unto

T.J. Johnson and G. Elaine Johnson, husband and wife
whose current address is 1512 Empire Wy.

the grantee s, the following described premises, in Ada County Idaho, to wit:

A TRACT OF LAND IN THE NE¼SE¼ OF SECTION 18, TOWNSHIP 2 NORTH, RANGE 1 EAST, BOISE-MERIDIAN, ADA COUNTY, IDAHO, MORE PARTICULARLY DESCRIBED AS FOLLOWS:
COMMENCING AT THE SOUTHEAST CORNER OF SECTION 18, TOWNSHIP 2 NORTH, RANGE 1 EAST, BOISE-MERIDIAN, ADA COUNTY, IDAHO; THENCE
NORTH ALONG THE EAST SECTION LINE OF SAID SECTION 18, 2290.26 FEET TO THE REAL POINT OF BEGINNING; THENCE CONTINUING
NORTH ALONG THE SECTION LINE, 352.66 FEET TO THE NORTHEAST CORNER OF THE NE¼SE¼ OF SAID SECTION 18; THENCE
NORTH 89°54' WEST ALONG THE NORTH BOUNDARY LINE OF SAID NE¼SE¼, 1093.67 FEET TO A POINT; THENCE
SOUTH 34°07'54" EAST 428.35 FEET TO A POINT; THENCE
EAST 853.32 FEET TO THE REAL POINT OF BEGINNING.

SUBJECT TO:
GENERAL TAXES FOR THE YEAR 1981 AND SUBSEQUENT YEARS, AN ACCRUING LIEN.

LIENS, LEVIES AND ASSESSMENTS OF THE BOISE-KUNA IRRIGATION DISTRICT.

Lawyers Title
08 10 A 25 Feb 81
By Irma Clark
$2.00

TO HAVE AND TO HOLD the said premises, with their appurtenances unto the said Grantee s, their heirs and assigns forever. And the said Grantor s do hereby covenant to and with the said Grantee s, that they the owner s in fee simple of said premises; that they are free from all incumbrances EXCEPT THOSE OF PUBLIC RECORD.

and that they will warrant and defend the same from all lawful claims whatsoever.

Dated: February 24, 1981

Kelsie L. Butler

Sheila D. Butler

STATE OF IDAHO, COUNTY OF Ada

On this 24th day of February, 1981, before me, a notary public in and for said State, personally appeared Sheila D. Butler

known to me to be the person whose name subscribed to the within instrument, and acknowledged to me that executed the same.

Notary Public
Residing at Idaho
Comm. Expires

STATE OF IDAHO, COUNTY OF Ada

On this 24th day of February, 1981 before me, personally appeared Sheila D. Butler, known to me to be the person whose name is subscribed to the within instrument as Attorney in Fact of Kelsie L. Butler, and acknowledged to me that she subscribed the name of Kelsie L. Butler as principal and her own name as Attorney in Fact.

Notary Public for Idaho, Residing at Boise
My commission expires September 1984

LAWYERS TITLE

25

A

17851 646 51

re-recording

8318822 **WARRANTY DEED** 8317104

FOR VALUE RECEIVED,

LESLIE G. PAULIN AND WANDA N. PAULIN, HUSBAND AND WIFE

the grantors, do hereby grant, bargain, sell and convey unto

T.J. JOHNSON AND G. ELAINE JOHNSON, HUSBAND AND WIFE

whose current address is Rt #3, S. Locust Grove Rd., Kuna, Ida. 83634

the grantees, the following described premises, in ADA County Idaho, to wit:

A PARCEL OF LAND SITUATED IN THE WEST ONE-HALF OF THE SOUTHEAST QUARTER OF SECTION 18, TOWNSHIP 2 NORTH, RANGE 1 EAST, BOISE-MERIDIAN, ADA COUNTY, IDAHO, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTH QUARTER CORNER OF SAID SECTION 18; THENCE ALONG THE NORTH-SOUTH MID SECTION LINE OF SAID SECTION 18

NORTH 0°09'07" WEST 2645.80 FEET TO THE CENTER OF SECTION 18, A POINT MARKED BY A BRASS CAP; THENCE ALONG THE EAST-WEST MID SECTION LINE

SOUTH 89°56'09" EAST 13.00 FEET TO A POINT MARKED BY A ONE-HALF INCH IRON BAR, BEING A POINT IN THE CENTERLINE OF AN IRRIGATION DITCH, ALSO BEING THE REAL POINT OF BEGINNING; THENCE CONTINUING

SOUTH 89°56'09" EAST 1313.08 FEET TO A POINT MARKED BY A ONE-HALF INCH IRON BAR. BEING THE NORTHWEST CORNER OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 18; THENCE LEAVING SAID LINE AND ALONG THE WEST LINE OF SAID NORTHEAST QUARTER OF THE SOUTHEAST QUARTER SOUTH 0°05'01" EAST1115.52 FEET TO POINT IN THE CENTERLINE OF AN IRRIGATION DITCH; THENCE LEAVING SAID LINE AND ALONG THE CENTERLINE OF AN IRRIGATION DITCH THE FOLLOWING COURSES

NORTH 41°06'30" WEST 320.28 FEET TO A POINT (FORMERLY 320.00 FEET); THENCE

NORTH 47°25'30" WEST 354.00 FEET TO A POINT; THENCE
NORTH 53°54'00" WEST 154.82 FEET TO A POINT; THENCE
NORTH 79°07'37" WEST 282.07 FEET TO A POINT; THENCE
NORTH 52°51'22" WEST 37.02 FEET TO A POINT; THENCE
NORTH 38°56'0" WEST 134.23 FEET TO A POINT; THENCE
NORTH 41°54'05" WEST 490.35 FEET TO THE POINT OF BEGINNING,

EXCEPT: DITCH AND ROAD RIGHTS-OF-WAY. THIS IS BEING RE-RECORDED DUE TO LEGAL DESCRIPTION CHANGE

TO HAVE AND TO HOLD the said premises, with their appurtenances unto the said Grantees, their heirs and assigns forever. And the said Grantors do hereby covenant to and with the said Grantees, that they are the owners in fee simple of said premises; that they are free from all incumbrances except for those of public record

and that they will warrant and defend the same from all lawful claims whatsoever.

Dated: APRIL 6, 1983

Leslie G. Paulin — LESLIE G. PAULIN

Wanda N. Paulin — WANDA N. PAULIN

STATE OF IDAHO, COUNTY OF ADA

On this 11th day of APRIL, 1983, before me, a notary public in and for said State, personally appeared

LESLIE G. PAULIN AND WANDA N. PAULIN

known to me to be the persons whose names are subscribed to the within instrument, and acknowledged to me that they executed the same.

Randy Calixto
Notary Public

Residing at Boise, Idaho
Comm. Expires September 1984

STATE OF IDAHO COUNTY OF ADA, ss.
Lawyers Title
05 ... 11 day of April 1983
Reggy Christensen Deputy
re-recording
Lawyers Title
15 ... 12 ... 19 ... April 1983
Reggy Christensen Deputy

26

LAWYERS TITLE CO. of IDAHO

4619 EMERALD
PO BOX 9245
PHONE 336-1054
BOISE, IDAHO
ZIP CODE 83704

(B)

1184000472

WARRANTY DEED

9003078

For Value Received
THE A. E. MONTGOMERY and HELEN B. MONTGOMERY TRUST

the grantor . do es hereby grant, bargain, sell and convey unto
THEONE J. JOHNSON and G. ELAINE JOHNSON, husband and wife,
the grantee s. whose current address is ~~1809 Norcrest Drive, Boise, Idaho, 83705~~

the following described premises, in Ada County Idaho, to-wit:

See Exhibit A attached hereto and made a part hereof.

MAILING ADDRESS.
T. J. JOHNSON
2425 N. LOCUST GROVE RD.
KUNA IDAHO 83634

TO HAVE AND TO HOLD the said premises, with their appurtenances unto the said Grantee s, their heirs and assigns forever. And the said Grantor do es hereby covenant to and with the said Grantee s. that ~~it is~~ he owner in fee simple of said premises; that they are free from all incumbrances

and that ~~it is~~ will warrant and defend the same from all lawful claims whatsoever.

Dated: 14th day of May, 1977.

Robert Montgomery Trustee
Robert Montgomery, Trustee

Bruce Montgomery, Trustee

STATE OF IDAHO, COUNTY OF Ada
On this 16th day of May, 1977, before me, a notary public in and for said State, personally appeared BRUCE MONTGOMERY, one of the Trustees of the A. E. MONTGOMERY and HELEN B. MONTGOMERY TRUST,

known to me to be the person who se name is subscribed to the within instrument, and acknowledged to me that he executed the same.

Notary Public
Residing at Boise, Idaho
Comm. Expires 1-14-78

STATE OF IDAHO, COUNTY OF Ada
I hereby certify that this instrument was filed for record at the request of Theone J Johnson
at 45 minutes past 9 o'clock A m., this 19th day of January 1990, in my office, and duly recorded in Book of Deeds at page

JOHN BASTIDA
Ex-Officio Recorder
By J. Good Deputy.
Fees $ 12.00
Mail to:

INSTRUMENT No.

(27) *

(C)

EXHIBIT A

TRACT I:

An irregular tract in the Northeast one-quarter of Section 18, T. 2 N., R. 1 E., Boise Meridian, Ada County, Idaho, and lying Southerly of the Crest Ditch and Northerly of a drain ditch described as follows:

From a point on the East boundary of Section 18, T. 2 N., R. 1 E., Boise Meridian, situated 1208.46 feet North 0°02' West of the quarter section corner between Sections 17 and 18; thence
South 85°01' West along the center line of the Crest Ditch 351.6 feet to the real place of beginning; thence
South 85°01' West along the center line of the drain ditch, 980.3 feet to a point; thence
North 71°14' West along the center line of a drain ditch, 990.00 feet to a point; thence
North 77°40' West along the center line of a drain ditch, 398.64 feet to a point on the North and South center line of Section 18; thence
North 0°02' East along the North and South center line of Section 18, 337.7 feet to a point in the center of the Crest ditch; thence
South 75°01' East along the center line of the Crest Ditch 2324.8 feet to a point; thence
South 41°09' East along the center line of the Crest Ditch 78.95 feet to the real place of beginning.

TRACT II:

Part of the Northeast one-quarter of Section 18, T. 2 N., R. 1 E., Boise Meridian, Ada County, Idaho.

Beginning at the East quarter corner of said Section; thence West 2654.5 feet to center of said Section; thence North 0°2' East 1496.2 feet; thence South 77°40' East, 398.64 feet; thence South 71°14' East, 990 feet; thence North 85°1' East 1331.9 feet; thence South 0°2' East 1208.46 feet to a point of beginning.

EXCEPT roads and ditches and rights of way.

TRACT III:

An irregular tract in the Northeast one-quarter of Section 18, T. 2 N., R. 1 E., Boise Meridian, Ada County, Idaho described as follows:

Beginning at the Quarter Section corner between Sections 7 and 18, T. 2 N., R. 1 E., Boise Meridian; thence
North 89°59' East along the Section line 846.6 feet to a point in the center of the Mason Creek Ditch; thence
South 56°06' East along the center line of the Mason Creek Ditch 673.11 feet to a point; thence
South 52°08' East continuing along the center line of the Mason Creek Ditch 1580.1 feet to a point on the East boundary of Section 18; thence
South 0°02' East 93.86 feet to a point in the Center of the Crest Ditch; thence
South 85°01' West along the center line of the Crest Ditch 351.6 feet to a point; thence
North 41°09' West continuing along the center line of the Crest Ditch 78.95 feet to a point; thence
North 75°01' West continuing along the center line of the Crest Ditch 2324.8 feet to a point on the North and South center line of Section 18; thence
North 0°02' East 814 feet to the place of beginning.

together with all and singular the tenements, hereditaments and appurtenances thereunto belonging or in anywise appertaining;

subject to all easements and rights of way of record or appearing on the land;

subject, also, to taxes and assessments levied and assessed for the year 1977, which are now liens but not yet due nor payable.

STATE OF ~~NEW YORK~~ Michigan)
: ss.
County of Leelanau)

On the 21 day of May, 1977, before me, personally came ROBERT MONTGOMERY, one of the Trustees of the A. E. MONTGOMERY and HELEN B. MONTGOMERY TRUST, to me, known to be the person described in and who executed the foregoing instrument, and acknowledged that he executed the same.

Mary Grace Long

NOTARY PUBLIC FOR ~~NEW YORK~~ Michigan
Residence: Leland, Michigan 49654
Expiration Date - October 18, 1977

This document is being recorded as is at the request of T. J. Johnson. No seal on the Notary

ACCOMMODATION RECORDING

ADA COUNTY RECORDER Christopher D. Rich
BOISE IDAHO Pgs=3 VICTORIA BAILEY
TITLEONE BOISE

2018-103100
10/29/2018 04:27 PM
$15.00

Quitclaim Deed

For value received, **Theone J. Johnson and G. Elaine Johnson, husband and wife**

Does hereby convey, release, remise, and forever quit claim unto

Theone J. Johnson and G. Elaine Johnson, husband and wife

whose current address is 2425 N. Locust Grove Rd., Kuna, ID 83634,

the following described premises:

See Parcel B, attached hereto and made a part hereof.

To have and to hold the said premises, unto the said grantees, heirs and assigns forever.

Date: 10/29/2018

See attached signature page

D

Theone J. Johnson

G. Elaine Johnson

State of Idaho, County of ~~And~~ Ada, ss.

On this 29th day of October in the year of 2018, before me, the undersigned, a Notary Public in and for said State, personally appeared Theone & Elaine Johnson known or identified to me to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same.

Fred DePold, Notary Public
Residing at: meridian Idaho
My Commission Expires: 12-18-2023
(seal)

FRED DEPOLD
NOTARY PUBLIC
MY COMMISSION
EXPIRES 12-18-2023
STATE OF IDAHO
COMMISSION NUMBER 43783

DESCRIPTION FOR
T.J. JOHNSON – PARCEL B

A parcel of land located in the NE 1/4 of Section 18, T.2N., R.1E., B.M., Ada County, Idaho more particularly described as follows:

Commencing at the NE corner of said Section 18 from which the E 1/4 corner bears South 00°22'30" West, 2643.18 feet;

thence along the East boundary line of said Section 18 South 00°22'30" West, 1,561.24 feet to the **REAL POINT OF BEGINNING;**

thence continuing along said East boundary line South 00°22'30" West, 1,081.94 feet to the E 1/4 corner of said Section 18;

thence along the East-West centerline of said Section 18 North 89°31'55" West, 2,652.27 feet to the C 1/4 of said Section 18;

thence along the North-South centerline of said Section 18 North 00°23'35" East, 1,496.20 feet;

thence leaving said North-South centerline South 77°18'25" East, 398.64 feet;

thence South 70°52'25" East, 1,021.82 feet;

thence South 89°24'07" East, 1,294.76 feet to the **REAL POINT OF BEGINNING.** Containing 72.94 acres, more or less.



Jane Suggs

From: Sub Name Mail <subnamemail@adacounty.id.gov>
Sent: Friday, January 31, 2020 1:44 PM
To: Jane Suggs
Cc: 'Gregory Carter (gcarter@idahosurvey.com)'
Subject: RE: Ledgestone South Subdivision Name Reservation

January 31, 2020

Greg Carter, Idaho Survey Group
Jane Suggs, Gem State Planning

RE: Subdivision Name Reservation: **LEDGESTONE SOUTH SUBDIVISION**

At your request, I will reserve the name **Ledgestone South Subdivision** for your project. I can honor this reservation only as long as your project is in the approval process. Final approval can only take place when the final plat is recorded.

This reservation is available for the project as long as it is in the approval process unless the project is terminated by the client, the jurisdiction or the conditions of approval have not been met, in which case the name can be re-used by someone else.

Sincerely,

Glen Smallwood
Surveying Technician
Ada County Development Services
200 W. Front St., Boise, ID 83702
(208) 287-7926 *office*
(208) 287-7909 *fax*

From: Jane Suggs <jane@gemstateplanning.com>
Sent: Thursday, January 30, 2020 4:02 PM
To: Sub Name Mail <subnamemail@adacounty.id.gov>
Cc: Danielle Couchman <danielle@trilogyidaho.com>
Subject: [EXTERNAL] New Subdivision name - Ledgestone South Subdivision

CAUTION: This email originated from outside Ada County email servers. Do not click on links or open attachments unless you recognize the sender and know the content is safe. Verify the sender by mouse-hovering over their display name in order to see the sender's full email address and confirm it is not suspicious. If you are unsure an email is safe, please report the email by using the 'Phish Alert' button in Outlook.

Hi Subnamemail,
I would like to request a new subdivision name: **Ledgestone South Subdivision.**
This subdivision is directly south of the approved and under construction Ledgestone Subdivision. See the attached map showing the parcels that make up Ledgestone South.

DESCRIPTION FOR
LEDGESTONE SOUTH SUBDIVISION

A portion of the NE1/4 and NW1/4 of the SE 1/4 of Section 18, T.2N., R.1E., B.M., Ada County, Idaho, more particularly described as follows:

BEGINNING at the C1/4 corner of said Section 18 from which the N1/4 corner of said Section 18 bears North 00°23'35" East, 2,647.91 feet;

thence along North-South centerline of said Section 18 North 00°23'35" East, 1,496.20 feet;

thence leaving said North-South centerline South 77°18'25" East, 398.64 feet;

thence South 70°52'25" East, 990.00 feet;

thence North 85°22'35" East, 1,329.94 feet to a point on the East boundary line of said Section 18;

thence along said East boundary line South 00°22'30" West, 1044.77 feet;

thence leaving said East boundary line North 83°48'49" West, 254.83 feet;

thence South 01°28'13" East, 193.82 feet to point on the East-West centerline of said Section 18;

thence along said East-West centerline South 89°31'55" East, 247.28 feet to the E1/4 of said Section 18;

thence along said East boundary line South 00°23'29" West, 352.66 feet;

thence leaving said East boundary line North 89°36'45" West, 853.65 feet;

thence North 33°44'39" West, 427.90 feet to point on the East-West centerline of said Section 18;

thence along said East-West centerline North 89°31'55" West, 232.34 feet to the C-E 1/16 corner of said Section 18;

thence along the East boundary line of the NW1/4 of the SE 1/4 of said Section 18 South 00°19'01" West, 1,115.69 feet;

thence leaving said East boundary line North 40°42'16" West, 320.50 feet;

thence North 47°01'16" West, 354.00 feet;

thence North 53°29'46" West, 154.82 feet;

thence North 78°43'23" West, 282.06 feet;

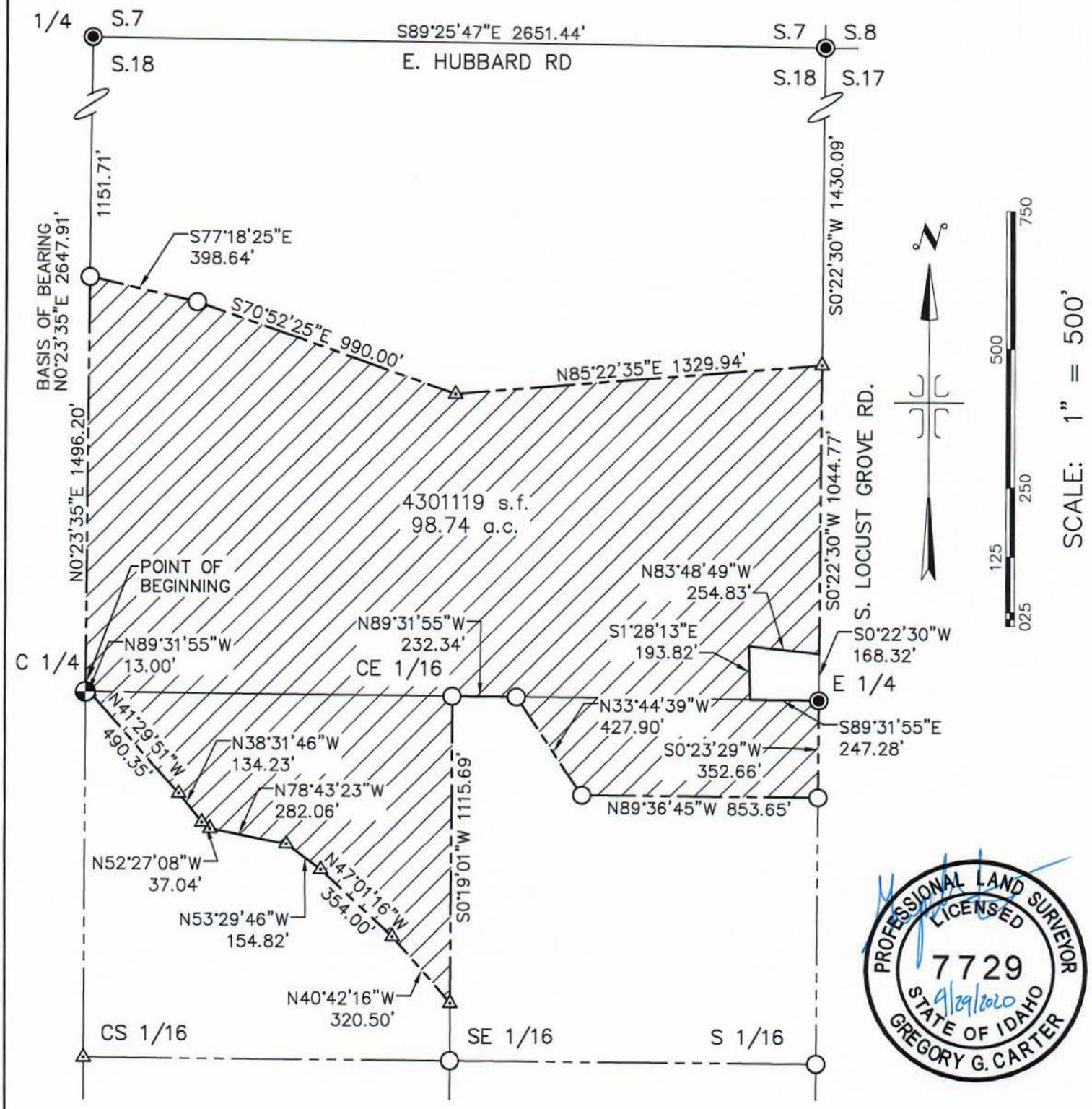
thence North 52°27'08" West, 37.04 feet;

thence North 38°31'46" West, 134.23 feet;

thence North 41°29'51" West, 490.35 feet to a point on the North boundary line of said Northwest 1/4 of the Southeast 1/4;

thence along said North boundary line North 89°31'55" West, 13.00 feet to the **POINT OF BEGINNING**. Containing 98.74 acres, more or less.





PROFESSIONAL LAND SURVEYOR LICENSED 7729 STATE OF IDAHO GREGORY G. CARTER 9/29/2020

P:\Johnson 96 acre Topo 19-104\dwg\Ledgestone South Annexation exhibit.dwg 4/29/2020 2:18:54 PM

IDAHO SURVEY GROUP, LLC
9955 W. EMERALD ST.
BOISE, IDAHO 83704
(208) 846-8570

EXHIBIT___ DRAWING FOR
LEDGESTONE SOUTH SUBDIVISION

LOCATED IN THE NE ¼ AND THE SE ¼ OF SECTION 18, T.2N., R.1E., B.M., ADA COUNTY, IDAHO

JOB NO. 19-104
SHEET NO. 1
DWG. DATE 4/29/2020

DESCRIPTION FOR
LEDGESTONE SOUTH ANNEXATION PARCEL
R-6 ZONE

A portion of the NE1/4 and NW1/4 of the SE 1/4 of Section 18, Township 2 North, Range 1 East, Boise Meridian, Ada County, Idaho, more particularly described as follows:

BEGINNING at the C1/4 corner of said Section 18 from which the N1/4 corner of said Section 18 bears North 00°23'35" East, 2,647.91 feet;

thence along North-South centerline of said Section 18 North 00°23'35" East, 1,496.20 feet;

thence leaving said North-South centerline South 77°18'25" East, 398.64 feet;

thence South 70°52'25" East, 990.00 feet;

thence North 85°22'35" East, 1,329.94 feet to a point on the East boundary line of said Section 18;

thence along said East boundary line South 00°22'30" West, 1,213.09 feet to the E1/4 of said Section 18;

thence continuing along said East boundary line South 00°23'29" West, 352.66 feet;

thence leaving said East boundary line North 89°36'45" West, 853.65 feet;

thence North 33°44'39" West, 427.90 feet to point on the East-West centerline of said Section 18;

thence along said East-West centerline North 89°31'55" West, 232.34 feet to the C-E 1/16 corner of said Section 18;

thence along the East boundary line of the NW1/4 of the SE 1/4 of said Section 18 South 00°19'01" West, 1,115.69 feet;

thence leaving said East boundary line North 40°42'16" West, 320.50 feet;

thence North 47°01'16" West, 354.00 feet;

thence North 53°29'46" West, 154.82 feet;

thence North 78°43'23" West, 282.06 feet;

thence North 52°27'08" West, 37.04 feet;

thence North 38°31'46" West, 134.23 feet;

thence North 41°29'51" West, 490.35 feet to a point on the North boundary line of said Northwest 1/4 of the Southeast 1/4;

thence along said North boundary line North 89°31'55" West, 13.00 feet to the **POINT OF BEGINNING**. Containing 99.78 acres, more or less.

EXCEPTING THEREOF:

A portion of the NE1/4 and the NW1/4 of the SE1/4 of Section 18, Township 2 North, Range 1 East, Boise Meridian, Ada County, Idaho, more particularly described as follows:

PARCEL P1:

Commencing at the C1/4 corner of said Section 18 from which the N1/4 corner of said Section 18 bears North 00°23'35" East, 2,647.91 feet;

thence North 74°14'02" East, 772.52 feet to the **REAL POINT OF BEGINNING**;

thence North 00°23'35" East, 537.54 feet;

thence 32.70 feet along the arc of curve to the right, said curve having a radius of 100.00 feet, a central angle of 18°44'01" and a long chord which bears North 09°45'36" East, 32.55 feet;

thence North 19°07'36" East, 53.50 feet;

thence South 70°52'24" East, 210.80 feet;

thence 124.38 feet along the arc of curve to the right, said curve having a radius of 100.00 feet, a central angle of 71°15'59" and a long chord which bears South 35°14'24" East, 116.52 feet;

thence South 00°23'35" West, 457.92 feet;

thence North 89°36'25" West, 290.00 feet to the **REAL POINT OF BEGINNING**. Containing 3.81 acres, more or less.

PARCEL P2:

Commencing at the C1/4 corner of said Section 18 from which the N1/4 corner of said Section 18 bears North 00°23'35" East, 2,647.91 feet;

thence North 81°26'47" East, 1434.89 feet to the **REAL POINT OF BEGINNING**;

thence North 00°35'53" East, 654.74 feet;

thence 78.54 feet along the arc of curve to the right, said curve having a radius of 50.00 feet, a central angle of 90°00'00" and a long chord which bears North 45°35'53" East, 70.71 feet;

thence South 89°24'11" East, 240.00 feet;

thence South 00°35'53" West, 414.08 feet;

thence South 89°32'30" East, 270.00 feet;

thence South 89°31'35" East, 476.64 feet;

thence South 00°22'30" West, 189.84 feet;

thence 157.24 feet along the arc of curve to the right, said curve having a radius of 100.00 feet, a central angle of 90°05'35" and a long chord which bears South 45°25'17" West, 141.54 feet;

thence North 89°31'55" West, 937.61 feet to the **REAL POINT OF BEGINNING**. Containing 9.60 acres, more or less.

PARCEL P3:

Commencing at the C 1/4 corner of said Section 18 from which the N1/4 corner of said Section 18 bears North 00°23'35" East, 2,647.91 feet;

thence South 79°13'58" East, 916.28 feet to the **REAL POINT OF BEGINNING**;

thence South 89°36'25" East, 290.07 feet;

thence South 00°19'01" West, 216.21 feet;

thence South 00°39'57" West, 93.53 feet;

thence South 00°06'39" East, 76.32 feet;

thence 43.69 feet along the arc of a non-tangent curve to the right, said curve having a radius of 300.00 feet, a central angle of 08°20'36" and a long chord which bears South 04°29'19" West, 43.65 feet;

thence South 08°39'37" West, 51.48 feet;

thence 108.49 feet along the arc of curve to the right, said curve having a radius of 50.00 feet, a central angle of 124°19'07" and a long chord which bears South 70°49'10" West, 88.42 feet;

thence North 47°01'16" West, 325.55 feet;

thence 5.11 feet along the arc of curve to the left, said curve having a radius of 150.00 feet, a central angle of 01°57'13" and a long chord which bears North 47°59'53" West, 5.11 feet;

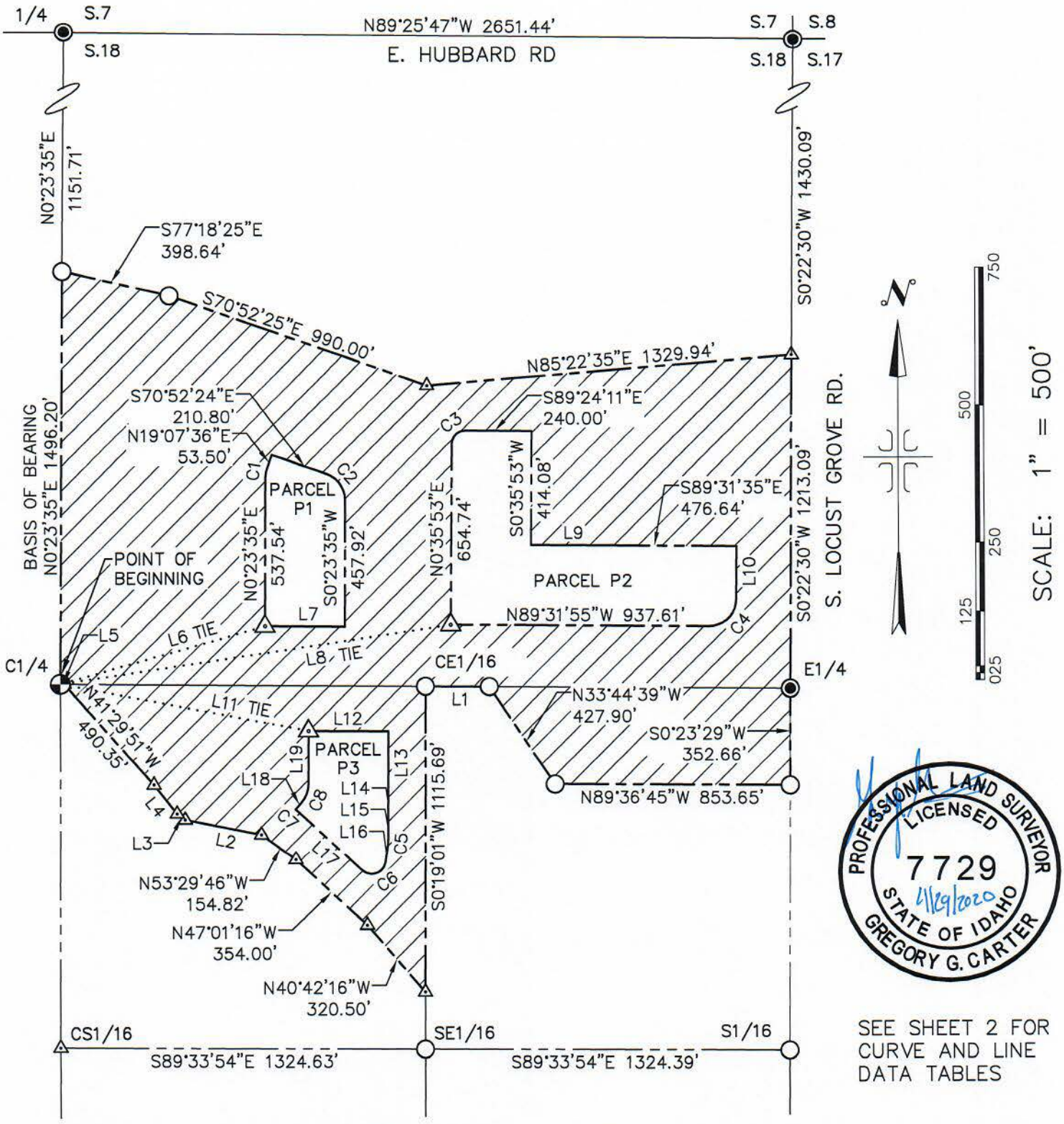
thence North 41°01'31" East, 35.00 feet;

thence 70.99 feet along the arc of curve to the left, said curve having a radius of 100.00 feet, a central angle of 40°40'23" and a long chord which bears North 20°41'19" East, 69.51 feet;

thence North 00°21'08" East, 194.71 feet to the **REAL POINT OF BEGINNING**. Containing 3.04 acres, more or less.

Net Area of R-6 Annexation and Re-Zone is 83.33 acres.





PROFESSIONAL LAND SURVEYOR LICENSED 7729 STATE OF IDAHO GREGORY G. CARTER 4/29/2020

SEE SHEET 2 FOR CURVE AND LINE DATA TABLES

NET R-6 AREA = 83.33 ACRES

P:\Johnson 96 acre Topo 19-104\dwg\Ledgestone South R-6.dwg 4/29/2020 1:34:09 PM

IDAHO SURVEY GROUP, LLC
9955 W. EMERALD ST.
BOISE, IDAHO 83704
(208) 846-8570

EXHIBIT__ DRAWING FOR

ANNEXATION & R-6 RE-ZONE

LEDGESTONE SOUTH SUBDIVISION

LOCATED IN THE NE 1/4 AND THE NW 1/4 OF THE SE 1/4 OF SECTION 18 T.2N., R.1E., B.M., ADA COUNTY, IDAHO

JOB NO. 19-104
SHEET NO. 1of2
DWG. DATE 4/29/2020

LINE TABLE		
LINE	LENGTH	BEARING
L1	232.34	N89°31'55"W
L2	282.06	N78°43'23"W
L3	37.04	N52°27'08"W
L4	134.23	N38°31'46"W
L5	13.00	N89°31'55"W
L6	772.52	N74°14'02"E
L7	290.00	N89°36'25"W
L8	1434.89	N81°26'47"E
L9	270.00	S89°32'30"E
L10	189.84	S0°22'30"W
L11	916.28	S79°13'58"E
L12	290.07	S89°36'25"E
L13	216.21	S0°19'01"W
L14	93.53	S0°39'57"W
L15	76.32	S0°06'39"E
L16	51.48	S8°39'37"W
L17	325.55	N47°01'16"W
L18	35.00	N41°01'31"E
L19	194.71	N0°21'08"E

CURVE TABLE					
CURVE	RADIUS	LENGTH	CHORD DIST.	CHORD BRG.	DELTA
C1	100.00	32.70	32.55	N9°45'36"E	18°44'01"
C2	100.00	124.38	116.52	S35°14'24"E	71°15'59"
C3	50.00	78.54	70.71	N45°35'53"E	90°00'00"
C4	100.00	157.24	141.54	S45°25'17"W	90°05'35"
C5	300.00	43.69	43.65	S4°29'19"W	8°20'36"
C6	50.00	108.49	88.42	S70°49'10"W	124°19'07"
C7	150.00	5.11	5.11	N47°59'53"W	1°57'13"
C8	100.00	70.99	69.51	N20°41'19"E	40°40'23"



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IDAHO SURVEY GROUP, LLC

9955 W. EMERALD ST.
BOISE, IDAHO 83704
(208) 846-8570

EXHIBIT___ DRAWING FOR

ANNEXATION & R-8 RE-ZONE

LEDGESTONE SOUTH SUBDIVISION

LOCATED IN THE NE 1/4 AND THE NW 1/4 OF THE SE 1/4 OF SECTION 18 T.2N., R.1E., B.M., ADA COUNTY, IDAHO

JOB NO. 19-104

SHEET NO. 2of2

DWG. DATE 4/29/2020

DESCRIPTION FOR

LEDGESTONE SOUTH
ANNEXATION AND R-8 REZONE

A portion of the NE1/4 and the NW1/4 of the SE1/4 of Section 18, Township 2 North, Range 1 East, Boise Meridian, Ada County, Idaho, more particularly described as follows:

PARCEL P1:

Commencing at the C1/4 corner of said Section 18 from which the N1/4 corner of said Section 18 bears North 00°23'35" East, 2,647.91 feet;

thence North 74°14'02" East, 772.52 feet to the **REAL POINT OF BEGINNING**;

thence North 00°23'35" East, 537.54 feet;

thence 32.70 feet along the arc of curve to the right, said curve having a radius of 100.00 feet, a central angle of 18°44'01" and a long chord which bears North 09°45'36" East, 32.55 feet;

thence North 19°07'36" East, 53.50 feet;

thence South 70°52'24" East, 210.80 feet;

thence 124.38 feet along the arc of curve to the right, said curve having a radius of 100.00 feet, a central angle of 71°15'59" and a long chord which bears South 35°14'24" East, 116.52 feet;

thence South 00°23'35" West, 457.92 feet;

thence North 89°36'25" West, 290.00 feet to the **REAL POINT OF BEGINNING**. Containing 3.81 acres, more or less.

PARCEL P2:

Commencing at the C1/4 corner of said Section 18 from which the N1/4 corner of said Section 18 bears North 00°23'35" East, 2,647.91 feet;

thence North 81°26'47" East, 1434.89 feet to the **REAL POINT OF BEGINNING**;

thence North 00°35'53" East, 654.74 feet;

thence 78.54 feet along the arc of curve to the right, said curve having a radius of 50.00 feet, a central angle of 90°00'00" and a long chord which bears North 45°35'53" East, 70.71 feet;

thence South 89°24'11" East, 240.00 feet;

thence South 00°35'53" West, 414.08 feet;

thence South 89°32'30" East, 270.00 feet;

thence South 89°31'35" East, 476.64 feet;

thence South 00°22'30" West, 189.84 feet;

thence 157.24 feet along the arc of curve to the right, said curve having a radius of 100.00 feet, a central angle of 90°05'35" and a long chord which bears South 45°25'17" West, 141.54 feet;

thence North 89°31'55" West, 937.61 feet to the **REAL POINT OF BEGINNING**. Containing 9.60 acres, more or less.

PARCEL P3:

Commencing at the C 1/4 corner of said Section 18 from which the N1/4 corner of said Section 18 bears North 00°23'35" East, 2,647.91 feet;

thence South 79°13'58" East, 916.28 feet to the **REAL POINT OF BEGINNING**;

thence South 89°36'25" East, 290.07 feet;

thence South 00°19'01" West, 216.21 feet;

thence South 00°39'57" West, 93.53 feet;

thence South 00°06'39" East, 76.32 feet;

thence 43.69 feet along the arc of a non-tangent curve to the right, said curve having a radius of 300.00 feet, a central angle of 08°20'36" and a long chord which bears South 04°29'19" West, 43.65 feet;

thence South 08°39'37" West, 51.48 feet;

thence 108.49 feet along the arc of curve to the right, said curve having a radius of 50.00 feet, a central angle of 124°19'07" and a long chord which bears South 70°49'10" West, 88.42 feet;

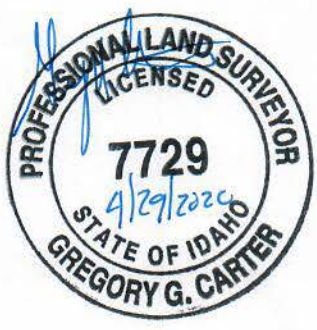
thence North 47°01'16" West, 325.55 feet;

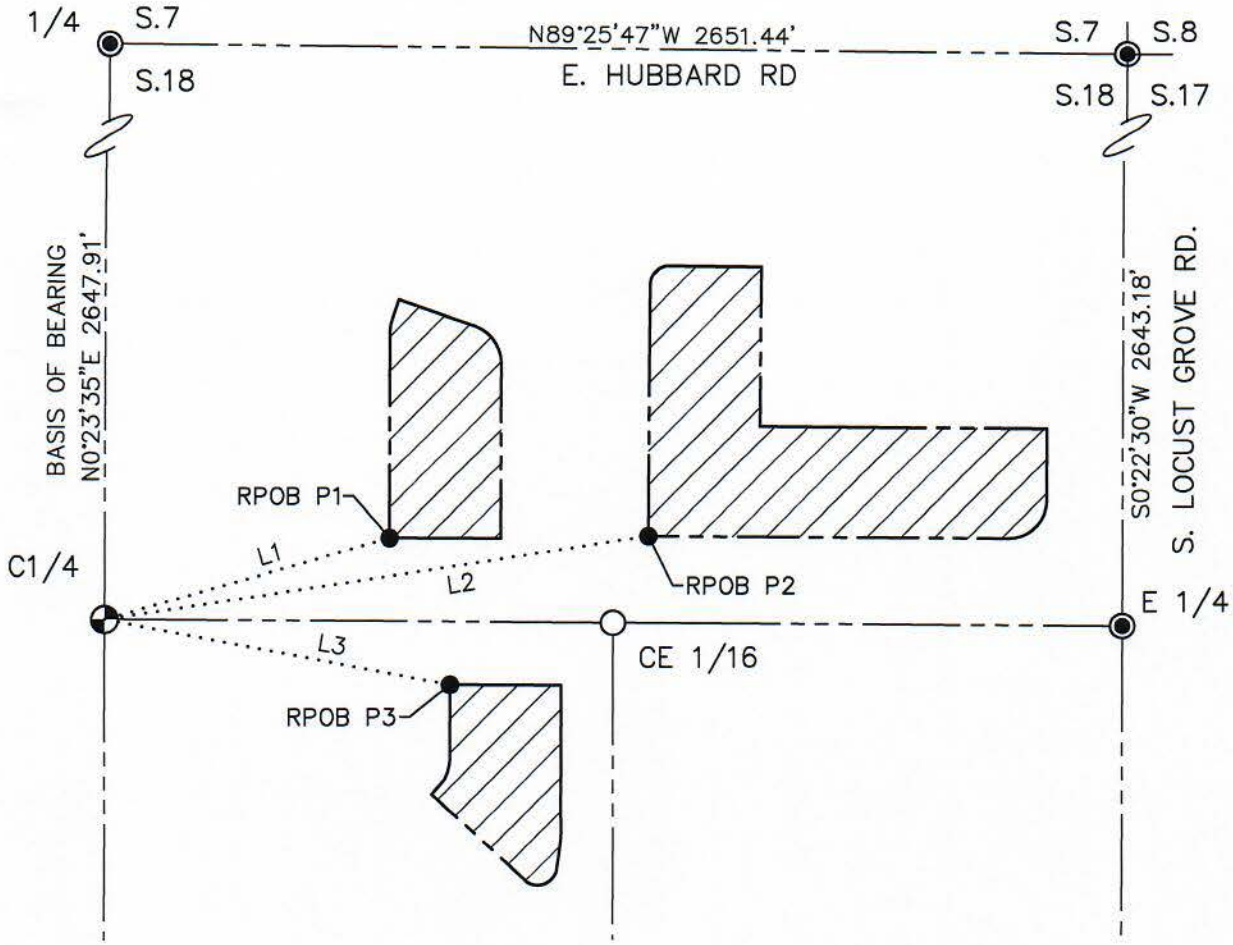
thence 5.11 feet along the arc of curve to the left, said curve having a radius of 150.00 feet, a central angle of 01°57'13" and a long chord which bears North 47°59'53" West, 5.11 feet;

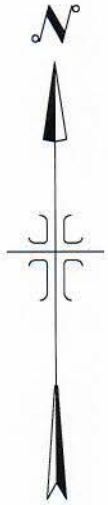
thence North 41°01'31" East, 35.00 feet;

thence 70.99 feet along the arc of curve to the left, said curve having a radius of 100.00 feet, a central angle of 40°40'23" and a long chord which bears North 20°41'19" East, 69.51 feet;

thence North 00°21'08" East, 194.71 feet to the **REAL POINT OF BEGINNING**. Containing 3.04 acres, more or less.







LINE TABLE		
LINE	LENGTH	BEARING
L1	772.52	N74°14'02"E
L2	1434.89	N81°26'47"E
L3	916.28	S79°13'58"E



SCALE: 1" = 500'



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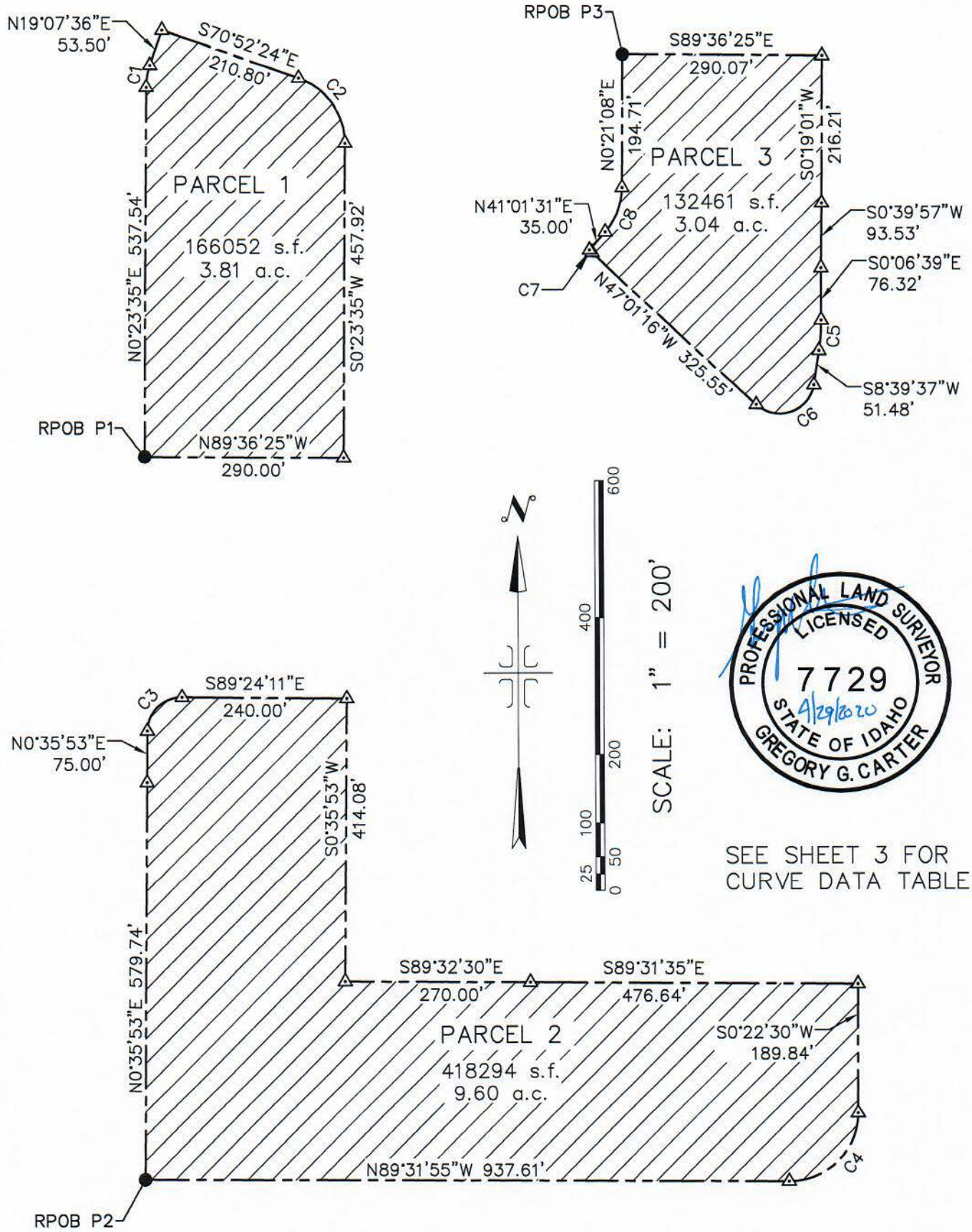
IDAHO SURVEY GROUP, LLC
9955 W. EMERALD ST.
BOISE, IDAHO 83704
(208) 846-8570

EXHIBIT__ DRAWING FOR
ANNEXATION & R-8 RE-ZONE
LEDGESTONE SOUTH SUBDIVISION

LOCATED IN THE NE 1/4 AND THE NW 1/4 OF THE SE 1/4 OF SECTION 18 T.2N., R.1E., B.M., ADA COUNTY, IDAHO

JOB NO. 19-104
SHEET NO. 1of3
DWG. DATE 4/29/2020



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IDAHO SURVEY GROUP, LLC
9955 W. EMERALD ST.
BOISE, IDAHO 83704
(208) 846-8570

EXHIBIT__ DRAWING FOR
ANNEXATION & R-8 RE-ZONE
LEDGESTONE SOUTH SUBDIVISION

LOCATED IN THE NE 1/4 AND THE NW 1/4 OF THE SE 1/4 OF SECTION 18
T.2N., R.1E., B.M., ADA COUNTY, IDAHO

JOB NO. 19-104
SHEET NO. 2of3
DWG. DATE 4/29/2020

CURVE TABLE					
CURVE	RADIUS	LENGTH	CHORD DIST.	CHORD BRG.	DELTA
C1	100.00	32.70	32.55	N9°45'36"E	18°44'01"
C2	100.00	124.38	116.52	S35°14'24"E	71°15'59"
C3	50.00	78.54	70.71	N45°35'53"E	90°00'00"
C4	100.00	157.24	141.54	S45°25'17"W	90°05'35"
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C6	50.00	108.49	88.42	S70°49'10"W	124°19'07"
C7	150.00	5.11	5.11	N47°59'53"W	1°57'13"
C8	100.00	70.99	69.51	N20°41'19"E	40°40'23"



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IDAHO SURVEY GROUP, LLC
9955 W. EMERALD ST.
BOISE, IDAHO 83704
(208) 846-8570

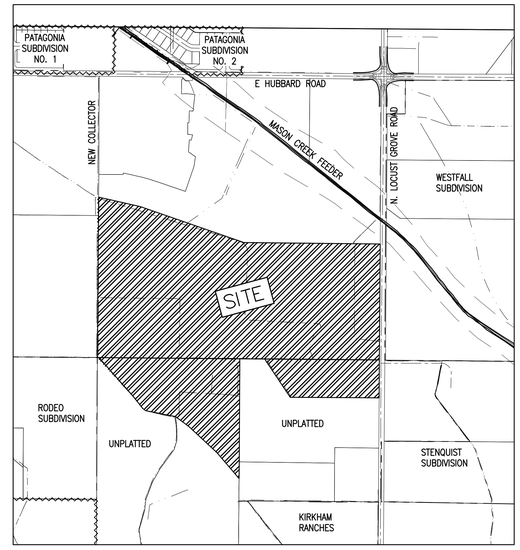
EXHIBIT___ DRAWING FOR
ANNEXATION & R-8 RE-ZONE
LEDGESTONE SOUTH SUBDIVISION

LOCATED IN THE NE 1/4 AND THE NW 1/4 OF THE SE 1/4 OF SECTION 18 T.2N., R.1E., B.M., ADA COUNTY, IDAHO

JOB NO. 19-104
SHEET NO. 3of3
DWG. DATE 4/29/2020

PRELIMINARY PLAT
LEDGESTONE SOUTH SUBDIVISION

A PORTION OF THE NE 1/4 AND THE SE 1/4 OF SECTION 18
TOWNSHIP 2 NORTH RANGE 1 EAST
B.M., KUNA, ADA COUNTY, IDAHO
2020



VICINITY MAP
1"=500'

PLAN SHEET INDEX

SHEET	DESCRIPTION
PP-1	COVER SHEET, VICINITY MAP, NOTES & COMMON LOT TABLE
PP-2	SUBDIVISION LAYOUT, & DIMENSIONS
PP-3	CONCEPTUAL ENGINEERING PLAN & CURVE TABLE
PP-4	CONCEPTUAL SEWER PROFILES
PP-5	CONCEPTUAL SEWER PROFILES & LOT TABLE

DEVELOPMENT FEATURES

ACREAGE
TOTAL PARCEL - 96.60 ACRES
TOTAL LOTS - 437
TOTAL DWELLING UNITS - 393
BUILDABLE LOTS -
SF RESIDENTIAL - 393
COMMON LOTS - 44
DENSITY DUACRE - 4.07
COMMON AREA - 14.68 ACRES - 15.2%
USEABLE OPEN SPACE: 11.18 - ACRES 11.6%

ZONING
EXISTING - RR
PROPOSED - R-6/R-8

SEWAGE DISPOSAL
KUNA CITY SEWER

WATER SUPPLY
KUNA CITY WATER

CITY
KUNA CITY

SCHOOL DISTRICT
KUNA

FIRE DISTRICT
KUNA

IRRIGATION DISTRICT
NEW YORK IRRIGATION DISTRICT
CITY OF KUNA WILL SUPPLY PI

OWNERS
TJ JOHNSON
2425 N LOCUST GROVE ROAD
KUNA, ID 83634

DEVELOPER
TRILOGY DEVELOPMENT, INC.
9839 W CABLE CAR ST
BOISE, ID 83709

ENGINEER
DAVID A. BAILEY, P.E.
BAILEY ENGINEERING, INC.
1119 E. STATE ST., SUITE 210
EAGLE, ID 83616

PLANNER/CONTACT
SHAWN BROWNLEE
TRILOGY DEVELOPMENT, INC.
9839 W CABLE CAR ST.
BOISE, ID 83709
208-895-8858

NOTES:
1. ALL LOT LINES COMMON TO A PUBLIC RIGHT OF WAY HAVE A 10' UTILITY EASEMENT.
2. A 10' UTILITY EASEMENT IS LOCATED ADJACENT TO THE EXTERIOR BOUNDARY.
3. ALL SIDE YARD LOT LINES HAVE A 5' DRAINAGE & IRRIGATION EASEMENT ON EACH SIDE OF THE LOT LINE UNLESS OTHERWISE SHOWN.
4. MUNICIPAL SEWER AND WATER SERVICES SHALL BE PROVIDED TO EACH LOT.
5. DRAINAGE FOR THE PUBLIC STREETS WILL BE COLLECTED IN STORM DRAIN CATCH BASINS AND ROUTED THROUGH SAND AND GREASE TRAPS TO SEEPAGE BEDS OR STORM DRAINAGE PONDS.
6. ALL LOTS WITHIN THIS SUBDIVISION ARE SINGLE FAMILY RESIDENTIAL LOTS, WITH THE EXCEPTION OF COMMON LOTS AS SHOWN WHICH ARE COMMON AREA LOTS ALL OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION. ALL SAID COMMON LOTS SHALL HAVE A BLANKET UTILITY AND DRAINAGE EASEMENT.
7. THIS SUBDIVISION IS SUBJECT TO COMPLIANCE WITH IDAHO CODE SECTION 31-3805(1)(b) CONCERNING IRRIGATION WATER. PRESSURE IRRIGATION WILL BE SUPPLIED TO ALL LOTS IN THIS SUBDIVISION FROM CITY OF KUNA MUNICIPAL IRRIGATION SYSTEM. EXISTING SHARES AND WATER RIGHTS SHALL BE TRANSFERRED TO THE CITY OF KUNA
8. ALL EXISTING BUILDINGS ON SITE TO BE REMOVED.
9. THE SUBJECT PROPERTY DOES NOT FALL WITHIN A FEMA FLOOD HAZARD ZONE. REFERENCE FIRM PANEL 16001C0250J EFFECTIVE OCTOBER 2nd, 2013.

LEGEND

LOT NUMBER
LOT AREA
BLOCK NUMBER
FIRE HYDRANT
CATCH BASIN
STREET NAME
BOUNDARY
LOT LINES
ROAD CENTERLINE
RIGHT OF WAY
EASEMENT
CURB GUTTER SW
SEWER LINE
WATER LINE
STORM DRAIN LINE
PRESSURE IRRIGATION
GRAVITY IRRIGATION

1 / 6,005 sf / BLOCK 7
W. ASHTON DR.

SURVEY LEGEND

- FOUND 5/8" IRON PIN
- FOUND BRASS CAP MONUMENT
- FOUND ALUMINUM CAP MONUMENT
- BENCHMARK
- CALCULATED POINT

SCALE IN FEET
1"=100'

Common Lot Table			
Lot	Area	Perimeter	Type
BLOCK 1 Lot 1 OPEN	14142	1269	BUFFER
BLOCK 1 Lot 15 OPEN	11712	1212	PATHWAY
BLOCK 2 Lot 1 OPEN	30758	3115	PATHWAY
BLOCK 2 Lot 12 OPEN	59583	968	PARK/OPEN
BLOCK 3 Lot 1 OPEN	31557	2548	PATHWAY PARTIAL
BLOCK 3 Lot 21 OPEN	9428	482	PARK OPEN
BLOCK 3 Lot 27 OPEN	15340	723	PARK/ OPEN
BLOCK 4 Lot 11 OPEN	34621	755	PARK/OPEN
BLOCK 7 Lot 1 OPEN	3654	279	ENDCAP
BLOCK 7 Lot 8 OPEN	2200	260	PATHWAY
BLOCK 7 Lot 15 OPEN	1261	231	ENDCAP
BLOCK 8 Lot 1 OPEN	2985	245	ENDCAP
BLOCK 8 Lot 7 OPEN	2200	260	PATHWAY
BLOCK 8 Lot 14 OPEN	1261	231	ENDCAP
BLOCK 9 Lot 9 OPEN	168333	2570	PARK/OPEN

Common Lot Table			
Lot	Area	Perimeter	Type
BLOCK 10 Lot 1 OPEN	1223	224	ENDCAP
BLOCK 10 Lot 11 OPEN	2200	260	PATHWAY
BLOCK 10 Lot 18 OPEN	1762	240	ENDCAP
BLOCK 11 Lot 1 OPEN	1261	231	ENDCAP
BLOCK 11 Lot 11 OPEN	2200	260	PATHWAY
BLOCK 11 Lot 18 OPEN	1730	239	ENDCAP
BLOCK 13 Lot 10 OPEN	54207	1137	PARK/ OPEN
BLOCK 14 Lot 1 OPEN	1862	242	ENDCAP
BLOCK 14 Lot 10 OPEN	2200	260	PATHWAY
BLOCK 14 Lot 19 OPEN	1865	242	ENDCAP
BLOCK 15 Lot 1 OPEN	1894	242	ENDCAP
BLOCK 15 Lot 10 OPEN	2200	260	PATHWAY
BLOCK 15 Lot 19 OPEN	1202	185	ENDCAP
BLOCK 16 Lot 1 OPEN	11971	1239	BUFFER
BLOCK 17 Lot 1 OPEN	30783	2776	BUFFER

Common Lot Table			
Lot	Area	Perimeter	Type
BLOCK 18 Lot 1 OPEN	8672	912	BUFFER
BLOCK 19 Lot 1 OPEN	4240	477	BUFFER
BLOCK 20 Lot 1 OPEN	17185	1760	BUFFER
BLOCK 20 Lot 2 OPEN	4389	297	PARK/OPEN
BLOCK 21 Lot 1 OPEN	33392	1173	PARK/OPEN
BLOCK 22 Lot 1 OPEN	1262	231	ENDCAP
BLOCK 22 Lot 9 OPEN	4761	302	PARK/ OPEN
BLOCK 23 Lot 1 OPEN	1261	231	ENDCAP
BLOCK 23 Lot 11 OPEN	9047	397	PARK/ OPEN
BLOCK 24 Lot 1 OPEN	2143	255	BUFFER
BLOCK 26 Lot 1 OPEN	3456	391	BUFFER
BLOCK 27 Lot 1 OPEN	1904	235	BUFFER
BLOCK 27 Lot 2 OPEN	31046	1153	PARK/OPEN
BLOCK 28 Lot 12 OPEN	8963	809	BUFFER

Bailey Engineering, Inc.
CIVIL ENGINEERING | PLANNING | CADD
TEL 208-939-5073
www.baileyengineers.com

PROFESSIONAL ENGINEER
REGISTERED
No. 8272
CONSTRUCTION
STATE OF IDAHO
DAVID A BAILEY

CHECKED BY: DAVID A. BAILEY P.E.
DRAWN BY: DAS/SES

REVISED NO.	DATE	DESCRIPTION

PRELIMINARY PLAT
LEDGESTONE SOUTH
TRILOGY DEVELOPMENT, INC.

DATE: 04-27-2020
PROJECT: C2019-009
SHEET PP-1



Curve Table		
Curve #	Radius	Length
C1	50.00	78.35
C2	100.00	157.24
C3	50.00	78.54
C4	300.00	97.02
C5	50.00	78.54
C6	100.00	44.21
C7	100.00	124.38
C8	100.00	32.70
C9	50.00	78.54
C10	50.00	78.54
C11	50.00	89.27
C12	800.00	89.83
C13	100.00	18.74
C14	100.00	15.30
C15	300.00	146.29
C16	300.00	146.36
C17	900.00	87.46
C18	900.00	50.54
C19	900.00	35.75
C20	100.00	73.11
C21	100.00	64.97
C22	150.00	77.88
C23	150.00	5.11
C24	50.00	108.49
C25	300.00	43.69
C26	300.00	11.52
C27	100.00	73.11
C28	100.00	32.70
C29	55.00	36.72
C30	55.00	44.16
C31	55.00	37.38
C32	55.00	43.49
C33	125.00	21.11
C34	125.00	43.32
C35	125.00	87.99
C36	125.00	44.13
C37	335.00	163.44
C38	265.00	129.22
C39	265.00	129.29
C40	335.00	163.35
C41	25.00	39.28
C42	75.00	49.75
C43	75.00	23.38
C44	75.00	44.78
C45	55.00	47.38
C46	55.00	33.52
C47	55.00	33.52
C48	55.00	47.38
C49	125.00	20.99
C50	125.00	39.95
C51	125.00	43.83

Curve Table		
Curve #	Radius	Length
C52	125.00	17.11
C53	100.00	97.51
C54	100.00	59.71
C55	125.00	46.22
C56	125.00	28.41
C57	50.00	78.55
C58	865.00	99.53
C59	845.00	82.12
C60	955.00	28.62
C61	325.00	12.48
C62	325.00	44.29
C63	325.00	3.03
C64	55.00	41.50
C65	55.00	38.46
C66	55.00	33.52
C67	55.00	33.52
C68	55.00	49.92
C69	55.00	6.21
C70	125.00	34.58
C71	125.00	34.58
C72	125.00	5.17
C73	125.00	54.10
C74	125.00	21.94
C75	125.00	48.77
C76	125.00	42.62
C77	275.00	11.81
C78	275.00	28.15
C79	25.00	54.24
C80	60.00	35.42
C81	60.00	9.25
C82	40.00	29.78
C83	125.00	42.70
C84	125.00	40.93
C85	125.00	3.46
C86	100.00	70.99
C87	75.00	54.13
C88	175.00	55.24
C89	75.00	48.73
C90	75.00	56.71
C91	955.00	12.93
C92	275.00	10.56
C93	125.00	31.57
C94	125.00	56.86
C95	125.00	2.96
C96	75.00	54.83
C97	25.00	39.17
C98	75.00	54.20
C99	75.00	47.27
C100	75.00	16.46
C101	25.00	12.52
C102	25.00	26.75

Curve Table		
Curve #	Radius	Length
C103	935.00	90.86
C104	865.00	82.93
C105	125.00	65.38
C106	125.00	52.56
C107	325.00	105.10
C108	75.00	51.01
C109	75.00	42.20
C110	75.00	0.08
C111	40.00	13.08
C112	60.00	19.62
C113	75.00	0.46
C114	75.00	24.07
C115	125.00	23.50
C116	125.00	17.37
C117	55.00	16.84
C118	55.00	51.00
C119	55.00	40.64
C120	55.00	53.30
C121	75.00	24.52
C122	125.00	28.65
C123	125.00	12.22
C124	25.00	39.27
C125	25.00	44.64
C126	775.00	39.43
C127	775.00	47.59
C128	25.00	39.27
C129	75.00	27.21
C130	75.00	24.52
C131	100.00	32.70
C132	25.00	39.27
C133	55.00	37.70
C134	55.00	43.20
C135	55.00	45.68
C136	55.00	35.21
C137	55.00	46.61
C138	55.00	34.75
C139	55.00	43.52
C140	55.00	37.84
C141	825.00	46.32
C142	825.00	46.32
C143	75.00	14.46
C144	125.00	22.97
C145	125.00	19.13
C146	75.00	11.48
C147	55.00	23.35
C148	55.00	41.26
C149	55.00	97.17
C150	275.00	88.93
C151	55.00	96.73
C152	55.00	53.24
C153	55.00	11.81

NOTE: STANDARD VERTICAL CURB PER ACHD SD-701 SHALL BE USED WHERE LONGITUDINAL SLOPE EXCEEDS 3.0% OR GREATER FOR A DISTANCE OF 100 FT OR GREATER, PER ACHD 7207.5.5. CURB CUT DRIVEWAYS WILL BE UTILIZED IN THESE AREAS.

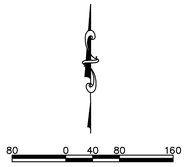
20' RIGHT-OF-WAY
TYPICAL ALLEY SECTION
NOT TO SCALE

70' RIGHT-OF-WAY
TYPICAL STREET SECTION
NOT TO SCALE

50' RIGHT-OF-WAY
TYPICAL STREET SECTION
NOT TO SCALE

LEGEND

LOT NUMBER	①
LOT AREA	6,500 sf
BLOCK NUMBER	BLOCK 7
STREET LIGHT	
STREET NAME	W. ASHTON DR.
BOUNDARY	
LOT LINES	
ROAD CENTERLINE	
RIGHT OF WAY	
EASEMENT	
SETBACK	
CURB GUTTER SW	



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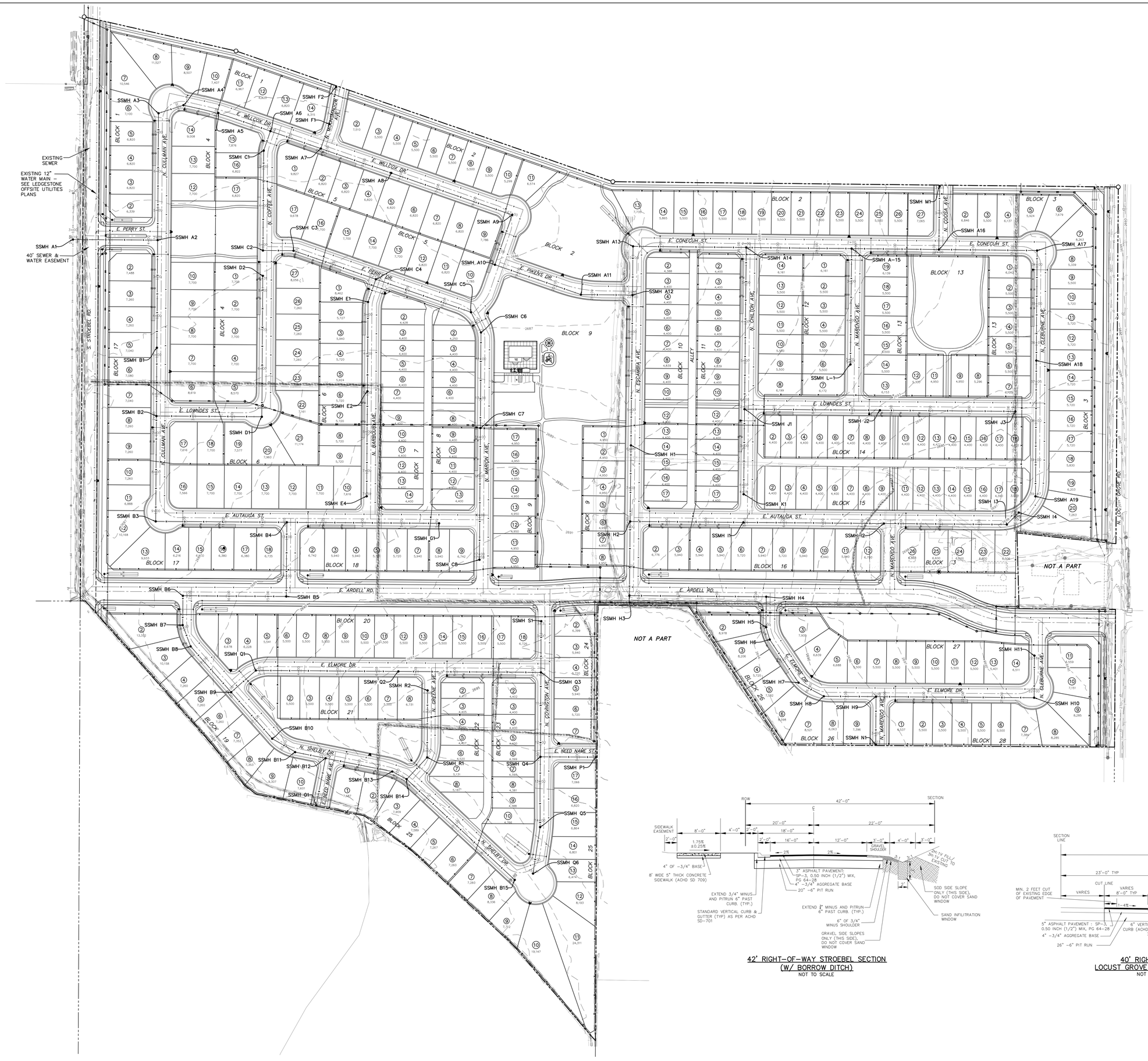
PROFESSIONAL ENGINEER
REGISTERED
No. 8272
CONSTRUCTION
STATE OF IDAHO
DAVID A BAILEY

CHECKED BY:
DAVID A. BAILEY P.E.
DRAWN BY:
DAB/BEB

REVISED
NO. DATE DESCRIPTION

PRELIMINARY PLAT
LEDGESTONE SOUTH
TRILOGY DEVELOPMENT, INC.

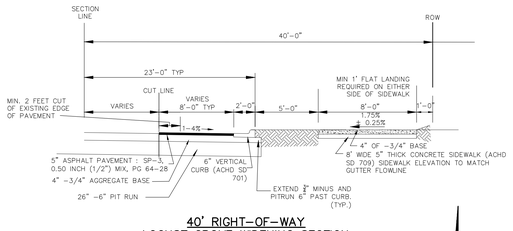
DATE:
04-27-2020
PROJECT:
C2019-009
SHEET
PP-2



LEGEND

LOT NUMBER	1
BLOCK NUMBER	BLOCK 7
FIRE HYDRANT	
CATCH BASIN	
STREET NAME	W. ASHTON DR.
BOUNDARY	
LOT LINES	
ROAD CENTERLINE	
RIGHT OF WAY	
EASEMENT	
SETBACK	
CURB GUTTER SW	
SEWER LINE	
WATER LINE	
STORM DRAIN LINE	
PRESSURE IRRIGATION	
GRAVITY IRRIGATION	

42' RIGHT-OF-WAY STROEBEL SECTION
(W/ BORROW DITCH)
NOT TO SCALE



40' RIGHT-OF-WAY
LOCUST GROVE WIDENING SECTION
NOT TO SCALE

80 0 40 80 160
SCALE IN FEET
1"=80'

Bailey Engineering, Inc.
CIVIL ENGINEERING | PLANNING | CADD
1119 E. STATE ST., SUITE 210
EAGLE, ID 83616
TEL 208-938-0013
www.baileyengineers.com

PROFESSIONAL ENGINEER
REGISTERED
8272
CONSTRUCTION
STATE OF IDAHO
DAVID A BAILEY

CHECKED BY: DAVID A. BAILEY P.E.
DRAWN BY: DAB/BEB

REVISED

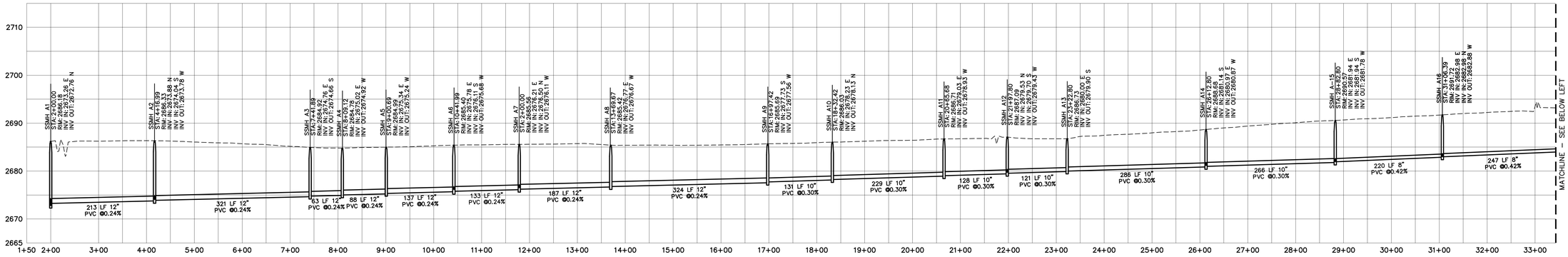
NO.	DATE	DESCRIPTION

CONCEPTUAL ENGINEERING
LEDGESTONE SOUTH
TRILOGY DEVELOPMENT, INC.

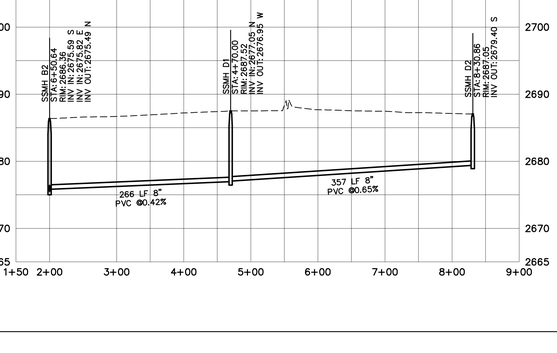
DATE: 04-27-2020
PROJECT: C2019-009

SHEET
PP-3

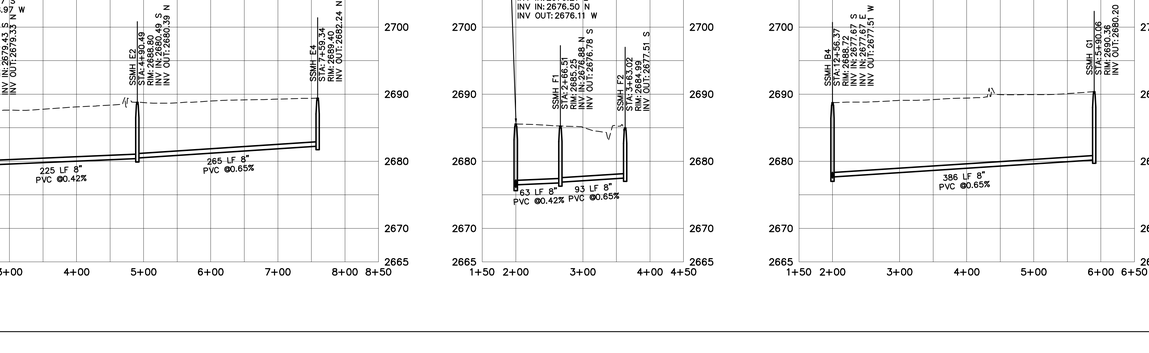
SEWER LINE A PROFILE



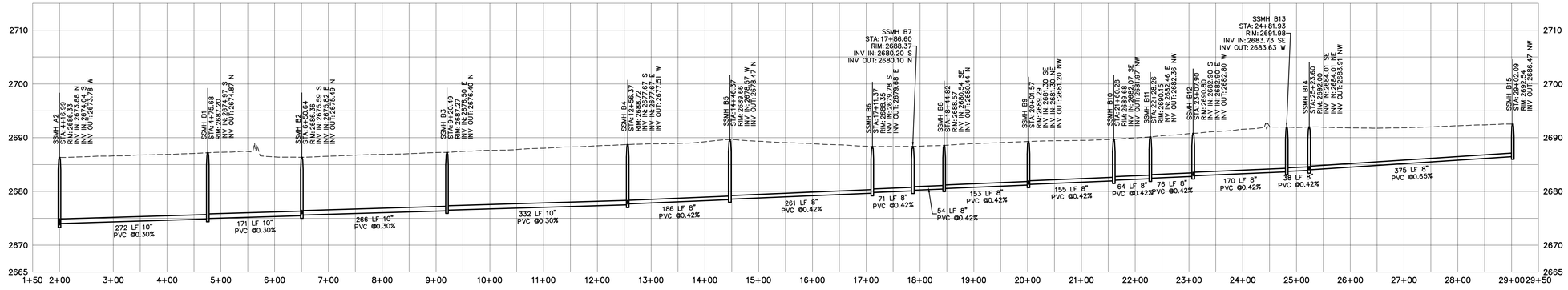
SEWER LINE A PROFILE



SEWER LINE C PROFILE



SEWER LINE B PROFILE



SEWER LINE D PROFILE

SEWER LINE E PROFILE

SEWER LINE F PROFILE

SEWER LINE G PROFILE

80 0 40 80 160

SCALE IN FEET
1"=80'
VERTICAL SCALE: 1"=8'

Bailey Engineering, Inc.
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11951 E STATE ST. SUITE 210
EAGLE, ID 83616
TEL: 208-939-5073
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PROFESSIONAL ENGINEER
REGISTERED
18272
CONSTRUCTION
STATE OF IDAHO
DAVID A BAILEY

CHECKED BY:
DAVID A. BAILEY P.E.
DRAWN BY:
DAS/SEB

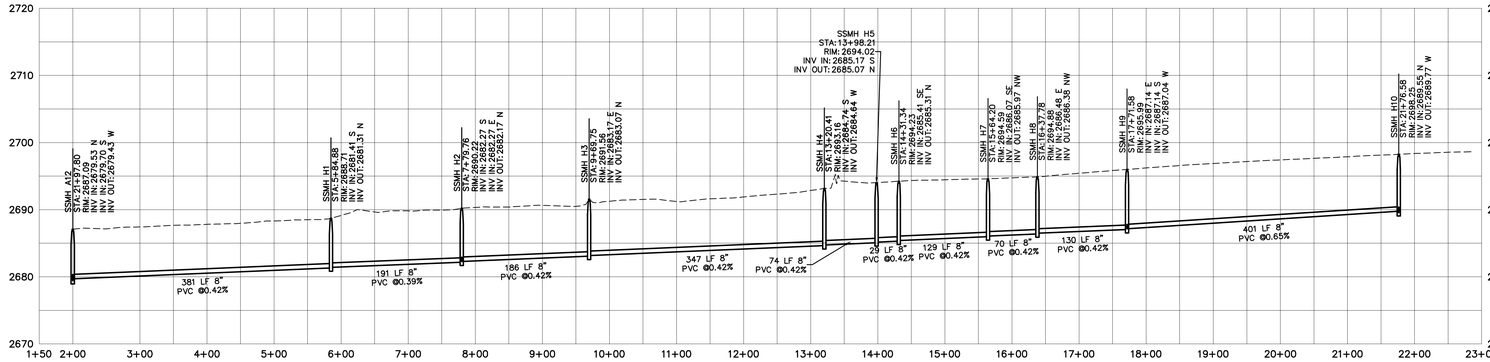
REVISED		
NO.	DATE	DESCRIPTION

CONCEPTUAL SEWER PROFILES
LEDGESTONE SOUTH
TRILOGY DEVELOPMENT, INC.

DATE: 04-27-2020
PROJECT: C2019-009

SHEET
PP-4

SEWER LINE H PROFILE



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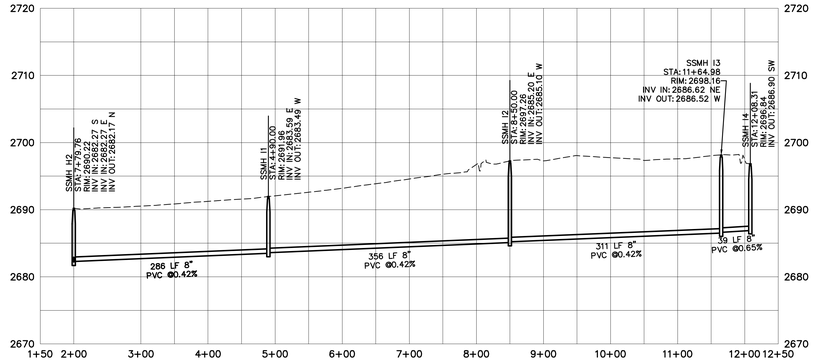
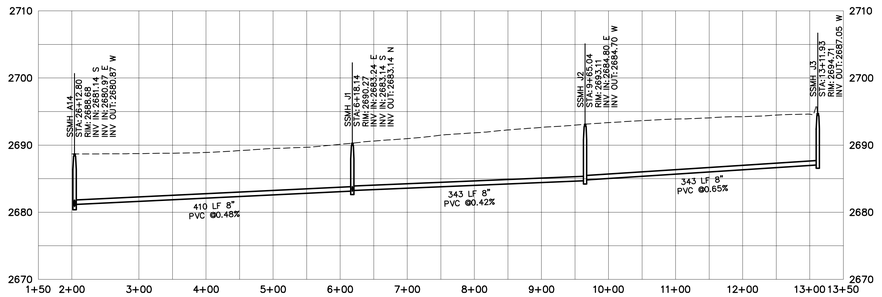
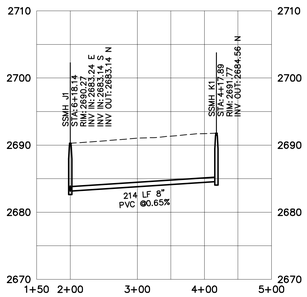


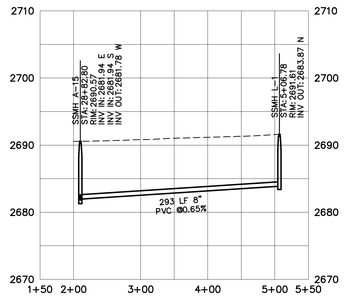
SEWER LINE J PROFILE



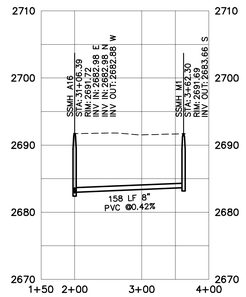
SEWER LINE K PROFILE



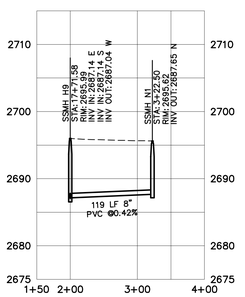
SEWER LINE L PROFILE



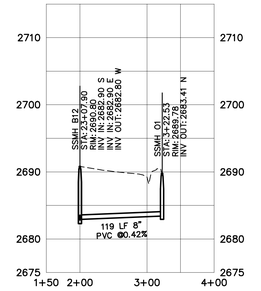
SEWER LINE M PROFILE



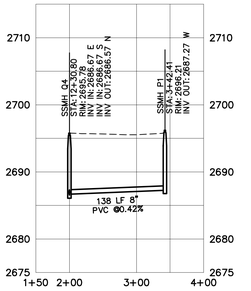
SEWER LINE N PROFILE



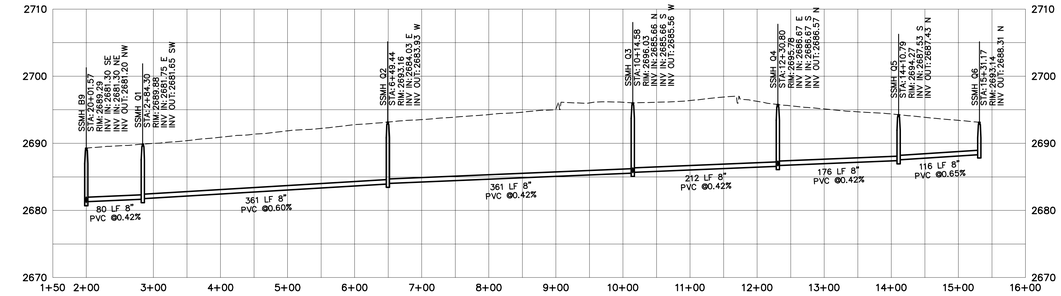
SEWER LINE O PROFILE



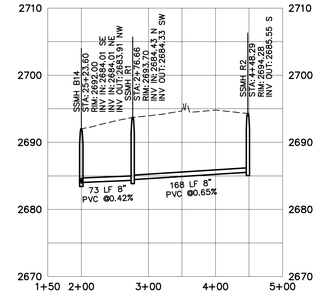
SEWER LINE P PROFILE



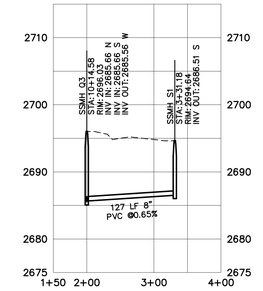
SEWER LINE Q PROFILE



SEWER LINE R PROFILE



SEWER LINE S PROFILE



Parcel Table		
Lot	Area	Perimeter
BLOCK 1 Lot 2	6339	328
BLOCK 1 Lot 3	6820	344
BLOCK 1 Lot 4	6820	344
BLOCK 1 Lot 5	6820	344
BLOCK 1 Lot 6	7100	355
BLOCK 1 Lot 7	10546	478
BLOCK 1 Lot 8	11527	496
BLOCK 1 Lot 9	8507	377
BLOCK 1 Lot 10	7407	356
BLOCK 1 Lot 11	6967	348
BLOCK 1 Lot 12	6820	344
BLOCK 1 Lot 13	6820	344
BLOCK 1 Lot 14	8315	363
BLOCK 2 Lot 2	7510	355
BLOCK 2 Lot 3	5500	320
BLOCK 2 Lot 4	5500	320
BLOCK 2 Lot 5	5500	320
BLOCK 2 Lot 6	5500	320
BLOCK 2 Lot 7	5500	320
BLOCK 2 Lot 8	5500	320
BLOCK 2 Lot 9	5500	320
BLOCK 2 Lot 10	5299	310
BLOCK 2 Lot 11	6574	346
BLOCK 2 Lot 13	7735	375
BLOCK 2 Lot 14	5865	321
BLOCK 2 Lot 15	5500	320
BLOCK 2 Lot 16	5500	320
BLOCK 2 Lot 17	5500	320
BLOCK 2 Lot 18	5500	320
BLOCK 2 Lot 19	5500	320
BLOCK 2 Lot 20	5500	320
BLOCK 2 Lot 21	5500	320
BLOCK 2 Lot 22	5500	320

Parcel Table		
Lot	Area	Perimeter
BLOCK 2 Lot 23	5500	320
BLOCK 2 Lot 24	5500	320
BLOCK 2 Lot 25	5500	320
BLOCK 2 Lot 26	5500	320
BLOCK 2 Lot 27	7065	342
BLOCK 3 Lot 2	6846	338
BLOCK 3 Lot 3	5500	320
BLOCK 3 Lot 4	6137	332
BLOCK 3 Lot 5	5924	334
BLOCK 3 Lot 6	7679	363
BLOCK 3 Lot 7	8263	370
BLOCK 3 Lot 8	5339	316
BLOCK 3 Lot 9	5500	320
BLOCK 3 Lot 10	5720	324
BLOCK 3 Lot 11	5720	324
BLOCK 3 Lot 12	5720	324
BLOCK 3 Lot 13	5720	324
BLOCK 3 Lot 14	5720	324
BLOCK 3 Lot 15	5720	324
BLOCK 3 Lot 16	5720	324
BLOCK 3 Lot 17	5720	324
BLOCK 3 Lot 18	5830	326
BLOCK 3 Lot 19	6203	336
BLOCK 3 Lot 20	7263	353
BLOCK 3 Lot 22	6506	345
BLOCK 3 Lot 23	6600	340
BLOCK 3 Lot 24	6600	340
BLOCK 3 Lot 25	6600	340
BLOCK 3 Lot 26	6860	339
BLOCK 4 Lot 1	7700	360
BLOCK 4 Lot 2	7700	360
BLOCK 4 Lot 3	7700	360
BLOCK 4 Lot 4	7700	360

Parcel Table		
Lot	Area	Perimeter
BLOCK 4 Lot 5	8570	368
BLOCK 4 Lot 6	8619	371
BLOCK 4 Lot 7	7700	360
BLOCK 4 Lot 8	7700	360
BLOCK 4 Lot 9	7700	360
BLOCK 4 Lot 10	7700	360
BLOCK 4 Lot 12	7700	360
BLOCK 4 Lot 13	7700	360
BLOCK 4 Lot 14	9008	372
BLOCK 4 Lot 15	7876	368
BLOCK 4 Lot 16	6822	345
BLOCK 4 Lot 17	6820	344
BLOCK 5 Lot 1	9827	389
BLOCK 5 Lot 2	6820	344
BLOCK 5 Lot 3	6820	344
BLOCK 5 Lot 4	6820	344
BLOCK 5 Lot 5	6820	344
BLOCK 5 Lot 6	6820	344
BLOCK 5 Lot 7	6820	344
BLOCK 5 Lot 8	6820	344
BLOCK 5 Lot 9	7786	353
BLOCK 5 Lot 10	7785	354
BLOCK 5 Lot 11	6820	344
BLOCK 5 Lot 12	6820	344
BLOCK 5 Lot 13	7700	360
BLOCK 5 Lot 14	7700	360
BLOCK 5 Lot 15	7700	360
BLOCK 5 Lot 16	7700	360
BLOCK 5 Lot 17	9678	403
BLOCK 6 Lot 1	8462	381
BLOCK 6 Lot 2	5727	325
BLOCK 6 Lot 3	5940	328
BLOCK 6 Lot 4	5720	324

Parcel Table		
Lot	Area	Perimeter
BLOCK 6 Lot 5	5924	328
BLOCK 6 Lot 6	5720	324
BLOCK 6 Lot 7	5720	324
BLOCK 6 Lot 8	5720	324
BLOCK 6 Lot 9	5720	324
BLOCK 6 Lot 10	7616	352
BLOCK 6 Lot 11	7700	360
BLOCK 6 Lot 12	7700	360
BLOCK 6 Lot 13	7700	360
BLOCK 6 Lot 14	7700	360
BLOCK 6 Lot 15	7700	360
BLOCK 6 Lot 16	7566	349
BLOCK 6 Lot 17	7616	352
BLOCK 6 Lot 18	7700	360
BLOCK 6 Lot 19	7577	351
BLOCK 6 Lot 20	7960	382
BLOCK 6 Lot 21	11174	426
BLOCK 6 Lot 22	7161	360
BLOCK 6 Lot 23	7002	347
BLOCK 6 Lot 24	7260	352
BLOCK 6 Lot 25	7260	352
BLOCK 6 Lot 26	7260	352
BLOCK 6 Lot 27	8056	355
BLOCK 7 Lot 2	4428	304
BLOCK 7 Lot 3	4400	300
BLOCK 7 Lot 4	4400	300
BLOCK 7 Lot 5	4400	300
BLOCK 7 Lot 6	4400	300
BLOCK 7 Lot 7	4400	300
BLOCK 7 Lot 9	4400	300
BLOCK 7 Lot 10	4400	300
BLOCK 7 Lot 11	4400	300
BLOCK 7 Lot 12	4400	300

Parcel Table		
Lot	Area	Perimeter
BLOCK 7 Lot 13	4400	300
BLOCK 7 Lot 14	4400	300
BLOCK 8 Lot 2	4250	291
BLOCK 8 Lot 3	4400	300
BLOCK 8 Lot 4	4400	300
BLOCK 8 Lot 5	4400	300
BLOCK 8 Lot 6	4400	300
BLOCK 8 Lot 8	4400	300
BLOCK 8 Lot 9	4400	300
BLOCK 8 Lot 10	4400	300
BLOCK 8 Lot 11	4400	300
BLOCK 8 Lot 12	4400	300
BLOCK 8 Lot 13	4400	300
BLOCK 9 Lot 1	4950	310
BLOCK 9 Lot 2	4950	310
BLOCK 9 Lot 3	4950	310
BLOCK 9 Lot 4	4950	310
BLOCK 9 Lot 6	4950	310
BLOCK 9 Lot 7	4950	310
BLOCK 9 Lot 8	4950	310
BLOCK 9 Lot 10	4950	310
BLOCK 9 Lot 11	4950	310
BLOCK 9 Lot 12	4950	310
BLOCK 9 Lot 13	4950	310
BLOCK 9 Lot 14	4950	310
BLOCK 9 Lot 15	4950	310
BLOCK 9 Lot 16	4950	310
BLOCK 9 Lot 17	4950	310
BLOCK 10 Lot 2	4388	297
BLOCK 10 Lot 3	4400	300
BLOCK 10 Lot 4	4400	300
BLOCK 10 Lot 5	4400	300

Parcel Table		
Lot	Area	Perimeter
BLOCK 10 Lot 6	4400	300
BLOCK 10 Lot 7	4400	300
BLOCK 10 Lot 8	4839	308
BLOCK 10 Lot 9	4400	300
BLOCK 10 Lot 10	4400	300
BLOCK 10 Lot 12	4400	300
BLOCK 10 Lot 13	4400	300
BLOCK 10 Lot 14	4400	300
BLOCK 10 Lot 15	4400	300
BLOCK 10 Lot 16	4400	300
BLOCK 10 Lot 17	4400	300
BLOCK 11 Lot 2	4400	300
BLOCK 11 Lot 3	4400	300
BLOCK 11 Lot 4	4400	300
BLOCK 11 Lot 5	4400	300
BLOCK 11 Lot 6	4400	300
BLOCK 11 Lot 7	4400	300
BLOCK 11 Lot 8	4839	308
BLOCK 11 Lot 9	4400	300
BLOCK 11 Lot 10	4400	300
BLOCK 11 Lot 12	4400	300
BLOCK 11 Lot 13	4400	300
BLOCK 11 Lot 14	4400	300
BLOCK 11 Lot 15	4400	300
BLOCK 11 Lot 16	4400	300
BLOCK 11 Lot 17	4400	300
BLOCK 12 Lot 1	6161	326
BLOCK 12 Lot 2	5500	320
BLOCK 12 Lot 3	5500	320
BLOCK 12 Lot 4	5500	320
BLOCK 12 Lot 5	5500	320
BLOCK 12 Lot 6	5500	320
BLOCK 12 Lot 7	6172	326

Parcel Table		
Lot	Area	Perimeter
BLOCK 12 Lot 8	6199	327
BLOCK 12 Lot 9	5500	320
BLOCK 12 Lot 10	5500	320
BLOCK 12 Lot 11	5500	320
BLOCK 12 Lot 12	5500	320
BLOCK 12 Lot 13	5500	320
BLOCK 12 Lot 14	6161	326
BLOCK 13 Lot 1	6042	322
BLOCK 13 Lot 2	5500	320
BLOCK 13 Lot 3	5500	320
BLOCK 13 Lot 4	5500	320
BLOCK 13 Lot 5	5500	320
BLOCK 13 Lot 6	5500	320
BLOCK 13 Lot 7	6123	325
BLOCK 13 Lot 8	5296	316
BLOCK 13 Lot 9	4950	310
BLOCK 13 Lot 11	4950	310
BLOCK 13 Lot 12	5300	316
BLOCK 13 Lot 13	6153	326
BLOCK 13 Lot 14	5500	320
BLOCK 13 Lot 15	5500	320
BLOCK 13 Lot 16	5500	320
BLOCK 13 Lot 17	5500	320
BLOCK 13 Lot 18	5500	320
BLOCK 13 Lot 19	6139	326
BLOCK 14 Lot 2	4400	300
BLOCK 14 Lot 3	4400	300
BLOCK 14 Lot 4	4400	300
BLOCK 14 Lot 5	4400	300
BLOCK 14 Lot 6	4400	300
BLOCK 14 Lot 7	4400	300
BLOCK 14 Lot 8	4400	300
BLOCK 14 Lot 9	4400	300

Parcel Table		
Lot	Area	Perimeter
BLOCK 14 Lot 11	4400	300
BLOCK 14 Lot 12	4400	300
BLOCK 14 Lot 13	4400	300
BLOCK 14 Lot 14	4400	300
BLOCK 14 Lot 15	4400	300
BLOCK 14 Lot 16	4400	300
BLOCK 14 Lot 17	4400	300
BLOCK 14 Lot 18	4400	300
BLOCK 15 Lot 2	4400	300
BLOCK 15 Lot 3	4400	300
BLOCK 15 Lot 4	4400	300
BLOCK 15 Lot 5	4400	300
BLOCK 15 Lot 7	4400	300
BLOCK 15 Lot 8	4400	300
BLOCK 15 Lot 9	4400	300
BLOCK 15 Lot 11	4400	300
BLOCK 15 Lot 12	4400	300
BLOCK 15 Lot 13	4400	300
BLOCK 15 Lot 14	4400	300
BLOCK 15 Lot 15	4400	300
BLOCK 15 Lot 16	4400	300
BLOCK 15 Lot 17	4390	298
BLOCK 15 Lot 18	3969	280
BLOCK 16 Lot 2	6776	337
BLOCK 16 Lot 3	5940	328
BLOCK 16 Lot 4	5940	328
BLOCK 16 Lot 5	5940	328
BLOCK 16 Lot 6	5720	324
BLOCK 16 Lot 7	5940	328
BLOCK 16 Lot 8	5720	324
BLOCK 16 Lot 9	5940	328
BLOCK 16 Lot 10	5940	328

Parcel Table		
Lot	Area	Perimeter
BLOCK 16 Lot 11	5940	328
BLOCK 16 Lot 12	6790	337
BLOCK 17 Lot 2	7488	346
BLOCK 17 Lot 3	7260	352
BLOCK 17 Lot 4	7260	352
BLOCK 17 Lot 5	7040	348
BLOCK 17 Lot 6	7080	349
BLOCK 17 Lot 7	7040	348
BLOCK 17 Lot 8	7260	352
BLOCK 17 Lot 9	7260	352
BLOCK 17 Lot 10	7260	352
BLOCK 17 Lot 11	6888	340
BLOCK 17 Lot 12	10168	432
BLOCK 17 Lot 13	9933	427
BLOCK 17 Lot 14	6216	329
BLOCK 17 Lot 15	6380	336
BLOCK 17 Lot 16	6380	336
BLOCK 17 Lot 17	6380	336
BLOCK 17 Lot 18	6735	336
BLOCK 18 Lot 2	6742	337
BLOCK 18 Lot 3	5940	328
BLOCK 18 Lot 4	5940	328
BLOCK 18 Lot 5	5720	324
BLOCK 18 Lot 6	5720	324
BLOCK 18 Lot 7	5940	328
BLOCK 18 Lot 8	5940	328
BLOCK 18 Lot 9	6742	337
BLOCK 19 Lot 2	13332	493
BLOCK 19 Lot 3	10158	423
BLOCK 19 Lot 4	7260	352
BLOCK 19 Lot 5	7260	352
BLOCK 19 Lot 6	7260	352
BLOCK 19 Lot 7	7352	355

Parcel Table		
Lot	Area	Perimeter
BLOCK 19 Lot 8	7353	362
BLOCK 19 Lot 9	9307	391
BLOCK 19 Lot 10	7601	352
BLOCK 20 Lot 3	6678	366
BLOCK 20 Lot 4	6228	361
BLOCK 20 Lot 5	5541	324
BLOCK 20 Lot 6	5500	320
BLOCK 20 Lot 7	5500	320
BLOCK 20 Lot 8	5500	320
BLOCK 20 Lot 9	5500	320
BLOCK 20 Lot 10	5500	320
BLOCK 20 Lot 11	5500	320
BLOCK 20 Lot 12	5500	320
BLOCK 20 Lot 13	5500	320
BLOCK 20 Lot 14	5500	320
BLOCK 20 Lot 15	5500	320
BLOCK 20 Lot 16	5500	320
BLOCK 20 Lot 17	5500	320
BLOCK 20 Lot 18	6726	336
BLOCK 21 Lot 2	5500	320
BLOCK 21 Lot 3	5500	320
BLOCK 21 Lot 4	5500	320
BLOCK 21 Lot 5	5500	320
BLOCK 21 Lot 6	5500	320
BLOCK 21 Lot 7	5500	320
BLOCK 21 Lot 8	6731	336
BLOCK 22 Lot 2	4417	300
BLOCK 22 Lot 3	4405	300
BLOCK 22 Lot 4	4406	300
BLOCK 22 Lot 5	4407	300
BLOCK 22 Lot 6	4520	309
BLOCK 22 Lot 7	5131	343
BLOCK 22 Lot 8	5187	342

Parcel Table		
Lot	Area	Perimeter
BLOCK 23 Lot 2	4402	300
BLOCK 23 Lot 3	4400	300
BLOCK 23 Lot 4	4400	300
BLOCK 23 Lot 5	4400	300
BLOCK 23 Lot 6	4399	300
BLOCK 23 Lot 7	4380	299
BLOCK 23 Lot 8	4381	299
BLOCK 23 Lot 9	4388	300
BLOCK 23 Lot 10	4766	331
BLOCK 24 Lot 2	6399	335
BLOCK 24 Lot 3	5940	328
BLOCK 24 Lot 4	5720	324
BLOCK 24 Lot 5	5940	328
BLOCK 24 Lot 6	5720	324
BLOCK 24 Lot 7	6736	336
BLOCK 25 Lot 1	7687	354
BLOCK 25 Lot 2	7379	363
BLOCK 25 Lot 3	7809	372
BLOCK 25 Lot 4	7589	362
BLOCK 25 Lot 5	7267	353
BLOCK 25 Lot 6	7260	352
BLOCK 25 Lot 7	7260	352
BLOCK 25 Lot 8	8336	368
BLOCK 25 Lot 9	7712	377
BLOCK 25 Lot 10	19147	772
BLOCK 25 Lot 11	24311	840
BLOCK 25 Lot 12	8193	392
BLOCK 25 Lot 14	6801	351
BLOCK 25 Lot 15	6864	347
BLOCK 25 Lot 16	6820	344
BLOCK 25 Lot 17	7066	342
BLOCK 26 Lot 2	8978	430
BLOCK 26 Lot 3	8206	381

Parcel Table		
Lot	Area	Perimeter
BLOCK 26 Lot 4	5720	324
BLOCK 26 Lot 5	7582	360
BLOCK 26 Lot 6	8098	389
BLOCK 26 Lot 7	8521	396
BLOCK 26 Lot 8	6063	332
BLOCK 26 Lot 9	7396	348
BLOCK 27 Lot 3	7935	361
BLOCK 27 Lot 4	6639	351
BLOCK 27 Lot 5	6688	351
BLOCK 27 Lot 6	5500	320
BLOCK 27 Lot 7	5500	320
BLOCK 27 Lot 8	5500	320
BLOCK 27 Lot 9	5500	320
BLOCK 27 Lot 10	5500	320
BLOCK 27 Lot 11	5500	320
BLOCK 27 Lot 12	5500	320
BLOCK 27 Lot 13	5401	316
BLOCK 27 Lot 14	6511	326
BLOCK 28 Lot 1	6537	333
BLOCK 28 Lot 2	5500	320
BLOCK 28 Lot 3	5500	320
BLOCK 28 Lot 4	5500	320
BLOCK 28 Lot 5	5500	320
BLOCK 28 Lot 6	5500	320
BLOCK 28 Lot 7	7384	357
BLOCK 28 Lot 8	8285	410
BLOCK 28 Lot 9	8285	410
BLOCK 28 Lot 10	7151	353
BLOCK 28 Lot 11	6559	334

80 0 40 80 160

SCALE IN FEET
1"=80'
VERTICAL SCALE: 1"=8'

Bailey Engineering, Inc.
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PROFESSIONAL ENGINEER
REGISTERED
18272
CONSTRUCTION
STATE OF IDAHO
DAVID A BAILEY

CHECKED BY: DAVID A. BAILEY P.E.
DRAWN BY: DAS/SES

REVISED		
NO.	DATE	DESCRIPTION

CONCEPTUAL SEWER PROFILES
LEDGESTONE SOUTH
TRILOGY DEVELOPMENT, INC.

DATE: 04-27-2020
PROJECT: C2019-009

SHEET
PP-5

PRELIMINARY PLAT
LEDGESTONE SOUTH SUBDIVISION

A PORTION OF THE NE 1/4 AND THE SE 1/4 OF SECTION 18
TOWNSHIP 2 NORTH RANGE 1 EAST
B.M., KUNA, ADA COUNTY, IDAHO
2020



VICINITY MAP
1"=500'

DEVELOPMENT FEATURES

ACREAGE
TOTAL PARCEL - 96.60 ACRES
TOTAL LOTS - 437
TOTAL DWELLING UNITS - 393
BUILDABLE LOTS -
SF RESIDENTIAL - 393
COMMON LOTS - 44
DENSITY DUACRE - 4.07
COMMON AREA - 14.68 ACRES - 15.2%
USEABLE OPEN SPACE: 11.18 - ACRES 11.6%

ZONING
EXISTING - RR
PROPOSED - R-6/R-8

SEWAGE DISPOSAL
KUNA CITY SEWER

WATER SUPPLY
KUNA CITY WATER

CITY
KUNA CITY

SCHOOL DISTRICT
KUNA

FIRE DISTRICT
KUNA

IRRIGATION DISTRICT
NEW YORK IRRIGATION DISTRICT
CITY OF KUNA WILL SUPPLY PI

OWNERS
TJ JOHNSON
2425 N LOCUST GROVE ROAD
KUNA, ID 83634

DEVELOPER
TRILOGY DEVELOPMENT, INC.
9839 W CABLE CAR ST
BOISE, ID 83709

ENGINEER
DAVID A. BAILEY, P.E.
BAILEY ENGINEERING, INC.
1119 E. STATE ST., SUITE 210
EAGLE, ID 83616

PLANNER/CONTACT
SHAWN BROWNLEE
TRILOGY DEVELOPMENT, INC.
9839 W CABLE CAR ST.
BOISE, ID 83709
208-895-8858

NOTES:

1. ALL LOT LINES COMMON TO A PUBLIC RIGHT OF WAY HAVE A 10' UTILITY EASEMENT.
2. A 10' UTILITY EASEMENT IS LOCATED ADJACENT TO THE EXTERIOR BOUNDARY.
3. ALL SIDE YARD LOT LINES HAVE A 5' DRAINAGE & IRRIGATION EASEMENT ON EACH SIDE OF THE LOT LINE UNLESS OTHERWISE SHOWN.
4. MUNICIPAL SEWER AND WATER SERVICES SHALL BE PROVIDED TO EACH LOT.
5. DRAINAGE FOR THE PUBLIC STREETS WILL BE COLLECTED IN STORM DRAIN CATCH BASINS AND ROUTED THROUGH SAND AND GREASE TRAPS TO SEEPAGE BEDS OR STORM DRAINAGE PONDS.
6. ALL LOTS WITHIN THIS SUBDIVISION ARE SINGLE FAMILY RESIDENTIAL LOTS, WITH THE EXCEPTION OF COMMON LOTS AS SHOWN WHICH ARE COMMON AREA LOTS ALL OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION. ALL SAID COMMON LOTS SHALL HAVE A BLANKET UTILITY AND DRAINAGE EASEMENT.
7. THIS SUBDIVISION IS SUBJECT TO COMPLIANCE WITH IDAHO CODE SECTION 31-3805(1)(b) CONCERNING IRRIGATION WATER. PRESSURE IRRIGATION WILL BE SUPPLIED TO ALL LOTS IN THIS SUBDIVISION FROM CITY OF KUNA MUNICIPAL IRRIGATION SYSTEM. EXISTING SHARES AND WATER RIGHTS SHALL BE TRANSFERRED TO THE CITY OF KUNA
8. ALL EXISTING BUILDINGS ON SITE TO BE REMOVED.
9. THE SUBJECT PROPERTY DOES NOT FALL WITHIN A FEMA FLOOD HAZARD ZONE. REFERENCE FIRM PANEL 16001C0250J EFFECTIVE OCTOBER 2nd, 2013.

Common Lot Table

Lot	Area	Perimeter	Type
BLOCK 1 Lot 1 OPEN	14142	1269	BUFFER
BLOCK 1 Lot 15 OPEN	11712	1212	PATHWAY
BLOCK 2 Lot 1 OPEN	30758	3115	PATHWAY
BLOCK 2 Lot 12 OPEN	59583	968	PARK/OPEN
BLOCK 3 Lot 1 OPEN	31557	2548	PATHWAY PARTIAL
BLOCK 3 Lot 21 OPEN	9428	482	PARK OPEN
BLOCK 3 Lot 27 OPEN	15340	723	PARK/ OPEN
BLOCK 4 Lot 11 OPEN	34621	755	PARK/OPEN
BLOCK 7 Lot 1 OPEN	3654	279	ENDCAP
BLOCK 7 Lot 8 OPEN	2200	260	PATHWAY
BLOCK 7 Lot 15 OPEN	1261	231	ENDCAP
BLOCK 8 Lot 1 OPEN	2985	245	ENDCAP
BLOCK 8 Lot 7 OPEN	2200	260	PATHWAY
BLOCK 8 Lot 14 OPEN	1261	231	ENDCAP
BLOCK 9 Lot 9 OPEN	168333	2570	PARK/OPEN

Common Lot Table

Lot	Area	Perimeter	Type
BLOCK 10 Lot 1 OPEN	1223	224	ENDCAP
BLOCK 10 Lot 11 OPEN	2200	260	PATHWAY
BLOCK 10 Lot 18 OPEN	1762	240	ENDCAP
BLOCK 11 Lot 1 OPEN	1261	231	ENDCAP
BLOCK 11 Lot 11 OPEN	2200	260	PATHWAY
BLOCK 11 Lot 18 OPEN	1730	239	ENDCAP
BLOCK 13 Lot 10 OPEN	54207	1137	PARK/ OPEN
BLOCK 14 Lot 1 OPEN	1862	242	ENDCAP
BLOCK 14 Lot 10 OPEN	2200	260	PATHWAY
BLOCK 14 Lot 19 OPEN	1865	242	ENDCAP
BLOCK 15 Lot 1 OPEN	1894	242	ENDCAP
BLOCK 15 Lot 10 OPEN	2200	260	PATHWAY
BLOCK 15 Lot 19 OPEN	1202	185	ENDCAP
BLOCK 16 Lot 1 OPEN	11971	1239	BUFFER
BLOCK 17 Lot 1 OPEN	30783	2776	BUFFER

Common Lot Table

Lot	Area	Perimeter	Type
BLOCK 18 Lot 1 OPEN	8672	912	BUFFER
BLOCK 19 Lot 1 OPEN	4240	477	BUFFER
BLOCK 20 Lot 1 OPEN	17185	1760	BUFFER
BLOCK 20 Lot 2 OPEN	4389	297	PARK/OPEN
BLOCK 21 Lot 1 OPEN	33392	1173	PARK/OPEN
BLOCK 22 Lot 1 OPEN	1262	231	ENDCAP
BLOCK 22 Lot 9 OPEN	4761	302	PARK/ OPEN
BLOCK 23 Lot 1 OPEN	1261	231	ENDCAP
BLOCK 23 Lot 11 OPEN	9047	397	PARK/ OPEN
BLOCK 24 Lot 1 OPEN	2143	255	BUFFER
BLOCK 26 Lot 1 OPEN	3456	391	BUFFER
BLOCK 27 Lot 1 OPEN	1904	235	BUFFER
BLOCK 27 Lot 2 OPEN	31046	1153	PARK/OPEN
BLOCK 28 Lot 12 OPEN	8963	809	BUFFER

LEGEND

LOT NUMBER
LOT AREA
BLOCK NUMBER
FIRE HYDRANT
CATCH BASIN
STREET NAME
BOUNDARY
LOT LINES
ROAD CENTERLINE
RIGHT OF WAY
EASEMENT
CURB GUTTER SW
SEWER LINE
WATER LINE
STORM DRAIN LINE
PRESSURE IRRIGATION
GRAVITY IRRIGATION

1 / 6,005 sf / BLOCK 7
W. ASHTON DR.

SURVEY LEGEND

- FOUND 5/8" IRON PIN
- FOUND BRASS CAP MONUMENT
- FOUND ALUMINUM CAP MONUMENT
- BENCHMARK
- CALCULATED POINT

100 0 50 100 200
SCALE IN FEET
1"=100'

Bailey Engineering, Inc.
CIVIL ENGINEERING | PLANNING | CADD
TEL. 208-939-5073
www.baileyengineering.com

PROFESSIONAL ENGINEER REGISTERED No. 8272 CONSTRUCTION STATE OF IDAHO DAVID A BAILEY

CHECKED BY: DAVID A. BAILEY P.E.
DRAWN BY: DAS/SEB

NO.	DATE	DESCRIPTION
REVISED		

PRELIMINARY PLAT
LEDGESTONE SOUTH
TRILOGY DEVELOPMENT, INC.

DATE: 04-27-2020
PROJECT: C2019-009
SHEET: PHASE

DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS FOR LEDGESTONE SUBDIVISION

_____, 2019

NOTICE

THE FOLLOWING IS A VERY IMPORTANT DOCUMENT WHICH EACH AND EVERY POTENTIAL OWNER OF PROPERTY WITHIN THE LEDGESTONE SUBDIVISION SHOULD READ AND UNDERSTAND. THIS DOCUMENT DETAILS THE OBLIGATIONS AND PROHIBITIONS IMPOSED UPON ALL OWNERS AND OCCUPANTS.

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DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS FOR LEDGESTONE SUBDIVISION

This Declaration of Covenants, Conditions and Restrictions for Ledgestone Subdivision (this "Declaration") is made effective this _____ day of _____, 2019, by Challenger Development Inc., an Idaho corporation ("Declarant").

ARTICLE I: PROPERTY AND PURPOSES

Section 1. Property Covered/Benefit of Declaration. The initial property subject to this Declaration is legally described on the attached Exhibit A, which is made a part hereof ("Property"). The Property is phase 1 of the entire Ledgestone Subdivision as described on the attached Exhibit B, which is made a part hereof ("Ledgestone"). **It is currently anticipated that additional phases of Ledgestone will be platted, annexed into the Property and made subject to this Declaration. Each Owner, as are hereinafter defined, covenants and agrees that 1) additional phases of Ledgestone can be platted, annexed into the Property and made subject to this Declaration, and 2) he/she/they shall not contest any such platting, annexation and/or subjection to this Declaration.**

This Declaration is for the benefit of the Declarant, the Association and all Owners of any portion of the Property.

Section 2. Purposes of Declaration. The purposes of this Declaration are to set forth the basic Restrictions, as hereinafter defined, and uses that will apply to the Property. The Restrictions contained herein are designed to protect, enhance and preserve the value, amenities, desirability, and attractiveness of the Property in a cost effective and administratively efficient manner.

ARTICLE II: DECLARATION

Declarant hereby declares that the Property, including each Lot, Dwelling Unit, parcel or portion thereof, is and/or shall be held, sold, conveyed, encumbered, used, occupied and improved subject to the following terms and Restrictions, all of which are declared and agreed to be in furtherance of a general plan for the protection, maintenance, subdivision, improvement and sale of the Property, and to enhance the value, desirability and attractiveness thereof.

ARTICLE III: DEFINITIONS

Section 1. "Architectural Committee" shall mean the architectural committee of the Association established pursuant to Article X herein.

Section 2. "Assessments" shall mean Regular Assessments, Special Assessments and Limited Assessments.

Section 3. "Association" shall mean the Ledgestone Homeowners' Association, Inc., its successors and/or assigns.

Section 4. "Board" shall mean the Board of Directors of the Association.

Section 5. "Common Lots" shall mean all real property (including the Improvements thereto) owned by the Association for the common benefit and enjoyment of the Owners. The Common Lots are legally described on the attached Exhibit C, which is made a part hereof.

Section 6. "Declarant" shall mean Challenger Development Inc., an Idaho corporation, or its permitted assigns.

Section 7. "Dwelling Unit" shall mean each single family, detached residential home to be constructed on each Lot.

Section 8. "Improvement" shall mean any structure, facility or system, or other improvement or object, whether permanent or temporary, which is erected, constructed, placed upon, under or over any portion of the Property, including, without limitation, Dwelling Units, fences, landscaping, streets, roads, drives, driveways, parking areas, sidewalks, bicycle paths, curbs, walls, rocks, signs, lights, mail boxes, electrical lines, pipes, pumps, ditches, waterways, recreational facilities, grading, utility improvements, dog runs and/or kennels, play equipment, and any other exterior construction or exterior improvement which may not be included in the foregoing. Improvement(s) includes both original improvements existing on the Property on the date hereof and/or all later additions and/or alterations.

Section 9. "Limited Assessment" shall mean a charge against a particular Owner and such Owner's Lot, directly attributable to the Owner, equal to the costs and expenses incurred by the Association, including, without limitation, legal fees and costs, whether or not suit has been filed, for specific maintenance as detailed in this Declaration, any corrective action taken by the Association or fines levied by the Association pursuant to this Declaration or otherwise as necessitated by any intentional or negligent act or omission by any such Owner or occupant of such Owner's Lot, or the family members, licensees, invitees, agents, contractors or employees thereof. Such costs, expenses and fines shall include, without limitation, damage to the Common Lots and/or the failure of an Owner to keep his or her Lot or Dwelling Unit in proper repair.

Section 10. "Lot" shall mean any lot shown on the Plat (or any other plat of the Property) with the exception of the Common Lots.

Section 11. "Member" shall mean each Person holding a membership in the Association, including Declarant.

Section 12. "Mortgage" shall mean any mortgage, deed of trust, or other document pledging any portion of the Property or interest therein as security for the payment of a debt or obligation.

Section 13. "Owner" shall mean the record owner, other than Declarant, whether one or more Persons, of a fee simple title to any Lot which is a part of the Property, including contract sellers and builders, but excluding those having such interest merely as security for the performance of an obligation.

Section 14. "Person(s)" shall mean any individual, partnership, corporation or other legal entity, including Declarant.

Section 15. "Plat" shall mean the Ledgestone Subdivision No. 1 final plat filed in Book ___

of Plats at Pages _____ through _____, Records of Ada County, Idaho, a copy of which is attached hereto as Exhibit D, which is made a part hereof.

Section 16. "Property" shall mean that certain real property shown on the Plat and legally described on the attached Exhibit A, and such other annexations or other additions thereto as may hereafter be brought within the jurisdiction of this Declaration.

Section 17. "Regular Assessments" shall mean the cost of maintaining, improving, repairing, managing and operating the Common Lots, including all Improvements thereon or thereto, and all other costs and expenses incurred to conduct the business and affairs of the Association which is levied against the Lot of each Owner by the Association, pursuant to the terms of this Declaration or any supplemental declaration.

Section 18. "Restrictions" shall mean the restrictions, covenants, limitations, conditions and equitable servitudes that will apply to the Property and use of any and all portions thereof as specified in this Declaration.

Section 19. "Special Assessments" shall mean that portion of the costs of the capital improvements or replacements, equipment purchases and replacements or shortages in Regular Assessments levied against the Lot of each Owner by the Association.

ARTICLE IV: GENERAL USES AND REGULATION OF USES

Section 1. Single Family Lots. Each Lot within the Property shall be used for single family, detached Dwelling Units only, and for the common social, recreational or other reasonable uses normally incident to such use, and also for such additional uses or purposes as are from time to time determined appropriate by the Board. Lots may be used for the purposes of operating the Association and for the management of the Association if required. The provisions of this Section shall not preclude Declarant from conducting sales, construction, development and related activities from Lots owned by Declarant.

No shack, tent, trailer house, basement only, split entry, manufactured, mobile or pre-built homes shall be allowed.

Section 2. Common Lots. The Association shall own and be responsible for the maintenance, repair and replacement of the Common Lots including any and all Improvements located thereon. The Association shall maintain and operate these Common Lots in a competent and attractive manner, including snow removal, if appropriate, and the watering, mowing, fertilizing and caring for any and all lawns, shrubs and trees thereon. Nothing shall be altered or constructed in or removed from the Common Lots except upon written consent of the Board and in accordance with procedures required herein and by law. Every Owner shall have a right and easement of enjoyment in and to the Common Lots which shall be appurtenant to and shall pass with the title to every Lot, subject to the following provisions (and subject to all other terms contained in this Declaration):

(a) the right of the Association to charge reasonable admission and other fees or Assessments for the use of any recreational facility situated upon a Common Lot;

(b) the right of the Association to adopt rules and regulations governing the use of

any recreational facility situated upon a Common Lot; and

(c) the right of the Association to suspend the voting rights and use of any recreational facility by an Owner for any period during which any Assessment remains unpaid and/or for any infraction of its rules and regulations.

The Common Lots cannot be mortgaged, conveyed or encumbered without the approval of at least two-thirds (2/3) of the Class A Members. If ingress or egress to any Lot is through any portion of the Common Lots, any such conveyance or encumbrance shall be subject to an easement of the Owners for the purpose of ingress and egress.

Section 3. Home Occupations. Assuming all governmental laws, rules, regulations, and ordinances are complied with, home occupations may be conducted from the interior of Dwelling Units **provided such home occupations 1) do not increase the burdens on the public or private streets (including increased traffic) and/or 2) do not unreasonably interfere with any other Owner's use and enjoyment of his or her Lot.** If the Board determines, in its sole and absolute discretion, that a home occupation is increasing the burden on the public or private streets and/or unreasonably interfering with any other Owner's use and enjoyment of his or her Lot, the Board shall have the right to terminate any Owner's ability to conduct a home occupation from his or her Dwelling Unit. Notwithstanding the foregoing, Declarant may conduct any business operation it sees fit from any portion of the Property owned by it, regardless of the impact on the public or private streets or the use and enjoyment of an Owner's Lot.

Section 4. Vehicle and Other Storage. Unenclosed areas, which include driveways and all other unenclosed paved areas within the Property, are restricted to use for temporary parking of operative motor vehicles of Owners and their family members, invitees and licensees, provided that such vehicles are parked so as to not interfere with any other Owner's right of ingress and egress to his or her Lot. Notwithstanding the foregoing, the parking of equipment (lawn or otherwise), inoperative vehicles, motor homes, campers, trailers, boats, any other recreational vehicles and other items on the Property is strictly prohibited unless parked within an Owner's garage (and said garage door is closed) or other enclosed area approved by the Architectural Committee. For purposes of this Section, temporary parking shall be parking for no more than twenty-four (24) hours at any one time.

The Board may remove any inoperative vehicle, or any unsightly vehicle, and any other vehicle, motor home, camper, trailer, boat, equipment or item improperly parked or stored after three (3) days' written notice to the known owner thereof or, in the event such owner is unknown, posted on such item, at the risk and expense of the owner thereof.

Notwithstanding anything in this Section to the contrary, all Owners, as well as their family members, invitees and licensees, must abide by all parking and other signs posted within the Property by the Declarant and/or the Association, if any.

Section 5. Compliance With Laws, Rules and Ordinances. Neither the Association nor any Owner, or their respective family members, invitees or licensees, shall permit anything to be done or kept in his or her Lot or Dwelling Unit or any part of the Common Lots which would be in violation of any laws, rules, regulations or ordinances.

Section 6. Signs. No sign of any kind shall be displayed on any Lot or Dwelling Unit

without the prior written consent of the Board; provided however, one sign of not more than five (5) square feet advertising the Lot for sale may be installed on any Lot, but the sign shall be removed within five (5) days following sale. Notwithstanding the foregoing, Declarant may display any sign it sees fit on any portion of the Property owned by Declarant.

Section 7. Pets. No animals (which term includes livestock, domestic animals, poultry, reptiles and any other living creature of any kind) shall be raised, bred or kept in any Dwelling Unit, Lot or in the Common Lots, whether as pets or otherwise; provided however, that this provision shall not prohibit Owners from having two (2) or less dogs and/or cats (i.e. an Owner may have a maximum of two (2) dogs, two (2) cats or one (1) dog and one (1) cat). The Board may at any time require the removal of any animal, including domestic dogs and cats, which it finds is creating unreasonable noise or otherwise disturbing the Owners unreasonably, in the Board's determination, and may exercise this authority for specific animals even though other animals are permitted to remain. All dogs shall be walked on a leash only and shall not be allowed to roam or run loose, whether or not accompanied by an Owner or other person. All Owners shall be responsible for picking up and properly disposing of all organic waste of their domestic dogs and cats.

Section 8. Nuisance. No noxious or offensive activity shall be carried on in any Dwelling Unit, Common Lots or Lot, nor shall anything be done therein which may be or become an annoyance or nuisance to other Owners. No rubbish or debris of any kind shall be placed or permitted to accumulate anywhere upon the Property, including the Common Lots, and no odor shall be permitted to arise from any portion of the Property so as to render the Property or any portion thereof unsanitary, unsightly, offensive or detrimental to the Property or to its occupants or residents, or to any other property in the vicinity thereof. No noise, obstructions to pedestrian walkways, unsightliness, or other nuisance shall be permitted to exist or operate upon any portion of the Property so as to be offensive or detrimental to the Property or to its occupants or residents or to other property in the vicinity thereof, as determined by the Board, in its reasonable judgment, or in violation of any federal, state or local law, rule, regulation or ordinance. Without limiting the generality of any of the foregoing, no whistles, bells or other sound devices (other than security devices used exclusively for security purposes which have been approved by the Architectural Committee), flashing lights or search lights, shall be located, used or placed on the Property. No unsightly articles shall be permitted to remain on any Lot so as to be visible from any other portion of the Property. Without limiting the generality of the foregoing, refuse, garbage, garbage cans, trash, trash cans, dog houses, equipment, gas canisters, propane gas tanks, barbecue equipment, heat pumps, compressors, containers, lumber, firewood, grass, shrub or tree clippings, metals, bulk material, and scrap shall be screened from view at all times. No clothing or fabric shall be hung, dried or aired in such a way as to be visible to any other portion of the Property. In addition, no activities shall be conducted on the Property, and no Improvements shall be constructed on any Property which are or might be unsafe or hazardous to any Person or property.

Section 9. Exterior Improvements, Appearance and Emergency Maintenance. **No Owner shall install or place any item or construct any Improvement on any Lot or the exterior of his or her Dwelling Unit without the prior written consent of the Architectural Committee. In addition, all Owners shall keep and maintain their Lots and Dwelling Unit exteriors in a repaired, attractive, clean and habitable condition as determined by the Board in its reasonable judgement. In the event any Owner does not satisfy this standard, the Board and its agents or employees, may, after thirty (30) days' prior written notice to such Owner: 1) levy a fine, in an amount as determined by the Board, against said Owner for as long as the violation persists, and/or 2) enter such Lot to make such repairs or perform such maintenance as to bring such Lot and/or Dwelling Unit**

exterior into compliance with this Section. Any such fines and any cost incurred by the Association for repairs and maintenance shall be treated as Limited Assessments to such Owner.

In the event an emergency which in the judgment of the Board presents an immediate threat to the health and safety of the Owners, their family members, invitees or licensees, or an immediate risk of harm or damage to any Lot, Dwelling Unit or any other part of the Property, the Board and its agents or employees, may enter any Lot to make repairs or perform maintenance. Such entry shall be repaired by the Board out of Regular or Special Assessments (unless the emergency was caused by an Owner, his family members, invitees or licensees, in which case the cost shall be treated as a Limited Assessment and charged only to that Owner). In addition, if the repairs or maintenance were requested by an Owner, the costs thereof shall be treated as a Limited Assessment to such Owner.

Section 10. Outbuildings. All outbuildings shall be pre-approved in writing by the Architectural Committee and be constructed of quality building material, completely finished and painted on the outside and shall be of quality and character that will be in harmony with the other buildings on the Property.

Section 11. Fences. Fences are not required. If a fence is desired, plans for such fence shall be pre-approved in writing by the Architectural Committee. Fences shall be of good quality and workmanship and shall be properly finished and maintained. Chain link fences are prohibited. No fence shall be higher than six feet (6') in height. Fences shall not be built closer to the front of a Lot than the corner of the Dwelling Unit on either side. The location of fences shall be so situated as to not unreasonably interfere with the enjoyment and use of any other portion of the Property and shall not be allowed to constitute an undesirable nuisance or noxious use.

Section 12. Antennae/Dishes. Antennae and/or satellite or other dishes shall be placed and/or mounted in such a way to minimize the visual impact to all other portions of the Property.

Section 13. Insurance. Nothing shall be done or kept in any Dwelling Unit, Lot or Common Lots which will increase the rate of insurance on the Common Lots or any other Dwelling Unit or Lot. Each Owner must maintain a homeowner's insurance policy insuring the homeowner from loss by fire, theft, and all other loss or damage.

Section 14. Storm Water Drainage. Portions of Lots 1 and 16, Block 1, Lots 1 and 3 through 7, Block 2, Lots 4 and 8, Block 3, and Lots 13 through 16, Block 4, as shown on the Plat, are servient to and contain the Ada County Highway District ("ACHD") storm water drainage system. These Lots and Common Lots are encumbered by that certain First Amended Master Perpetual Storm Water Drainage Easement recorded on November 10, 2015, as Instrument No. 2015-103256, official records of Ada County, and are incorporated herein by this reference as if set forth in full ("Master Easement"). The Master Easement and the storm water drainage system are dedicated to ACHD pursuant to Section 40-2302 of the Idaho Code. The Master Easement is for the operation and maintenance of the storm water drainage system and such system shall be maintained by ACHD. Said easement shall remain free of all encroachments and obstructions (including fences and trees) which may adversely affect the operation and maintenance of the storm drainage facilities.

There shall be no interference with the established drainage pattern over any portion of these Lots and Common Lots, unless an adequate alternative provision is made for proper drainage and is first approved in writing by the Architectural Committee and ACHD. For the purposes hereof, "established"

drainage is defined as the system of drainage, whether natural or otherwise, which exists at the time the overall grading of any portion of these Lots or Common Lots are completed by the Declarant, or that drainage which is shown on any plans approved by the Architectural Committee and/or ACHD.

All Owners, at his/her/their sole cost and expense, shall be responsible for the maintenance, repair and/or replacement of any storm water drainage system located on, and serving only, his/her/their individual Lot. Such maintenance, repair and/or replacement shall be done in accordance with all applicable laws, rules, regulations and/or ordinances.

Notwithstanding the forgoing, all Lots and Common Lots shall be graded such that all storm water and other water drainage shall run across a curb or to a drainage easement and no drainage shall cross from a Lot or Common Lot onto another Lot or Common Lot except within an applicable drainage easement.

Section 15. Garages. Garages shall be well constructed of good quality material and workmanship. All Dwelling Units shall have attached, enclosed garages which hold no less than two vehicles. To the extent possible, garage doors must remain closed at all times.

Section 16. Construction Commencement, Completion and Other Activities. Each Owner of a Lot originally purchased from Declarant must commence construction of his or her Dwelling Unit and all other Lot Improvements within one year from the closing date thereof, unless otherwise agreed by Declarant. Once such construction has commenced, such Owner shall have twelve months from the commencement date in which to complete construction of the Dwelling Unit and all other Lot Improvements. **In the event any Owner violates either (or both) of the construction time requirements contained herein, said Owner shall pay to the Association a fine of $100/day for as long as the violation persists. This fine is applicable to both the construction commencement and construction completion requirements.** Any fine, or fines, shall be due and payable within thirty (30) days of receiving an invoice therefore.

Section 17. Construction Equipment. No construction machinery, building equipment, or material shall be stored upon any Lot until the Owner is ready and able to immediately commence construction. Such machinery, equipment and materials must be kept within the boundaries of the Lot.

Section 18. Damage to Improvements. It shall be the responsibility of an Owner to leave street curbs, sidewalks, fences, utility facilities, tiled irrigation lines, if any, and any other existing Improvements free of damage and in good and sound condition during any construction period. It shall be conclusively presumed that all such Improvements are in good condition at the time building has begun on each Lot unless the contrary is shown in writing at the date of conveyance or by date of possession, whichever date shall first occur, which notice is addressed to a member of the Architectural Committee.

Section 19. Garbage Pick-Up. Garbage and recycle containers shall be placed on the appropriate sidewalks or driveways only on garbage and recycle collection days, and such containers must be removed no later than 8:00pm that evening.

Section 20. Initial Landscaping. Construction of any Dwelling Unit on any Lot shall include the following minimum front yard landscaping:

Two - 2” caliper trees;

Three - 5 gallon plants; and
Five - 2 gallon plants.

This landscaping must be completed prior to the issuance of an occupancy permit for the Dwelling Unit. This landscaping requirement shall be applicable to Declarant as well as any Owner.

Section 21. No Further Subdivision. No Lot may be further subdivided; provided, however, that this Section is not applicable to Declarant who may further subdivide any Lot owned by it.

Section 22. Lot 14, Block 1. Lot 14, Block 1, is currently encumbered by a temporary access easement in favor of ACHD. If and when this temporary access easement is terminated, Lot 14, Block 1, will be a normal Lot subject to the construction of a Dwelling Unit thereon.

ARTICLE V: IRRIGATION

Non-potable (non-drinkable) irrigation water will be supplied to the Property by the City of Kuna and/or the Kuna Municipal Irrigation District (collectively "Kuna") utilizing a pressurized irrigation system ("Pressurized Irrigation System") owned, operated and maintained by Kuna. **The Pressurized Irrigation System will be used for all irrigation, including the irrigation of the Common Lots and Lots. By accepting a deed to any portion of the Property, each Owner and the Association hereby agree to pay his/her/its proportionate share of assessments and other fees levied by Kuna. In addition, each Owner covenants and agrees to hold the Association and Declarant harmless from any and all liability for damages or injuries to themselves, and their family members, invitees and licensees, caused by the Pressurized Irrigation System.**

ARTICLE VI: INSURANCE

Section 1. Insurance. The Association may obtain insurance from insurance companies authorized to do business in the State of Idaho, with an AM Best Rating of A or better, and maintain in effect any insurance policy the Association deems necessary or advisable, which may include, without limitation, the following policies to the extent it is possible for the Association to obtain the same:

(a) Property insurance for the Improvements, equipment and other property located within the Common Lots with special form coverage, a replacement cost valuation provision and blanket coverage. The Association may also insure for flood or earthquake if determined by the Board.

(b) Commercial General Liability (CGL) insurance insuring the Association, as well as its agents, employees, invitees and licensees, against any liability incident to the ownership, management, maintenance and/or use of the Common Lots and/or any other portion of the Property.

(c) Directors and Officers Liability (D&O) insurance insuring the Association and/or its board members and/or officers.

(d) Such other insurance to the extent necessary to comply with all applicable laws and such indemnity, faithful performance, fidelity and other bonds as the Association shall deem necessary or required to carry out the Association functions or to insure the Association against any loss from malfeasance or dishonesty of any employee or other person charged with the management or possession of any Association funds or other property.

Section 2. Premiums Included in Assessments. Insurance premiums for the above insurance coverage shall be deemed a common expense to be included in the Regular Assessments levied by the Association.

ARTICLE VII: MEMBERSHIP AND VOTING RIGHTS

Section 1. Membership. Declarant and every Owner of a Lot shall be a Member of the Association. Membership shall be appurtenant to and may not be separated from ownership of any Lot which is subject to assessment.

Section 2. Voting Classes. The Association shall have two (2) classes of voting memberships:

Class A. Class A Members shall be all Owners and shall be entitled to one vote for each Lot owned. When more than one Person holds an interest in any Lot, all such Persons shall be Members. The vote for such Lot shall be exercised as they determine, but in no event shall more than one (1) vote be cast with respect to any Lot.

Class B. The Class B Member shall be the Declarant and shall be entitled to five (5) votes for each Lot owned. The Class B membership shall cease when, and if, Declarant has sold all Lots within the Property.

ARTICLE VIII: ASSESSMENTS

Section 1. Creation of the Lien and Personal Obligation of Assessments. **Each Owner of any Lot by acceptance of a deed therefore is deemed to covenant and agree to pay to the Association all Assessments levied thereby. In addition, each Owner upon the purchase of a Lot shall pay reasonable start-up and/or transfer fee assessments for use by the Association.** These start-up and transfer fee assessments shall only be used by the Association for the operation of the Association and/or the performance of its duties and obligations contained herein. All Assessments, together with interest, costs, late fees and reasonable attorneys' fees, shall be a continuing lien upon the Lot against which each such Assessment is made. Each such Assessment, together with interest, costs, late fees and reasonable attorneys' fees, shall also be the personal obligation of the Person who was the Owner of such Lot at the time when the Assessment fell due. The personal obligation for delinquent Assessments shall not pass to his or her successors in title unless expressly assumed by them. **Declarant has no obligation to pay Assessments.**

Notwithstanding any of the foregoing, the imposition, perfection and/or foreclosure of any Association lien must also comply with any and all requirements contained in the Idaho Code.

Section 2. Purposes of Assessments. The Assessments levied by the Association shall be used exclusively to promote the recreation, health, safety, and welfare of the Owners and occupants of the Property and for any construction, maintenance and operation of the Common Lots, as well as for the proper operation of the Association.

Section 3. Uniform Rate of Assessment. Regular and Special Assessments must be fixed at a uniform rate for all Lots.

Section 4. Date of Commencement of Annual Assessments; Due Dates. The Regular Assessments provided for herein shall commence as to all Lots on the first day of the month following the

closing of the sale of a Lot from Declarant to an Owner. The first annual assessment shall be pro-rated according to the number of months remaining in the calendar year. Subsequently, the Board shall fix and notify all Owners in writing of the amount of the Regular Assessments against each Lot at least thirty (30) days in advance of each annual Regular Assessment period. The due dates shall be established by the Board, which may be annually, quarterly or monthly as the Board, in its sole discretion, shall determine. The Association shall, upon demand, and for a reasonable charge, furnish a certificate signed by an officer of the Association setting forth whether the Assessments on a specific Lot have been paid. A properly executed certificate of the Association as to the status of Assessments on a Lot is binding upon the Association as of the date of its issuance.

Section 5. Effect of Nonpayment of Assessments; Remedies of the Association. Any Assessment not paid within thirty (30) days after the due date shall bear interest from that date at a rate equal to the lesser of twelve percent (12%) or the highest rate allowed by applicable law. Additionally, a late fee of $50.00 shall be added to and charged on each Assessment which is not paid within this payment period. The Association may bring an action at law against the Owner personally obligated to pay the same, or foreclose the lien against the Lot. No Owner may waive or otherwise escape liability for the Assessments provided for herein by non-use of the Common Lots or abandonment of his or her Lot.

Section 6. Subordination of the Lien to Mortgages. The lien of the Assessments provided for herein shall be subordinate to the lien of any first Mortgage. Sale or transfer of any Lot shall not affect the Assessment lien. However, the sale or transfer of any Lot pursuant to foreclosure or any proceeding in lieu thereof, shall extinguish the lien of such Assessments as to payments which became due prior to such sale or transfer. No sale or transfer shall relieve such Lot from liability for any Assessments thereafter becoming due or from the lien thereof.

ARTICLE IX: AUTHORITY OF BOARD/ASSUMPTION OF RISK

Section 1. Authority of Board. The Board, for the benefit of Declarant, the Association and the Owners, shall enforce the provisions of this Declaration and the Association's articles and bylaws, shall have all powers and authority permitted to the Board under the Association's articles and bylaws and this Declaration, and shall acquire and shall pay all goods and services requisite for the proper functioning of the Association and the Property, including, but not limited to, the following:

(a) Operation, maintenance and management of the Common Lots, including repair and replacement of property damaged or destroyed by casualty loss.

(b) Water, sewer, garbage collection, electrical, and any other utility service as required for the Common Lots. The Board may arrange for special metering of utilities as appropriate.

(c) Policies of insurance providing coverage for fire and other hazard, public liability and property damage, and fidelity bonding as the same are more fully described in the bylaws or this Declaration. **Each Owner shall be responsible for the insurance for his or her Lot, Dwelling Unit and personal property.**

(d) The services of Persons as required to properly manage the affairs of the Association to the extent deemed advisable by the Board as well as such other personnel as the Board shall determine are necessary or proper for the operation of the Property.

(e) Legal and accounting services necessary or proper in the operation of the Association's affairs, administration of the Property, or the enforcement of this Declaration.

(f) Any other materials, supplies, labor services, maintenance, repairs, structural alterations, insurance, taxes or assessments which the Board is required to secure by law or which in its opinion shall be necessary or proper for the operation of the Property or for the enforcement of this Declaration.

(g) The Board shall not incur any non-budgeted expenditure in excess of $3,000.00 without the approval thereof by two-thirds (2/3) of each class of Members voting thereon at a meeting called for such purpose, except for an emergency threatening the security of any Improvement on the Property.

The Board shall have the absolute right to adopt any rules and regulations it deems to be in the best interest of the Property and the Owners. By accepting a deed to any portion of the Property, all Owners hereby covenant that they will adhere to any such rules or regulations. In addition, the Board shall have the absolute right to hire or otherwise contract with independent third parties to operate, maintain and manage the Common Lots, and to perform any other right, duty or obligation of the Board or Association.

Section 2. Easement. The Association and Board, and their agents and employees, shall have, and are hereby granted, a permanent easement of ingress and egress to enter upon each Lot for the purposes of performing repairs, maintenance and care of the Property as provided herein and for otherwise discharging the responsibilities and duties of the Association and Board as provided in this Declaration.

Section 3. Non-Waiver. The failure of the Board in any one or more instances to insist upon the strict performance of any of the terms or Restrictions of this Declaration, or of the Association's articles or bylaws, or to exercise any right or option contained in such documents, or to serve any notice or to institute any action, shall not be construed as a waiver or a relinquishment for the future of such term or Restriction, but such term or Restriction shall remain in full force and effect. Failure by the Board to immediately enforce any such term or Restriction shall not be deemed a waiver of the right to do so thereafter, and no waiver by the Board of any provision hereof shall be deemed to have been made unless expressed in writing and signed for the Board. This Section also extends to the Declarant exercising the powers of the Board during the initial period of operation of the Association.

Section 4. Limitation of Liability. The Board shall not be liable for any failure of any utility or other service to be obtained and paid for by the Board, or for injury or damage to a Person or property caused by the elements, or by another Owner or Person; or resulting from electricity, gas, water, rain, dust or sand which may lead or flow from pipes, drains, conduits, appliances, or equipment, or from articles used or stored by Owners on the Property or in Dwelling Units. No diminution or abatement of Assessments shall be claimed or allowed for inconveniences or discomfort arising from the making of repairs or Improvements to the Property or from any action taken to comply with any law, ordinance, or order of a governmental authority. This Section shall not be interpreted to impose any form of liability by implication, and shall extend to and apply also for the protection of the Declarant exercising the powers of the Board during the initial period of operation of the Association and the Property.

Section 5. Indemnification of Board Members. Each member of the Board shall be indemnified by the Association and the Owners against all expenses (including attorneys' fees and costs), judgments, liabilities, fines and amounts paid in settlement, or actually and reasonably incurred, in connection with any action, suit or proceeding, whether civil, criminal, administrative or investigative instituted by or against the

Association or against the Board member and incurred by reason of the fact that he or she is or was a Board member, if such Board member acted in good faith and in a manner such Board member believed to be in or not opposed to the best interests of the Association, and, with respect to any criminal action or proceeding, had no reasonable cause to believe that such Board member's conduct was unlawful. This Section shall extend to and apply also to the indemnification of the Declarant.

Section 6. Assumption of Risk; Waiver of Claims. **All Owners and the Association, for themselves and their family members, invitees and licensees, shall store their property in and shall occupy and use their Lots, Dwelling Units, Common Lots and all other portions of the Property solely at their own risk. All Owners and the Association, for themselves and their family members, invitees and licensees, hereby waive any and all rights to recover claims against Declarant, and its respective officers, directors, shareholders, employees and agents, of every kind, including loss of life, personal or bodily injury, damage to equipment, fixtures or other property, arising, directly or indirectly, out of or from or on account of the occupancy and/or use of any portion of the Property by such indemnifying Persons, or resulting from any present or future conditions or state of repair thereof, except to the extent such claims are directly caused by the gross negligence or willful misconduct of Declarant (or its respective officers, directors, shareholders, employees or agents) and are not covered by insurance required to be carried by such Persons pursuant to this Declaration. Declarant, and its respective officers, directors, shareholders, employees and agents, shall not be responsible or liable for damages to any Owners and/or the Association, or their respective family members, invitees and licensees, for any loss of life, bodily or personal injury, or damage to property that may be occasioned by or through the acts, omissions or negligence of any other Person.**

ARTICLE X: ARCHITECTURAL COMMITTEE

Section 1. Charter of Architectural Committee. The Association or Declarant is authorized to appoint an Architectural Committee. The charter of the Architectural Committee is to represent the collective interests of all Owners, and to help Owners wishing to make exterior Improvements. **Each Owner is deemed to covenant and agree to be bound by the terms and conditions of this Declaration, including the standards and process of architectural review and approval. This Article does not apply to the Declarant.**

Section 2. Architectural Control. No exterior Improvement, including, without limitation, Dwelling Unit, building, deck, patio, fence, landscaping, permanent exterior affixed decoration, exterior lighting or heating, cooling and other utility systems shall be altered, erected, or placed on the Property unless and until the building, plot or other plan has been reviewed in advance by the Architectural Committee and same has been approved in writing, and an appropriate building permit has been acquired, if required by law. The review and approval may include, without limitation, topography, finish, ground elevations, landscaping, lighting, drainage, color, material, design, conformity to other residences in the area, and architectural symmetry. Approval of the architectural design shall apply only to the exterior appearance of said Improvements. It shall not be the intent of these restrictions to control the interior layout or design of said structures.

Section 3. Review of Proposed Improvements. The Architectural Committee shall consider and act upon any and all proposals or plans and specifications submitted for its approval pursuant to this Declaration, and perform such other duties from time to time as may be assigned to it by the Board and/or Declarant, including the inspection of construction in progress. The Architectural Committee may condition its approval of proposals upon the agreement of the Owner to an additional Assessment for the cost of

maintenance and the payment of an architectural review processing fee. The Architectural Committee may require submission of additional plans or review by a professional architect. The Architectural Committee may issue architectural guidelines and/or guidelines setting forth procedures for the submission of plans for approval. The Architectural Committee may require such detail in plans and specifications submitted for its review as it deems proper, including, without limitation, floor plans, site plans, drainage plans, elevations, drawings and description of samples of exterior material and colors. Until receipt by the Architectural Committee of any required plans and specifications the Architectural Committee may postpone review of plans. Decisions of the Architectural Committee and the reasons therefor shall be transmitted by the Architectural Committee, in writing, to the applicant at the address set forth in the application for approval within thirty (30) days after filing all materials required by the Architectural Committee. If the Architectural Committee has not accepted (either conditionally or otherwise) or rejected an Owner's application within this thirty (30) day period, such application shall be deemed approved.

Section 4. Inspection of Approved Improvements. Inspection of work and correction of defects therein shall proceed as follows:

(a) Upon completion of any work for which approved plans are required under this Article, the Owner shall give written notice of completion to the Architectural Committee.

(b) Within sixty (60) days thereafter, the Architectural Committee, or its duly authorized representative, may inspect such Improvement. If the Architectural Committee finds that such work was not done in substantial compliance with the approved plans, it shall notify the Owner and the Board in writing of such noncompliance within such sixty (60) day period, specifying the particulars of noncompliance, and shall require the Owner to remedy the same.

(c) If upon the expiration of thirty (30) days from the date of such notification the Owner shall have failed to remedy such noncompliance, the Board may, at its option, exercise its right to enforce the provisions of this Declaration by proceeding at law or in equity on behalf of the Association and/or correcting such noncompliance itself, and may take such other actions as are appropriate, including the levy of a Limited Assessment against such Owner for reimbursement associated with correcting or removing the same pursuant to this Declaration.

Section 5. Review of Unauthorized Improvements. The Architectural Committee may identify for review, Improvements which were not submitted to the approval process as follows:

(a) The Architectural Committee or its duly authorized representative may inspect such unauthorized Improvement.

(b) If the Architectural Committee finds that the work is in noncompliance with this Declaration and/or its standards or guidelines, it shall notify the Owner and the Board in writing of such noncompliance and its request to remedy such noncompliance.

(c) If the Owner has not remedied such noncompliance within a period of not more than forty-five (45) days from his or her receipt of the noncompliance notice, then the Board may, at its option, exercise its right to enforce the provisions of this Declaration by a proceeding at law or in equity on behalf of the Association and/or correcting such noncompliance itself, and may take such other actions as are appropriate, including the levy of a Limited Assessment against such Owner for reimbursement of the costs associated with correcting or removing the same pursuant to this Declaration.

ARTICLE XI: GENERAL PROVISIONS

Section 1. Enforcement. The Association, Declarant and/or any Owner, shall have the right to enforce, by any proceeding at law or in equity, all terms and Restrictions now or hereafter imposed by the provisions of this Declaration.

Section 2. Severability. Invalidation of any one of these terms or Restrictions by judgment or court order shall in no way affect any other provisions which shall remain in full force and effect.

Section 3. Term and Amendment. The terms and Restrictions of this Declaration shall run with and bind the land, for a term of twenty (20) years from the date this Declaration is recorded, after which time they shall be automatically extended for successive periods of ten (10) years. This Declaration may be amended by an instrument approved in writing by Declarant (assuming Declarant owns one or more Lots) and the written consent of two-thirds (2/3) of the Class A Members. Amendments shall be in the form of supplemental declarations, and must be recorded in the records of Ada County, Idaho.

Section 4. Annexation. **As described in Article I, Section 1, additional real property consisting of additional phases of Ledgestone may be annexed into the Property. These future annexations will be accomplished by Declarant at its sole and absolute discretion without any Association, Owner or Class A Member consent.** In addition, additional residential property not currently anticipated to be a part of the remainder of Ledgestone may be annexed into the Property by Declarant or with the consent of two-thirds (2/3) of the Class A Members. Annexations shall be accomplished by supplemental declarations to this Declaration recorded in the records of Ada County, Idaho.

Section 5. Duration and Applicability to Successors. The terms and Restrictions set forth in this Declaration shall run with the land and shall inure to the benefit of and be binding upon the Declarant, the Association and all Lot Owners and their successors in interest. **Declarant shall have the absolute right, at its sole and absolute discretion, to assign any and all of Declarant's rights, duties and/or obligations under this Declaration to any third party. Any such assignment shall be in writing signed by both the assignor and assignee.**

Section 6. Attorneys Fees/Collection of Fines. In the event it shall become necessary for the Association, Declarant or any Owner to retain legal counsel to enforce any term or Restriction contained within this Declaration, the prevailing party to any court proceeding shall be entitled to recover their reasonable attorneys' fees and costs of suit, including any bankruptcy, appeal or arbitration proceeding.

Notwithstanding any other provision contained in this Declaration, the imposition and collection of any fines, as well as the award and collection of attorneys' and costs, by the Association, must comply with any and all requirements contained in the Idaho Code.

Section 7. Governing Law. This Declaration shall be construed and interpreted in accordance with the laws of the State of Idaho.

Section 8. Notices. Any notices permitted or required to be delivered as provided herein shall be in writing and may be delivered either personally or by regular mail. If delivery is made personally, the notice shall be deemed properly delivered immediately upon delivery. If delivery is made by regular mail, it shall be deemed to have been delivered seventy-two (72) hours after the same has been deposited in the United States mail, postage prepaid. All notices shall be addressed to the Owner at the last known address

on the Association's records or to the address of the Owner's Lot if no other address for notices has been given in writing by such Owner to the Association. Such address may be changed from time to time by notice in writing to the Association given in compliance with the foregoing.

IN WITNESS WHEREOF, the undersigned, being the Declarant herein, has hereunto set its hands as of the date first above written.

Declarant:

Challenger Development Inc.,
an Idaho corporation

By: _____
Corey D. Barton, President

STATE OF IDAHO)
) ss.
County of Ada)

This record was acknowledged before me on _____, 2019, by Corey D. Barton as the President of Challenger Development Inc.

_____
Signature of Notary Public

My commission expires: _____

EXHIBIT A
LEGAL DESCRIPTION OF THE PROPERTY

Lots 1 through 17, Block 1; Lots 1 through 7, Block 2; Lots 1 through 15, Block 3; Lots 1 through 21, Block 4; Lots 1 through 15, Block 5; and Lots 1 through 3, Block 6, Ledgestone Subdivision No. 1, according to the official plat thereof, filed in Book ___ of Plats at Pages _____ through _____, Records of Ada County, Idaho.

EXHIBIT B

DESCRIPTION OF THE ENTIRE LEDGESTONE SUBDIVISION

See attached.

EXHIBIT C
LEGAL DESCRIPTION OF COMMON LOTS

Lots 1, 15 and 16, Block 1; Lot 1, Block 2; Lots 4, 8 and 12, Block 3; Lots 6, 12 and 17, Block 4; Lots 1 and 14, Block 5; and Lot 2, Block 6, Ledgestone Subdivision No. 1, according to the official plat thereof, filed in Book ___ of Plats at Pages _____ through _____, Records of Ada County, Idaho.

EXHIBIT D

LEDGESTONE SUBDIVISION NO. 1 FINAL PLAT

See attached.

TRAFFIC IMPACT STUDY
FOR
LEDGESTONE SOUTH SUBDIVISION
ADA COUNTY, ID

Prepared for:
TRILOGY DEVELOPMENT, INC.
9839 W. Cable Car Street, Ste. 101
Boise, ID 83709

Prepared By:
WHPacific
AN NV5 COMPANY
2141 W. Airport Way, Ste. 104
Boise, ID 83705
(208) 342-5400

PROFESSIONAL ENGINEER
REGISTERED
11972
10-23-19
STATE OF IDAHO
ROBERT A. BECKMAN

October 23, 2019

October 23, 2019

EXECUTIVE SUMMARY

This study was prepared in accordance with the ADA County Highway District's (ACHD's) requirements for a Traffic Impact Study listed in Section 7106 of the current *ACHD Policy Manual.* It evaluates the traffic impacts associated with the Ledgestone South Subdivision in Kuna, ID. The study area, scope and specific analysis parameters and requirements are the result of an Area of Influence Review performed by the Community Planning Association of Southwest Idaho (COMPASS) and discussion with ACHD. The study's principal findings and recommendations are summarized below.

Proposed Development

1.0 Ledgestone Subdivision is a proposed development consisting of 431 single-family dwelling units on a 95.95 acre parcel located south of Hubbard Road, between Meridian Road (SH 69) and Locust Grove Road located in Ada County, Idaho.

2.0 The development is planned to be constructed over a period of approximately six years, or to the year 2025. Due to the short duration of buildout, an interim evaluation was not required by ACHD.

3.0 The proposed development is expected to generate 4,069 daily trips, 319 AM peak hour trips and 427 PM peak hour trips.

4.0 The primary roadway network serving this proposed subdivision includes the following roadway segments and intersections:

Intersections:

- Hubbard Road and SH69 (Meridian Road)
- Locust Grove Road and Deer Flat Road
- Locust Grove Road and Hubbard Road
- Locust Grove Road and Columbia Road
- Locust Grove Road and Lake Hazel Road
- All site access points

Segments:

- Hubbard Rd between SH69 and Locust Grove Rd
- Hubbard Rd between Locust Grove Rd and Eagle Rd
- Locust Grove Rd between Deer Flat Rd and Hubbard Rd
- Locust Grove Rd between Hubbard Rd and Columbia Rd
- Locust Grove Rd between Columbia Rd and Lake Hazel Rd
- Locust Grove Rd between Lake Hazel Rd and Amity Rd
- All internal collectors

Primary access to the site will be provided via S. Stroebel Road, constructed along the ½ mile alignment, between Meridian Road and Locust Grove Road and an easterly access on Locust Grove Road.

Proposed Mitigation for Existing Traffic

5.0 For the existing traffic conditions analyzed with the existing roadway lane configuration, all study area roadways meet ACHD's minimum operational thresholds. No roadway improvements are needed to mitigate existing traffic.

6.0 For the existing traffic conditions analyzed with the existing intersection control and lane configuration, all study area intersections meet ACHD's minimum operational thresholds. No intersection improvements are needed to mitigate the existing traffic.

Proposed Mitigation for 2025 Background Traffic

7.0 For the 2025 Background traffic conditions analyzed with the existing roadway lane configuration, all study area roadways meet ACHD's minimum operational thresholds. No roadway improvements are needed to mitigate 2025 Background traffic.

8.0 For the 2025 Background traffic conditions analyzed with the existing intersection control and lane configuration, one of the study area intersections does not meet ACHD's minimum operational thresholds. The intersection of Lake Hazel Road and Locust Grove performs poorly in the PM peak hour under AWSC and is expected to meet at least one traffic signal warrant under 2025 Background conditions. While installation of a traffic signal may be a viable option, ACHD's CIP has programmed a single-lane roundabout at this location. Under this scenario, traffic operations are improved to LOS B or better.

Proposed Mitigation for 2025 Site Plus Background Traffic

9.0 For the 2025 Site Plus Background traffic conditions analyzed with the existing roadway lane configuration, all study area roadways meet ACHD's minimum operational thresholds. No roadway improvements are needed to mitigate 2025 Site Plus Background traffic.

10.0 For the 2025 Site Plus Background traffic conditions analyzed with the existing (and 2025 Background improvements) intersection control and lane configuration, all study area intersections meet ACHD's minimum operation thresholds. Therefore, no intersection improvements are needed to mitigate 2025 Site Plus Background traffic.

PROPOSED DEVELOPMENT

Project Description

The Ledgestone Subdivision is a proposed development consisting of 431 single-family dwelling units on a 95.95 acre parcel located south of Hubbard Road, between Meridian Road (SH 69) and Locust Grove Road. Primary access to the site will be provided via S. Stroebel Road, constructed along the ½ mile alignment, between Meridian Road and Locust Grove Road and south of the Mason Creek Ditch on Locust Grove Road. The existing site is currently undeveloped farm land and is zoned Rural Residential (RR). The project proposes to rezone to Medium Density Residential (R6). The proposed site plan is illustrated in Figure 1.

Buildout of the Ledgestone Subdivision is expected to occur over an approximate six-year period, or by 2025. Due to the short duration of buildout an interim phasing is not anticipated.

STUDY APPROACH

This Traffic Impact Study is required by ACHD as part of the development approval process and follows the requirements for Traffic Impact Studies listed in Section 7106 of the current ACHD Policy Manual.

Initial Meeting

Upon discussion with ACHD staff, an initial meeting for purposes of the TIS was deemed unnecessary as ACHD previously met with the developer (Trilogy) to discuss the context of the project. Subsequent to this discussion, the Community Planning Association of Southwest Idaho (COMPASS) performed an Area of Influence model run from which ACHD developed the review limits for the TIS. The proposed development falls within TAZ 1181. The current COMPASS model assumes 6 households (HH) and 0 jobs within this TAZ. Under the proposed development of 431 single-family homes, the total HH equals 437. Using the 2025 forecast year, COMPASS ran the model with and without the proposed development to confirm likely trip impacts. The review concluded that the following intersections and roadway segments be include in the TIS evaluation:

Intersections:

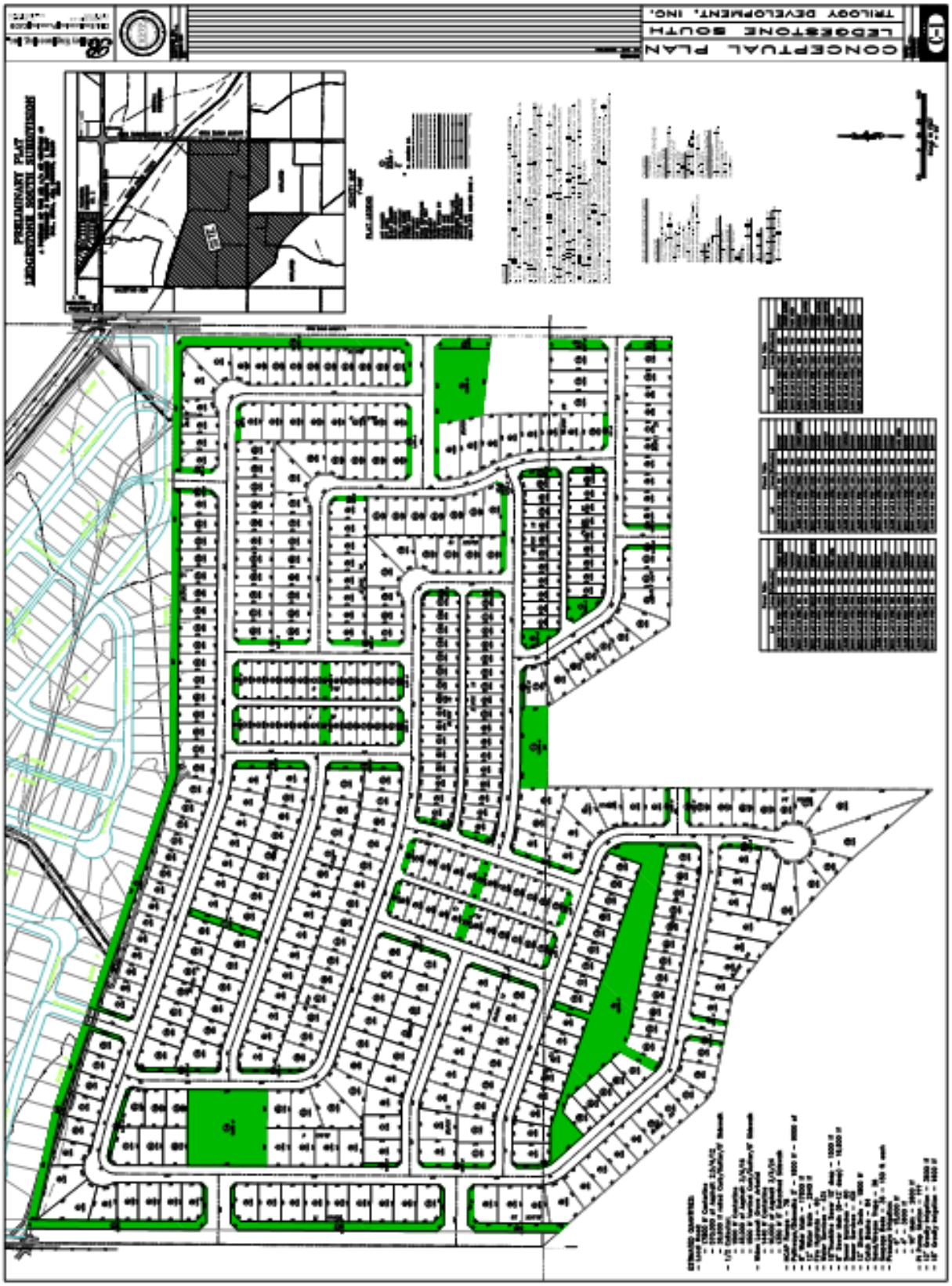
- Hubbard Road and SH69 (Meridian Road)
- Locust Grove Road and Deer Flat Road
- Locust Grove Road and Hubbard Road
- Locust Grove Road and Columbia Road
- Locust Grove Road and Lake Hazel Road
- All site access points

Segments:

- Hubbard Rd between Meridian Rd and Locust Grove Rd
- Hubbard Rd between Locust Grove Rd and Eagle Rd
- Locust Grove Rd between Deer Flat Rd and Hubbard Rd
- Locust Grove Rd between Hubbard Rd and Columbia Rd
- Locust Grove Rd between Columbia Rd and Lake Hazel Rd
- Locust Grove Rd between Lake Hazel Rd and Amity Rd
- All internal collectors

This Area of Influence analysis as provided to ACHD is included in the Appendix.

Figure 1 Proposed Site Plan



Study Area

In accordance with the Area of Influence review performed by COMPASS the following intersections and roadway segments will be reviewed:

Intersections:

- Hubbard Road and SH69 (Meridian Road)
- Locust Grove Road and Deer Flat Road
- Locust Grove Road and Hubbard Road
- Locust Grove Road and Columbia Road
- Locust Grove Road and Lake Hazel Road
- All site access points

Segments:

- Hubbard Rd between Meridian Rd and Locust Grove Rd
- Hubbard Rd between Locust Grove Rd and Eagle Rd
- Locust Grove Rd between Deer Flat Rd and Hubbard Rd
- Locust Grove Rd between Hubbard Rd and Columbia Rd
- Locust Grove Rd between Columbia Rd and Lake Hazel Rd
- Locust Grove Rd between Lake Hazel Rd and Amity Rd
- All internal collectors

Study Period

The study periods will include:

- Existing (2019)
- 2025 Background
- 2025 Site Plus Background (Total)

The following time intervals will be evaluated:

- Weekday AM Peak Hour
- Weekday PM Peak Hour

As this development is comprised entirely of single-family homes, a weekend peak hour review was not deemed necessary.

ANALYSIS OF EXISTING (2019) CONDITIONS

Roadway Network

Table 1 summarizes the characteristics of the roadway network within the study area.

Table 1 – Study Area Roadways

Roadway	Functional Classification	Posted Speed (mph)	Lanes (total)
SH69	Principal Arterial	55	5 (includes TWLTL)
Columbia Road	Minor Arterial	50	2
Hubbard Road	Minor Arterial	45	2
Locust Grove Road	Minor Arterial	50	2

Functional Classification noted in accordance with 2040 Functional Classification Map, COMPASS
TWLTL = Two-Way-Left Turn Lane

All but one of the intersections within the study area are stop-controlled (unsignalized). A four-way stop exists at Locust Grove Road and Columbia Road and Locust Grove and Lake Hazel Road. A two-way stop in the northbound and southbound directions is present at Locust Grove Road and Hubbard Road and Locust Grove and Deer Flat Road. At SH69 and Hubbard Road, a traffic signal is present. Figure 2 illustrates existing lane configuration and traffic control conditions.

Transit Service

Due to the rural nature of the study area no existing transit routes in the vicinity exist. The closest available transit routes are located along Overland Road to the north, with stops in the vicinity of Eagle Road and SH69.

Bicycle and Pedestrian Facilities

No bicycle or pedestrian facilities exist within the study area.

Traffic Volumes

Existing 24-hour counts and intersection turn movement counts were previously collected on Tuesday, August 7, 2018 for the Ledgestone Subdivision TIS (dated October 10, 2018). 24-hour counts were recorded at 1) Hubbard Road, between SH69 and Locust Grove Road and 2) Locust Grove Road, between Hubbard Road and Columbia Road. Intersection turn movement counts were recorded between 7:00 AM – 9:00 AM and 4:00 PM to 6:00 PM in order to isolate the AM and PM peak hour conditions. Intersection count locations included 1) Hubbard Road and Meridian Road, 2) Hubbard Road and Locust Grove Road and 3) Locust Grove Road and Columbia Road. To augment this data additional 24-hour counts were recorded on September 10, 2019 at 1a) Locust Grove Road, between Hubbard Rd and Deer Flat Road and 2b) Locust Grove Road, between Columbia Road and Lake Hazel Road. Additional intersection turn movement counts were recorded at 1a) Locust Grove Road Lake Hazel Road and 2b) Locust Grove Road and Deer Flat Road. Figure 3 illustrates existing 24-hour and intersection turn movement counts. Detailed count summaries are also included in the Appendix.

Intersection Crash Data

The most current crash data (2012–2017) as documented by the Local Highway Technical Assistance Council (LHTAC) website (http://gis.lhtac.org/safety/) was reviewed. Table 2 summarizes crash records at each of the study area intersections.

Table 2 – Intersection Crash Data (2012-2017)

Intersection	Total Crashes	PDO/Injury/Fatal
SH69 and Hubbard Rd	23	11/12/0
Locust Grove Rd and Deer Flat Rd	5	3/2/0
Locust Grove Rd and Hubbard Rd	3	1/2/0
Locust Grove Rd and Columbia Rd	8	3/5/0
Locust Grove Rd and Lake Hazel Rd	3	2/1/0

Crash frequencies are relatively low at each of the study area intersections. Also, it should be noted that crash data at SH69 and Hubbard Road includes years prior to installation of a traffic signal at that location. According to the Crash Modifications Factors Clearinghouse

Figure 2 Existing Lane Configuration and Traffic Control

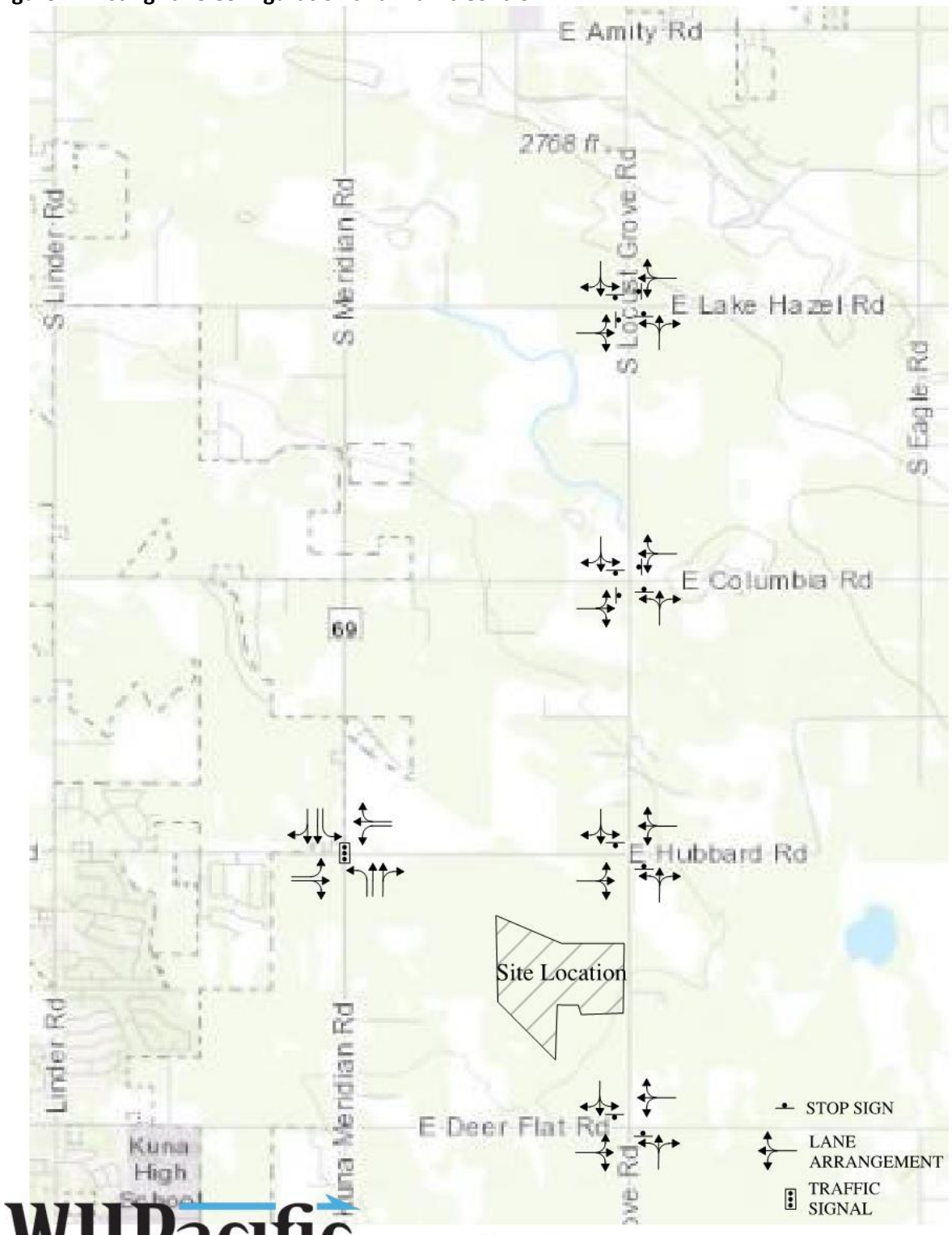


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Figure 2
Existing Lane Configuration and Traffic Control

Figure 3 Existing Traffic Volumes

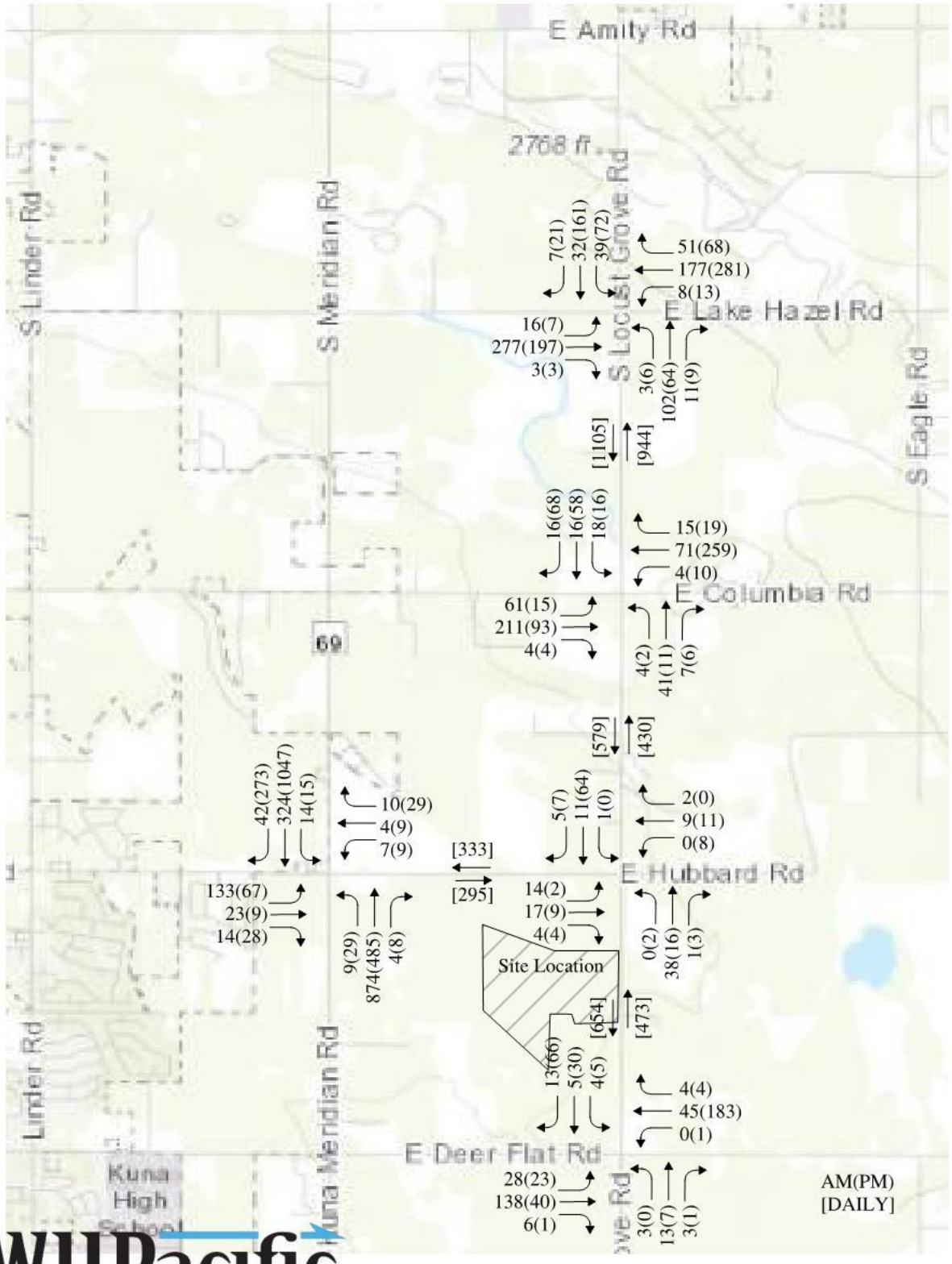

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Figure 3
Existing Traffic Volumes

(http://www.cmfclearinghouse.org), installation of a traffic signal has the potential to reduce crashes up to 77%, although data is highly variable.

Level-of-Service Roadway Segments

ACHD has developed level-of-service (LOS) thresholds for roadway segments based on directional peak hour volumes for various roadway functional classifications, number of lanes and left-turn treatments. Based on the current *ACHD Policy Manual*, the minimum acceptable LOS for a roadway segment is LOS E for principal arterials and minor arterials, and LOS D for collectors. Table 3 summarizes ACHD's LOS thresholds for roadway segments.

Table 3 – ACHD LOS Thresholds for Roadway Segments

Functional Classification	Lanes		
		LOS D	LOS E
Principal Arterials			
No Left-Turn Lanes			
	1	600	690
Continuous Center Left-Turn Lane			
	1	770	880
	2	1680	1780
	3	2560	2720
Median-Control, Channelized Left-Turn Lanes @ Major Intersections			
	1	850	920
	2	1860	1960
	3	2800	3000
Minor Arterials			
No Left-Turn Lane			
	1	540	575
Unrestricted Median, Continuous Left-Turn Lane			
	1	675	720
	2	1395	1540
	3	2155	2370
Median-Control, Channelized Left-Turn Lanes @ Major Intersections			
	1	710	770
	2	1465	1670
	3	2270	2530
Collectors			
No Left-Turn Lanes			
	1	425	525
Unrestricted Median, Continuous Left-Turn Lane			
	1	530	660
	2	1080	1250

Table 4 summarizes the existing LOS for the roadway segments in the study area. As noted, all roadway segments currently operate at LOS D or better under the current lane configuration and traffic volumes. No roadway improvements are needed to mitigate existing traffic conditions.

Table 4 – Roadway Segment LOS – Existing (2019) Traffic

Roadway Segment	Functional Class	No. of Thru Lanes	Left-Turn Treatment	Threshold Volume		AM Peak Hour Major Direction		PM Peak Hour Major Direction	
				LOS D	LOS E	Vol (vph)	LOS	Vol (vph)	LOS
Hubbard Rd, SH69 to Locust Grove Rd	Minor Arterial	1	No LT Lane	540	575	35	< D	47	< D
Hubbard Rd, Locust Grove to Eagle	Minor Arterial	1	No LT Lane	540	575	19	< D	19	< D
Locust Grove Rd, Deer Flat to Hubbard	Minor Arterial	1	No LT Lane	540	575	39	< D	101	< D
Locust Grove Rd, Hubbard to Columbia	Minor Arterial	1	No LT Lane	540	575	52	< D	71	< D
Locust Grove Rd, Columbia to Lake Hazel	Minor Arterial	1	No LT Lane	540	575	116	< D	142	< D
Locust Grove Rd, Lake Hazel to Amity	Minor Arterial	1	No LT Lane	540	575	169	< D	254	< D

Level-of-Service Intersections

Intersection LOS was evaluated using *Highway Capacity Software (HCS7)*. In accordance with the *ACHD Policy Manual*, the maximum overall v/c ratio is 0.90 for signalized intersection. For unsignalized intersections, the intersection v/c ratio is undefined. The maximum lane group v/c ratio for signalized and unsignalized intersections is 1.0. Each of the intersections within the study area was evaluated under existing traffic control, lane configuration and peak hour volumes. *HCS7* Reports are included in the Appendix and results are summarized in Table 5.

Table 5 – Intersection Traffic Operations – Existing (2019) Traffic

Intersection	Traffic Control Lane Group	AM LOS/Delay/v/c	PM LOS/Delay/v/c
Hubbard Rd/ SH69	Traffic Signal	C/27.1	C/24.3
	Eastbound	B/12.2/0.05	C/20.5/0.07
	Westbound	B/14.5/0.02	C/23.2/0.08
	Northbound	C/31.6/0.87	B/19.5/0.18
	Southbound	C/24.6/0.36	C/28.6/0.90

Deer Flat/ Locust Grove	TWSC	NR	NR
	Eastbound	A/7.4/0.02	A/7.7/0.9/0.02
	Westbound	A/7.6/0.00	A/7.3/0.00
	Northbound	B/10.8/0.03	B/10.9/0.01
	Southbound	A/9.6/0.03	A/10.9/0.16
Hubbard/ Locust Grove	TWSC	NR	NR
	Eastbound	A/7.3/0.01	A/7.3/0.00
	Westbound	A/7.3/0.00	A/7.3/0.01
	Northbound	A/9.7/0.06	A/9.3/0.03
	Southbound	A/9.2/0.02	A/9.6/0.09
Columbia/ Locust Grove	AWSC	A/9.8	A/9.5
	Eastbound	B/10.7/NR	A/8.6/NR
	West bound	A/8.3/NR	B/10.2/NR
	Northbound	A/8.5/NR	A/8.1/NR
	Southbound	A/8.5/NR	A/8.8/NR
Lake Hazel/ Locust Grove	AWSC	B/10.5	B/14.2
	Eastbound	B/11.4/NR	B/12.1/NR
	Westbound	B/10.3/NR	C/16.3/NR
	Northbound	A/9.7/NR	B/10.4/NR
	Southbound	A/9.4/NR	B/13.9/NR

Worst movement LOS reported at each approach
NR = not reported
TWSC = Two-way stop control
AWSC = All-way stop control

All study area intersections currently operate at acceptable, LOS D or better, conditions. Reported v/c ratios are also under 1.0. No intersection improvements are needed to mitigate existing traffic conditions.

ANALYSIS OF 2025 BACKGROUND TRAFFIC CONDITIONS

Roadway Network

Both the ACHD *Five-Year Work Plan (FYWP)* and the *ACHD Capital Improvements Plan (CIP)* were reviewed for purposes of the study. The currently adopted *FYWP* identifies projects programmed from 2020 to 2024 while the *CIP* is a long-range (20 years) transportation plan identifying existing transportation facilities, existing deficiencies, and future improvement needs. The are no projects noted in the *FYWP* for the specific TIS review area. Long-term projects are planned at the intersections of Deer Flat and SH69, and Hubbard and SH69, and Lake Hazel Road and Locust Grove Road. At both SH69 locations, this includes traffic signal improvements and reconstruction/widening of approaches, between the years 2031 and 2035. At Lake Hazel Road and Locust Grove Road, a roundabout is planned between the years 2026 and 2030. As this work is programmed beyond the TIS review period, these projects will not be included, unless needed to achieve acceptable traffic operations in 2025.

Transit Service

Valley Regional Transit (VRT) has recently adopted (April 2018) *ValleyConnect 2.0* which is a plan for long-range transit service and related capital projects. Scenarios considered in this plan include linking Kuna to Meridian via SH69. As of now the plan is dependent on securing various funding sources and actual projects or programmed improvements are not defined. As such, no further improvements beyond the existing transit network are assumed for the project study area.

Bicycle and Pedestrian Facilities

ACHD's current *FYWP* and *CIP* do not include bicycle or pedestrian improvement projects designated for the study roadways.

Traffic Volumes

The COMPASS Area of Influence review was considered to estimate a growth rate between the years 2019 and 2025. Along Locust Grove Road, the COMPASS projected annual growth ranges from 13.2% to 28.4% between Deer Flat Road and Lake Hazel Road. This annual growth rate is even more dramatic along Hubbard Road ranging from 55.6% to 67.3%. Under the previous Ledgestone TIS review, ACHD staff recognized that growth rates this high should not be applied to existing volumes. As a secondary option and to remain consistent with other developments in the area, the *Patagonia Subdivision TIS, Thompson Engineers, Revised November 30, 2018* was reviewed. This TIS considered very similar traffic COMPASS growth projections along Locust Grove Road and Hubbard Road and ultimately settled on annual growth rates of 4% per year on SH69, and 10% per year on all ACHD roadways, in concurrence with ACHD. These growth rates were replicated for purposes of this TIS.

In order to forecast future 2025 AM and PM peak hour background conditions, the existing traffic counts were factored by these respective growth rates. Additionally, as traffic counts were recorded during different periods in 2018 and 2019 some minor volume imbalances were noted between intersections. Therefore, after applying the growth rates to the existing traffic counts, balancing was also completed using standard iterative methods. Resultant 2025 background volumes are depicted in Figure 4.

Off-Site Development

As indicated previously, other development is planned in the vicinity between Hubbard Road and Columbia Road. This entitled development is reflected in the COMPASS demographic data for 2025 background conditions.

Level-of-Service Roadway Segments

Table 6 summarizes the 2025 background LOS for the roadway segments in the study area. As noted, all roadway segments are projected to operate at LOS D or better under the current lane configuration and 2025 background traffic volumes. Therefore, no roadway improvements are needed to mitigate 2025 background traffic conditions.

Figure 4 2025 Background Peak Hour Traffic Volumes

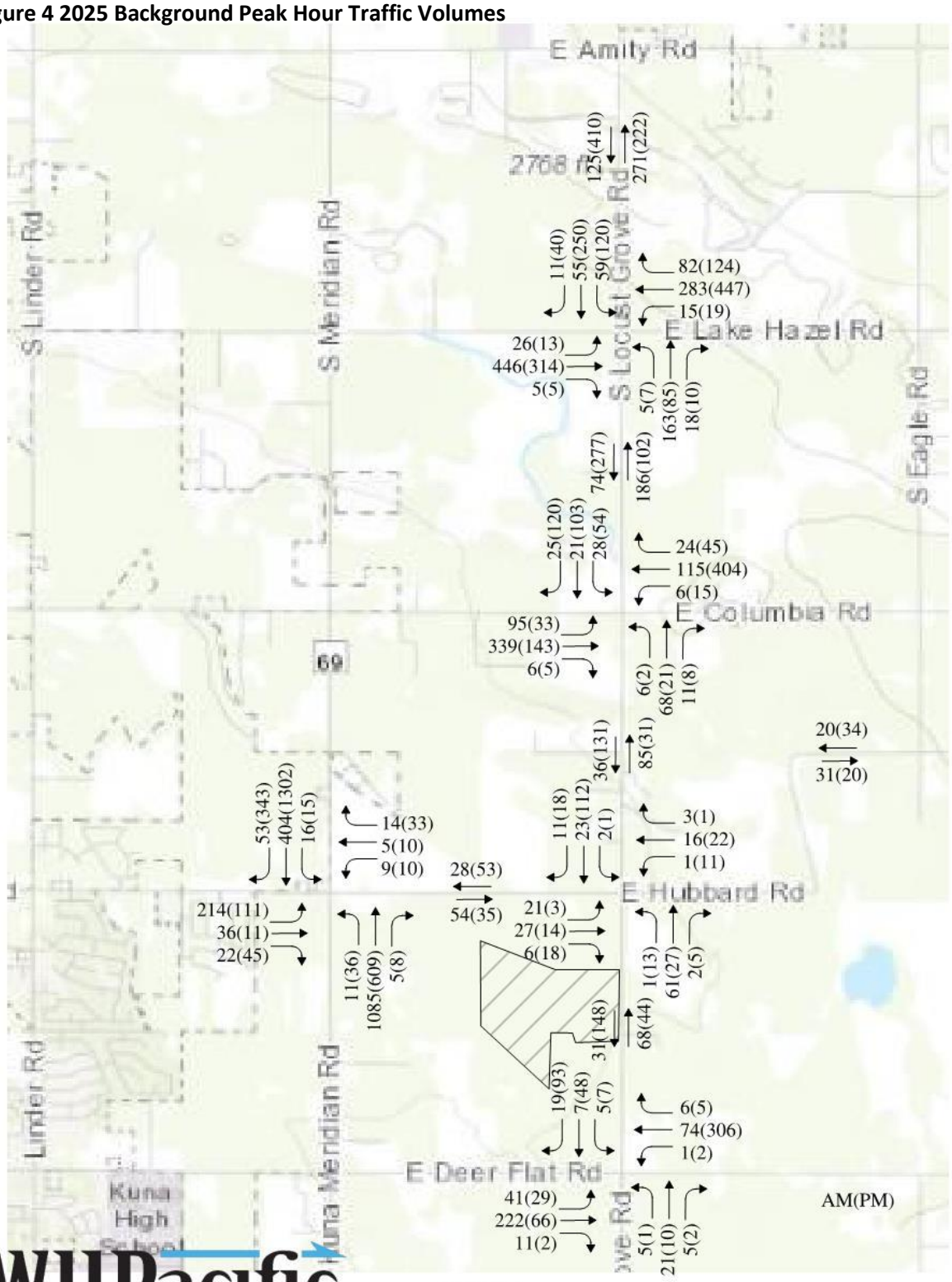

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Figure 4
2025 Background Peak
Hour Traffic Volumes

Table 6 – Roadway Segment LOS – 2025 Background Traffic

Roadway Segment	Functional Class	No. of Thru Lanes	Left-Turn Treatment	Threshold Volume		AM Peak Hour Major Direction		PM Peak Hour Major Direction	
				LOS D	LOS E	Vol (vph)	LOS	Vol (vph)	LOS
Hubbard Rd, SH69 to Locust Grove Rd	Minor Arterial	1	No LT Lane	540	575	54	< D	53	< D
Hubbard Rd, Locust Grove to Eagle	Minor Arterial	1	No LT Lane	540	575	31	< D	34	< D
Locust Grove Rd, Deer Flat to Hubbard	Minor Arterial	1	No LT Lane	540	575	68	< D	148	< D
Locust Grove Rd, Hubbard to Columbia	Minor Arterial	1	No LT Lane	540	575	85	< D	131	< D
Locust Grove Rd, Columbia to Lake Hazel	Minor Arterial	1	No LT Lane	540	575	186	< D	277	< D
Locust Grove Rd, Lake Hazel to Amity	Minor Arterial	1	No LT Lane	540	575	271	< D	410	< D

Level-of-Service Intersections

Each of the intersections within the study area was evaluated under existing traffic control, lane configuration and 2025 background peak hour volumes. *HCS7* Reports are included in the Appendix and results are summarized in Table 7.

Table 7 – Intersection Traffic Operations – 2025 Background Traffic

Intersection	Traffic Control Lane Group	AM LOS/Delay/v/c	PM LOS/Delay/v/c
Hubbard Rd/ SH69	Traffic Signal	C/24.4	C/22.7
	Eastbound	B/16.0/0.09	C/28.7/0.16
	Westbound	C/21.0/0.04	C/32.8/0.16
	Northbound	C/28.3/0.88	B/19.0/0.22
	Southbound	C/21.4/0.12	C/28.8/0.92

Intersection	Traffic Control Lane Group	AM LOS/Delay/v/c	PM LOS/Delay/v/c
Deer Flat/ Locust Grove	TWSC	NR	NR
	Eastbound	A/7.5/0.03	A/8.1/0.03
	Westbound	A/7.8/0.00	A/7.4/0.00
	Northbound	B/12.3/0.07	B/12.6/0.03
	Southbound	B/10.4/0.05	B/13.5/0.28
Hubbard/ Locust Grove	TWSC	NR	NR
	Eastbound	A/7.3/0.01	A/7.3/0.01
	Westbound	A/7.3/0.00	A/7.3/0.01
	Northbound	B/10.1/0.09	A/9.9/0.06
	Southbound	A/9.5/0.05	B/10.3/0.17
Columbia Rd/ Locust Grove	AWSC	B/13.1	B/14.4
	Eastbound	C/15.7/NR	B/10.6/NR
	Westbound	A/9.4/NR	C/17.5/NR
	Northbound	A/9.6/NR	A/9.4/NR
	Southbound	A/9.4/NR	B/11.7/NR
Lake Hazel/ Locust Grove	AWSC	C/23.7	F/98.0
	Eastbound	D/32.6/NR	D/32.6/NR
	Westbound	C/20.8/NR	F/180.0/NR
	Northbound	B/14.3/NR	C/15.2/NR
	Southbound	B/13.0/NR	F/53.4/NR
Lake Hazel/ Locust Grove	***Roundabout***	A/7.7	B/10.2
	Eastbound	A/7.9/0.45	A/9.3/0.42
	Westbound	A/8.0/0.43	A/9.2/0.54
	Northbound	A/8.2/0.28	A/5.9/0.14
	Southbound	A/5.2/0.14	B/13.4/0.57

Worst movement LOS reported at each approach
NR = not reported
TWSC = Two-way stop control
AWSC = All-way stop control

The all-way stop at Lake Hazel Road and Locust Grove operates poorly under 2025 PM Peak Hour (Background traffic) conditions. ACHD Policy requires that intersections operating at LOS D or worse be evaluated for signalized control in accordance with the *Manual on Uniform Traffic Control Devices (MUTCD)* procedures. In accordance with these procedures, hourly traffic conditions were estimated based on projected 2025 peak hour volumes and the hourly distribution of daily traffic volumes, as recorded by the existing 24-hour counts (on Locust Grove, between Columbia Road and Lake Hazel Road). Under this scenario, it appears that this intersection would meet at least one warrant (Warrant 2, Four-Hour Vehicular Volume) for a traffic signal. For further review, the detailed signal warrant analysis is provided in the Appendix. While a traffic signal may be a viable option for this intersection, the long-term plan (2026 – 2030) for this intersection is a single lane roundabout. Desirably the maximum lane group v/c ratio for roundabouts is 0.85. Evaluation of this intersection with a single-lane roundabout yields very favorable traffic operations. As such, the subsequent intersection capacity analysis (2025 Site Plus Background) at this location will be completed assuming roundabout control.

ANALYSIS OF 2025 TOTAL (SITE PLUS BACKGROUND) TRAFFIC CONDITIONS

Trip Generation

The number of trips generated by the proposed development was estimated using rates provide in the *ITE Trip Generation Manual, 10th Edition.* Table 8 provides a summary of these results for Daily, AM Peak Hour and PM Peak hour conditions.

Table 8 – 2025 Trip Generation Summary

Land Use Category	ITE Code	Size	Period	Trip Rate	Total Trips	Enter		Exit	
Single Family Detached Housing	210	431 DU	Weekday (vpd)	9.44	4069	50%	2034	50%	2035
			AM Peak Hr(vph)	0.74	319	25%	80	75%	239
			PM Peak Hr(vph)	0.99	427	63%	269	37%	158

Trip Distribution and Assignment

Site traffic was distributed in consideration of existing travel patterns, site layout and the generalized development within this area. These preliminary assumptions were also reviewed with ACHD for concurrence and are summarized as follows:

- SH69 (North) 35%
- SH69 (South) 5%
- Locust Grove Rd (North) 40%
- Locust Grove Rd (South) 5%
- Hubbard Rd (East) to Eagle Rd 15%

Generally, this distribution assumes that 90% of traffic origins and destinations are to the north and east and 10% are to the south. Figure 5 illustrates the resultant site traffic distribution.

Site Plus Background Traffic

Site traffic was added to the 2025 Background traffic in order to produce the 2025 Site Plus Background (Total) traffic conditions with the proposed development. Figure 6 illustrates the resultant traffic volumes for AM and PM peak hour conditions. Figure 7 depicts the percent increase realized by site generated traffic at each intersection (as compared to 2025 background volumes).

Level-of-Service Roadway Segments

Table 9 summarizes the 2025 Site Plus Background (Total) LOS for the roadway segments in the study area. As noted, all roadway segments are projected to operate at LOS D or better under the current or previously improved lane configuration and 2025 Site Plus Background volumes. No roadway improvements are needed to mitigate these conditions.

Figure 5 Estimated Peak Hour Site Traffic Volumes



Figure 5
Estimated Peak Hour
Site Traffic Volumes

Figure 6 2025 Site Plus Background Traffic Volumes

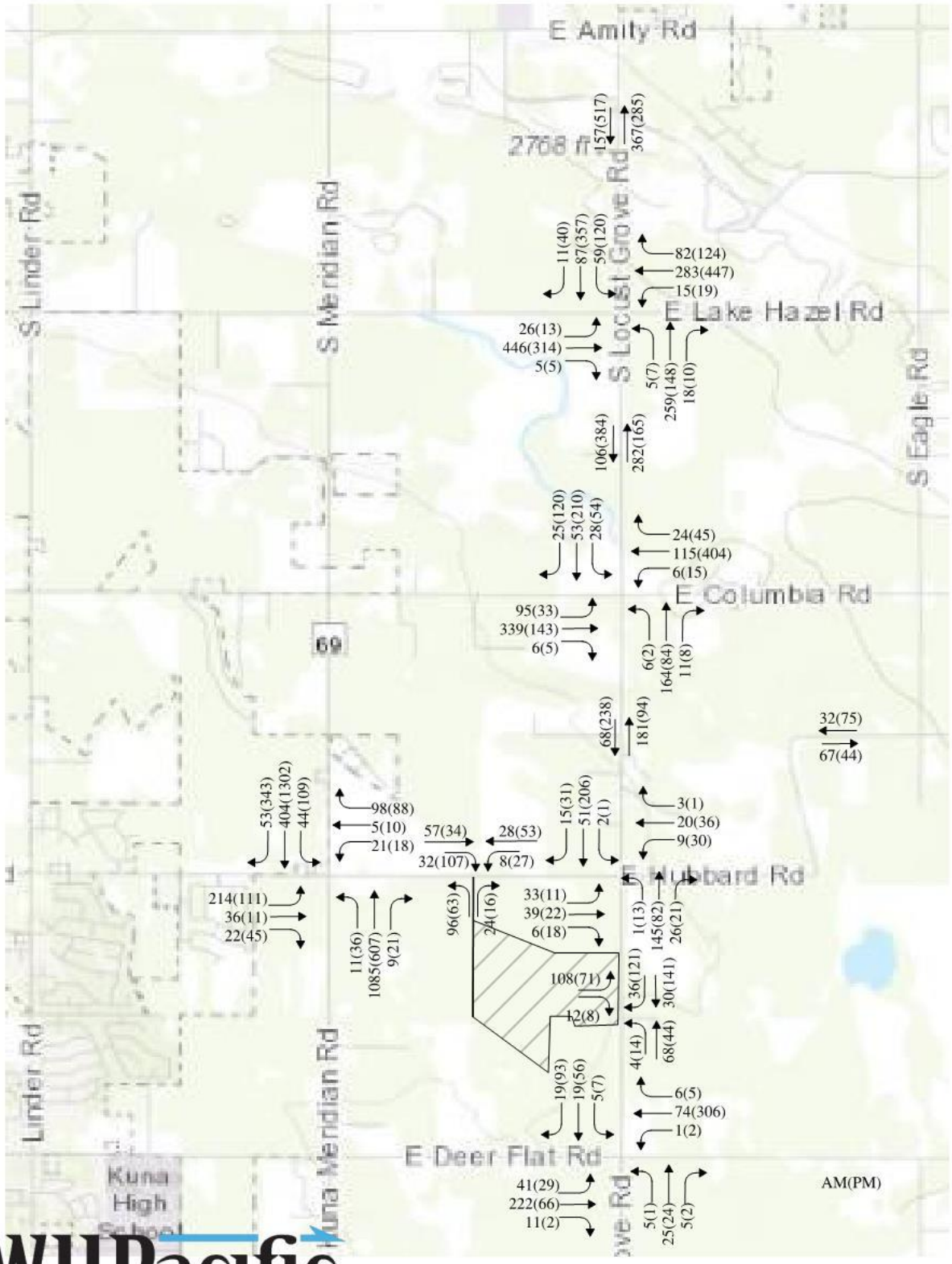


Figure 6
2025 Site Plus Background
Peak Hour Traffic Volumes

Figure 7 Projected Percent Increase

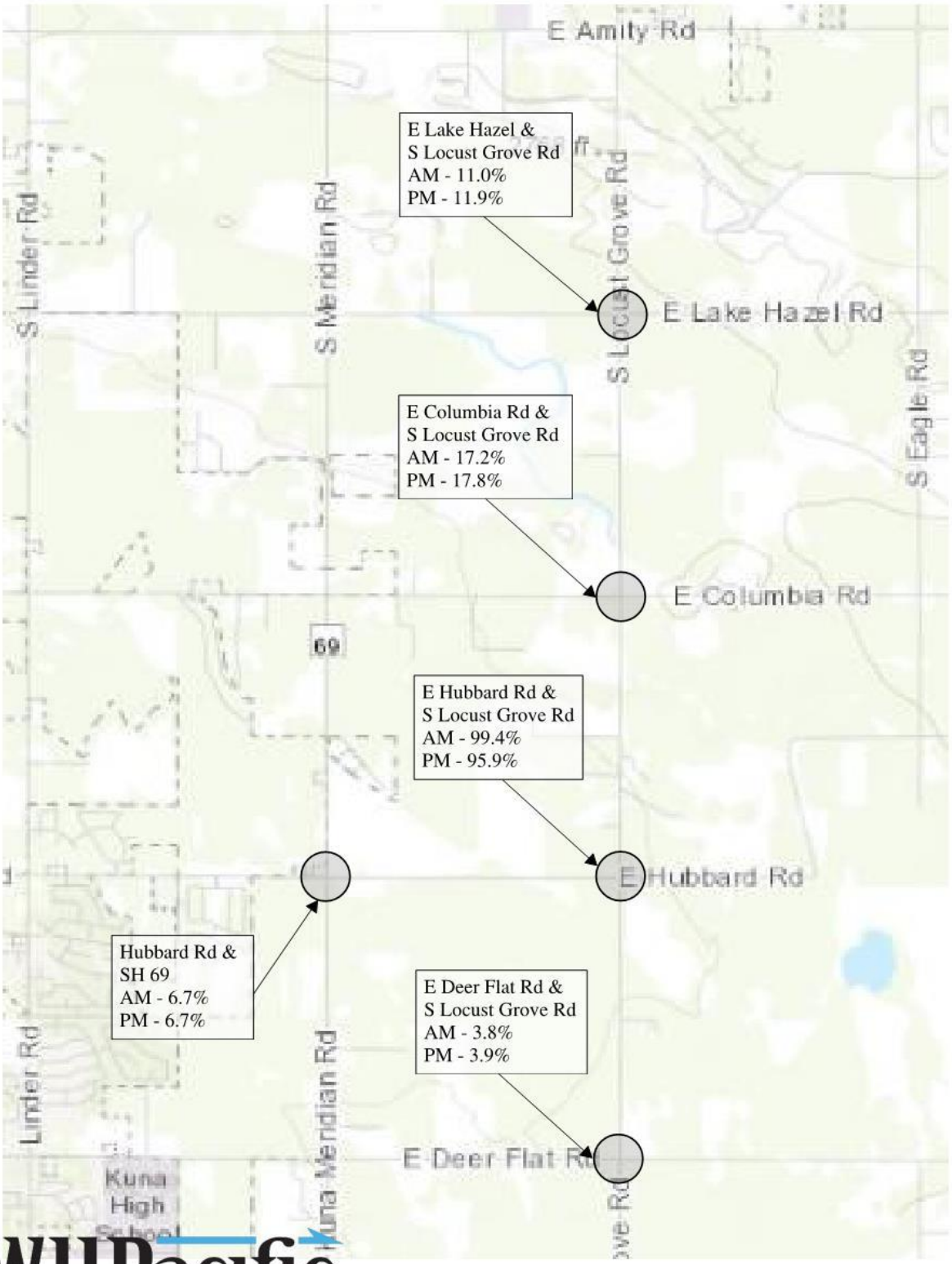


Figure 7
Projected Total Percent Increase
(from 2025 Background Volume)

Table 9 – Roadway Segment LOS – 2025 Site Plus Background Traffic

Roadway Segment	Functional Class	No. of Thru Lanes	Left-Turn Treatment	Threshold Volume		AM Peak Hour Major Direction		PM Peak Hour Major Direction	
				LOS D	LOS E	Vol (vph)	LOS	Vol (vph)	LOS
Hubbard Rd, SH69 to Locust Grove Rd	Minor Arterial	1	No LT Lane	540	575	124	< D	141	< D
Hubbard Rd, Locust Grove to Eagle	Minor Arterial	1	No LT Lane	540	575	67	< D	75	< D
Locust Grove Rd, Deer Flat to Hubbard	Minor Arterial	1	No LT Lane	540	575	172	< D	262	< D
Locust Grove Rd, Hubbard to Columbia	Minor Arterial	1	No LT Lane	540	575	181	< D	238	< D
Locust Grove Rd, Columbia to Lake Hazel	Minor Arterial	1	No LT Lane	540	575	282	< D	384	< D
Locust Grove Rd, Lake Hazel to Amity	Minor Arterial	1	No LT Lane	540	575	367	< D	517	< D

Level-of-Service Intersections

Each of the intersections within the study area was evaluated under existing (or previously mitigated) traffic control, lane configuration and 2025 site plus background peak hour volumes. *HCS7* Reports are included in the Appendix and results are summarized in Table 10.

Table 10 – Intersection Traffic Operations – 2025 Site Plus Background Traffic

Intersection	Traffic Control Lane Group	AM LOS/Delay/v/c	PM LOS/Delay/v/c
Hubbard Rd/ SH69	Traffic Signal	C/24.4	C/23.0
	Eastbound	B/18.3/0.10	C/29.6/0.17
	Westbound	C/25.3/0.24	D/36.9/0.38
	Northbound	C/28.5/0.88	B/19.9/0.22
	Southbound	C/20.6/0.25	C/28.8/0.92
Deer Flat/ Locust Grove	TWSC	NR	NR
	Eastbound	A/7.5/0.03	A/8.1/0.03
	Westbound	A/7.8/0.00	A/7.4/0.00
	Northbound	B/12.5/0.08	B/13.1/0.06
	Southbound	B/11.2/0.08	B/13.9/0.30

Intersection	Traffic Control Lane Group	AM LOS/Delay/v/c	PM LOS/Delay/v/c
Hubbard/ Locust Grove	TWSC	NR	NR
	Eastbound	A/7.3/0.02	A/7.3/0.01
	Westbound	A/7.3/0.01	A/7.4/0.03
	Northbound	B/11.6/0.26	B/11.4/0.18
	Southbound	B/10.3/0.10	B/12.9/0.36
Columbia/ Locust Grove	AWSC	C/15.6	C/22.9
	Eastbound	C/20.1/NR	B/13.3/NR
	Westbound	B/10.5/NR	D/29.8/NR
	Northbound	B/11.9/NR	B/11.8/NR
	Southbound	B/10.6/NR	C/21.9/NR
Lake Hazel/ Locust Grove	***Roundabout***	A/8.6	B/13.1
	Eastbound	A/8.3/0.46	B/11.4/0.48
	Westbound	A/8.7/0.43	B/10.6/0.58
	Northbound	B/10.5/0.42	A/6.9/0.22
	Southbound	A/5.5/0.18	C/19.2/0.72
Stroebel/ Hubbard	TWSC	NR	NR
	Eastbound	NR	NR
	Westbound	A/7.4/0.01	A/7.6/0.02
	Northbound	A/9.8/0.15	B/10.1/0.11
Locust Grove/ East Access (South of Rio Vallegas)	TWSC	NR	NR
	Eastbound	A/9.9/0.15	B/10.9/0.12
	Northbound	A/7.4/0.00	A/7.9/0.01
	Southbound	NR	NR

Bold, italics indicates changed condition from existing
Worst movement LOS reported at each approach
NR = not reported
TWSC = Two-way stop control
AWSC = All-way stop control

All intersections operate favorably under the existing with improved traffic control conditions (roundabout at Lake Hazel Road and Locust Grove Road) and 2025 Site Plus Background traffic conditions. The only location showing signs of nearing capacity under this scenario is the southbound right turn at SH69 and Hubbard Road which operates at a v/c ratio of 0.92.

Turn Lane Analysis

As indicated by the proposed site plan, two new full access approaches are planned for the Ledgestone South development. One is located at the one-half mile point between SH69 and Locust Grove, known as Stroebel Road, and the other is off Locust Grove, south of Mason Creek Ditch. Each site access approach forms a T-intersection with the existing roadway and is proposed to be stop-controlled. As noted in the above stop-controlled analysis both locations are expected to operate under favorable LOS and v/c conditions.

A turn lane analysis was further conducted at each of the locations using the turn lane threshold graphs provided in the ACHD Policy. While neither location appears to warrant a left turn lane, and a right turn lane is not warranted at Stroebel Road; a right turn lane appears to be warranted in the southbound direction at the Locust Grove Road access south of E. Rio Vallegas Street.

SUMMARY OF RESULTS

The study's key findings are summarized below.

Existing Traffic Conditions

1. For the existing traffic conditions analyzed with the existing roadway lane configuration, all study area roadway segments meet ACHD's minimum operational thresholds. Therefore, no roadway improvements are needed to mitigate the existing traffic.
2. For the existing traffic conditions analyzed with the existing intersection control and lane configuration, all study area intersections meet ACHD's minimum operational thresholds. Therefore, no intersection improvements are needed to mitigate the existing traffic.

2025 Background Traffic Conditions

3. There are no planned improvements to the study roadways or intersections by 2025 according to ACHD's current *FYWP* and *CIP*.
4. For the 2025 Background traffic conditions analyzed with the existing roadway lane configuration, all study area roadway segments meet ACHD's minimum operational thresholds. Therefore, no roadway improvements are needed to mitigate 2025 Background traffic.
5. For the 2025 Background traffic conditions analyzed with the existing intersection control and lane configuration, one of the study area intersections does not meet ACHD's minimum operational thresholds. The intersection of Lake Hazel Road and Locust Grove performs poorly in the PM peak hour under AWSC and is expected to meet at least one traffic signal warrant under 2025 Background conditions. While installation of a traffic signal may be a viable option, ACHD's CIP has programmed a single-lane roundabout at this location. Under this scenario, traffic operations are improved to LOS B or better.

2025 Site Plus Background Traffic Conditions

6. This scenario reflects the full buildout of 431 single family dwelling units which is expected to generate 4,069 daily trips, 319 AM peak hour trips, and 427 PM peak hour trips.
7. Site traffic is anticipated to have the following general distribution pattern:
    - SH69 (North) 35%
    - SH69 (South) 5%
    - Locust Grove Rd (North) 40%
    - Locust Grove Rd (South) 5%
    - Hubbard Rd (East) to Eagle Rd 15%
8. For the 2025 Site Plus Background traffic conditions analyzed with the existing roadway lane configuration, all study area roadway segments meet ACHD's minimum operation thresholds. Therefore, no roadway improvements are needed to mitigate the 2025 Site Plus Background traffic.
9. For the 2025 Site Plus Background traffic conditions analyzed with the existing (and 2025 Background improvements) intersection control and lane configuration, all study area intersections meet ACHD's minimum operational thresholds. Therefore, no further intersection improvements are needed to mitigate the 2025 Site Plus Background traffic.
10. Two full access (T-intersection approaches) at Hubbard Road and S. Stroebel Road, and Locust Grove Road and East Access will serve primary access to the subdivision. With the 2025 Site Plus

Background traffic conditions, stop control and the proposed lane configuration, the critical minor movements at the proposed site access intersections are expected to operate at LOS B or better.

11. With the 2025 Site Plus Background traffic conditions, turn lane warrants are satisfied as follows:
    - Locust Grove and E. Access – southbound right turn lane

APPENDIX

Ledgestone South Proposed Development

The following summarizes the results of an area of influence model run for a proposed development located southwest of Hubbard and Locust Grove Roads. The proposed development will consist of 431 residential units. The anticipate build out is 2025. See figure 1.

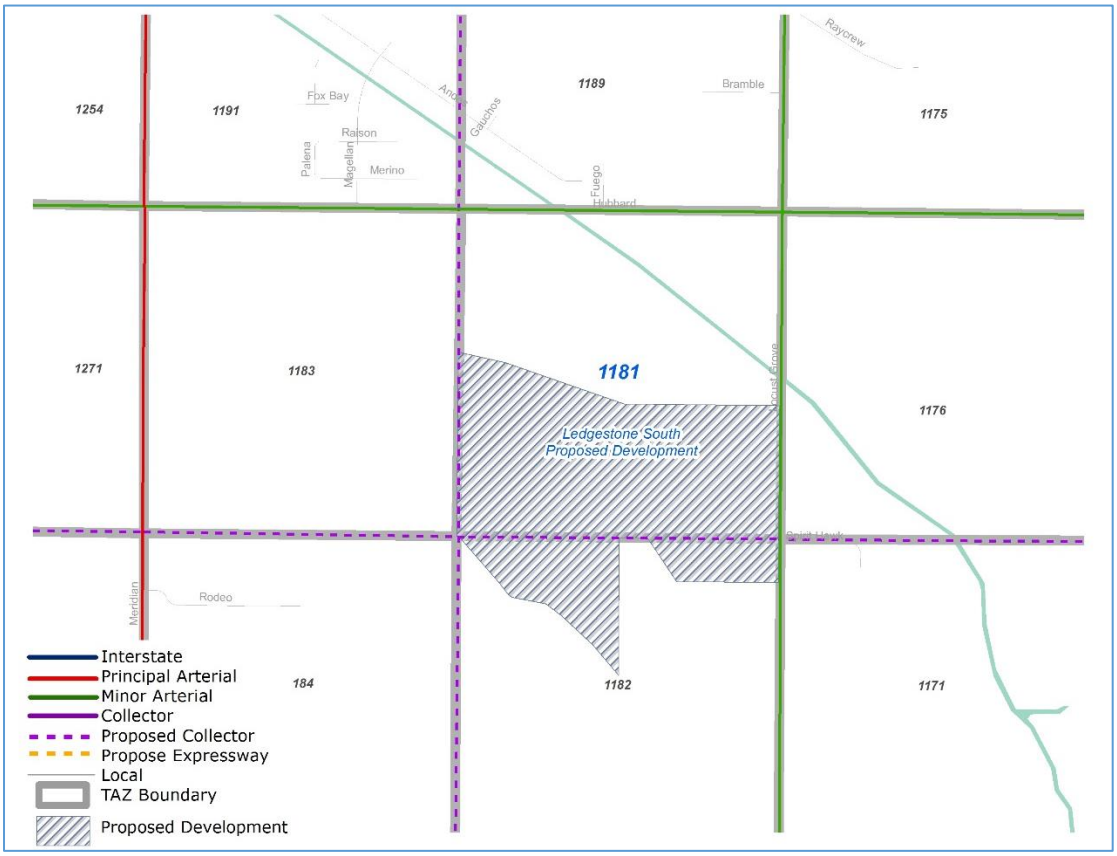


Figure 1

Table 1 provides the existing demographics for TAZ 1181 and the proposed development's demographics used for the area of influence model run.

Table 1

	2019		2025 with proposal		2040	
	HH	Jobs	HH	Jobs	HH	Jobs
TAZ 1181	6	0	**437**	**0**	6	1
Surrounding TAZs	*134*	*55*	*456*	*202*	*1001*	*565*
Total	140	55	893	202	1007	566

Figure 2: area of influence results for the proposed development
Figures 3 and 4: peak hour results
Figure 5: surrounding TAZs and demographics
Figures 6, 7 and 8: compounded annual growth rates
Figures 9 and 10: Cumulative Impact Analysis

Figure 2: Area of Influence, Peak hour demand contribution to the total peak hour demand

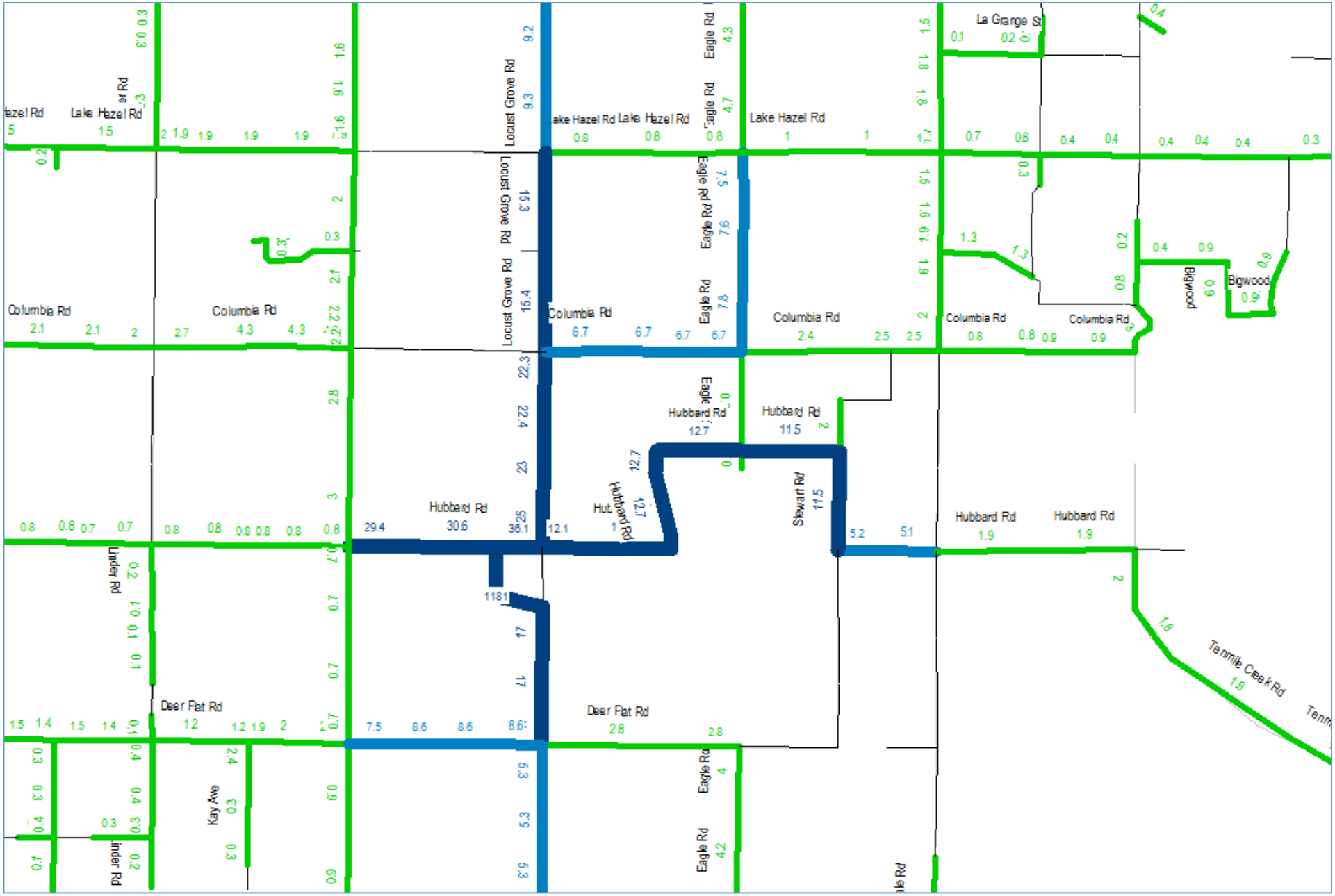


Figure 3: Peak Hour Demand with Proposed Development

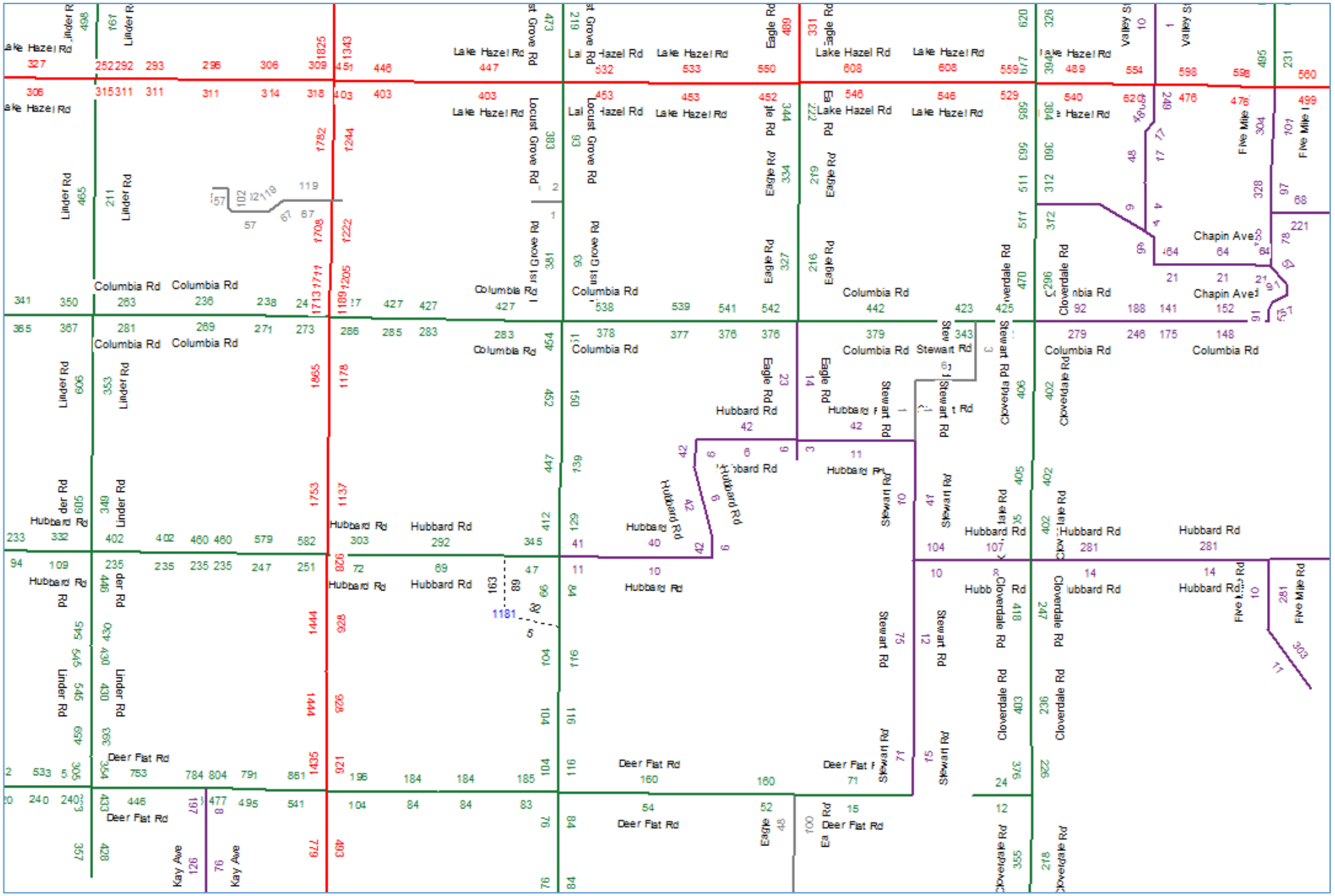


Figure 4: Peak Hour Demand without Proposed Development

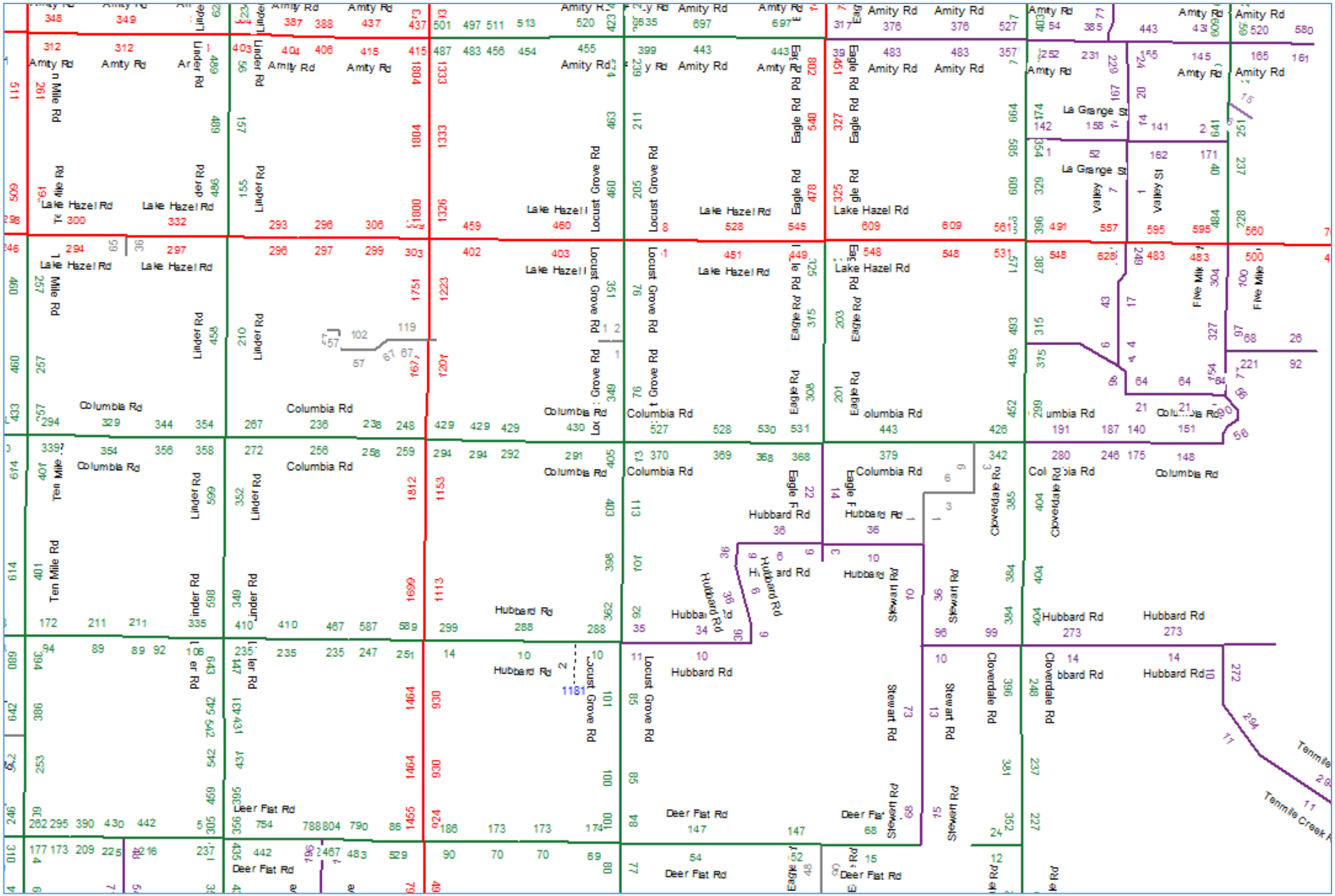
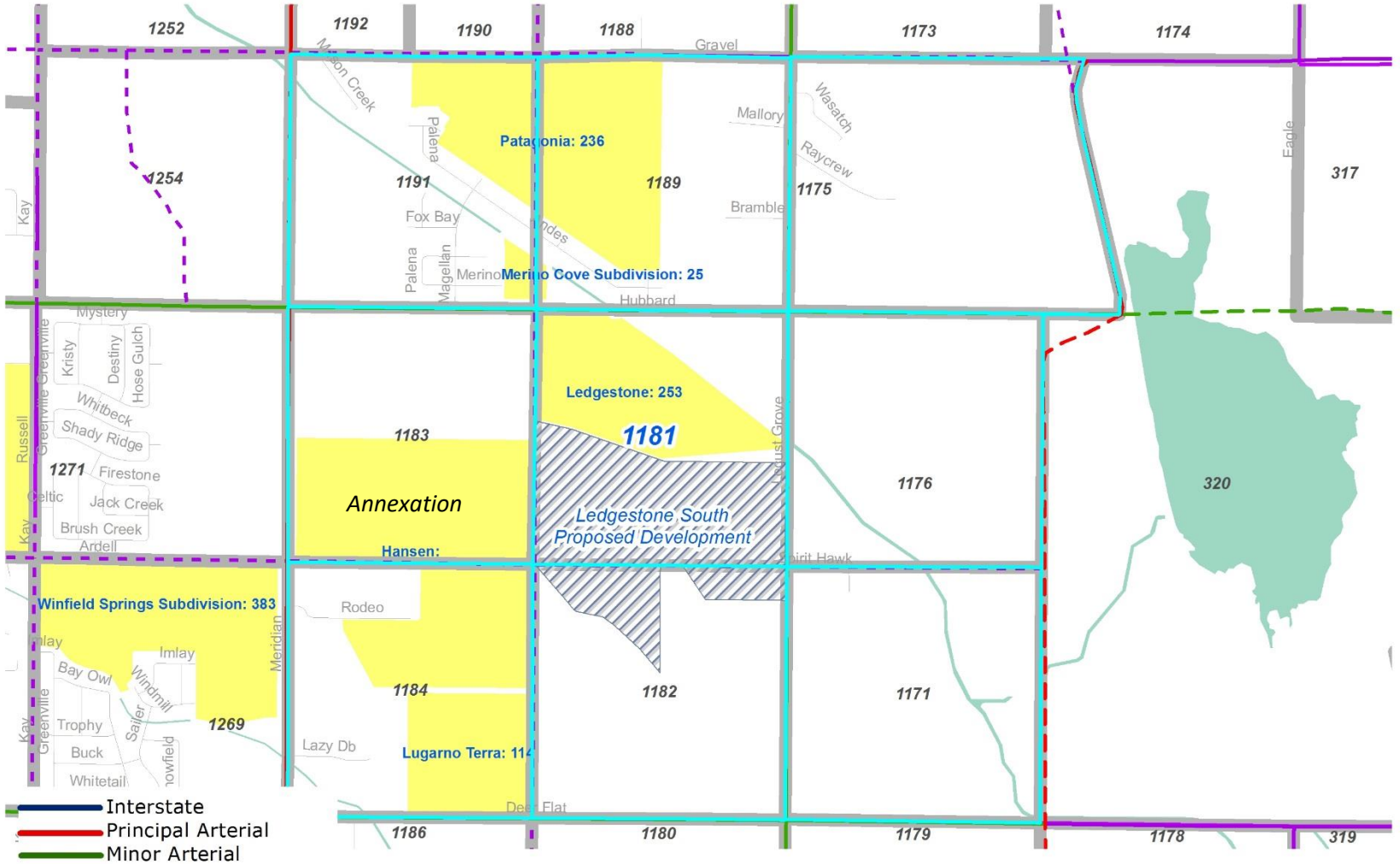


Figure 5: Surrounding Area TAZs



TZONES08 *	COUNTY	TPOP19	HH19	TPOP25	HH25	JOBS25	TPOP30	HH30	JOBS30	TPOP40	HH40	JOBS40
1171	Ada	6	3	6	3	0	6	3	0	6	3	0
1175	Ada	24	10	87	37	10	144	62	19	226	100	33
1176	Ada	6	3	6	3	12	6	3	13	6	3	15
1182	Ada	13	5	13	5	7	13	5	9	12	5	12
1183	Ada	12	5	12	5	46	12	5	83	11	5	140
1184	Ada	12	5	90	38	36	160	69	66	262	116	110
1189	Ada	107	33	300	94	17	474	151	20	722	237	25
1191	Ada	230	70	875	271	74	862	271	136	1643	532	230

Figure 6: 2019 to 2025 Compounded Annual Growth Rate

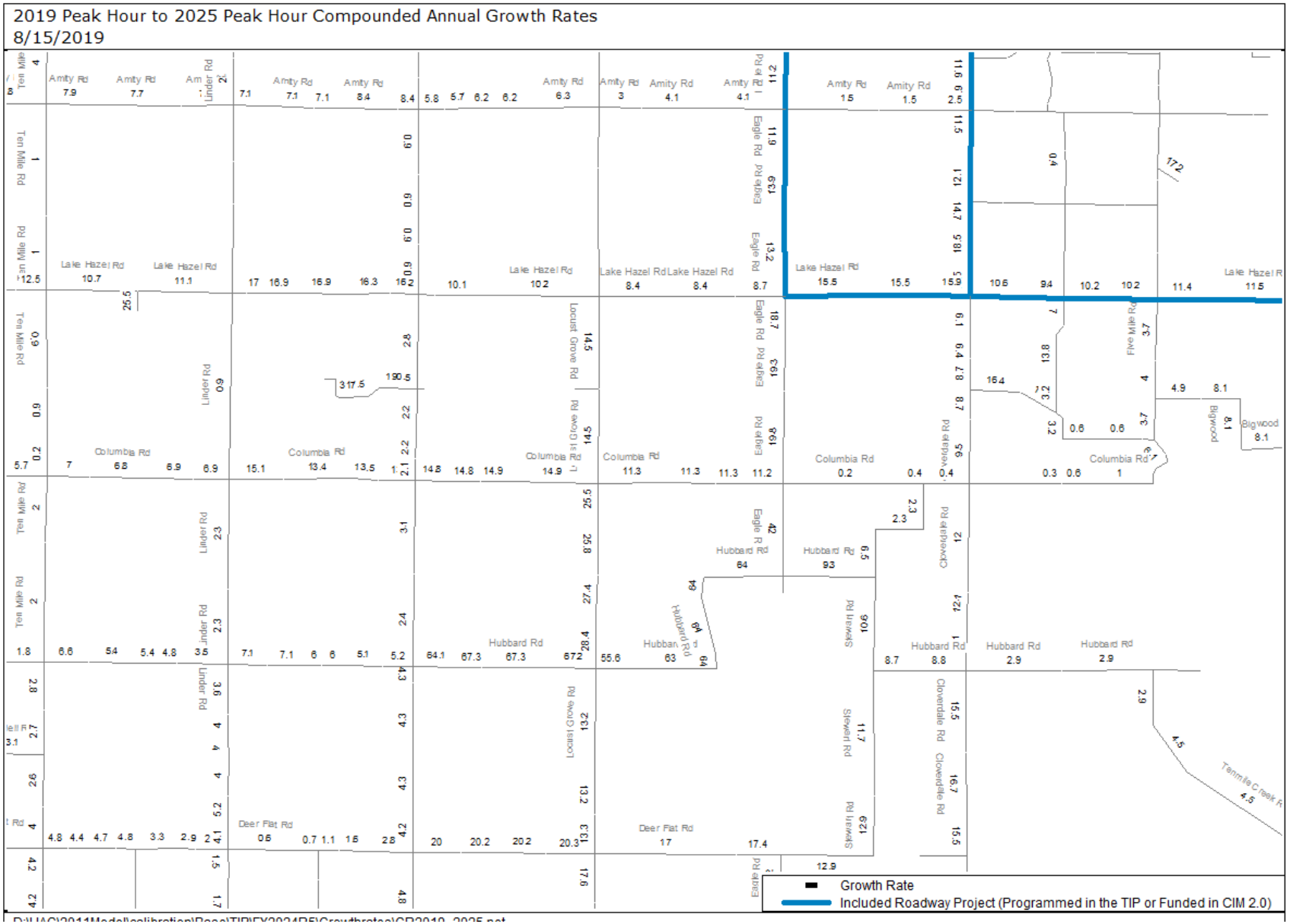


Figure 7: 2025 to 2030 Compounded Annual Growth Rate

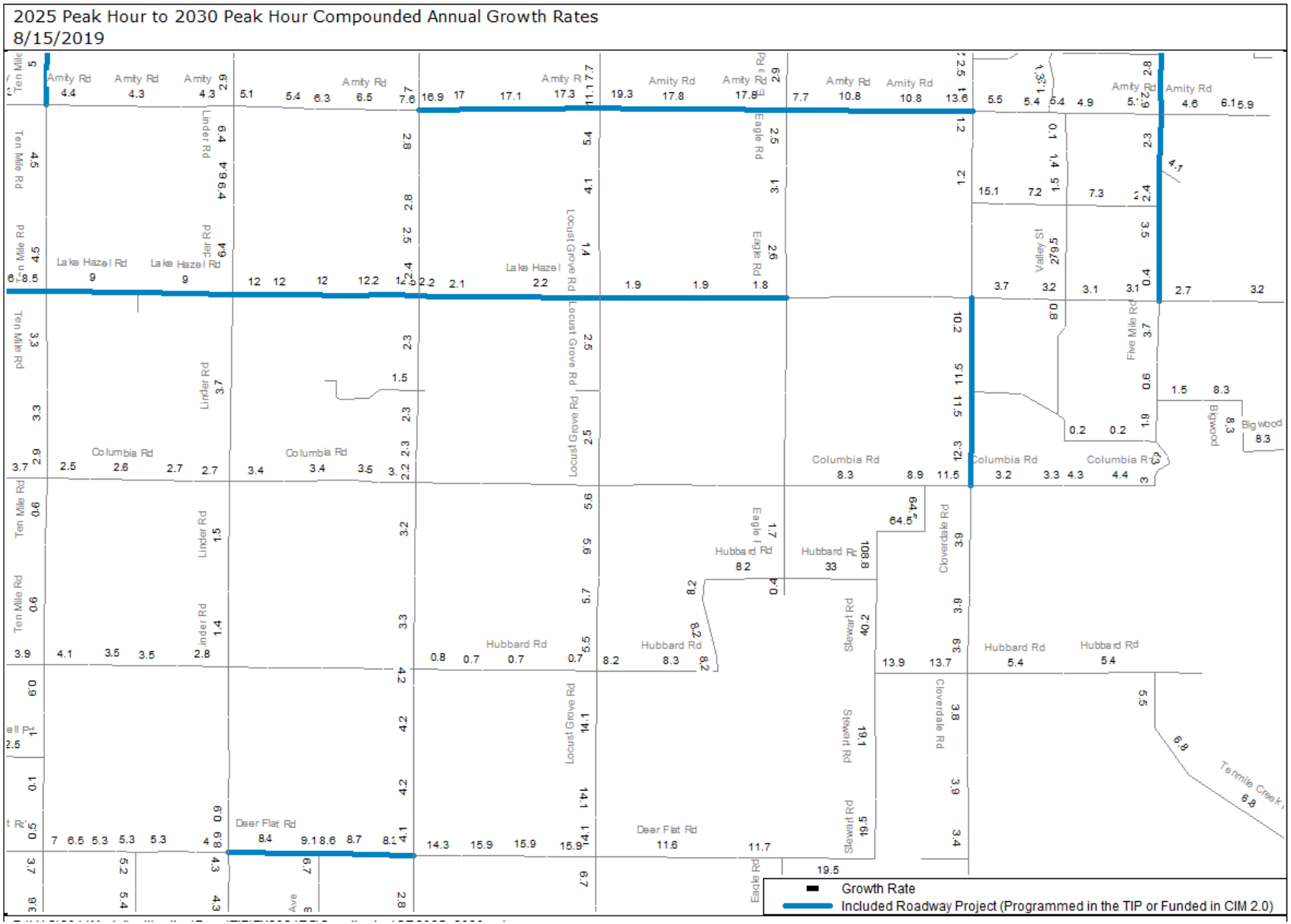


Figure 8: 2030 to 2040 Compounded Annual Growth Rate

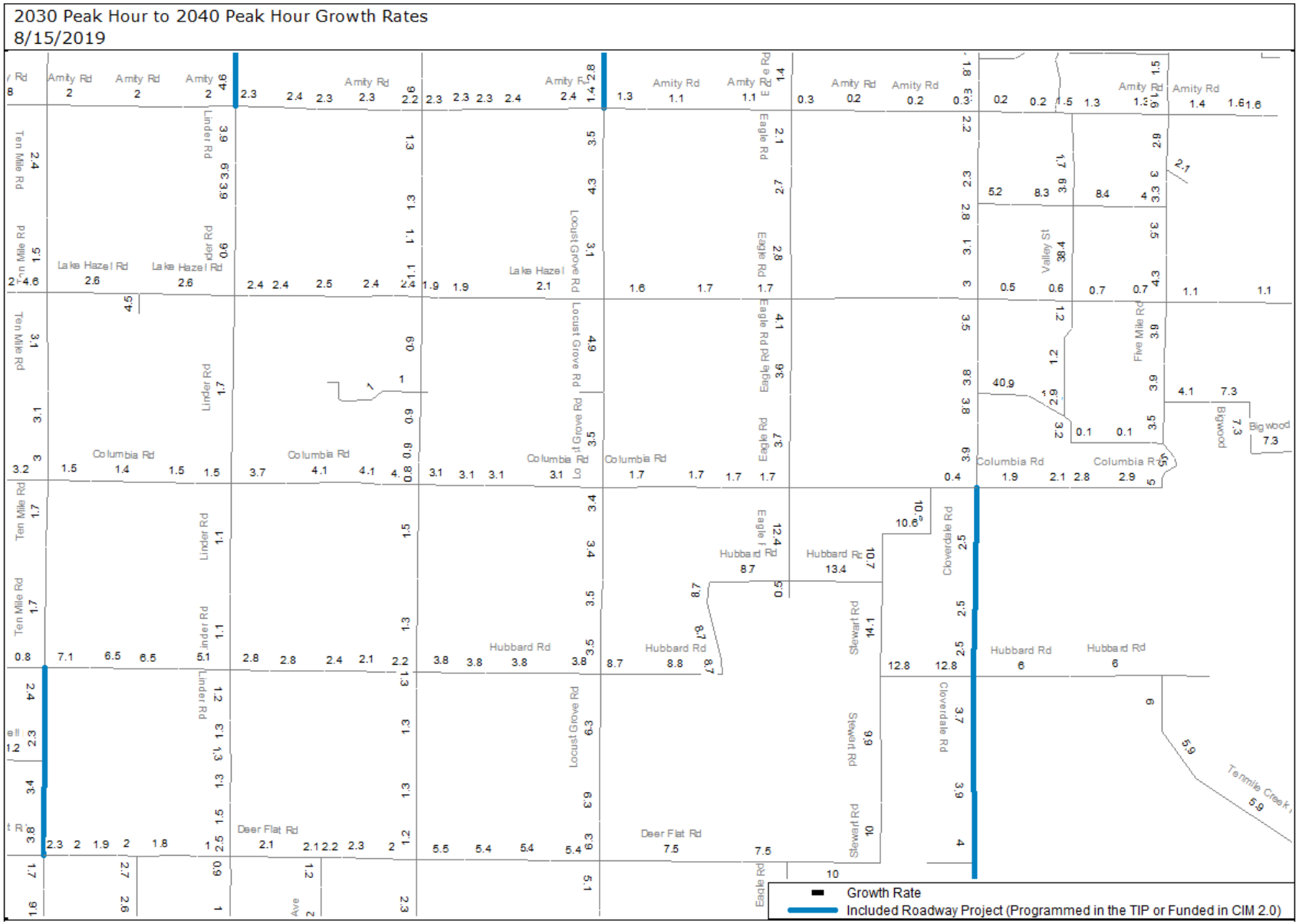


Figure 9: Cumulative Area of Influence, Peak hour demand contribution to the total peak hour demand

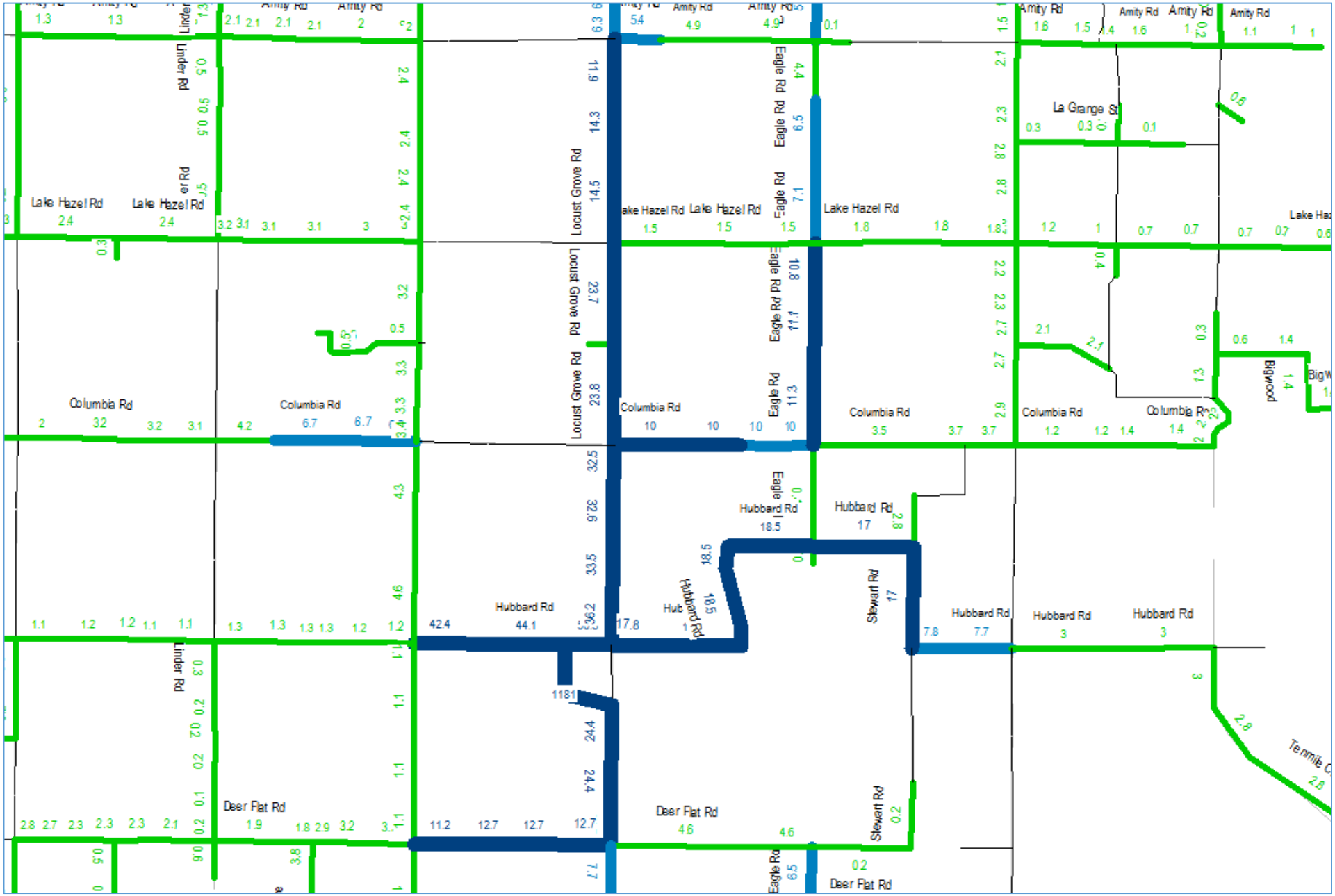
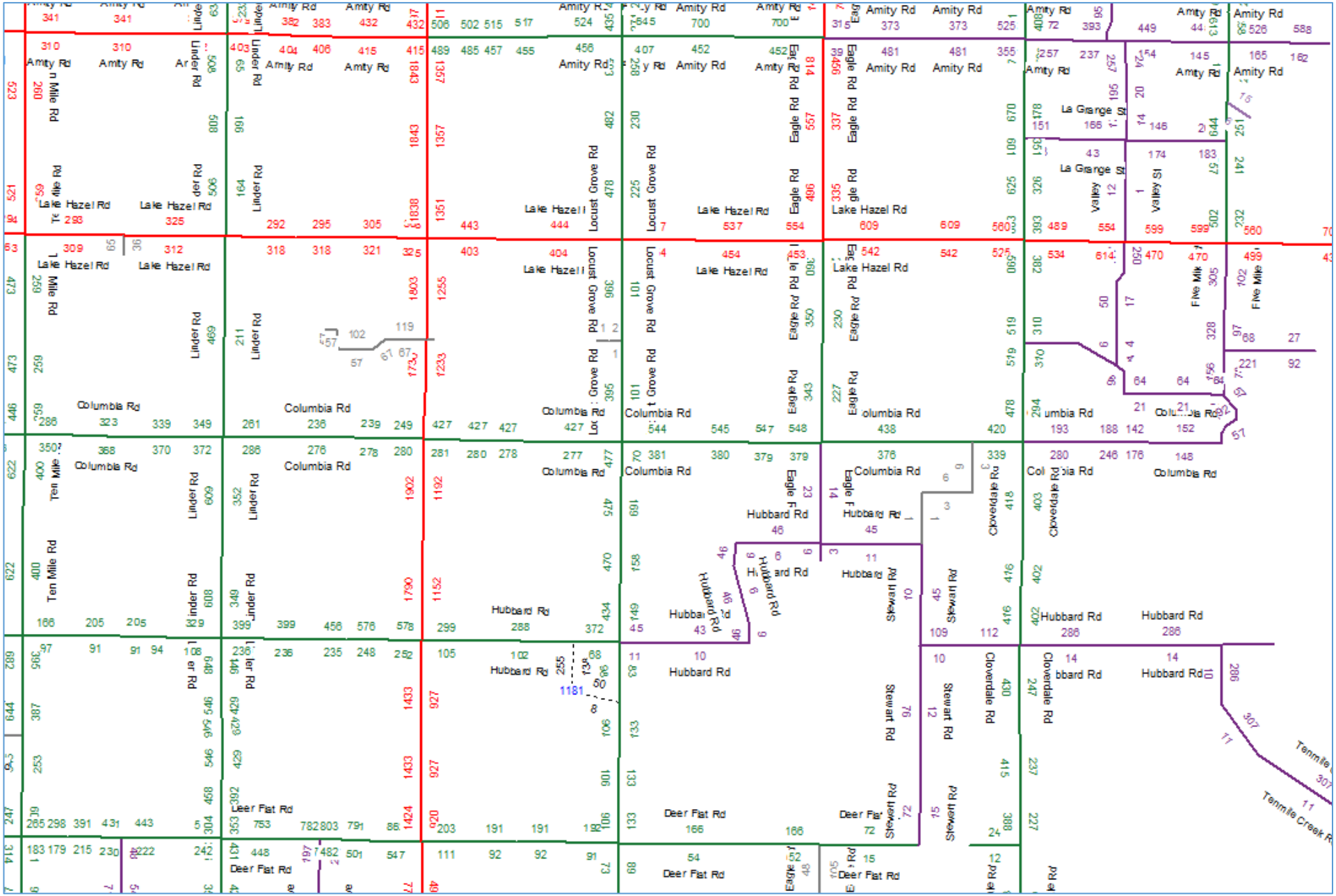


Figure 10: PM Peak Hour Demand with Entitled and Proposed



L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: WHPA0002
Intersection: Meridian Rd / Hubbard Rd
City, State: Ada County, Idaho
Control: Stop Sign

File Name : Meridian Rd & Hubbard Rd
Site Code : 00000000
Start Date : 8/7/2018
Page No : 1

Groups Printed- General Traffic

	Meridian Raod From North					Hubbard Road From East					SH-69 (Meridian Road) From South					Hubbard Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	8	52	0	0	60	1	0	3	0	4	0	229	3	0	232	1	6	36	0	43	339
07:15 AM	5	72	5	0	82	2	1	2	0	5	1	254	2	0	257	2	8	46	0	56	400
07:30 AM	10	75	5	0	90	4	1	0	0	5	1	226	2	0	229	5	7	39	0	51	375
07:45 AM	19	125	4	0	148	3	2	2	0	7	2	165	2	0	169	6	2	12	1	21	345
Total	42	324	14	0	380	10	4	7	0	21	4	874	9	0	887	14	23	133	1	171	1459
08:00 AM	7	89	5	0	101	2	0	1	0	3	1	184	4	0	189	5	0	28	0	33	326
08:15 AM	10	70	3	0	83	1	0	2	0	3	2	176	3	0	181	4	1	26	1	32	299
08:30 AM	17	85	5	1	108	8	2	4	0	14	1	193	4	0	198	5	4	29	0	38	358
08:45 AM	13	81	2	0	96	3	0	0	0	3	2	143	4	0	149	4	1	30	0	35	283
Total	47	325	15	1	388	14	2	7	0	23	6	696	15	0	717	18	6	113	1	138	1266

04:00 PM	46	182	6	0	234	3	4	1	0	8	4	115	6	0	125	8	1	13	0	22	389
04:15 PM	70	239	3	0	312	1	1	1	0	3	1	122	6	0	129	8	0	10	0	18	462
04:30 PM	60	209	4	0	273	8	4	2	0	14	1	117	10	0	128	9	1	8	0	18	433
04:45 PM	59	227	4	0	290	8	3	4	0	15	1	119	8	0	128	7	1	12	0	20	453
Total	235	857	17	0	1109	20	12	8	0	40	7	473	30	0	510	32	3	43	0	78	1737
05:00 PM	70	251	4	0	325	9	2	3	0	14	4	117	6	0	127	9	4	18	0	31	497
05:15 PM	71	266	4	0	341	12	3	2	0	17	3	134	9	0	146	7	2	17	0	26	530
05:30 PM	65	249	2	0	316	6	3	2	0	11	0	126	9	0	135	7	1	14	0	22	484
05:45 PM	67	281	5	0	353	2	1	2	0	5	1	108	5	0	114	5	2	18	0	25	497
Total	273	1047	15	0	1335	29	9	9	0	47	8	485	29	0	522	28	9	67	0	104	2008
Grand Total	597	2553	61	1	3212	73	27	31	0	131	25	2528	83	0	2636	92	41	356	2	491	6470
Apprch %	18.6	79.5	1.9	0		55.7	20.6	23.7	0		0.9	95.9	3.1	0		18.7	8.4	72.5	0.4		
Total %	9.2	39.5	0.9	0	49.6	1.1	0.4	0.5	0	2	0.4	39.1	1.3	0	40.7	1.4	0.6	5.5	0	7.6	

L2 Data Collection

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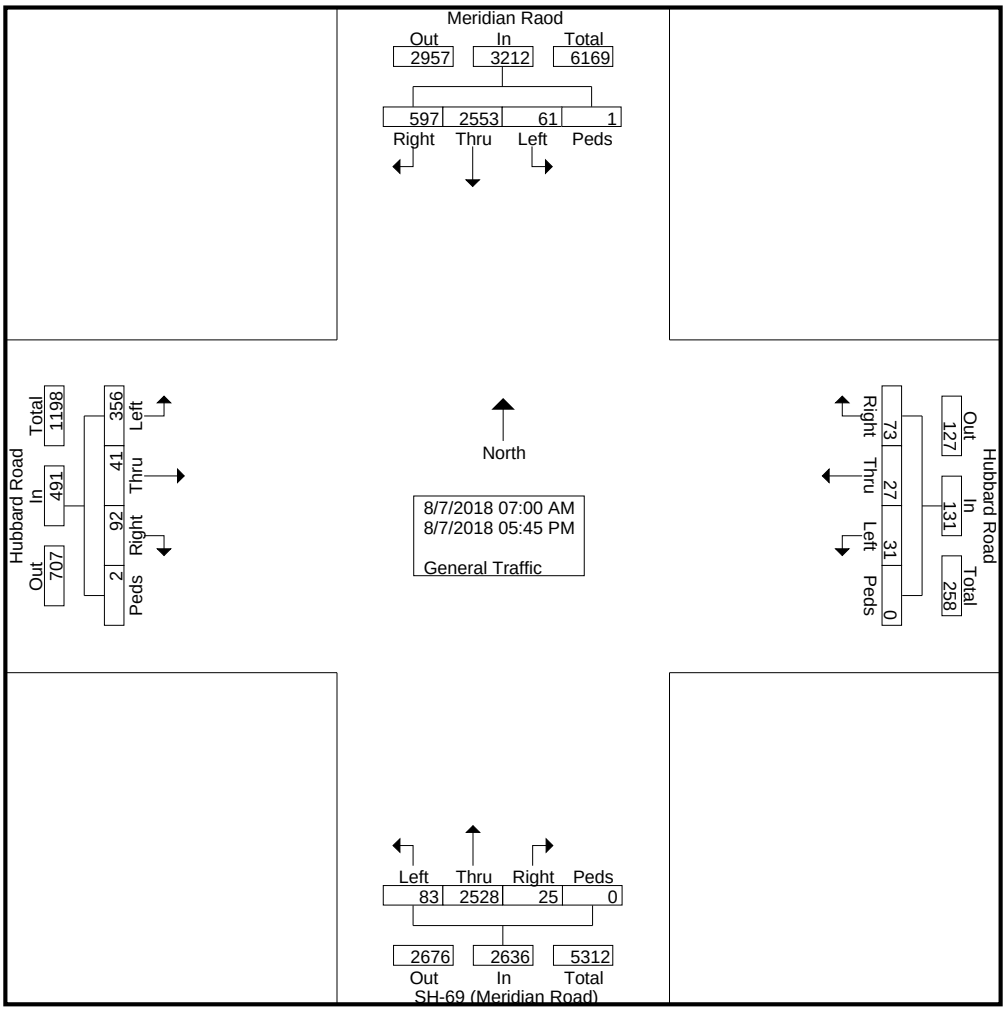
Idaho (208) 860-7554 Utah (801) 431-2993

Study: WHPA0002
Intersection: Meridian Rd / Hubbard Rd
City, State: Ada County, Idaho
Control: Stop Sign

File Name : Meridian Rd & Hubbard Rd
Site Code : 00000000
Start Date : 8/7/2018
Page No : 2



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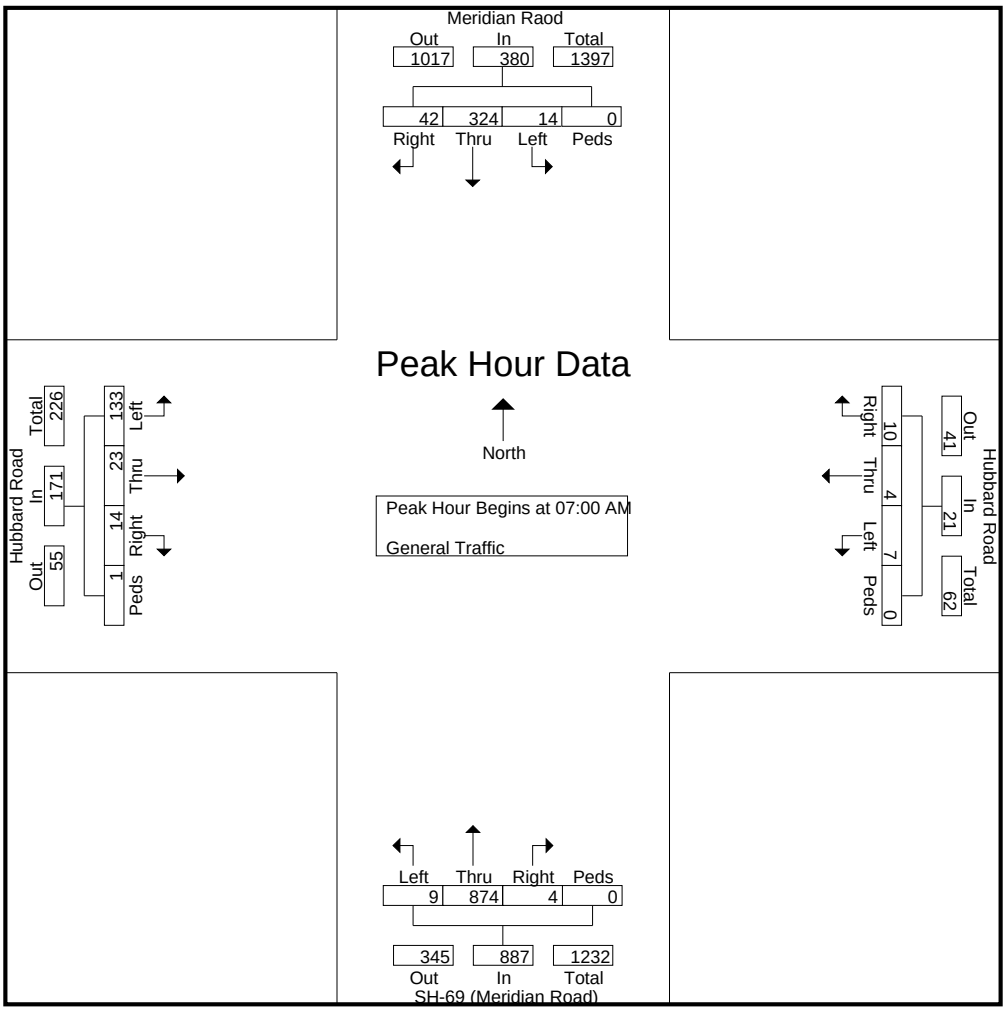
Start Date : 8/7/2018
Page No : 3

	Meridian Raod From North					Hubbard Road From East					SH-69 (Meridian Road) From South					Hubbard Road From West					
Start Time	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Int. Total**
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	8	52	0	0	60	1	0	**3**	0	4	0	229	**3**	0	232	1	6	36	0	43	339
07:15 AM	5	72	**5**	0	82	2	1	2	0	5	1	**254**	2	0	**257**	2	**8**	**46**	0	**56**	**400**
07:30 AM	10	75	5	0	90	**4**	1	0	0	5	1	226	2	0	229	5	7	39	0	51	375
07:45 AM	**19**	**125**	4	0	**148**	3	**2**	2	0	**7**	**2**	165	2	0	169	**6**	2	12	**1**	21	345
Total Volume	42	324	14	0	380	10	4	7	0	21	4	874	9	0	887	14	23	133	1	171	1459
% App. Total	11.1	85.3	3.7	0		47.6	19	33.3	0		0.5	98.5	1	0		8.2	13.5	77.8	0.6		
PHF	.553	.648	.700	.000	.642	.625	.500	.583	.000	.750	.500	.860	.750	.000	.863	.583	.719	.723	.250	.763	.912



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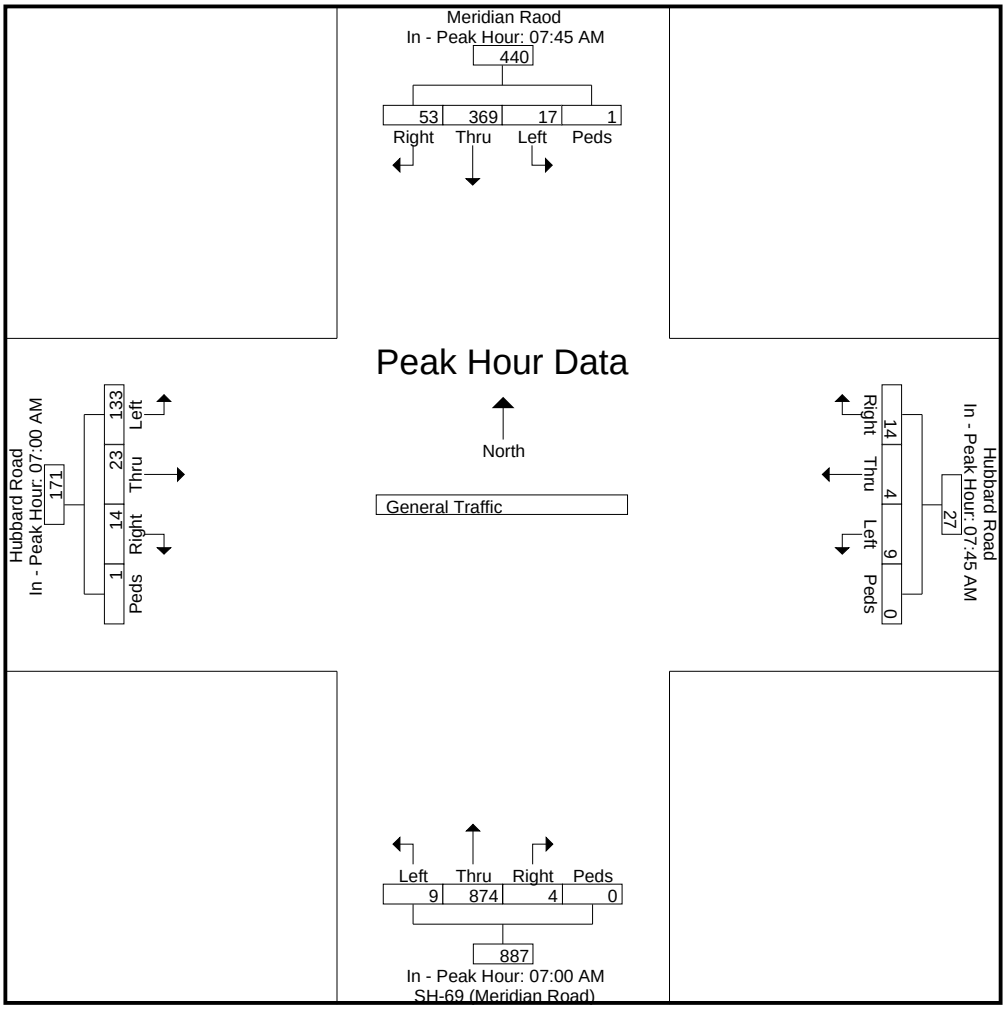
Intersection: Meridian Rd / Hubbard Rd
City, State: Ada County, Idaho
Control: Stop Sign

File Name : Meridian Rd & Hubbard Rd
Site Code : 00000000
Start Date : 8/7/2018
Page No : 4

	Meridian Raod From North					Hubbard Road From East					SH-69 (Meridian Road) From South					Hubbard Road From West					
Start Time	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Int. Total**
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:45 AM					07:45 AM					07:00 AM					07:00 AM					
+0 mins.	**19**	**125**	4	0	**148**	3	**2**	2	0	7	0	229	**3**	0	232	1	6	36	0	43	
+15 mins.	7	89	**5**	0	101	2	0	1	0	3	1	**254**	2	0	**257**	2	**8**	**46**	0	**56**	
+30 mins.	10	70	3	0	83	1	0	2	0	3	1	226	2	0	229	5	7	39	0	51	
+45 mins.	17	85	5	**1**	108	**8**	2	**4**	0	**14**	**2**	165	2	0	169	**6**	2	12	**1**	21	
Total Volume	53	369	17	1	440	14	4	9	0	27	4	874	9	0	887	14	23	133	1	171	
% App. Total	12	83.9	3.9	0.2		51.9	14.8	33.3	0		0.5	98.5	1	0		8.2	13.5	77.8	0.6		
PHF	.697	.738	.850	.250	.743	.438	.500	.563	.000	.482	.500	.860	.750	.000	.863	.583	.719	.723	.250	.763	



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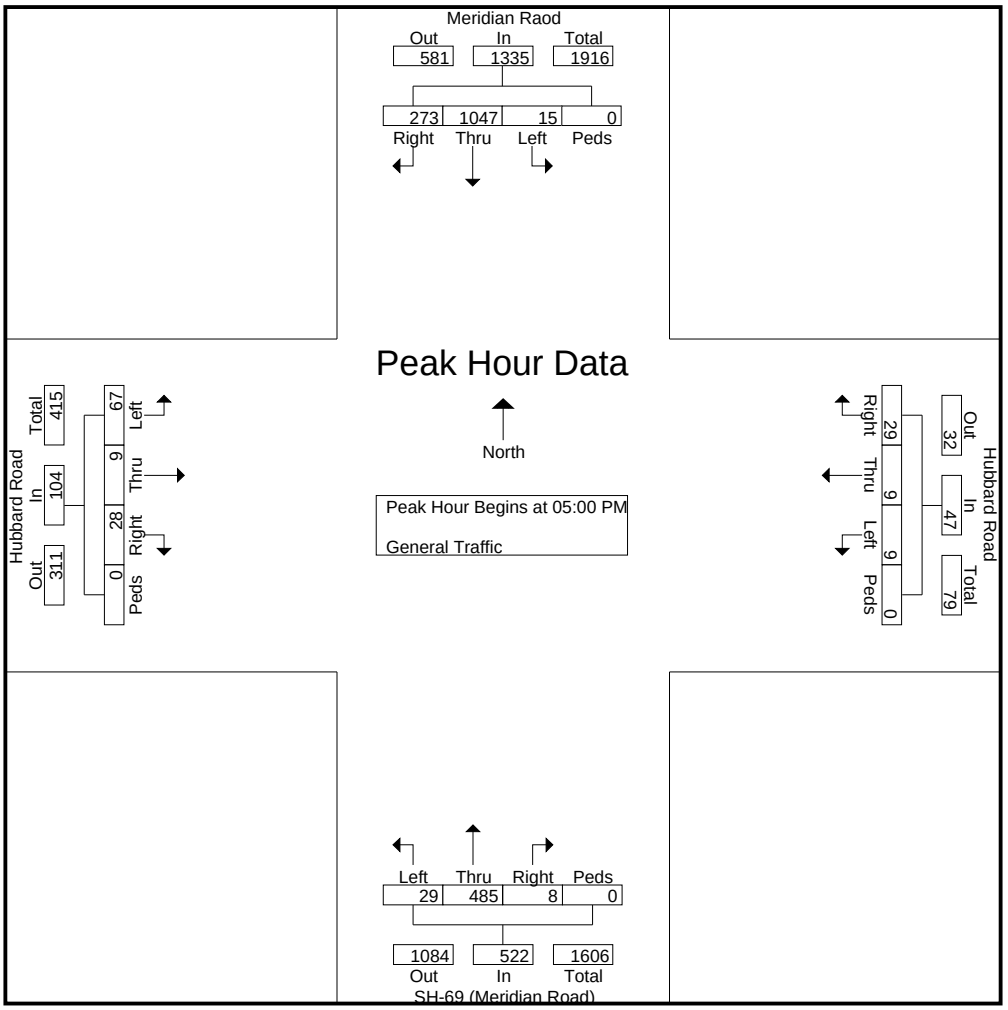
Intersection: Meridian Rd / Hubbard Rd
City, State: Ada County, Idaho
Control: Stop Sign

File Name : Meridian Rd & Hubbard Rd
Site Code : 00000000
Start Date : 8/7/2018
Page No : 5

	Meridian Raod From North					Hubbard Road From East					SH-69 (Meridian Road) From South					Hubbard Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	70	251	4	0	325	9	2	**3**	0	14	**4**	117	6	0	127	**9**	**4**	**18**	0	**31**	497
05:15 PM	**71**	266	4	0	341	**12**	**3**	2	0	**17**	3	**134**	**9**	0	**146**	7	2	17	0	26	**530**
05:30 PM	65	249	2	0	316	6	3	2	0	11	0	126	9	0	135	7	1	14	0	22	484
05:45 PM	67	**281**	**5**	0	**353**	2	1	2	0	5	1	108	5	0	114	5	2	18	0	25	497
Total Volume	273	1047	15	0	1335	29	9	9	0	47	8	485	29	0	522	28	9	67	0	104	2008
% App. Total	20.4	78.4	1.1	0		61.7	19.1	19.1	0		1.5	92.9	5.6	0		26.9	8.7	64.4	0		
PHF	.961	.931	.750	.000	.945	.604	.750	.750	.000	.691	.500	.905	.806	.000	.894	.778	.563	.931	.000	.839	.947



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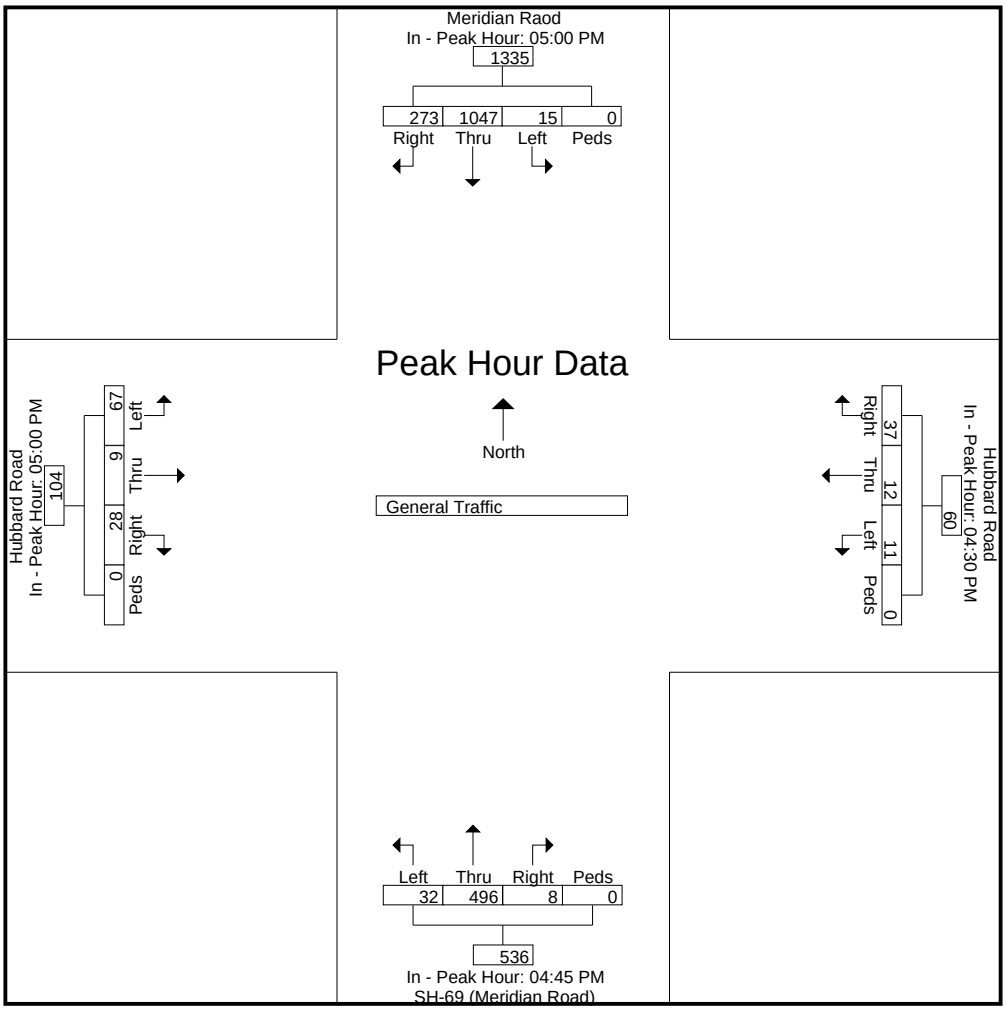
Intersection: Meridian Rd / Hubbard Rd
City, State: Ada County, Idaho
Control: Stop Sign

File Name : Meridian Rd & Hubbard Rd
Site Code : 00000000
Start Date : 8/7/2018
Page No : 6

	Meridian Raod From North					Hubbard Road From East					SH-69 (Meridian Road) From South					Hubbard Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	05:00 PM					04:30 PM					04:45 PM					05:00 PM					
+0 mins.	70	251	4	0	325	8	**4**	2	0	14	1	119	8	0	128	**9**	**4**	**18**	0	**31**	
+15 mins.	**71**	266	4	0	341	8	3	**4**	0	15	**4**	117	6	0	127	7	2	17	0	26	
+30 mins.	65	249	2	0	316	9	2	3	0	14	3	**134**	**9**	0	**146**	7	1	14	0	22	
+45 mins.	67	**281**	**5**	0	**353**	**12**	3	2	0	**17**	0	126	9	0	135	5	2	18	0	25	
Total Volume	273	1047	15	0	1335	37	12	11	0	60	8	496	32	0	536	28	9	67	0	104	
% App. Total	20.4	78.4	1.1	0		61.7	20	18.3	0		1.5	92.5	6	0		26.9	8.7	64.4	0		
PHF	.961	.931	.750	.000	.945	.771	.750	.688	.000	.882	.500	.925	.889	.000	.918	.778	.563	.931	.000	.839	



L2 Data Collection

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Idaho (208) 860-7554 Utah (801) 431-2993

Study: WHPA0002
Intersection: Meridian Rd / Hubbard Rd
City, State: Ada County, Idaho
Control: Stop Sign

File Name : Meridian Rd & Hubbard Rd
Site Code : 00000000
Start Date : 8/7/2018
Page No : 7

Image 1



L2 Data Collection

L2DataColletion.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: WHPA0005
Intersection: Locust Grove / Deer Flat
City, State: Kuna, Idaho
Control: Stop Sign

File Name : Locust Grove Rd & Deer Flat Rd
Site Code : 00000000
Start Date : 9/10/2019
Page No : 1

Groups Printed- General Traffic

	Locust Grove Road From North					Deer Flat Road From East					Locust Grove Road From South					Deer Flat Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	3	1	1	0	5	2	7	0	0	9	2	4	1	0	7	0	39	8	0	47	68
07:15 AM	5	2	1	0	8	1	19	0	0	20	0	4	1	0	5	1	38	3	0	42	75
07:30 AM	4	1	1	0	6	1	15	0	0	16	1	4	0	0	5	4	32	8	0	44	71
07:45 AM	1	1	1	0	3	0	4	0	0	4	0	1	1	0	2	1	29	9	0	39	48
Total	13	5	4	0	22	4	45	0	0	49	3	13	3	0	19	6	138	28	0	172	262
08:00 AM	2	2	0	0	4	1	9	0	0	10	1	7	1	0	9	0	24	6	0	30	53
08:15 AM	3	2	1	0	6	0	7	2	0	9	0	4	1	0	5	0	12	2	0	14	34
08:30 AM	5	1	2	0	8	3	9	0	0	12	1	1	0	0	2	1	14	4	0	19	41
08:45 AM	3	2	0	0	5	0	11	1	0	12	1	1	0	0	2	0	15	7	0	22	41
Total	13	7	3	0	23	4	36	3	0	43	3	13	2	0	18	1	65	19	0	85	169

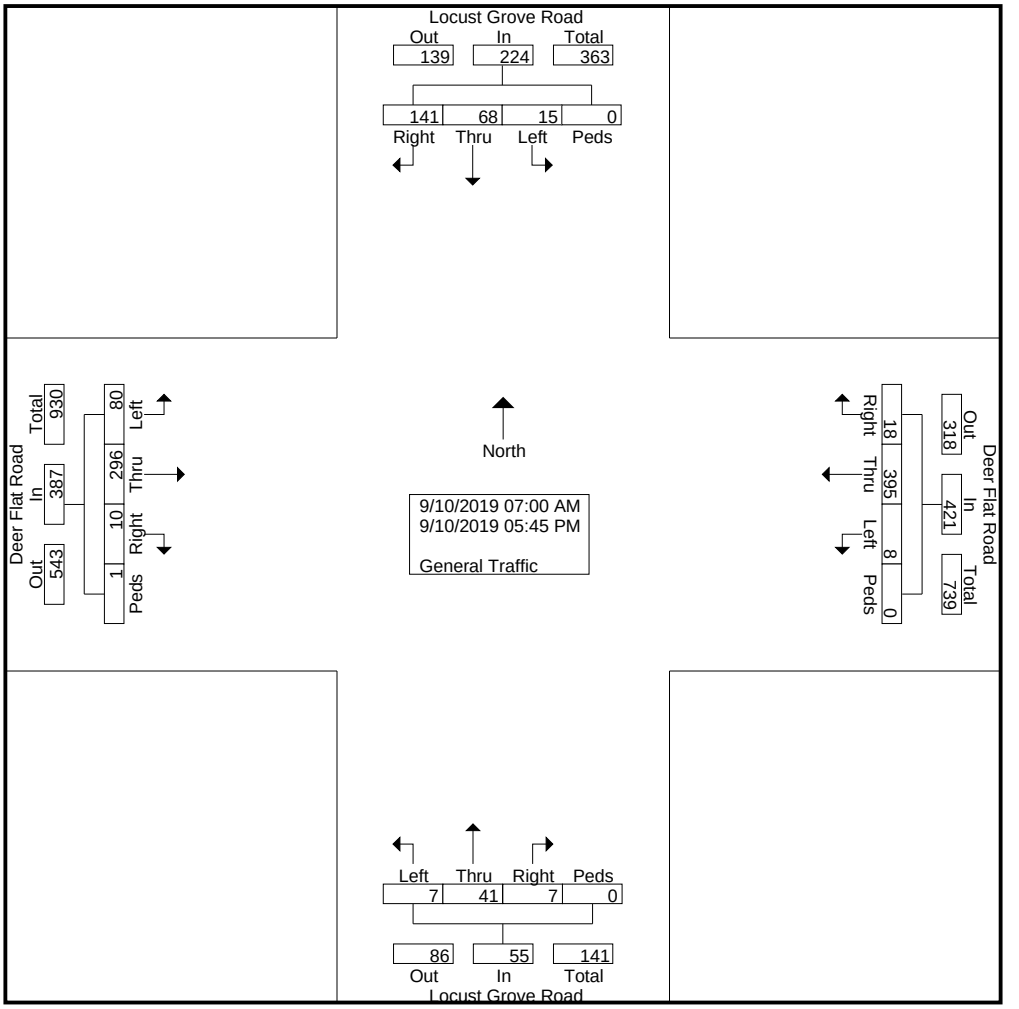
04:00 PM	9	3	0	0	12	2	26	2	0	30	0	4	1	0	5	2	18	2	0	22	69
04:15 PM	12	9	3	0	24	1	29	1	0	31	0	3	1	0	4	0	12	4	0	16	75
04:30 PM	16	6	0	0	22	1	34	0	0	35	0	0	0	0	0	0	16	2	0	18	75
04:45 PM	12	8	0	0	20	2	42	1	0	45	0	1	0	0	1	0	7	2	0	9	75
Total	49	26	3	0	78	6	131	4	0	141	0	8	2	0	10	2	53	10	0	65	294
05:00 PM	15	6	1	0	22	2	49	0	0	51	0	1	0	0	1	1	13	5	0	19	93
05:15 PM	15	12	1	0	28	1	41	0	0	42	0	3	0	0	3	0	11	3	0	14	87
05:30 PM	23	7	1	0	31	1	52	0	0	53	0	1	0	0	1	0	8	9	1	18	103
05:45 PM	13	5	2	0	20	0	41	1	0	42	1	2	0	0	3	0	8	6	0	14	79
Total	66	30	5	0	101	4	183	1	0	188	1	7	0	0	8	1	40	23	1	65	362
Grand Total	141	68	15	0	224	18	395	8	0	421	7	41	7	0	55	10	296	80	1	387	1087
Apprch %	62.9	30.4	6.7	0		4.3	93.8	1.9	0		12.7	74.5	12.7	0		2.6	76.5	20.7	0.3		
Total %	13	6.3	1.4	0	20.6	1.7	36.3	0.7	0	38.7	0.6	3.8	0.6	0	5.1	0.9	27.2	7.4	0.1	35.6	

L2 Data Collection

L2DataColletion.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: WHPA0005
Intersection: Locust Grove / Deer Flat
City, State: Kuna, Idaho
Control: Stop Sign

File Name : Locust Grove Rd & Deer Flat Rd
Site Code : 00000000
Start Date : 9/10/2019
Page No : 2



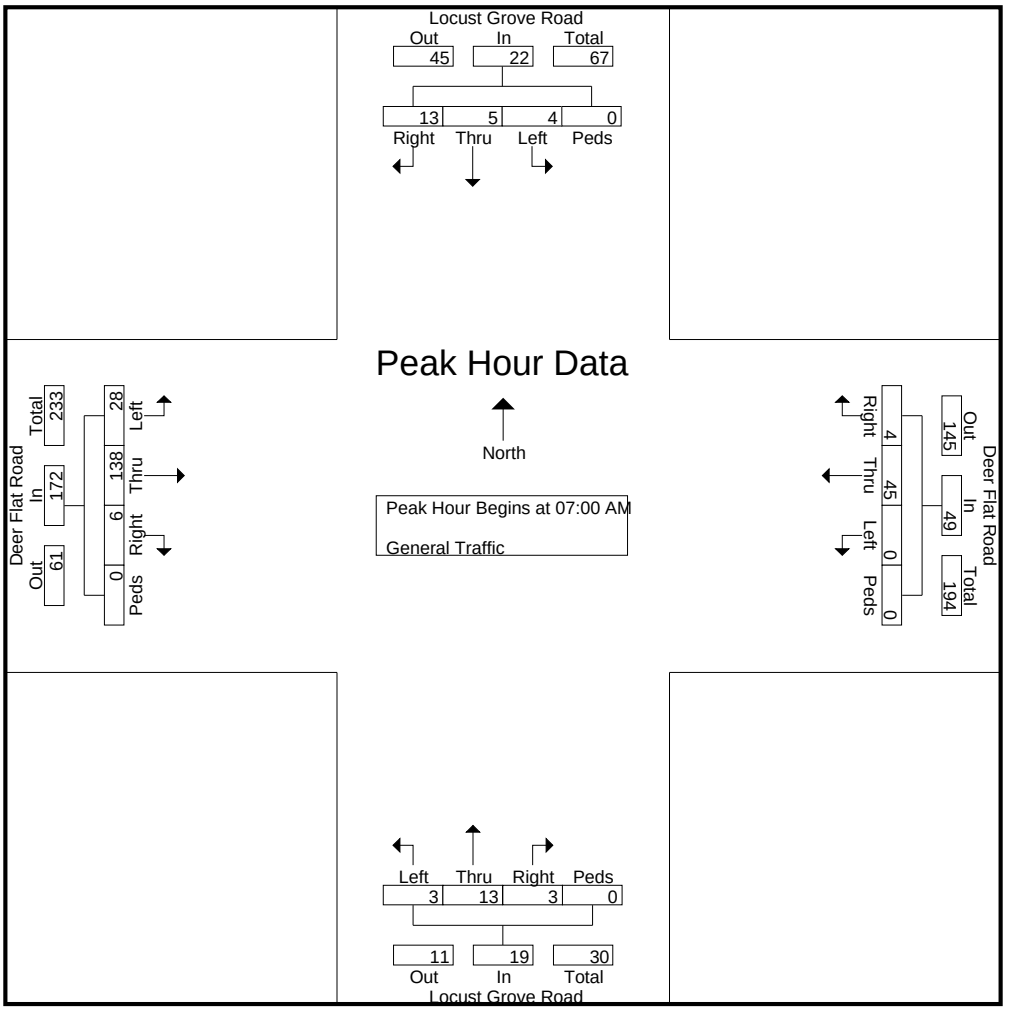
L2 Data Collection

L2DataColletion.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: WHPA0005
Intersection: Locust Grove / Deer Flat
City, State: Kuna, Idaho
Control: Stop Sign

File Name : Locust Grove Rd & Deer Flat Rd
Site Code : 00000000
Start Date : 9/10/2019
Page No : 3

	Locust Grove Road From North					Deer Flat Road From East					Locust Grove Road From South					Deer Flat Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	3	1	**1**	0	5	**2**	7	0	0	9	**2**	**4**	**1**	0	**7**	0	**39**	8	0	**47**	68
07:15 AM	**5**	**2**	1	0	**8**	1	**19**	0	0	**20**	0	4	1	0	5	1	38	3	0	42	**75**
07:30 AM	4	1	1	0	6	1	15	0	0	16	1	4	0	0	5	**4**	32	8	0	44	71
07:45 AM	1	1	1	0	3	0	4	0	0	4	0	1	1	0	2	1	29	**9**	0	39	48
Total Volume	13	5	4	0	22	4	45	0	0	49	3	13	3	0	19	6	138	28	0	172	262
% App. Total	59.1	22.7	18.2	0		8.2	91.8	0	0		15.8	68.4	15.8	0		3.5	80.2	16.3	0		
PHF	.650	.625	1.00	.000	.688	.500	.592	.000	.000	.613	.375	.813	.750	.000	.679	.375	.885	.778	.000	.915	.873



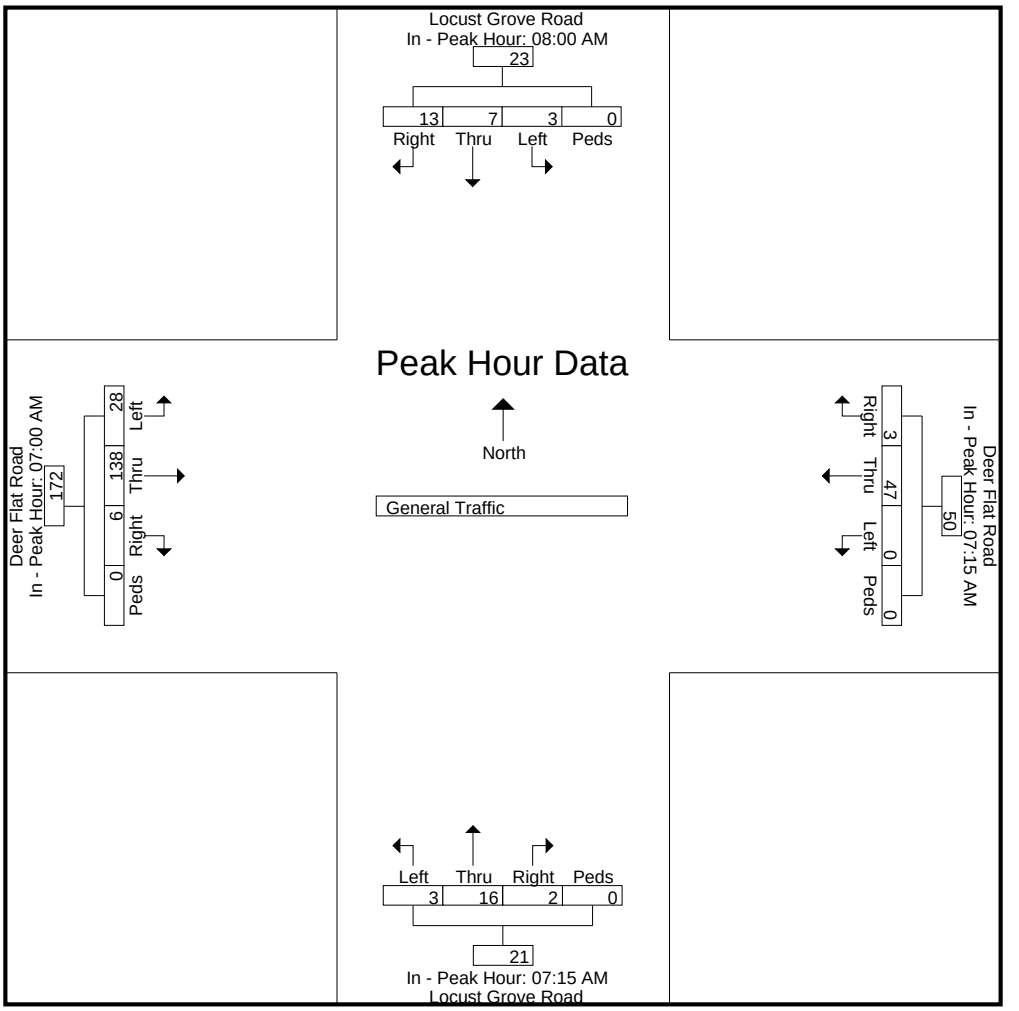
L2 Data Collection

L2DataColletion.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: WHPA0005
Intersection: Locust Grove / Deer Flat
City, State: Kuna, Idaho
Control: Stop Sign

File Name : Locust Grove Rd & Deer Flat Rd
Site Code : 00000000
Start Date : 9/10/2019
Page No : 4

	Locust Grove Road From North					Deer Flat Road From East					Locust Grove Road From South					Deer Flat Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	08:00 AM					07:15 AM					07:15 AM					07:00 AM					
+0 mins.	2	**2**	0	0	4	**1**	**19**	0	0	**20**	0	4	**1**	0	5	0	**39**	8	0	**47**	
+15 mins.	3	2	1	0	6	1	15	0	0	16	**1**	4	0	0	5	1	38	3	0	42	
+30 mins.	**5**	1	**2**	0	**8**	0	4	0	0	4	0	1	1	0	2	**4**	32	8	0	44	
+45 mins.	3	2	0	0	5	1	9	0	0	10	1	**7**	1	0	**9**	1	29	**9**	0	39	
Total Volume	13	7	3	0	23	3	47	0	0	50	2	16	3	0	21	6	138	28	0	172	
% App. Total	56.5	30.4	13	0		6	94	0	0		9.5	76.2	14.3	0		3.5	80.2	16.3	0		
PHF	.650	.875	.375	.000	.719	.750	.618	.000	.000	.625	.500	.571	.750	.000	.583	.375	.885	.778	.000	.915	



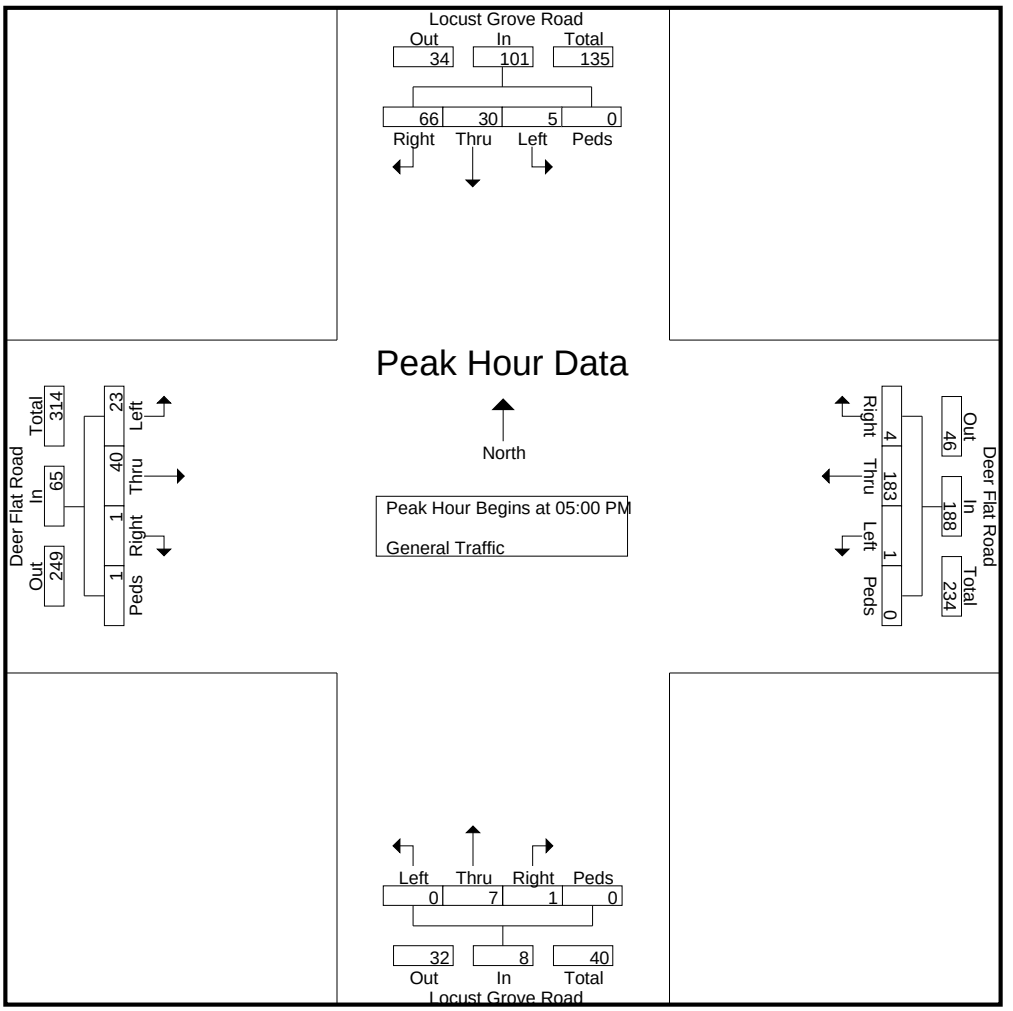
L2 Data Collection

L2DataColletion.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: WHPA0005
Intersection: Locust Grove / Deer Flat
City, State: Kuna, Idaho
Control: Stop Sign

File Name : Locust Grove Rd & Deer Flat Rd
Site Code : 00000000
Start Date : 9/10/2019
Page No : 5

	Locust Grove Road From North					Deer Flat Road From East					Locust Grove Road From South					Deer Flat Road From West					
Start Time	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Int. Total**
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	15	6	1	0	22	**2**	49	0	0	51	0	1	0	0	1	**1**	**13**	5	0	**19**	93
05:15 PM	15	**12**	1	0	28	1	41	0	0	42	0	**3**	0	0	**3**	0	11	3	0	14	87
05:30 PM	**23**	7	1	0	**31**	1	**52**	0	0	**53**	0	1	0	0	1	0	8	**9**	**1**	18	**103**
05:45 PM	13	5	**2**	0	20	0	41	**1**	0	42	**1**	2	0	0	3	0	8	6	0	14	79
Total Volume	66	30	5	0	101	4	183	1	0	188	1	7	0	0	8	1	40	23	1	65	362
% App. Total	65.3	29.7	5	0		2.1	97.3	0.5	0		12.5	87.5	0	0		1.5	61.5	35.4	1.5		
PHF	.717	.625	.625	.000	.815	.500	.880	.250	.000	.887	.250	.583	.000	.000	.667	.250	.769	.639	.250	.855	.879



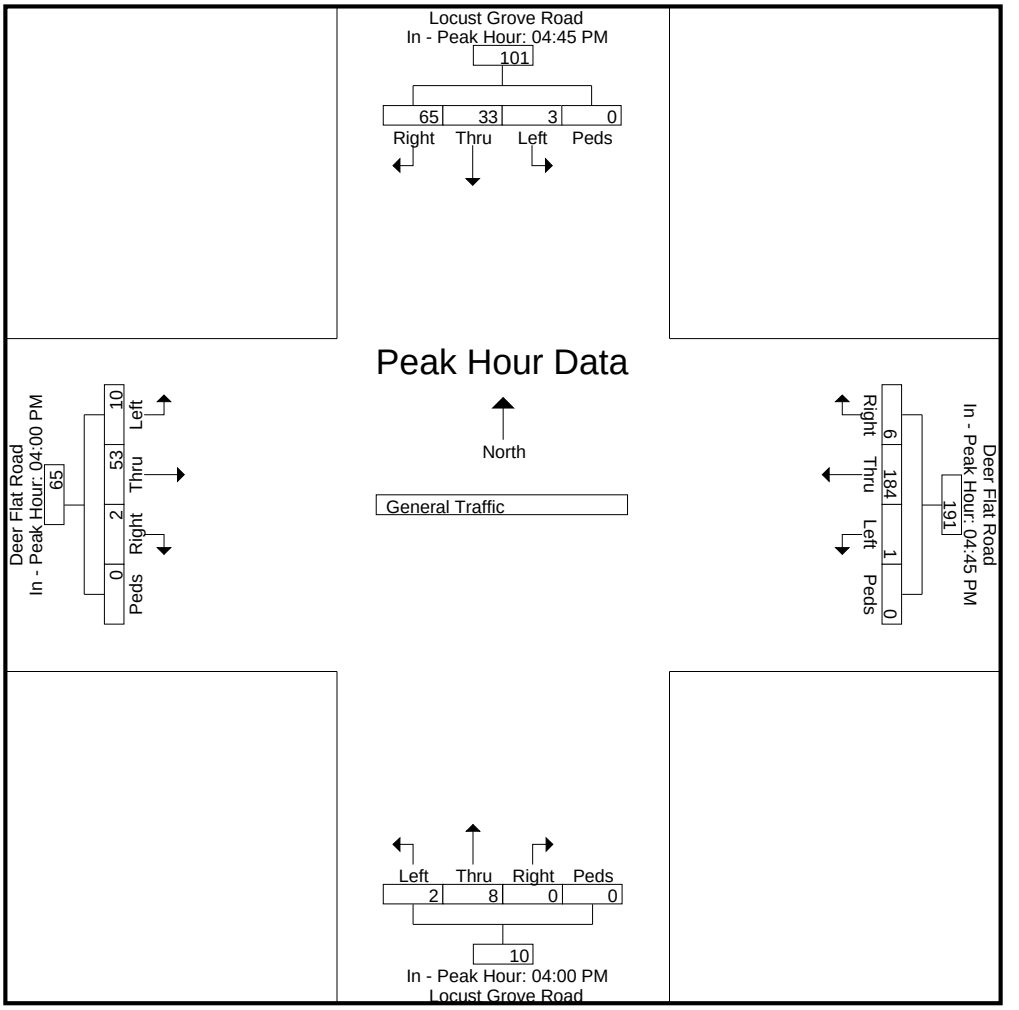
L2 Data Collection

L2DataColletion.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: WHPA0005
Intersection: Locust Grove / Deer Flat
City, State: Kuna, Idaho
Control: Stop Sign

File Name : Locust Grove Rd & Deer Flat Rd
Site Code : 00000000
Start Date : 9/10/2019
Page No : 6

	Locust Grove Road From North					Deer Flat Road From East					Locust Grove Road From South					Deer Flat Road From West					
Start Time	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Int. Total**
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	04:45 PM					04:45 PM					04:00 PM					04:00 PM					
+0 mins.	12	8	0	0	20	**2**	42	**1**	0	45	0	**4**	**1**	0	**5**	**2**	**18**	2	0	**22**	
+15 mins.	15	6	**1**	0	22	2	49	0	0	51	0	3	1	0	4	0	12	**4**	0	16	
+30 mins.	15	**12**	1	0	28	1	41	0	0	42	0	0	0	0	0	0	16	2	0	18	
+45 mins.	**23**	7	1	0	**31**	1	**52**	0	0	**53**	0	1	0	0	1	0	7	2	0	9	
Total Volume	65	33	3	0	101	6	184	1	0	191	0	8	2	0	10	2	53	10	0	65	
% App. Total	64.4	32.7	3	0		3.1	96.3	0.5	0		0	80	20	0		3.1	81.5	15.4	0		
PHF	.707	.688	.750	.000	.815	.750	.885	.250	.000	.901	.000	.500	.500	.000	.500	.250	.736	.625	.000	.739	



L2 Data Collection

L2DataColletion.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: WHPA0005
Intersection: Locust Grove / Deer Flat
City, State: Kuna, Idaho
Control: Stop Sign

File Name : Locust Grove Rd & Deer Flat Rd
Site Code : 00000000
Start Date : 9/10/2019

Image 1



L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: WHPA0002
Intersection: Locust Grove / Hubbard Rd
City, State: Ada County, Idaho
Control: Stop Sign

File Name : Locust Grove Rd & Hubbard Rd
Site Code : 00000000
Start Date : 8/7/2018
Page No : 1

Groups Printed- General Traffic

	Locust Grove Road From North					Hubbard Road From East					Locust Grove Road From South					Hubbard Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	1	0	0	1	0	3	0	0	3	0	10	0	0	10	0	3	4	0	7	21
07:15 AM	0	1	1	0	2	0	3	0	0	3	1	14	0	0	15	1	6	4	0	11	31
07:30 AM	4	5	0	0	9	0	2	0	0	2	0	8	0	0	8	1	5	3	0	9	28
07:45 AM	1	4	0	0	5	2	1	0	0	3	0	6	0	0	6	2	3	3	0	8	22
Total	5	11	1	0	17	2	9	0	0	11	1	38	0	0	39	4	17	14	0	35	102
08:00 AM	0	4	0	0	4	1	3	0	0	4	1	4	0	0	5	2	1	3	0	6	19
08:15 AM	0	6	1	0	7	0	2	0	0	2	0	10	0	0	10	0	1	1	0	2	21
08:30 AM	3	4	0	0	7	0	3	1	0	4	0	7	2	0	9	0	5	1	0	6	26
08:45 AM	1	4	0	0	5	0	0	0	0	0	1	2	0	0	3	0	1	0	0	1	9
Total	4	18	1	0	23	1	8	1	0	10	2	23	2	0	27	2	8	5	0	15	75

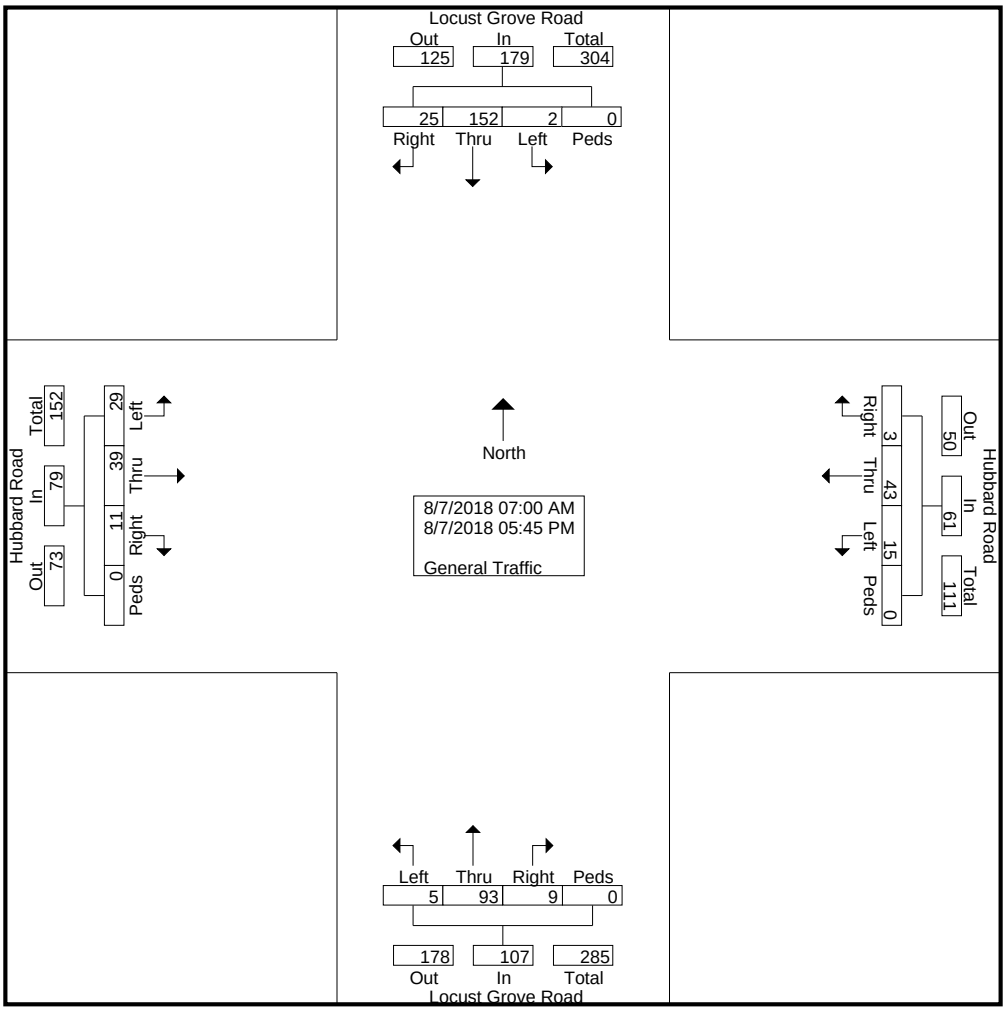
04:00 PM	2	16	0	0	18	0	3	4	0	7	1	2	0	0	3	0	2	0	0	2	30
04:15 PM	2	16	0	0	18	0	1	1	0	2	1	9	0	0	10	0	2	5	0	7	37
04:30 PM	0	12	0	0	12	0	5	1	0	6	1	3	0	0	4	1	0	1	0	2	24
04:45 PM	5	15	0	0	20	0	6	0	0	6	0	2	1	0	3	0	1	2	0	3	32
Total	9	59	0	0	68	0	15	6	0	21	3	16	1	0	20	1	5	8	0	14	123
05:00 PM	1	16	0	0	17	0	1	1	0	2	1	7	2	0	10	0	1	1	0	2	31
05:15 PM	1	14	0	0	15	0	2	3	0	5	0	2	0	0	2	1	3	1	0	5	27
05:30 PM	2	19	0	0	21	0	5	1	0	6	1	4	0	0	5	1	1	0	0	2	34
05:45 PM	3	15	0	0	18	0	3	3	0	6	1	3	0	0	4	2	4	0	0	6	34
Total	7	64	0	0	71	0	11	8	0	19	3	16	2	0	21	4	9	2	0	15	126
Grand Total	25	152	2	0	179	3	43	15	0	61	9	93	5	0	107	11	39	29	0	79	426
Apprch %	14	84.9	1.1	0		4.9	70.5	24.6	0		8.4	86.9	4.7	0		13.9	49.4	36.7	0		
Total %	5.9	35.7	0.5	0	42	0.7	10.1	3.5	0	14.3	2.1	21.8	1.2	0	25.1	2.6	9.2	6.8	0	18.5	

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: WHPA0002
Intersection: Locust Grove / Hubbard Rd
City, State: Ada County, Idaho
Control: Stop Sign

File Name : Locust Grove Rd & Hubbard Rd
Site Code : 00000000
Start Date : 8/7/2018
Page No : 2



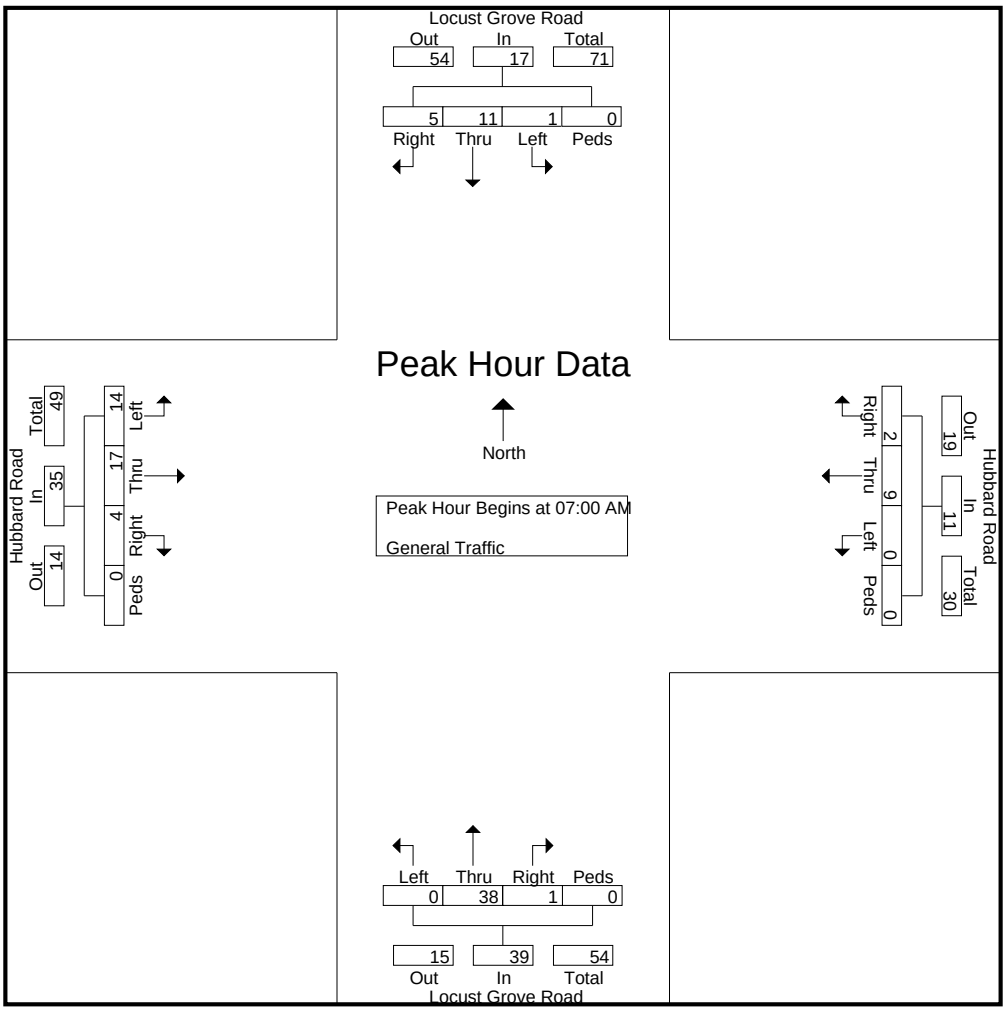
L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: WHPA0002
Intersection: Locust Grove / Hubbard Rd
City, State: Ada County, Idaho
Control: Stop Sign

File Name : Locust Grove Rd & Hubbard Rd
Site Code : 00000000
Start Date : 8/7/2018
Page No : 3

	Locust Grove Road From North					Hubbard Road From East					Locust Grove Road From South					Hubbard Road From West					
Start Time	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Int. Total**
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	1	0	0	1	0	**3**	0	0	**3**	0	10	0	0	10	0	3	**4**	0	7	21
07:15 AM	0	1	**1**	0	2	0	3	0	0	3	**1**	**14**	0	0	**15**	1	**6**	4	0	**11**	**31**
07:30 AM	**4**	**5**	0	0	**9**	0	2	0	0	2	0	8	0	0	8	1	5	3	0	9	28
07:45 AM	1	4	0	0	5	**2**	1	0	0	3	0	6	0	0	6	**2**	3	3	0	8	22
Total Volume	5	11	1	0	17	2	9	0	0	11	1	38	0	0	39	4	17	14	0	35	102
% App. Total	29.4	64.7	5.9	0		18.2	81.8	0	0		2.6	97.4	0	0		11.4	48.6	40	0		
PHF	.313	.550	.250	.000	.472	.250	.750	.000	.000	.917	.250	.679	.000	.000	.650	.500	.708	.875	.000	.795	.823



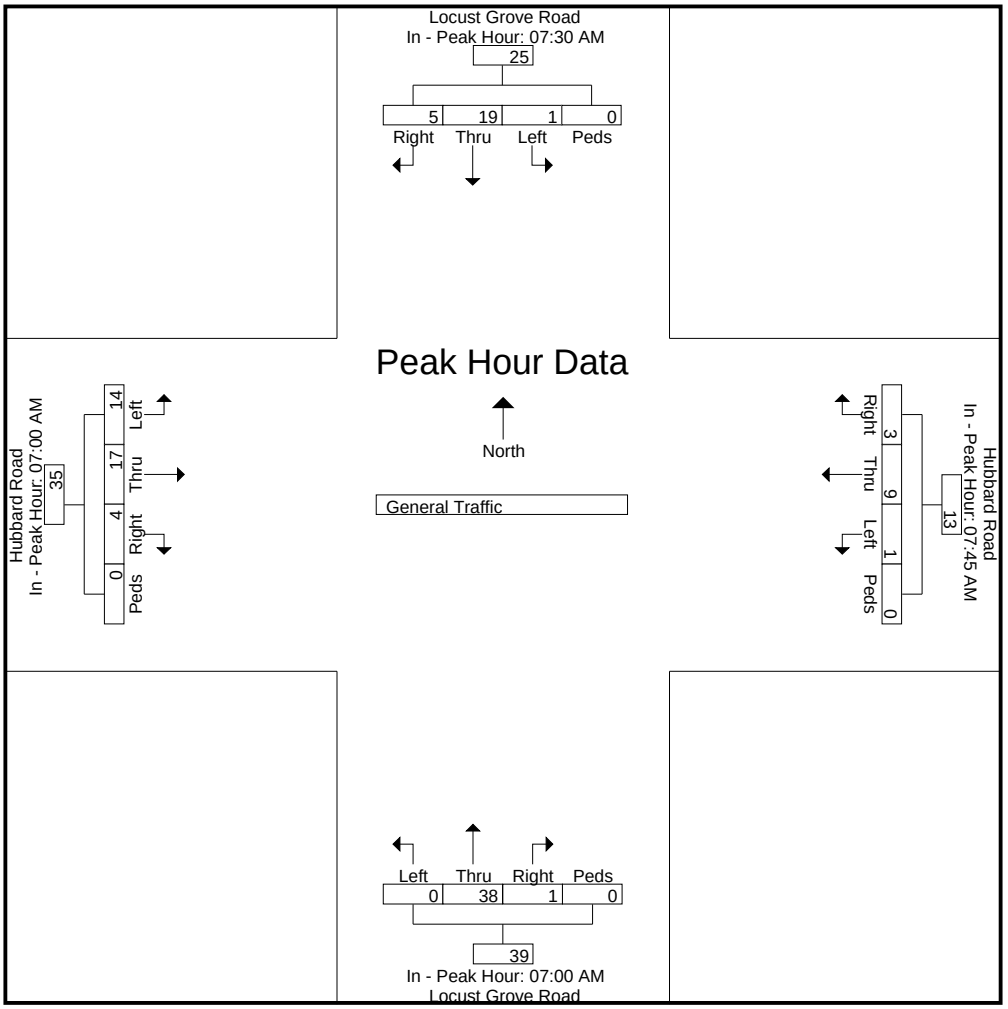
L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: WHPA0002
Intersection: Locust Grove / Hubbard Rd
City, State: Ada County, Idaho
Control: Stop Sign

File Name : Locust Grove Rd & Hubbard Rd
Site Code : 00000000
Start Date : 8/7/2018
Page No : 4

	Locust Grove Road From North					Hubbard Road From East					Locust Grove Road From South					Hubbard Road From West					
Start Time	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Int. Total**
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:30 AM					07:45 AM					07:00 AM					07:00 AM					
+0 mins.	**4**	5	0	0	**9**	**2**	1	0	0	3	0	10	0	0	10	0	3	**4**	0	7	
+15 mins.	1	4	0	0	5	1	**3**	0	0	**4**	**1**	**14**	0	0	**15**	1	**6**	4	0	**11**	
+30 mins.	0	4	0	0	4	0	2	0	0	2	0	8	0	0	8	1	5	3	0	9	
+45 mins.	0	**6**	**1**	0	7	0	3	**1**	0	4	0	6	0	0	6	**2**	3	3	0	8	
Total Volume	5	19	1	0	25	3	9	1	0	13	1	38	0	0	39	4	17	14	0	35	
% App. Total	20	76	4	0		23.1	69.2	7.7	0		2.6	97.4	0	0		11.4	48.6	40	0		
PHF	.313	.792	.250	.000	.694	.375	.750	.250	.000	.813	.250	.679	.000	.000	.650	.500	.708	.875	.000	.795	



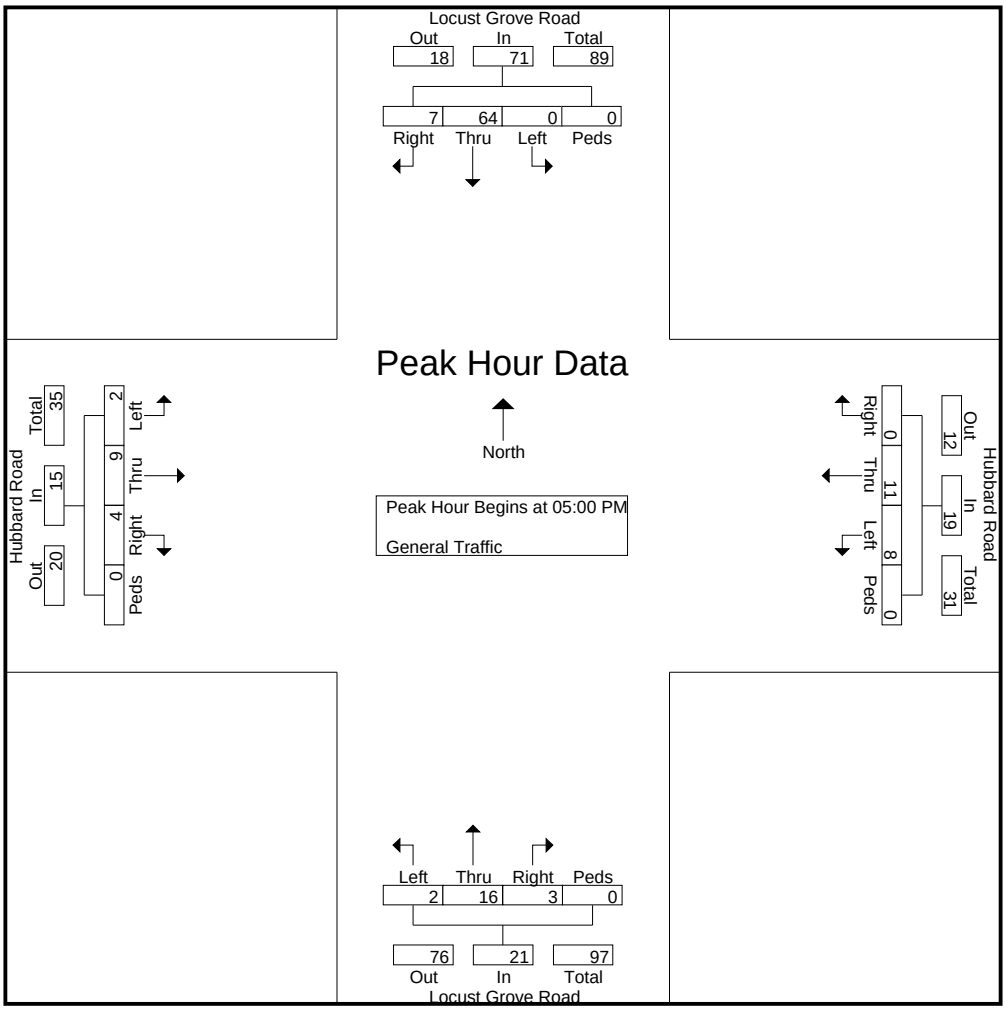
L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: WHPA0002
Intersection: Locust Grove / Hubbard Rd
City, State: Ada County, Idaho
Control: Stop Sign

File Name : Locust Grove Rd & Hubbard Rd
Site Code : 00000000
Start Date : 8/7/2018
Page No : 5

	Locust Grove Road From North					Hubbard Road From East					Locust Grove Road From South					Hubbard Road From West					
Start Time	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Int. Total**
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	1	16	0	0	17	0	1	1	0	2	**1**	**7**	**2**	0	**10**	0	1	**1**	0	2	31
05:15 PM	1	14	0	0	15	0	2	**3**	0	5	0	2	0	0	2	1	3	1	0	5	27
05:30 PM	2	**19**	0	0	**21**	0	**5**	1	0	**6**	1	4	0	0	5	1	1	0	0	2	**34**
05:45 PM	**3**	15	0	0	18	0	3	3	0	6	1	3	0	0	4	**2**	**4**	0	0	**6**	34
Total Volume	7	64	0	0	71	0	11	8	0	19	3	16	2	0	21	4	9	2	0	15	126
% App. Total	9.9	90.1	0	0		0	57.9	42.1	0		14.3	76.2	9.5	0		26.7	60	13.3	0		
PHF	.583	.842	.000	.000	.845	.000	.550	.667	.000	.792	.750	.571	.250	.000	.525	.500	.563	.500	.000	.625	.926



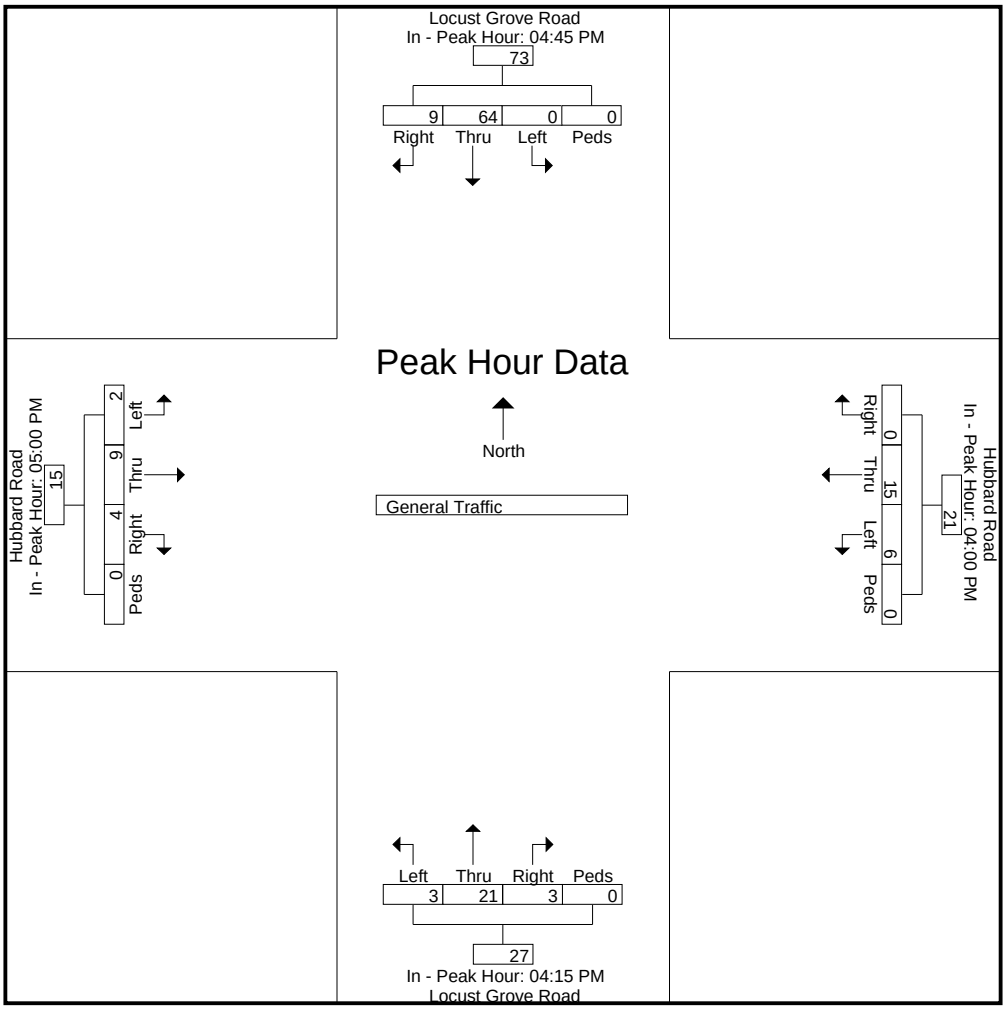
L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: WHPA0002
Intersection: Locust Grove / Hubbard Rd
City, State: Ada County, Idaho
Control: Stop Sign

File Name : Locust Grove Rd & Hubbard Rd
Site Code : 00000000
Start Date : 8/7/2018
Page No : 6

	Locust Grove Road From North					Hubbard Road From East					Locust Grove Road From South					Hubbard Road From West					
Start Time	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Int. Total**
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	04:45 PM					04:00 PM					04:15 PM					05:00 PM					
+0 mins.	**5**	15	0	0	20	0	3	**4**	0	**7**	**1**	**9**	0	0	**10**	0	1	**1**	0	2	
+15 mins.	1	16	0	0	17	0	1	1	0	2	1	3	0	0	4	1	3	1	0	5	
+30 mins.	1	14	0	0	15	0	5	1	0	6	0	2	1	0	3	1	1	0	0	2	
+45 mins.	2	**19**	0	0	**21**	0	**6**	0	0	6	1	7	**2**	0	10	**2**	**4**	0	0	**6**	
Total Volume	9	64	0	0	73	0	15	6	0	21	3	21	3	0	27	4	9	2	0	15	
% App. Total	12.3	87.7	0	0		0	71.4	28.6	0		11.1	77.8	11.1	0		26.7	60	13.3	0		
PHF	.450	.842	.000	.000	.869	.000	.625	.375	.000	.750	.750	.583	.375	.000	.675	.500	.563	.500	.000	.625	



L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: WHPA0002
Intersection: Locust Grove / Hubbard Rd
City, State: Ada County, Idaho
Control: Stop Sign

File Name : Locust Grove Rd & Hubbard Rd
Site Code : 00000000
Start Date : 8/7/2018
Page No : 7

Image 1



L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: WHPA0002
Intersection: Locust Grove / Columbia Rd
City, State: Ada County, Idaho
Control: All Stop

File Name : Locust Grove Rd & Columbia Rd
Site Code : 00000000
Start Date : 8/7/2018
Page No : 1

Groups Printed- General Traffic

	Locust Grove Road From North					Hubbard Road From East					Locust Grove Road From South					Columbia Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	1	1	2	0	4	1	12	0	0	13	2	11	0	0	13	0	41	15	0	56	86
07:15 AM	4	1	6	0	11	3	19	1	0	23	0	17	2	0	19	1	51	20	0	72	125
07:30 AM	8	7	7	0	22	4	21	2	0	27	3	9	0	0	12	3	69	14	0	86	147
07:45 AM	3	7	3	0	13	7	19	1	0	27	2	4	2	0	8	0	50	12	0	62	110
Total	16	16	18	0	50	15	71	4	0	90	7	41	4	0	52	4	211	61	0	276	468
08:00 AM	4	2	2	0	8	1	12	1	0	14	0	11	1	0	12	0	33	6	0	39	73
08:15 AM	1	3	1	0	5	5	10	0	0	15	4	10	1	0	15	2	19	8	0	29	64
08:30 AM	1	1	4	0	6	3	20	5	0	28	1	7	0	0	8	2	29	4	0	35	77
08:45 AM	0	2	3	0	5	5	11	1	0	17	1	5	1	0	7	2	25	4	0	31	60
Total	6	8	10	0	24	14	53	7	0	74	6	33	3	0	42	6	106	22	0	134	274

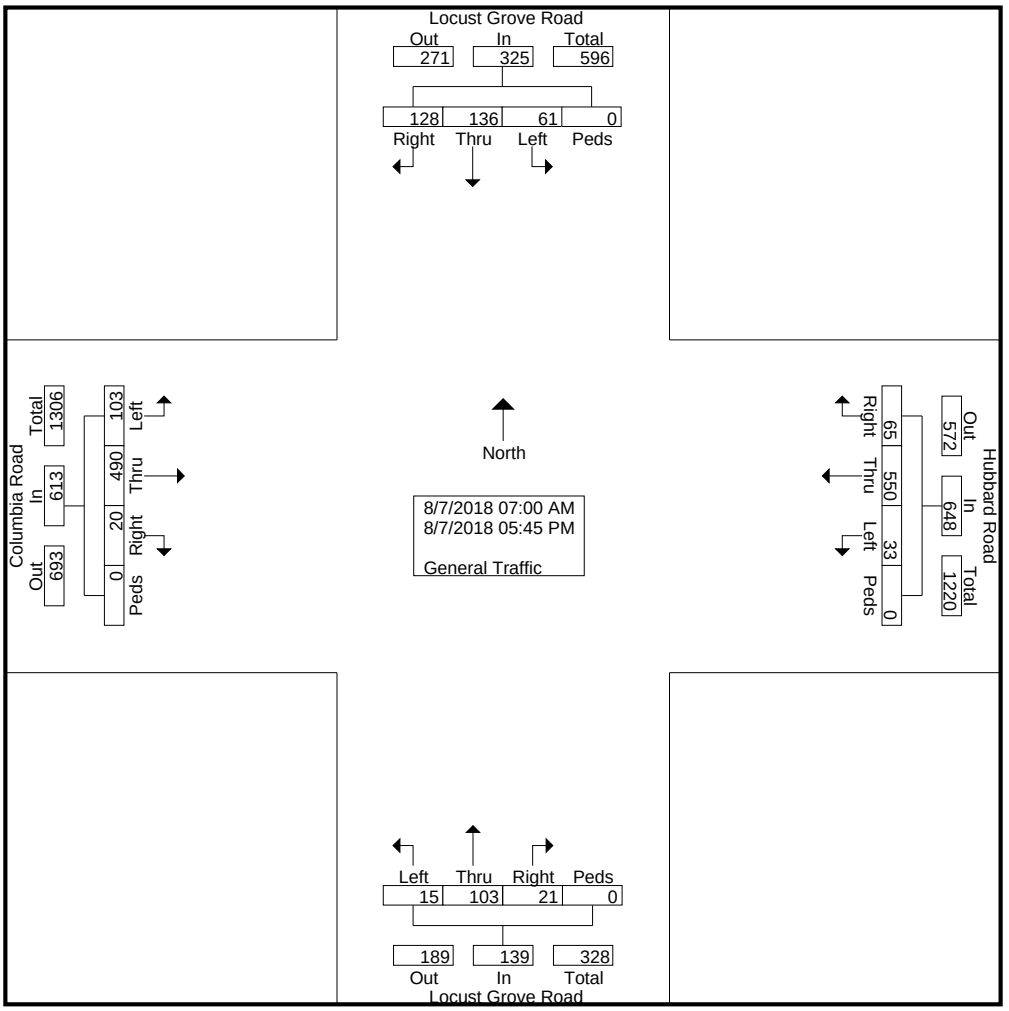
04:00 PM	6	14	6	0	26	7	41	2	0	50	1	0	1	0	2	2	13	0	0	15	93
04:15 PM	4	15	2	0	21	4	39	2	0	45	1	6	4	0	11	1	21	1	0	23	100
04:30 PM	12	12	5	0	29	1	44	2	0	47	0	8	0	0	8	1	18	2	0	21	105
04:45 PM	20	15	4	0	39	6	64	4	0	74	1	2	0	0	3	0	14	5	0	19	135
Total	42	56	17	0	115	18	188	10	0	216	3	16	5	0	24	4	66	8	0	78	433
05:00 PM	18	15	1	0	34	4	66	0	0	70	3	5	2	0	10	1	22	3	0	26	140
05:15 PM	16	12	6	0	34	7	68	3	0	78	1	2	0	0	3	1	29	3	0	33	148
05:30 PM	14	16	5	0	35	2	61	3	0	66	1	2	0	0	3	2	28	4	0	34	138
05:45 PM	16	13	4	0	33	5	43	6	0	54	0	4	1	0	5	2	28	2	0	32	124
Total	64	56	16	0	136	18	238	12	0	268	5	13	3	0	21	6	107	12	0	125	550
Grand Total	128	136	61	0	325	65	550	33	0	648	21	103	15	0	139	20	490	103	0	613	1725
Apprch %	39.4	41.8	18.8	0		10	84.9	5.1	0		15.1	74.1	10.8	0		3.3	79.9	16.8	0		
Total %	7.4	7.9	3.5	0	18.8	3.8	31.9	1.9	0	37.6	1.2	6	0.9	0	8.1	1.2	28.4	6	0	35.5	

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: WHPA0002
Intersection: Locust Grove / Columbia Rd
City, State: Ada County, Idaho
Control: All Stop

File Name : Locust Grove Rd & Columbia Rd
Site Code : 00000000
Start Date : 8/7/2018
Page No : 2



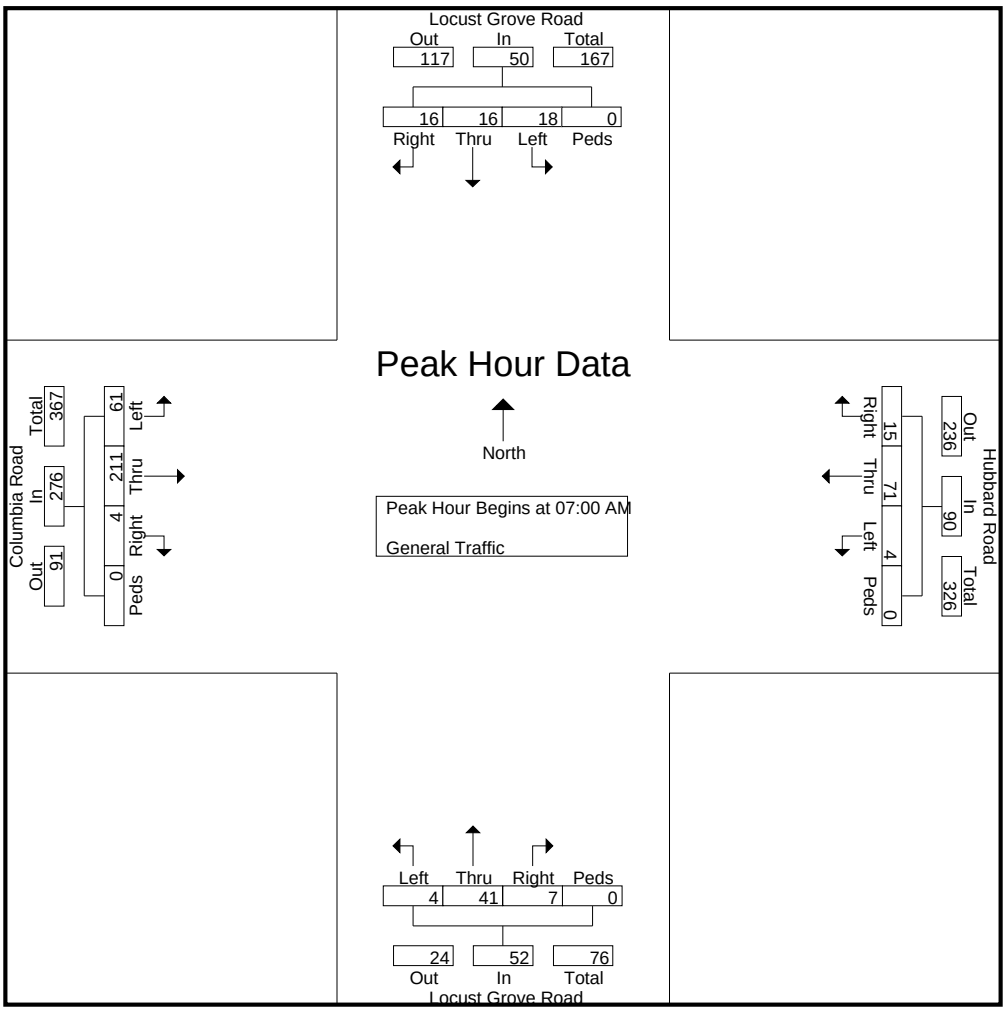
L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: WHPA0002
Intersection: Locust Grove / Columbia Rd
City, State: Ada County, Idaho
Control: All Stop

File Name : Locust Grove Rd & Columbia Rd
Site Code : 00000000
Start Date : 8/7/2018
Page No : 3

	Locust Grove Road From North					Hubbard Road From East					Locust Grove Road From South					Columbia Road From West					
Start Time	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Int. Total**
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	1	1	2	0	4	1	12	0	0	13	2	11	0	0	13	0	41	15	0	56	86
07:15 AM	4	1	6	0	11	3	19	1	0	23	0	**17**	**2**	0	**19**	1	51	**20**	0	72	125
07:30 AM	**8**	**7**	**7**	0	**22**	4	**21**	**2**	0	**27**	**3**	9	0	0	12	**3**	**69**	14	0	**86**	**147**
07:45 AM	3	7	3	0	13	**7**	19	1	0	27	2	4	2	0	8	0	50	12	0	62	110
Total Volume	16	16	18	0	50	15	71	4	0	90	7	41	4	0	52	4	211	61	0	276	468
% App. Total	32	32	36	0		16.7	78.9	4.4	0		13.5	78.8	7.7	0		1.4	76.4	22.1	0		
PHF	.500	.571	.643	.000	.568	.536	.845	.500	.000	.833	.583	.603	.500	.000	.684	.333	.764	.763	.000	.802	.796



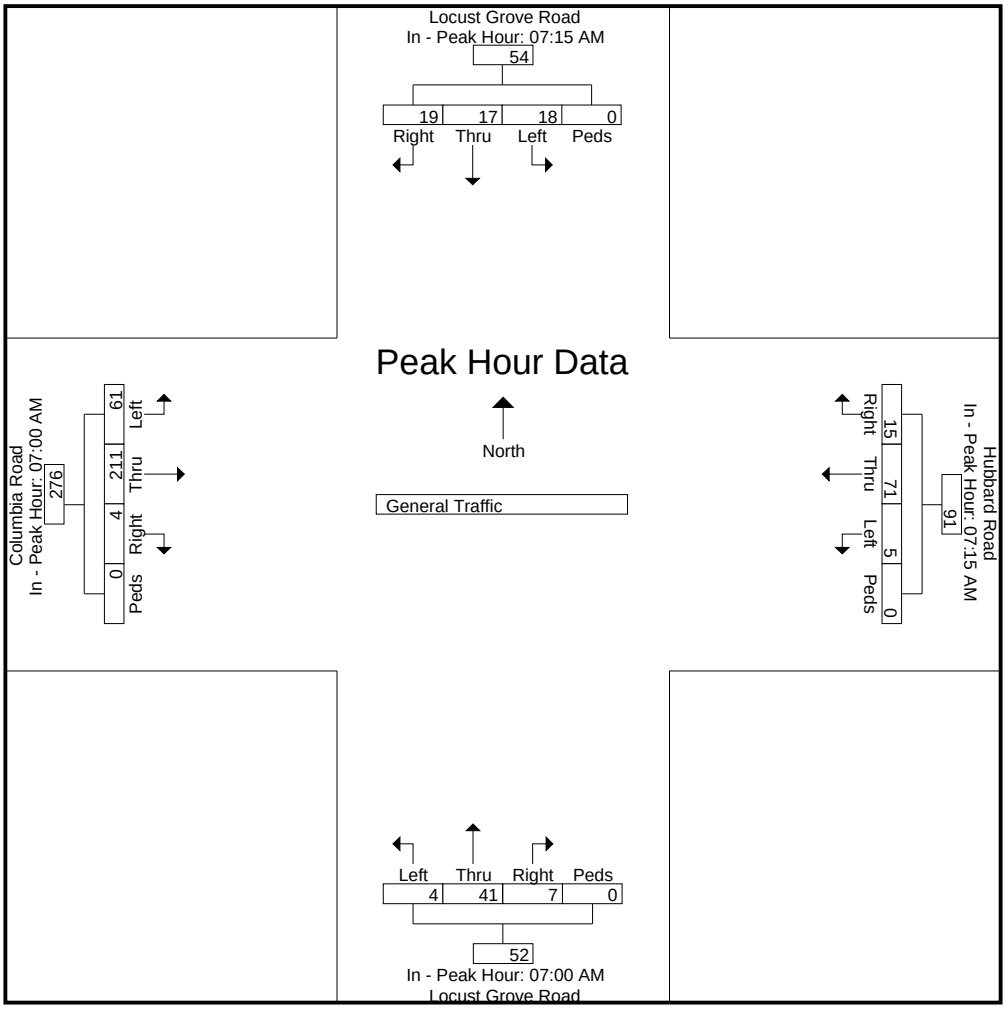
L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: WHPA0002
Intersection: Locust Grove / Columbia Rd
City, State: Ada County, Idaho
Control: All Stop

File Name : Locust Grove Rd & Columbia Rd
Site Code : 00000000
Start Date : 8/7/2018
Page No : 4

	Locust Grove Road From North					Hubbard Road From East					Locust Grove Road From South					Columbia Road From West					
Start Time	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Int. Total**
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:15 AM					07:15 AM					07:00 AM					07:00 AM					
+0 mins.	4	1	6	0	11	3	19	1	0	23	2	11	0	0	13	0	41	15	0	56	
+15 mins.	**8**	**7**	**7**	0	**22**	4	**21**	**2**	0	**27**	0	**17**	**2**	0	**19**	1	51	**20**	0	72	
+30 mins.	3	7	3	0	13	**7**	19	1	0	27	**3**	9	0	0	12	**3**	**69**	14	0	**86**	
+45 mins.	4	2	2	0	8	1	12	1	0	14	2	4	2	0	8	0	50	12	0	62	
Total Volume	19	17	18	0	54	15	71	5	0	91	7	41	4	0	52	4	211	61	0	276	
% App. Total	35.2	31.5	33.3	0		16.5	78	5.5	0		13.5	78.8	7.7	0		1.4	76.4	22.1	0		
PHF	.594	.607	.643	.000	.614	.536	.845	.625	.000	.843	.583	.603	.500	.000	.684	.333	.764	.763	.000	.802	



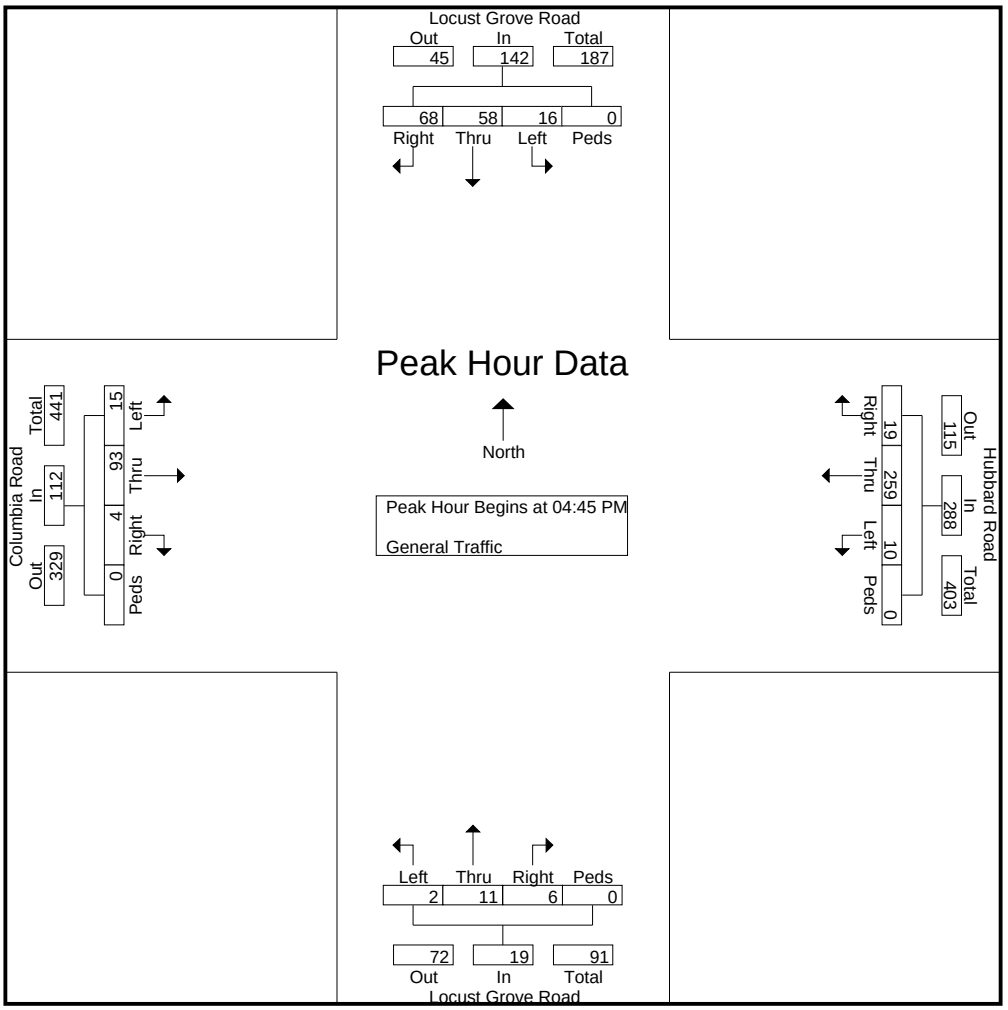
L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: WHPA0002
Intersection: Locust Grove / Columbia Rd
City, State: Ada County, Idaho
Control: All Stop

File Name : Locust Grove Rd & Columbia Rd
Site Code : 00000000
Start Date : 8/7/2018
Page No : 5

	Locust Grove Road From North					Hubbard Road From East					Locust Grove Road From South					Columbia Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	**20**	15	4	0	**39**	6	64	**4**	0	74	1	2	0	0	3	0	14	**5**	0	19	135
05:00 PM	18	15	1	0	34	4	66	0	0	70	**3**	**5**	**2**	0	**10**	1	22	3	0	26	140
05:15 PM	16	12	**6**	0	34	**7**	**68**	3	0	**78**	1	2	0	0	3	1	**29**	3	0	33	**148**
05:30 PM	14	**16**	5	0	35	2	61	3	0	66	1	2	0	0	3	**2**	28	4	0	**34**	138
Total Volume	68	58	16	0	142	19	259	10	0	288	6	11	2	0	19	4	93	15	0	112	561
% App. Total	47.9	40.8	11.3	0		6.6	89.9	3.5	0		31.6	57.9	10.5	0		3.6	83	13.4	0		
PHF	.850	.906	.667	.000	.910	.679	.952	.625	.000	.923	.500	.550	.250	.000	.475	.500	.802	.750	.000	.824	.948



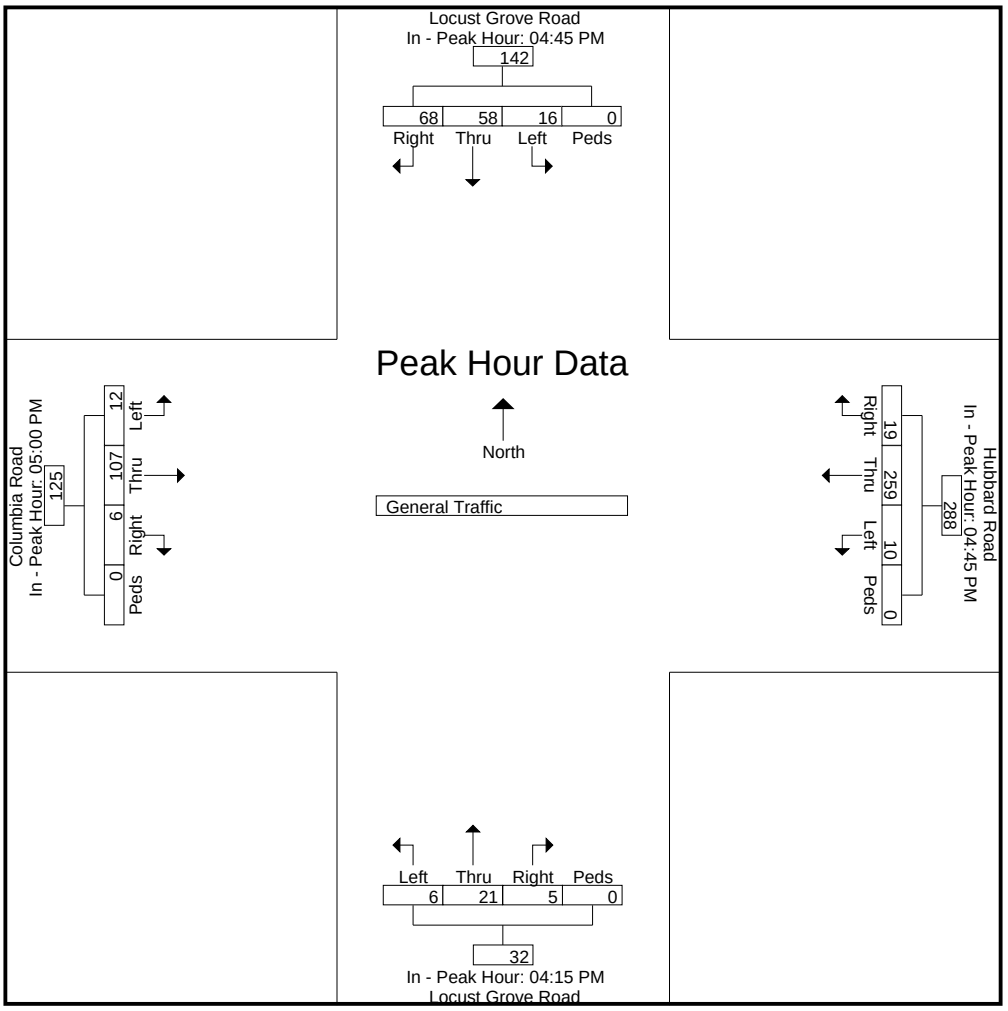
L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: WHPA0002
Intersection: Locust Grove / Columbia Rd
City, State: Ada County, Idaho
Control: All Stop

File Name : Locust Grove Rd & Columbia Rd
Site Code : 00000000
Start Date : 8/7/2018
Page No : 6

	Locust Grove Road From North					Hubbard Road From East					Locust Grove Road From South					Columbia Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	04:45 PM					04:45 PM					04:15 PM					05:00 PM					
+0 mins.	**20**	15	4	0	**39**	6	64	**4**	0	74	1	6	**4**	0	**11**	1	22	3	0	26	
+15 mins.	18	15	1	0	34	4	66	0	0	70	0	**8**	0	0	8	1	**29**	3	0	33	
+30 mins.	16	12	**6**	0	34	**7**	**68**	3	0	**78**	1	2	0	0	3	**2**	28	**4**	0	**34**	
+45 mins.	14	**16**	5	0	35	2	61	3	0	66	**3**	5	2	0	10	2	28	2	0	32	
Total Volume	68	58	16	0	142	19	259	10	0	288	5	21	6	0	32	6	107	12	0	125	
% App. Total	47.9	40.8	11.3	0		6.6	89.9	3.5	0		15.6	65.6	18.8	0		4.8	85.6	9.6	0		
PHF	.850	.906	.667	.000	.910	.679	.952	.625	.000	.923	.417	.656	.375	.000	.727	.750	.922	.750	.000	.919	



L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: WHPA0002
Intersection: Locust Grove / Columbia Rd
City, State: Ada County, Idaho
Control: All Stop

File Name : Locust Grove Rd & Columbia Rd
Site Code : 00000000
Start Date : 8/7/2018
Page No : 7

Image 1



L2 Data Collection

L2DataColletion.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: WHPA0005
Intersection: Locust Grove / Lake Hazel
City, State: Kuna, Idaho
Control: Stop Sign

File Name : Locust Grove Rd & Lake Hazel Rd
Site Code : 00000000
Start Date : 9/10/2019
Page No : 1

Groups Printed- General Traffic

	Locust Grove Road From North					Lake Hazel Road From East					Locust Grove Road From South					Lake Hazel Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	4	5	6	0	15	21	41	1	0	63	3	30	0	0	33	0	39	6	0	45	156
07:15 AM	0	10	7	0	17	20	56	4	0	80	4	23	1	0	28	2	65	2	1	70	195
07:30 AM	2	5	8	0	15	11	53	1	0	65	3	18	2	0	23	0	73	6	0	79	182
07:45 AM	2	9	10	0	21	12	34	2	0	48	1	35	0	0	36	0	71	6	0	77	182
Total	8	29	31	0	68	64	184	8	0	256	11	106	3	0	120	2	248	20	1	271	715
08:00 AM	3	8	14	0	25	8	34	1	1	44	3	26	0	0	29	1	68	2	1	72	170
08:15 AM	1	5	6	0	12	12	39	1	0	52	3	20	1	0	24	1	50	7	0	58	146
08:30 AM	3	8	8	0	19	16	28	3	0	47	2	23	0	0	25	0	36	1	0	37	128
08:45 AM	1	13	8	0	22	10	36	0	0	46	3	28	0	0	31	1	38	6	0	45	144
Total	8	34	36	0	78	46	137	5	1	189	11	97	1	0	109	3	192	16	1	212	588

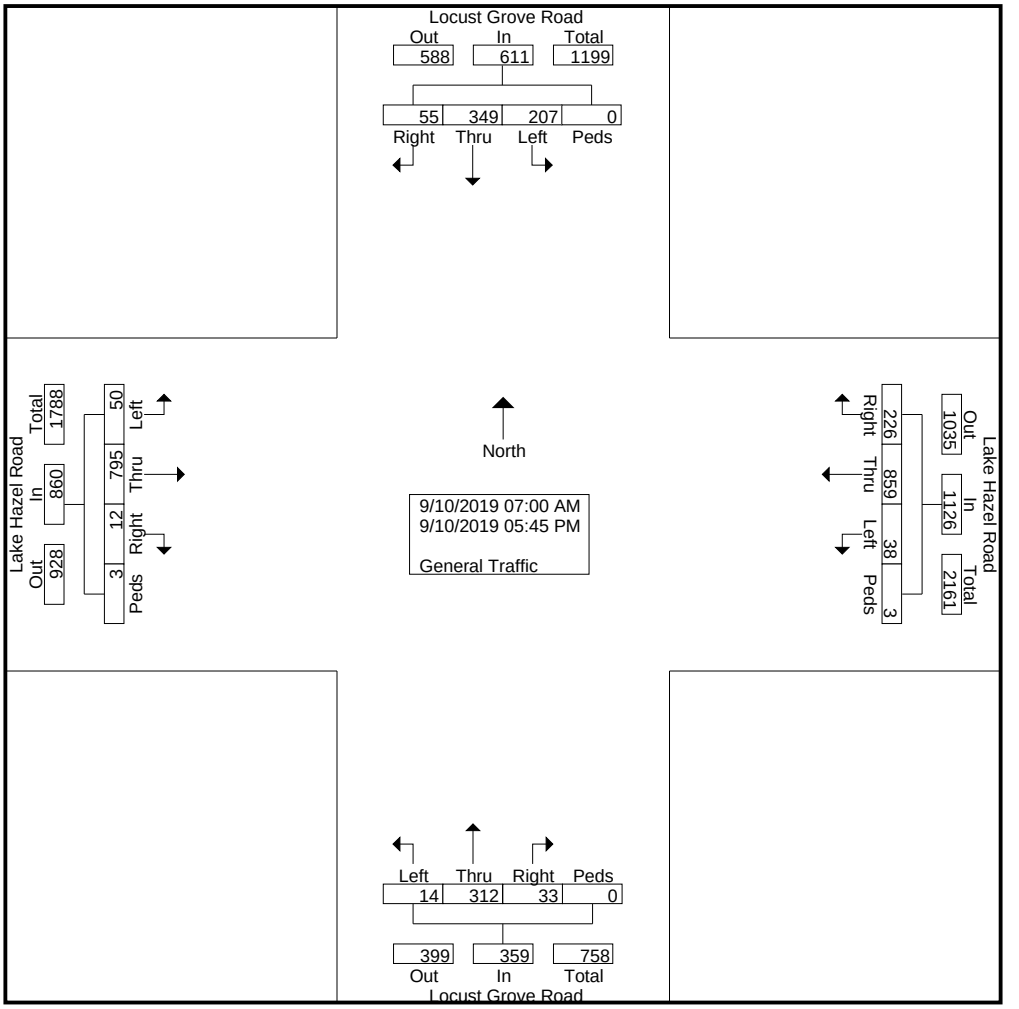
04:00 PM	4	28	13	0	45	14	45	4	0	63	0	10	1	0	11	1	36	2	0	39	158
04:15 PM	4	22	17	0	43	11	74	4	0	89	0	13	2	0	15	0	37	3	1	41	188
04:30 PM	3	33	18	0	54	12	70	3	0	85	1	13	0	0	14	2	46	2	0	50	203
04:45 PM	7	42	20	0	69	11	68	1	2	82	1	9	1	0	11	1	39	0	0	40	202
Total	18	125	68	0	211	48	257	12	2	319	2	45	4	0	51	4	158	7	1	170	751
05:00 PM	6	37	19	0	62	18	78	1	0	97	2	14	4	0	20	0	57	1	0	58	237
05:15 PM	3	47	26	0	76	22	70	4	0	96	3	15	1	0	19	2	56	1	0	59	250
05:30 PM	8	31	18	0	57	16	73	5	0	94	2	19	0	0	21	0	37	3	0	40	212
05:45 PM	4	46	9	0	59	12	60	3	0	75	2	16	1	0	19	1	47	2	0	50	203
Total	21	161	72	0	254	68	281	13	0	362	9	64	6	0	79	3	197	7	0	207	902
Grand Total	55	349	207	0	611	226	859	38	3	1126	33	312	14	0	359	12	795	50	3	860	2956
Apprch %	9	57.1	33.9	0		20.1	76.3	3.4	0.3		9.2	86.9	3.9	0		1.4	92.4	5.8	0.3		
Total %	1.9	11.8	7	0	20.7	7.6	29.1	1.3	0.1	38.1	1.1	10.6	0.5	0	12.1	0.4	26.9	1.7	0.1	29.1	

L2 Data Collection

L2DataColletion.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: WHPA0005
Intersection: Locust Grove / Lake Hazel
City, State: Kuna, Idaho
Control: Stop Sign

File Name : Locust Grove Rd & Lake Hazel Rd
Site Code : 00000000
Start Date : 9/10/2019
Page No : 2



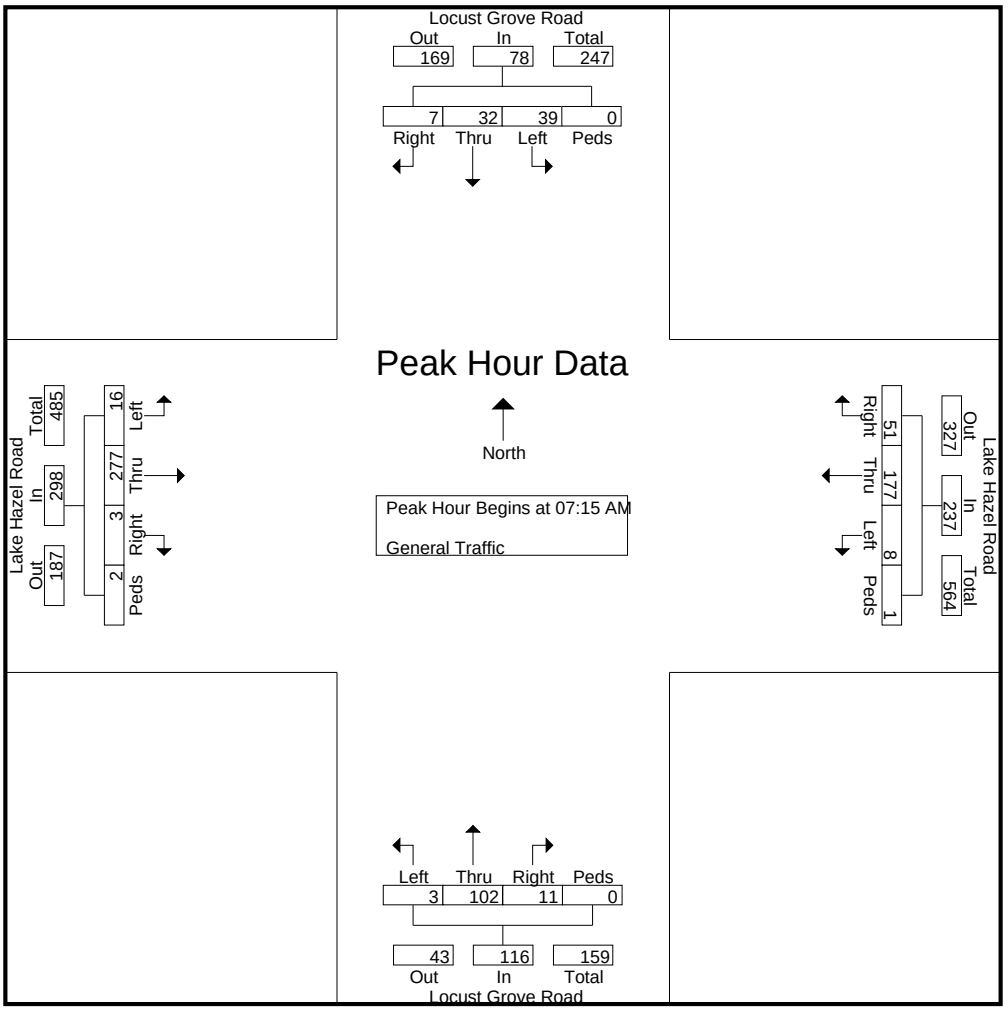
L2 Data Collection

L2DataColletion.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: WHPA0005
Intersection: Locust Grove / Lake Hazel
City, State: Kuna, Idaho
Control: Stop Sign

File Name : Locust Grove Rd & Lake Hazel Rd
Site Code : 00000000
Start Date : 9/10/2019
Page No : 3

	Locust Grove Road From North					Lake Hazel Road From East					Locust Grove Road From South					Lake Hazel Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	**10**	7	0	17	**20**	**56**	**4**	0	**80**	**4**	23	1	0	28	**2**	65	2	**1**	70	**195**
07:30 AM	2	5	8	0	15	11	53	1	0	65	3	18	**2**	0	23	0	**73**	**6**	0	**79**	182
07:45 AM	2	9	10	0	21	12	34	2	0	48	1	**35**	0	0	**36**	0	71	6	0	77	182
08:00 AM	**3**	8	**14**	0	**25**	8	34	1	**1**	44	3	26	0	0	29	1	68	2	1	72	170
Total Volume	7	32	39	0	78	51	177	8	1	237	11	102	3	0	116	3	277	16	2	298	729
% App. Total	9	41	50	0		21.5	74.7	3.4	0.4		9.5	87.9	2.6	0		1	93	5.4	0.7		
PHF	.583	.800	.696	.000	.780	.638	.790	.500	.250	.741	.688	.729	.375	.000	.806	.375	.949	.667	.500	.943	.935



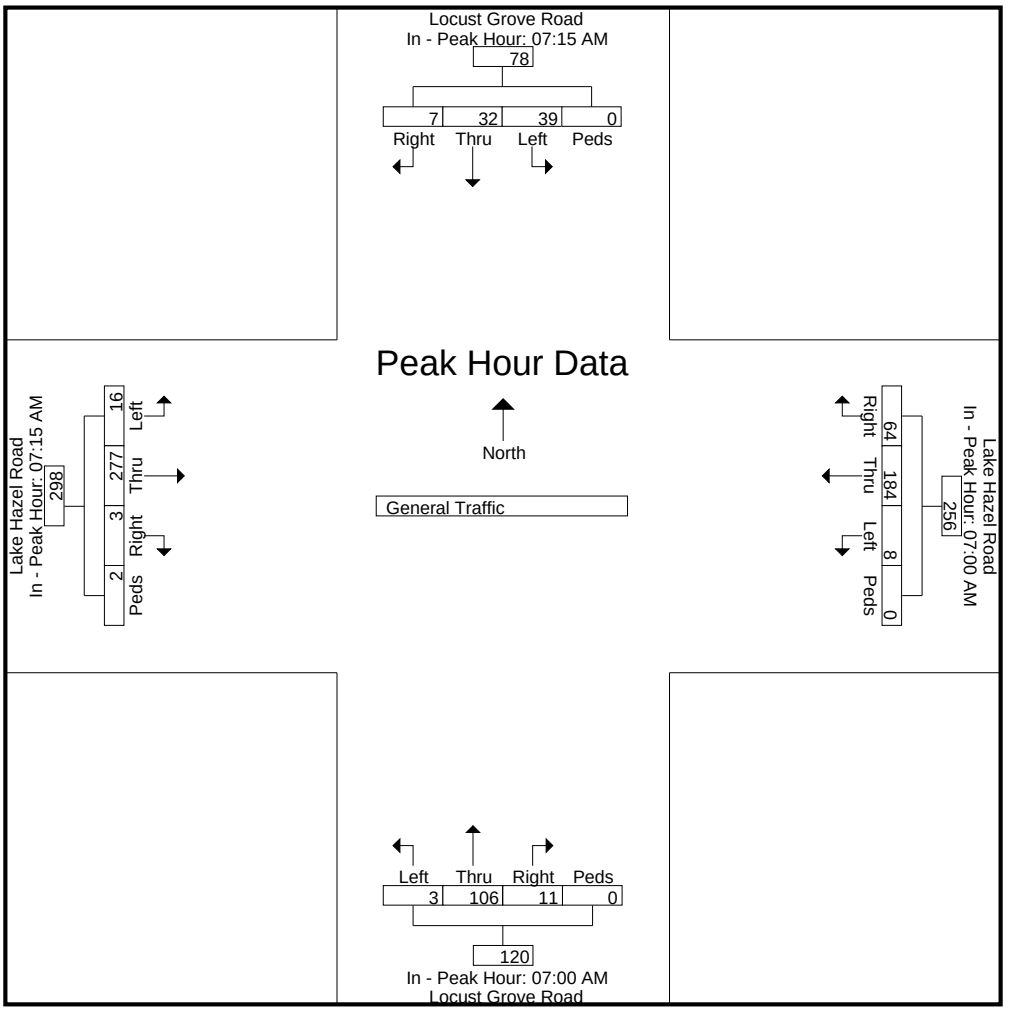
L2 Data Collection

L2DataColletion.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: WHPA0005
Intersection: Locust Grove / Lake Hazel
City, State: Kuna, Idaho
Control: Stop Sign

File Name : Locust Grove Rd & Lake Hazel Rd
Site Code : 00000000
Start Date : 9/10/2019
Page No : 4

	Locust Grove Road From North					Lake Hazel Road From East					Locust Grove Road From South					Lake Hazel Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:15 AM					07:00 AM					07:00 AM					07:15 AM					
+0 mins.	0	**10**	7	0	17	**21**	41	1	0	63	3	30	0	0	33	**2**	65	2	**1**	70	
+15 mins.	2	5	8	0	15	20	**56**	**4**	0	**80**	**4**	23	1	0	28	0	**73**	**6**	0	**79**	
+30 mins.	2	9	10	0	21	11	53	1	0	65	3	18	**2**	0	23	0	71	6	0	77	
+45 mins.	**3**	8	**14**	0	**25**	12	34	2	0	48	1	**35**	0	0	**36**	1	68	2	1	72	
Total Volume	7	32	39	0	78	64	184	8	0	256	11	106	3	0	120	3	277	16	2	298	
% App. Total	9	41	50	0		25	71.9	3.1	0		9.2	88.3	2.5	0		1	93	5.4	0.7		
PHF	.583	.800	.696	.000	.780	.762	.821	.500	.000	.800	.688	.757	.375	.000	.833	.375	.949	.667	.500	.943	



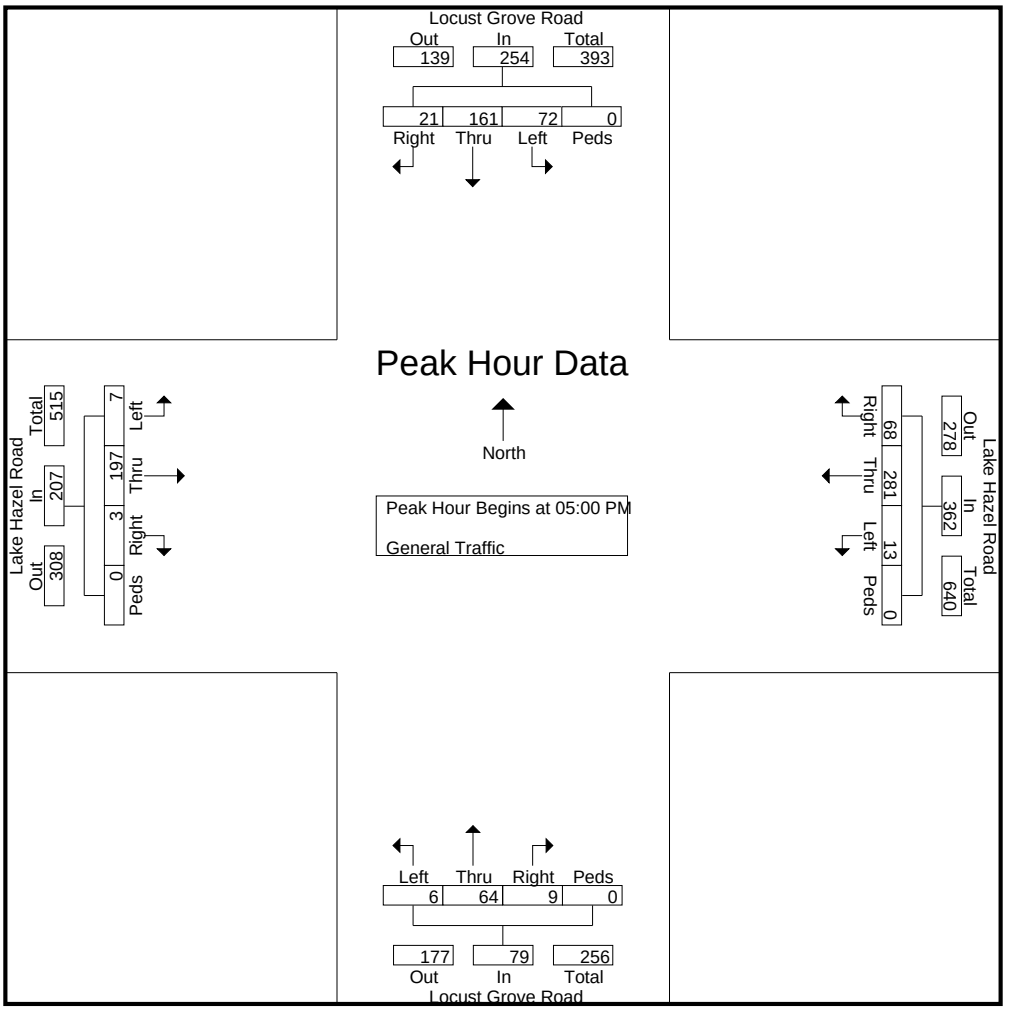
L2 Data Collection

L2DataColletion.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: WHPA0005
Intersection: Locust Grove / Lake Hazel
City, State: Kuna, Idaho
Control: Stop Sign

File Name : Locust Grove Rd & Lake Hazel Rd
Site Code : 00000000
Start Date : 9/10/2019
Page No : 5

	Locust Grove Road From North					Lake Hazel Road From East					Locust Grove Road From South					Lake Hazel Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	6	37	19	0	62	18	**78**	1	0	**97**	2	14	**4**	0	20	0	**57**	1	0	58	237
05:15 PM	3	**47**	**26**	0	**76**	**22**	70	4	0	96	**3**	15	1	0	19	**2**	56	1	0	**59**	**250**
05:30 PM	**8**	31	18	0	57	16	73	**5**	0	94	2	**19**	0	0	**21**	0	37	**3**	0	40	212
05:45 PM	4	46	9	0	59	12	60	3	0	75	2	16	1	0	19	1	47	2	0	50	203
Total Volume	21	161	72	0	254	68	281	13	0	362	9	64	6	0	79	3	197	7	0	207	902
% App. Total	8.3	63.4	28.3	0		18.8	77.6	3.6	0		11.4	81	7.6	0		1.4	95.2	3.4	0		
PHF	.656	.856	.692	.000	.836	.773	.901	.650	.000	.933	.750	.842	.375	.000	.940	.375	.864	.583	.000	.877	.902



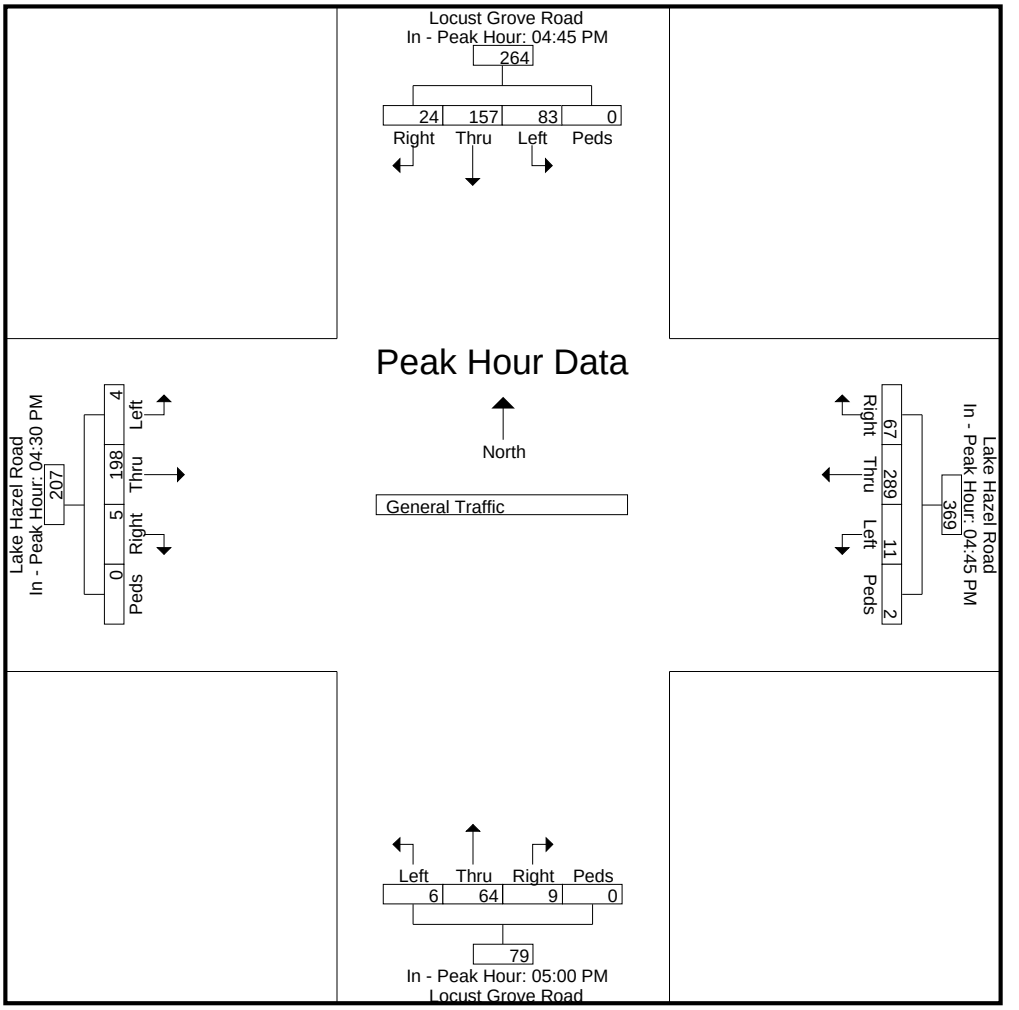
L2 Data Collection

L2DataColletion.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: WHPA0005
Intersection: Locust Grove / Lake Hazel
City, State: Kuna, Idaho
Control: Stop Sign

File Name : Locust Grove Rd & Lake Hazel Rd
Site Code : 00000000
Start Date : 9/10/2019
Page No : 6

	Locust Grove Road From North					Lake Hazel Road From East					Locust Grove Road From South					Lake Hazel Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	04:45 PM					04:45 PM					05:00 PM					04:30 PM					
+0 mins.	7	42	20	0	69	11	68	1	**2**	82	2	14	**4**	0	20	**2**	46	**2**	0	50	
+15 mins.	6	37	19	0	62	18	**78**	1	0	**97**	**3**	15	1	0	19	1	39	0	0	40	
+30 mins.	3	**47**	**26**	0	**76**	**22**	70	4	0	96	2	**19**	0	0	**21**	0	**57**	1	0	58	
+45 mins.	**8**	31	18	0	57	16	73	**5**	0	94	2	16	1	0	19	2	56	1	0	**59**	
Total Volume	24	157	83	0	264	67	289	11	2	369	9	64	6	0	79	5	198	4	0	207	
% App. Total	9.1	59.5	31.4	0		18.2	78.3	3	0.5		11.4	81	7.6	0		2.4	95.7	1.9	0		
PHF	.750	.835	.798	.000	.868	.761	.926	.550	.250	.951	.750	.842	.375	.000	.940	.625	.868	.500	.000	.877	



L2 Data Collection

L2DataColletion.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: WHPA0005
Intersection: Locust Grove / Lake Hazel
City, State: Kuna, Idaho
Control: Stop Sign

File Name : Locust Grove Rd & Lake Hazel Rd
Site Code : 00000000
Start Date : 9/10/2019

Image 1



L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: WHPA0002
Type: Volume / Direction
Tech: Judd / Klaren
Count: Axle Hits /2

Hubbard Rd b Meridian Rd & Hubbard Rd VOL
Date Start: 07-Aug-18
Date End: 08-Aug-18
Hubbard Rd between Meridian Rd & Locust
Ada County, Idaho

Start Time	07-Aug-18 Tue	WB	EB							Total
12:00 AM		*	*							*
12:15		*	*							*
12:30		*	*							*
12:45		*	*							*
01:00		*	*							*
01:15		*	*							*
01:30		*	*							*
01:45		*	*							*
02:00		*	*							*
02:15		*	*							*
02:30		*	*							*
02:45		*	*							*
03:00		0	0							0
03:15		0	0							0
03:30		0	0							0
03:45		0	0							0
04:00		0	1							1
04:15		0	0							0
04:30		0	0							0
04:45		0	0							0
05:00		0	4							4
05:15		0	0							0
05:30		1	0							1
05:45		0	0							0
06:00		0	2							2
06:15		0	3							3
06:30		1	**10**							11
06:45		2	**9**							11
07:00		2	**7**							9
07:15		3	**10**							13
07:30		6	9							15
07:45		3	8							11
08:00		2	8							10
08:15		2	0							2
08:30		12	6							18
08:45		1	1							2
09:00		4	6							10
09:15		**4**	10							14
09:30		**6**	6							**12**
09:45		**11**	2							**13**
10:00		**8**	3							**11**
10:15		4	14							**18**
10:30		6	2							8
10:45		8	6							14
11:00		7	5							12
11:15		4	6							10
11:30		6	3							9
11:45		8	4							12
Total		111	145							256
Percent		43.4%	56.6%							
Peak	-	09:15	06:30	-	-	-	-	-	-	09:30
Vol.	-	29	36	-	-	-	-	-	-	54
P.H.F.		0.659	0.900							0.750

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: WHPA0002
Type: Volume / Direction
Tech: Judd / Klaren
Count: Axle Hits /2

Hubbard Rd b Meridian Rd & Hubbard Rd VOL
Date Start: 07-Aug-18
Date End: 08-Aug-18
Hubbard Rd between Meridian Rd & Locust
Ada County, Idaho

Start Time	07-Aug-18 Tue	WB	EB							Total
12:00 PM		10	3							13
12:15		2	4							6
12:30		6	5							11
12:45		6	3							9
01:00		6	**6**							12
01:15		5	**10**							**15**
01:30		3	**8**							**11**
01:45		10	**4**							**14**
02:00		7	6							**13**
02:15		9	3							12
02:30		6	3							9
02:45		4	1							5
03:00		12	10							22
03:15		3	1							4
03:30		7	7							14
03:45		8	3							11
04:00		**5**	2							7
04:15		**5**	6							11
04:30		**10**	2							12
04:45		**16**	2							18
05:00		3	2							5
05:15		5	4							9
05:30		10	1							11
05:45		6	8							14
06:00		6	1							7
06:15		4	4							8
06:30		6	3							9
06:45		4	4							8
07:00		3	4							7
07:15		2	5							7
07:30		2	4							6
07:45		6	1							7
08:00		1	2							3
08:15		4	3							7
08:30		1	2							3
08:45		1	1							2
09:00		0	2							2
09:15		2	1							3
09:30		4	0							4
09:45		1	1							2
10:00		3	2							5
10:15		0	0							0
10:30		1	1							2
10:45		0	0							0
11:00		2	0							2
11:15		1	1							2
11:30		1	1							2
11:45		0	0							0
Total		219	147							366
Percent		59.8%	40.2%							
Peak	-	16:00	13:00	-	-	-	-	-	-	13:15
Vol.	-	36	28	-	-	-	-	-	-	53
P.H.F.		0.563	0.700							0.883

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: WHPA0002
Type: Volume / Direction
Tech: Judd / Klaren
Count: Axle Hits /2

Hubbard Rd b Meridian Rd & Hubbard Rd VOL
Date Start: 07-Aug-18
Date End: 08-Aug-18
Hubbard Rd between Meridian Rd & Locust
Ada County, Idaho

Start Time	08-Aug-18 Wed	WB	EB	Total
12:00 AM		**0**	0	**0**
12:15		**1**	0	**1**
12:30		**1**	**0**	**1**
12:45		**0**	**1**	**1**
01:00		0	**0**	0
01:15		0	**1**	1
01:30		0	0	0
01:45		0	1	1
02:00		1	0	1
02:15		0	0	0
02:30		0	0	0
02:45		0	0	0
03:00		*	*	*
03:15		*	*	*
03:30		*	*	*
03:45		*	*	*
04:00		*	*	*
04:15		*	*	*
04:30		*	*	*
04:45		*	*	*
05:00		*	*	*
05:15		*	*	*
05:30		*	*	*
05:45		*	*	*
06:00		*	*	*
06:15		*	*	*
06:30		*	*	*
06:45		*	*	*
07:00		*	*	*
07:15		*	*	*
07:30		*	*	*
07:45		*	*	*
08:00		*	*	*
08:15		*	*	*
08:30		*	*	*
08:45		*	*	*
09:00		*	*	*
09:15		*	*	*
09:30		*	*	*
09:45		*	*	*
10:00		*	*	*
10:15		*	*	*
10:30		*	*	*
10:45		*	*	*
11:00		*	*	*
11:15		*	*	*
11:30		*	*	*
11:45		*	*	*
Total		3	3	6
Percent		50.0%	50.0%	
Peak	-	12:00	00:30	12:00
Vol.	-	2	2	3
P.H.F.		0.500	0.500	0.750
Total		333	295	628
Percent		53.0%	47.0%	

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: WHPA0005
Type: Volume / Direction / Class
Tech: Judd / Klaren
Count: Axle Hits / 2

Locust Grove Rd b Deer Flat Rd & Hubbard Rd VOL
Date Start: 10-Sep-19
Date End: 10-Sep-19
Locust Grove between Deer Flat & Hubbard
Kuna, Idaho

Start Time	10-Sep-19 Tue	SB	NB							Total
12:00 AM		3	0							3
12:15		0	0							0
12:30		0	0							0
12:45		0	0							0
01:00		0	0							0
01:15		0	0							0
01:30		0	0							0
01:45		0	0							0
02:00		0	1							1
02:15		0	0							0
02:30		0	0							0
02:45		0	0							0
03:00		0	0							0
03:15		0	0							0
03:30		1	0							1
03:45		1	2							3
04:00		0	0							0
04:15		0	0							0
04:30		0	3							3
04:45		0	0							0
05:00		2	1							3
05:15		1	0							1
05:30		1	5							6
05:45		0	4							4
06:00		2	4							6
06:15		1	5							6
06:30		3	10							13
06:45		4	8							12
07:00		5	**14**							**19**
07:15		8	**7**							**15**
07:30		7	**14**							**21**
07:45		3	**11**							**14**
08:00		4	14							18
08:15		7	6							13
08:30		10	6							16
08:45		6	12							18
09:00		4	6							10
09:15		8	9							17
09:30		4	8							12
09:45		7	8							15
10:00		10	6							16
10:15		5	8							13
10:30		5	10							15
10:45		**15**	5							20
11:00		**8**	5							13
11:15		**8**	6							14
11:30		**6**	7							13
11:45		8	8							16
Total		157	213							370
Percent		42.4%	57.6%							
Peak	-	10:45	07:00	-	-	-	-	-	-	07:00
Vol.	-	37	46	-	-	-	-	-	-	69
P.H.F.		0.617	0.821							0.821

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: WHPA0005
Type: Volume / Direction / Class
Tech: Judd / Klaren
Count: Axle Hits / 2

Locust Grove Rd b Deer Flat Rd & Hubbard Rd VOL
Date Start: 10-Sep-19
Date End: 10-Sep-19
Locust Grove between Deer Flat & Hubbard
Kuna, Idaho

Start Time	10-Sep-19 Tue	SB	NB							Total
12:00 PM		9	7							16
12:15		8	14							22
12:30		14	8							22
12:45		5	2							7
01:00		10	4							14
01:15		9	10							19
01:30		8	6							14
01:45		8	5							13
02:00		10	10							20
02:15		8	7							15
02:30		8	4							12
02:45		10	4							14
03:00		12	**16**							28
03:15		15	**5**							20
03:30		18	**5**							23
03:45		12	**12**							24
04:00		12	8							20
04:15		24	8							32
04:30		25	4							29
04:45		19	5							24
05:00		**22**	10							**32**
05:15		**30**	7							**37**
05:30		**33**	11							**44**
05:45		**22**	10							**32**
06:00		20	7							27
06:15		17	8							25
06:30		16	11							27
06:45		11	4							15
07:00		10	2							12
07:15		12	2							14
07:30		10	5							15
07:45		12	10							22
08:00		4	4							8
08:15		4	2							6
08:30		7	4							11
08:45		3	3							6
09:00		1	2							3
09:15		4	3							7
09:30		3	2							5
09:45		2	1							3
10:00		0	1							1
10:15		2	1							3
10:30		1	0							1
10:45		1	3							4
11:00		1	2							3
11:15		3	0							3
11:30		1	1							2
11:45		1	0							1
Total		497	260							757
Percent		65.7%	34.3%							
Peak	-	17:00	15:00	-	-	-	-	-	-	17:00
Vol.	-	107	38	-	-	-	-	-	-	145
P.H.F.		0.811	0.594							0.824
Grand Total		654	473							1127
Percent		58.0%	42.0%							

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: WHPA0002
Type: Volume / Direction
Tech: Judd / Klaren
Count: Axle Hits / 2

Locust Grove Rd between Columbia & Hubbard VOL
Date Start: 07-Aug-18
Date End: 08-Aug-18
Locust Grove between Columbia & Hubbard
Ada County, Idaho

Start Time	07-Aug-18 Tue	SB	NB							Total
12:00 AM		*	*							*
12:15		*	*							*
12:30		*	*							*
12:45		*	*							*
01:00		*	*							*
01:15		*	*							*
01:30		*	*							*
01:45		*	*							*
02:00		*	*							*
02:15		*	*							*
02:30		*	*							*
02:45		*	*							*
03:00		0	0							0
03:15		1	0							1
03:30		0	0							0
03:45		0	0							0
04:00		0	1							1
04:15		0	0							0
04:30		0	0							0
04:45		0	0							0
05:00		0	3							3
05:15		2	0							2
05:30		1	5							6
05:45		0	4							4
06:00		0	1							1
06:15		2	0							2
06:30		0	9							9
06:45		6	**15**							21
07:00		1	**13**							14
07:15		4	**19**							**23**
07:30		**12**	**12**							**24**
07:45		**10**	8							**18**
08:00		**6**	12							**18**
08:15		**6**	16							22
08:30		8	9							17
08:45		4	6							10
09:00		5	6							11
09:15		5	9							14
09:30		7	8							15
09:45		9	6							15
10:00		10	4							14
10:15		4	10							14
10:30		10	8							18
10:45		7	9							16
11:00		3	3							6
11:15		6	9							15
11:30		6	6							12
11:45		10	8							18
Total		145	219							364
Percent		39.8%	60.2%							
Peak	-	07:30	06:45	-	-	-	-	-	-	07:15
Vol.	-	34	59	-	-	-	-	-	-	83
P.H.F.		0.708	0.776							0.865

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: WHPA0002
Type: Volume / Direction
Tech: Judd / Klaren
Count: Axle Hits / 2

Locust Grove Rd between Columbia & Hubbard VOL
Date Start: 07-Aug-18
Date End: 08-Aug-18
Locust Grove between Columbia & Hubbard
Ada County, Idaho

Start Time	07-Aug-18 Tue	SB	NB							Total
12:00 PM		5	5							10
12:15		10	4							14
12:30		5	8							13
12:45		8	6							14
01:00		11	4							15
01:15		6	4							10
01:30		5	5							10
01:45		8	2							10
02:00		13	6							19
02:15		8	5							13
02:30		14	4							18
02:45		9	4							13
03:00		12	10							22
03:15		7	6							13
03:30		12	10							22
03:45		14	8							22
04:00		21	2							23
04:15		16	**14**							**30**
04:30		16	**12**							**28**
04:45		**20**	**5**							**25**
05:00		**18**	**12**							**30**
05:15		**17**	4							21
05:30		**19**	5							24
05:45		19	4							23
06:00		15	8							23
06:15		9	4							13
06:30		14	4							18
06:45		7	6							13
07:00		6	5							11
07:15		10	4							14
07:30		9	5							14
07:45		4	2							6
08:00		1	3							4
08:15		6	0							6
08:30		6	2							8
08:45		5	3							8
09:00		8	3							11
09:15		8	2							10
09:30		4	1							5
09:45		6	1							7
10:00		4	5							9
10:15		3	0							3
10:30		0	2							2
10:45		4	0							4
11:00		2	0							2
11:15		1	0							1
11:30		2	0							2
11:45		0	1							1
Total		427	210							637
Percent		67.0%	33.0%							
Peak	-	16:45	16:15	-	-	-	-	-	-	16:15
Vol.	-	74	43	-	-	-	-	-	-	113
P.H.F.		0.925	0.768							0.942

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: WHPA0002
Type: Volume / Direction
Tech: Judd / Klaren
Count: Axle Hits / 2

Locust Grove Rd between Columbia & Hubbard VOL
Date Start: 07-Aug-18
Date End: 08-Aug-18
Locust Grove between Columbia & Hubbard
Ada County, Idaho

Start Time	08-Aug-18 Wed	SB	NB							Total
12:00 AM		1	0							1
12:15		**2**	0							**2**
12:30		**1**	0							**1**
12:45		**0**	**0**							**0**
01:00		**2**	**0**							**2**
01:15		0	**0**							0
01:30		0	**1**							1
01:45		0	0							0
02:00		0	0							0
02:15		1	0							1
02:30		0	0							0
02:45		0	0							0
03:00		*	*							*
03:15		*	*							*
03:30		*	*							*
03:45		*	*							*
04:00		*	*							*
04:15		*	*							*
04:30		*	*							*
04:45		*	*							*
05:00		*	*							*
05:15		*	*							*
05:30		*	*							*
05:45		*	*							*
06:00		*	*							*
06:15		*	*							*
06:30		*	*							*
06:45		*	*							*
07:00		*	*							*
07:15		*	*							*
07:30		*	*							*
07:45		*	*							*
08:00		*	*							*
08:15		*	*							*
08:30		*	*							*
08:45		*	*							*
09:00		*	*							*
09:15		*	*							*
09:30		*	*							*
09:45		*	*							*
10:00		*	*							*
10:15		*	*							*
10:30		*	*							*
10:45		*	*							*
11:00		*	*							*
11:15		*	*							*
11:30		*	*							*
11:45		*	*							*
Total		7	1							8
Percent		87.5%	12.5%							
Peak	-	00:15	00:45	-	-	-	-	-	-	00:15
Vol.	-	5	1	-	-	-	-	-	-	5
P.H.F.		0.625	0.250							0.625
Total		579	430							1009
Percent		57.4%	42.6%							

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2003

Study: WHPA0005
Type: Volume / Direction / Class
Tech: Judd / Klaren
Count: Axle Hits / 2

Locust Grove Rd b Columbia Rd & Lake Hazel Rd VOL
Date Start: 10-Sep-19
Date End: 10-Sep-19
Locust Grove betw Columbia & Lake Hazel
Kuna, Idaho

Start Time	10-Sep-19 Tue	SB	NB							Total
12:00 AM		0	1							1
12:15		0	0							0
12:30		0	0							0
12:45		0	0							0
01:00		1	0							1
01:15		0	0							0
01:30		0	0							0
01:45		0	0							0
02:00		0	0							0
02:15		0	0							0
02:30		0	0							0
02:45		0	1							1
03:00		0	0							0
03:15		0	0							0
03:30		1	0							1
03:45		1	1							2
04:00		0	0							0
04:15		0	2							2
04:30		0	2							2
04:45		0	3							3
05:00		1	0							1
05:15		2	1							3
05:30		3	10							13
05:45		3	10							13
06:00		5	7							12
06:15		2	7							9
06:30		5	20							25
06:45		7	30							37
07:00		5	**32**							**37**
07:15		14	**28**							**42**
07:30		10	**25**							**35**
07:45		10	**40**							**50**
08:00		10	27							37
08:15		7	24							31
08:30		12	26							38
08:45		18	35							53
09:00		10	16							26
09:15		14	8							22
09:30		6	17							23
09:45		9	16							25
10:00		**18**	6							24
10:15		**12**	12							24
10:30		**8**	10							18
10:45		**21**	16							37
11:00		13	12							25
11:15		8	6							14
11:30		12	16							28
11:45		15	12							27
Total		263	479							742
Percent		35.4%	64.6%							
Peak	-	10:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	59	125	-	-	-	-	-	-	164
P.H.F.		0.702	0.781							0.820

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2903

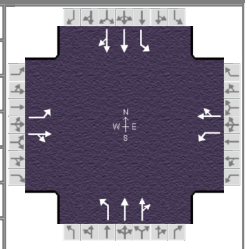
Study: WHPA0005
Type: Volume / Direction / Class
Tech: Judd / Klaren
Count: Axle Hits / 2

Locust Grove Rd b Columbia Rd & Lake Hazel Rd VOL
Date Start: 10-Sep-19
Date End: 10-Sep-19
Locust Grove betw Columbia & Lake Hazel
Kuna, Idaho

Start Time	10-Sep-19 Tue	SB	NB							Total
12:00 PM		18	14							32
12:15		11	14							25
12:30		10	8							18
12:45		16	11							27
01:00		12	8							20
01:15		16	16							32
01:30		14	12							26
01:45		14	14							28
02:00		14	8							22
02:15		16	12							28
02:30		10	13							23
02:45		10	5							15
03:00		22	18							40
03:15		20	12							32
03:30		18	6							24
03:45		30	22							52
04:00		30	9							39
04:15		30	15							45
04:30		36	16							52
04:45		43	14							57
05:00		**39**	**22**							**61**
05:15		**55**	**20**							**75**
05:30		**39**	**24**							**63**
05:45		**48**	**20**							**68**
06:00		38	16							54
06:15		32	12							44
06:30		26	11							37
06:45		18	16							34
07:00		20	6							26
07:15		22	9							31
07:30		15	8							23
07:45		13	6							19
08:00		9	8							17
08:15		12	7							19
08:30		14	9							23
08:45		8	6							14
09:00		4	2							6
09:15		6	5							11
09:30		8	2							10
09:45		3	2							5
10:00		7	1							8
10:15		6	0							6
10:30		1	2							3
10:45		4	2							6
11:00		1	2							3
11:15		1	0							1
11:30		1	0							1
11:45		2	0							2
Total		842	465							1307
Percent		64.4%	35.6%							
Peak	-	17:00	17:00	-	-	-	-	-	-	17:00
Vol.	-	181	86	-	-	-	-	-	-	267
P.H.F.		0.823	0.896							0.890
Grand Total		1105	944							2049
Percent		53.9%	46.1%							

HCS7 Signalized Intersection Results Summary

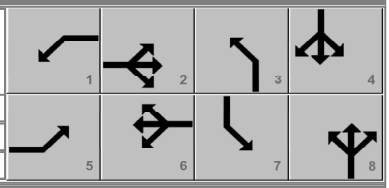
General Information				Intersection Information	
Agency	WHPacific			Duration, h	0.25
Analyst	K Baker	Analysis Date	8/23/2019	Area Type	Other
Jurisdiction	ACHD	Time Period	AM Peak	PHF	0.91
Urban Street	Meridian Rd	Analysis Year	2019	Analysis Period	1> 7:00
Intersection	Meridian and Hubbard	File Name	Meridian&Hubbard-AM-Exst2019.xus		
Project Description	Exst AM Peak				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	133	23	14	7	4	10	9	874	4	14	324	42

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	1.0	0.9	39.2	1.3	0.6	26.9	
Yellow	4.0	4.0	4.0	4.0	0.0	4.0	
Red	0.0	0.0	0.0	0.0	0.0	0.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	10.0	48.1	5.0	43.2	5.3	30.9	5.9	31.5
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0	3.1	3.0	3.1	3.0
Queue Clearance Time (g_s), s	5.9		2.2		2.3	24.2	2.5	9.8
Green Extension Time (g_e), s	0.3	0.0	0.0	0.0	0.0	2.7	0.0	2.7
Phase Call Probability	0.97		0.17		0.22	1.00	0.32	1.00
Max Out Probability	0.00		0.00		0.00	0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	146	41		8	15		10	483	482	15	204	198
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1767	1735		1767	1644		1767	1856	1852	1767	1856	1781
Queue Service Time (g_s), s	3.9	1.1		0.2	0.5		0.3	22.2	22.2	0.5	7.7	7.8
Cycle Queue Clearance Time (g_c), s	3.9	1.1		0.2	0.5		0.3	22.2	22.2	0.5	7.7	7.8
Green Ratio (*g/C*)	0.52	0.49		0.45	0.44		0.31	0.30	0.30	0.32	0.31	0.31
Capacity (*c*), veh/h	794	851		691	716		297	555	554	148	567	544
Volume-to-Capacity Ratio (*X*)	0.184	0.048		0.011	0.021		0.033	0.870	0.870	0.104	0.359	0.364
Back of Queue (*Q*), ft/ln (95 th percentile)	64.6	19.6		3.8	8.4		6.5	377.9	368.5	10.1	151.3	144.1
Back of Queue (*Q*), veh/ln (95 th percentile)	2.5	0.8		0.1	0.3		0.3	14.8	14.7	0.4	5.9	5.8
Queue Storage Ratio (*RQ*) (95 th percentile)	0.65	0.00		0.04	0.00		0.02	0.00	0.00	0.03	0.00	0.00
Uniform Delay (d_1), s/veh	11.1	12.0		13.8	14.5		21.8	29.9	29.9	23.8	24.4	24.4
Incremental Delay (d_2), s/veh	0.0	0.1		0.0	0.1		0.0	1.7	1.7	0.1	0.1	0.2
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	11.2	12.1		13.8	14.5		21.8	31.6	31.6	23.9	24.5	24.6
Level of Service (LOS)	B	B		B	B		C	C	C	C	C	C
Approach Delay, s/veh / LOS	11.4	B		14.3	B		31.5	C		24.5	C	
Intersection Delay, s/veh / LOS	27.1						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.26	B	2.26	B	1.92	B	1.92	B
Bicycle LOS Score / LOS	0.80	A	0.53	A	1.29	A	0.83	A

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HCS7 All-Way Stop Control Report

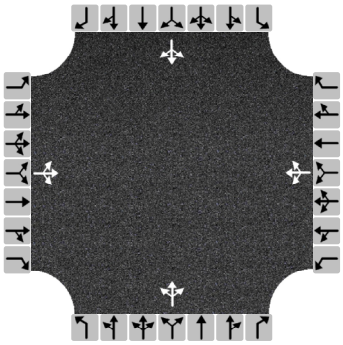
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	09/16/2019
Analysis Year	2019
Analysis Time Period (hrs)	0.25
Time Analyzed	EXISTING AM Peak Hour
Project Description	Ledgestone South

Site Information

Intersection	Locust_Lake Hazel
Jurisdiction	
East/West Street	Lake Hazel Rd
North/South Street	Locust Grove Rd
Peak Hour Factor	0.94

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	16	277	3	8	177	51	3	102	11	39	32	7
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	315			251			123			83		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.280			0.223			0.110			0.074		
Final Departure Headway, hd (s)	4.87			4.83			5.43			5.60		
Final Degree of Utilization, x	0.426			0.337			0.186			0.129		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	2.87			2.83			3.43			3.60		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	315			251			123			83		
Capacity	740			746			663			643		
95% Queue Length, Q_{95} (veh)	2.1			1.5			0.7			0.4		
Control Delay (s/veh)	11.4			10.3			9.7			9.4		
Level of Service, LOS	B			B			A			A		
Approach Delay (s/veh)	11.4			10.3			9.7			9.4		
Approach LOS	B			B			A			A		
Intersection Delay, s/veh | LOS	10.5						B					

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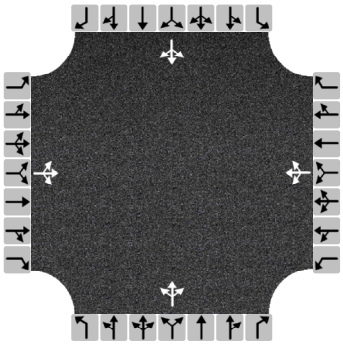
HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	RAB	Intersection	Locust_Columbia
Agency/Co.	WHPacific	Jurisdiction	
Date Performed	09/16/2019	East/West Street	Columbia Rd
Analysis Year	2019	North/South Street	Locust Grove Rd
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.80
Time Analyzed	EXISTING AM Peak Hour		
Project Description	Ledgestone South		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	61	211	4	4	71	15	4	41	7	18	16	16
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	345			113			65			63		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.307			0.100			0.058			0.056		
Final Departure Headway, hd (s)	4.45			4.58			5.04			4.99		
Final Degree of Utilization, x	0.427			0.143			0.091			0.087		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	2.45			2.58			3.04			2.99		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	345			113			65			63		
Capacity	809			786			714			721		
95% Queue Length, Q_{95} (veh)	2.2			0.5			0.3			0.3		
Control Delay (s/veh)	10.7			8.3			8.5			8.5		
Level of Service, LOS	B			A			A			A		
Approach Delay (s/veh)	10.7			8.3			8.5			8.5		
Approach LOS	B			A			A			A		
Intersection Delay, s/veh | LOS	9.8						A					

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HCS7 Two-Way Stop-Control Report

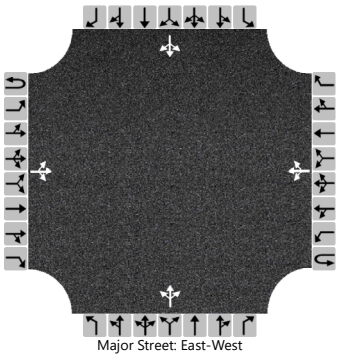
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	9/16/2019
Analysis Year	2019
Time Analyzed	Existing AM
Intersection Orientation	East-West
Project Description	Ledgestone South

Site Information

Intersection	Locust Grove and Hubbard
Jurisdiction	
East/West Street	Hubbard Rd
North/South Street	Locust Grove Rd
Peak Hour Factor	0.82
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		14	17	4		0	9	2		0	38	1		1	11	5
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		17				0					48				21	
Capacity, c (veh/h)		1598				1582					814				872	
v/c Ratio		0.01				0.00					0.06				0.02	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.2				0.1	
Control Delay (s/veh)		7.3				7.3					9.7				9.2	
Level of Service (LOS)		A				A					A				A	
Approach Delay (s/veh)		3.0				0.0				9.7				9.2		
Approach LOS										A				A		

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HCS7 Two-Way Stop-Control Report

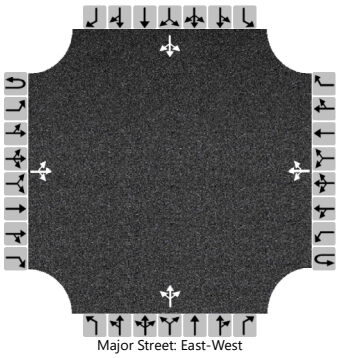
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	9/16/2019
Analysis Year	2019
Time Analyzed	Existing AM Peak Hour
Intersection Orientation	East-West
Project Description	Ledgestone South

Site Information

Intersection	Locust Grove and Deer Fla
Jurisdiction	
East/West Street	Deer Flat
North/South Street	Locust Grove Rd
Peak Hour Factor	0.87
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		28	138	6		0	45	4		3	13	3		4	5	13
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		32				0					22				25	
Capacity, c (veh/h)		1542				1407					645				803	
v/c Ratio		0.02				0.00					0.03				0.03	
95% Queue Length, Q_{95} (veh)		0.1				0.0					0.1				0.1	
Control Delay (s/veh)		7.4				7.6					10.8				9.6	
Level of Service (LOS)		A				A					B				A	
Approach Delay (s/veh)	1.3				0.0				10.8				9.6			
Approach LOS									B				A			

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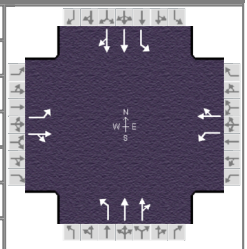
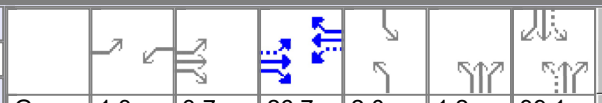
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	WHPacific			Duration, h	0.25
Analyst	K Baker	Analysis Date	8/23/2019	Area Type	Other
Jurisdiction	ACHD	Time Period	PM Peak	PHF	0.95
Urban Street	Meridian Rd	Analysis Year	2019	Analysis Period	1> 5:00
Intersection	Meridian and Hubbard	File Name	Meridian&Hubbard-PM-Exst2019.xus		
Project Description	Exst PM Peak				

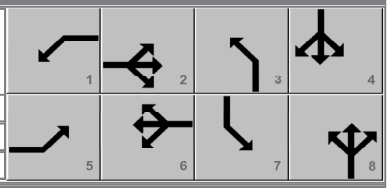


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	67	9	28	9	9	29	29	485	8	15	1047	273

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	1.3	3.7	26.7	2.0	1.2	39.1						
Yellow	4.0	0.0	4.0	4.0	0.0	4.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	9.0	34.4	5.3	30.7	7.2	44.4	6.0	43.1
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0	3.1	3.1	3.1	3.1
Queue Clearance Time (g_s), s	4.4		2.3		2.8	10.1	2.4	34.6
Green Extension Time (g_e), s	0.1	0.0	0.0	0.0	0.0	4.6	0.0	4.5
Phase Call Probability	0.83		0.21		0.53	1.00	0.33	1.00
Max Out Probability	0.00		0.00		0.93	0.00	0.38	0.04

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	71	39		9	40		31	260	259	16	716	674
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1767	1627		1767	1631		1767	1856	1845	1767	1856	1723
Queue Service Time (g_s), s	2.4	1.5		0.3	1.6		0.8	8.1	8.1	0.4	32.0	32.6
Cycle Queue Clearance Time (g_c), s	2.4	1.5		0.3	1.6		0.8	8.1	8.1	0.4	32.0	32.6
Green Ratio (*g/C*)	0.37	0.34		0.31	0.30		0.47	0.45	0.45	0.46	0.43	0.43
Capacity (*c*), veh/h	556	550		508	484		171	832	828	413	807	749
Volume-to-Capacity Ratio (*X*)	0.127	0.071		0.019	0.083		0.179	0.312	0.313	0.038	0.887	0.899
Back of Queue (*Q*), ft/ln (95 th percentile)	42.8	26.4		6.2	29.5		14.8	149.6	145.5	7.7	507.6	479.8
Back of Queue (*Q*), veh/ln (95 th percentile)	1.7	1.0		0.2	1.2		0.6	5.8	5.8	0.3	19.8	19.2
Queue Storage Ratio (*RQ*) (95 th percentile)	0.43	0.00		0.06	0.00		0.05	0.00	0.00	0.03	0.00	0.00
Uniform Delay (d_1), s/veh	18.6	20.2		21.5	22.8		19.3	15.9	15.9	13.9	23.4	23.6
Incremental Delay (d_2), s/veh	0.0	0.2		0.0	0.3		0.2	0.1	0.1	0.0	4.0	5.0
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	18.7	20.5		21.5	23.2		19.5	16.0	16.0	13.9	27.4	28.6
Level of Service (LOS)	B	C		C	C		B	B	B	B	C	C
Approach Delay, s/veh / LOS	19.3	B		22.8	C		16.2	B		27.9	C	
Intersection Delay, s/veh / LOS	24.3						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.28	B	2.28	B	1.90	B	1.90	B
Bicycle LOS Score / LOS	0.67	A	0.57	A	0.94	A	1.65	B

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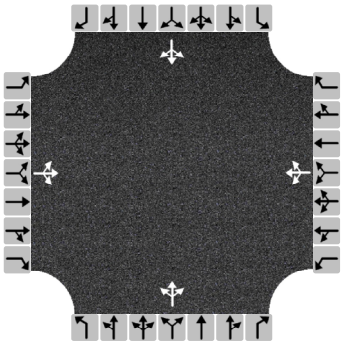
HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	RAB	Intersection	Locust_Lake Hazel
Agency/Co.	WHPacific	Jurisdiction	
Date Performed	09/16/2019	East/West Street	Lake Hazel Rd
Analysis Year	2019	North/South Street	Locust Grove Rd
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.90
Time Analyzed	EXIST PM Peak Hour		
Project Description	Ledgestone South		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	7	197	3	13	281	68	6	64	9	72	161	21
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	230			402			88			282		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.204			0.358			0.078			0.251		
Final Departure Headway, hd (s)	5.78			5.41			6.29			5.90		
Final Degree of Utilization, x	0.369			0.604			0.153			0.463		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	3.78			3.41			4.29			3.90		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	230			402			88			282		
Capacity	622			666			572			610		
95% Queue Length, Q_{95} (veh)	1.7			4.1			0.5			2.4		
Control Delay (s/veh)	12.1			16.3			10.4			13.9		
Level of Service, LOS	B			C			B			B		
Approach Delay (s/veh)	12.1			16.3			10.4			13.9		
Approach LOS	B			C			B			B		
Intersection Delay, s/veh | LOS	14.2						B					

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HCS7 All-Way Stop Control Report

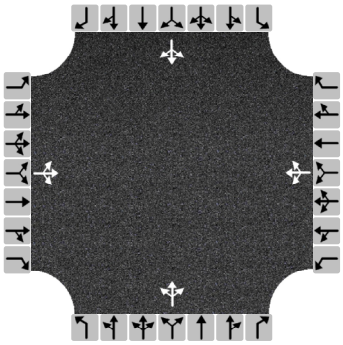
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	09/16/2019
Analysis Year	2019
Analysis Time Period (hrs)	0.25
Time Analyzed	EXISTING PM Peak Hour
Project Description	Ledgestone South

Site Information

Intersection	Locust_Columbia
Jurisdiction	
East/West Street	Columbia Rd
North/South Street	Locust Grove Rd
Peak Hour Factor	0.95

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	15	93	4	10	259	19	2	11	6	16	58	68
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	118			303			20			149		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.105			0.269			0.018			0.133		
Final Departure Headway, hd (s)	4.73			4.49			4.98			4.70		
Final Degree of Utilization, x	0.155			0.378			0.028			0.195		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	2.73			2.49			2.98			2.70		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	118			303			20			149		
Capacity	761			803			722			766		
95% Queue Length, Q_{95} (veh)	0.5			1.8			0.1			0.7		
Control Delay (s/veh)	8.6			10.2			8.1			8.8		
Level of Service, LOS	A			B			A			A		
Approach Delay (s/veh)	8.6			10.2			8.1			8.8		
Approach LOS	A			B			A			A		
Intersection Delay, s/veh | LOS	9.5						A					

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HCS7 Two-Way Stop-Control Report

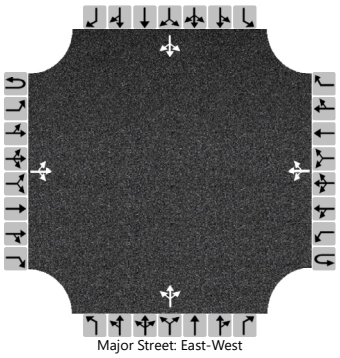
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	9/16/2019
Analysis Year	2019
Time Analyzed	Existing PM
Intersection Orientation	East-West
Project Description	Ledgestone South

Site Information

Intersection	Locust Grove and Hubbard
Jurisdiction	
East/West Street	Hubbard Rd
North/South Street	Locust Grove Rd
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		2	9	4		8	11	0		2	16	3		0	64	7
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		2				9					23				76	
Capacity, c (veh/h)		1601				1598					865				855	
v/c Ratio		0.00				0.01					0.03				0.09	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.1				0.3	
Control Delay (s/veh)		7.3				7.3					9.3				9.6	
Level of Service (LOS)		A				A					A				A	
Approach Delay (s/veh)		1.0				3.1				9.3				9.6		
Approach LOS										A				A		

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HCS7 Two-Way Stop-Control Report

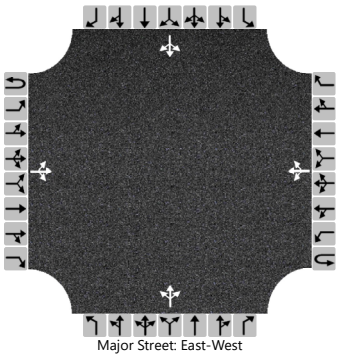
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	9/16/2019
Analysis Year	2019
Time Analyzed	Existing PM Peak Hour
Intersection Orientation	East-West
Project Description	Ledgestone South

Site Information

Intersection	Locust Grove and Deer Fla
Jurisdiction	
East/West Street	Deer Flat
North/South Street	Locust Grove Rd
Peak Hour Factor	0.88
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		23	40	1		1	183	4		0	7	1		5	30	66
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		26				1					9				115	
Capacity, c (veh/h)		1352				1555					621				728	
v/c Ratio		0.02				0.00					0.01				0.16	
95% Queue Length, Q_{95} (veh)		0.1				0.0					0.0				0.6	
Control Delay (s/veh)		7.7				7.3					10.9				10.9	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)		2.9				0.0				10.9				10.9		
Approach LOS										B				B		

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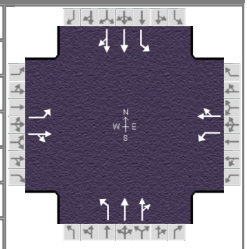
HCS7 Signalized Intersection Results Summary

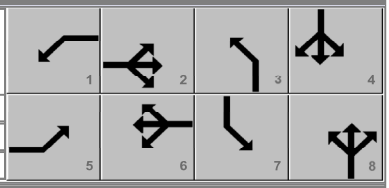
General Information				Intersection Information	
Agency	WHPacific			Duration, h	0.25
Analyst	K Baker	Analysis Date	8/23/2019	Area Type	Other
Jurisdiction	ACHD	Time Period	AM Peak	PHF	0.91
Urban Street	Meridian Rd	Analysis Year	2025	Analysis Period	1> 7:00
Intersection	Meridian and Hubbard	File Name	Meridian&Hubbard-AM-2025Bkgrd.xus		
Project Description	2025 AM Peak Bkgrd				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	214	36	22	9	5	14	11	1085	5	16	404	52

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	1.3	4.6	29.1	1.6	0.6	32.9
Yellow	4.0	4.0	4.0	4.0	0.0	4.0
Red	0.0	0.0	0.0	0.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	13.9	41.7	5.3	33.1	5.6	36.9	6.1	37.5
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0	3.1	3.0	3.1	3.0
Queue Clearance Time (g_s), s	9.5		2.3		2.4	29.2	2.6	11.1
Green Extension Time (g_e), s	0.4	0.0	0.0	0.0	0.0	3.6	0.0	3.7
Phase Call Probability	1.00		0.22		0.26	1.00	0.36	1.00
Max Out Probability	0.00		0.00		0.03	0.01	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	235	64		10	21		12	599	598	18	254	247
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1767	1734		1767	1638		1767	1856	1852	1767	1856	1781
Queue Service Time (g_s), s	7.5	2.0		0.3	0.8		0.4	27.2	27.2	0.6	9.0	9.1
Cycle Queue Clearance Time (g_c), s	7.5	2.0		0.3	0.8		0.4	27.2	27.2	0.6	9.0	9.1
Green Ratio (*g/C*)	0.46	0.42		0.34	0.32		0.38	0.37	0.37	0.39	0.37	0.37
Capacity (*c*), veh/h	708	726		534	529		332	678	677	151	690	662
Volume-to-Capacity Ratio (*X*)	0.332	0.088		0.019	0.039		0.036	0.884	0.884	0.116	0.369	0.372
Back of Queue (*Q*), ft/ln (95 th percentile)	131.6	37.1		6.2	14.4		7	440	429.1	10.2	172.4	163.2
Back of Queue (*Q*), veh/ln (95 th percentile)	5.1	1.4		0.2	0.6		0.3	17.2	17.2	0.4	6.7	6.5
Queue Storage Ratio (*RQ*) (95 th percentile)	1.32	0.00		0.06	0.00		0.02	0.00	0.00	0.03	0.00	0.00
Uniform Delay (d_1), s/veh	15.5	15.8		19.9	20.9		17.9	26.8	26.8	21.2	20.6	20.6
Incremental Delay (d_2), s/veh	0.1	0.2		0.0	0.1		0.0	1.6	1.6	0.1	0.1	0.1
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	15.6	16.0		19.9	21.0		17.9	28.3	28.3	21.4	20.7	20.7
Level of Service (LOS)	B	B		B	C		B	C	C	C	C	C
Approach Delay, s/veh / LOS	15.7	B		20.7	C		28.2	C		20.7	C	
Intersection Delay, s/veh / LOS	24.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.27	B	2.28	B	1.91	B	1.91	B
Bicycle LOS Score / LOS	0.98	A	0.54	A	1.49	A	0.92	A

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HCS7 All-Way Stop Control Report

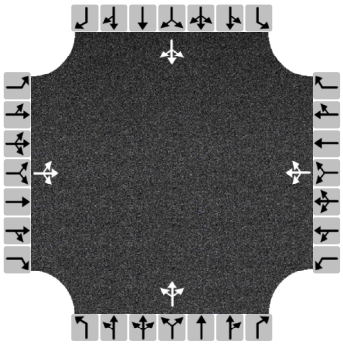
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	09/16/2019
Analysis Year	2025
Analysis Time Period (hrs)	0.25
Time Analyzed	2025 AM Peak Hour Bkgrd
Project Description	Ledgestone South

Site Information

Intersection	Locust_Lake Hazel
Jurisdiction	
East/West Street	Lake Hazel Rd
North/South Street	Locust Grove Rd
Peak Hour Factor	0.94

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	26	446	5	15	283	82	5	163	18	59	55	11
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	507			404			198			133		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.451			0.359			0.176			0.118		
Final Departure Headway, hd (s)	5.96			6.03			6.99			7.32		
Final Degree of Utilization, x	0.841			0.677			0.384			0.271		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	3.96			4.03			4.99			5.32		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	507			404			198			133		
Capacity	604			597			515			492		
95% Queue Length, Q_{95} (veh)	9.0			5.2			1.8			1.1		
Control Delay (s/veh)	32.6			20.8			14.3			13.0		
Level of Service, LOS	D			C			B			B		
Approach Delay (s/veh)	32.6			20.8			14.3			13.0		
Approach LOS	D			C			B			B		
Intersection Delay, s/veh | LOS	23.7						C					

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HCS7 All-Way Stop Control Report

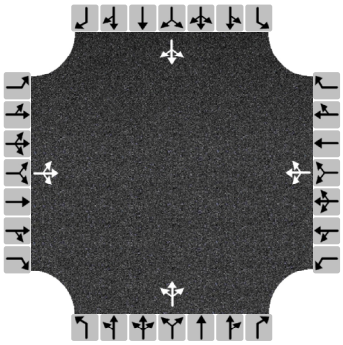
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	09/16/2019
Analysis Year	2025
Analysis Time Period (hrs)	0.25
Time Analyzed	2025 AM Peak Hour Bkgrd
Project Description	Ledgestone South

Site Information

Intersection	Locust_Columbia
Jurisdiction	
East/West Street	Columbia Rd
North/South Street	Locust Grove Rd
Peak Hour Factor	0.90

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	95	339	6	6	115	24	6	68	11	28	21	25
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	489			161			94			82		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.435			0.143			0.084			0.073		
Final Departure Headway, hd (s)	4.71			4.98			5.61			5.57		
Final Degree of Utilization, x	0.639			0.223			0.147			0.127		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	2.71			2.98			3.61			3.57		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	489			161			94			82		
Capacity	765			723			642			646		
95% Queue Length, Q_{95} (veh)	4.7			0.8			0.5			0.4		
Control Delay (s/veh)	15.7			9.4			9.6			9.4		
Level of Service, LOS	C			A			A			A		
Approach Delay (s/veh)	15.7			9.4			9.6			9.4		
Approach LOS	C			A			A			A		
Intersection Delay, s/veh | LOS	13.1						B					

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HCS7 Two-Way Stop-Control Report

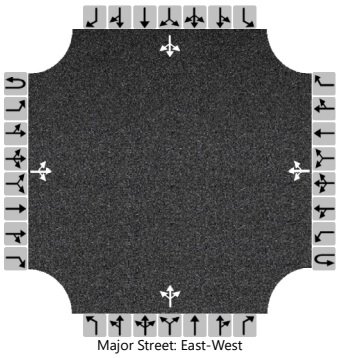
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	9/16/2019
Analysis Year	2025
Time Analyzed	2025 AM Peak Hour Bkgrd
Intersection Orientation	East-West
Project Description	Ledgestone South

Site Information

Intersection	Locust Grove and Hubbard
Jurisdiction	
East/West Street	Hubbard Rd
North/South Street	Locust Grove Rd
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		21	27	6		1	16	3		1	61	2		2	23	11
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		23				1					71				40	
Capacity, c (veh/h)		1588				1568					779				840	
v/c Ratio		0.01				0.00					0.09				0.05	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.3				0.1	
Control Delay (s/veh)		7.3				7.3					10.1				9.5	
Level of Service (LOS)		A				A					B				A	
Approach Delay (s/veh)	2.9				0.4				10.1				9.5			
Approach LOS									B				A			

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HCS7 Two-Way Stop-Control Report

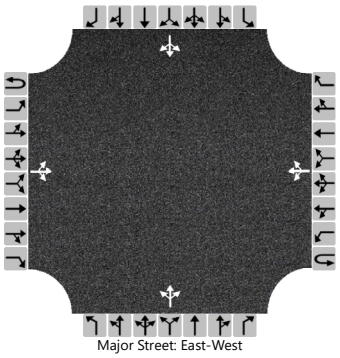
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	9/16/2019
Analysis Year	2025
Time Analyzed	2025 AM Peak Hour Bkgrd
Intersection Orientation	East-West
Project Description	Ledgestone South

Site Information

Intersection	Locust Grove and Deer Fla
Jurisdiction	
East/West Street	Deer Flat
North/South Street	Locust Grove Rd
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		41	222	11		1	74	6		5	21	5		5	7	19
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		46				1					34				34	
Capacity, c (veh/h)		1500				1300					525				703	
v/c Ratio		0.03				0.00					0.07				0.05	
95% Queue Length, Q_{95} (veh)		0.1				0.0					0.2				0.2	
Control Delay (s/veh)		7.5				7.8					12.3				10.4	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)		1.3				0.1				12.3				10.4		
Approach LOS										B				B		

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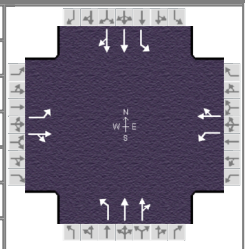
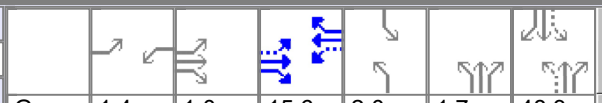
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	WHPacific			Duration, h	0.25
Analyst	K Baker	Analysis Date	8/23/2019	Area Type	Other
Jurisdiction	ACHD	Time Period	PM	PHF	0.95
Urban Street	Meridian Rd	Analysis Year	2025	Analysis Period	1> 5:00
Intersection	Meridian and Hubbard	File Name	Meridian&Hubbard-PM-2025Bkgrd.xus		
Project Description	2025 PM Peak Bkgrd				

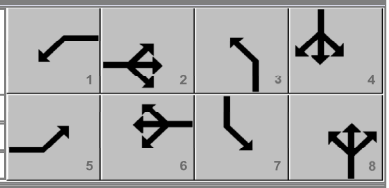


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	111	11	45	10	10	33	36	607	8	15	1302	339

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	1.4	1.0	15.6	2.0	1.7	48.3						
Yellow	4.0	4.0	4.0	4.0	0.0	4.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	10.4	24.7	5.4	19.6	7.7	54.0	6.0	52.3
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0	3.1	3.1	3.1	3.1
Queue Clearance Time (g_s), s	6.7		2.4		2.8	10.5	2.4	42.6
Green Extension Time (g_e), s	0.1	0.0	0.0	0.0	0.0	6.8	0.0	5.7
Phase Call Probability	0.95		0.23		0.61	1.00	0.33	1.00
Max Out Probability	0.00		0.00		0.92	0.01	0.31	0.30

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	117	59		11	45		38	324	323	16	876	851
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1767	1612		1767	1630		1767	1856	1847	1767	1856	1725
Queue Service Time (g_s), s	4.7	2.6		0.4	2.1		0.8	8.5	8.5	0.4	37.3	40.6
Cycle Queue Clearance Time (g_c), s	4.7	2.6		0.4	2.1		0.8	8.5	8.5	0.4	37.3	40.6
Green Ratio (*g/C*)	0.27	0.23		0.19	0.17		0.58	0.56	0.56	0.56	0.54	0.54
Capacity (*c*), veh/h	408	370		339	283		176	1031	1026	460	996	926
Volume-to-Capacity Ratio (*X*)	0.286	0.159		0.031	0.160		0.215	0.315	0.315	0.034	0.880	0.919
Back of Queue (*Q*), ft/ln (95 th percentile)	88.1	49.9		8.4	42		17	145.7	141.7	5.9	570	587
Back of Queue (*Q*), veh/ln (95 th percentile)	3.4	2.0		0.3	1.6		0.7	5.7	5.7	0.2	22.3	23.5
Queue Storage Ratio (*RQ*) (95 th percentile)	0.88	0.00		0.08	0.00		0.06	0.00	0.00	0.02	0.00	0.00
Uniform Delay (d_1), s/veh	26.0	27.7		29.8	31.6		18.8	10.8	10.8	9.3	18.3	19.1
Incremental Delay (d_2), s/veh	0.1	0.9		0.0	1.2		0.2	0.1	0.1	0.0	6.0	9.8
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	26.1	28.7		29.8	32.8		19.0	10.8	10.8	9.3	24.3	28.8
Level of Service (LOS)	C	C		C	C		B	B	B	A	C	C
Approach Delay, s/veh / LOS	27.0	C		32.2	C		11.3	B		26.4	C	
Intersection Delay, s/veh / LOS	22.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.29	B	2.29	B	1.89	B	1.89	B
Bicycle LOS Score / LOS	0.78	A	0.58	A	1.05	A	1.93	B

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HCS7 All-Way Stop Control Report

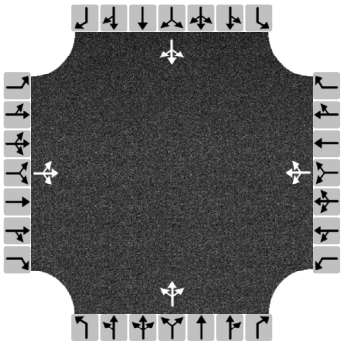
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	09/16/2019
Analysis Year	2025
Analysis Time Period (hrs)	0.25
Time Analyzed	2025 PM Peak Hour Bkgrd
Project Description	Ledgestone South

Site Information

Intersection	Locust_Lake Hazel
Jurisdiction	
East/West Street	Lake Hazel Rd
North/South Street	Locust Grove Rd
Peak Hour Factor	0.90

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	13	314	5	19	447	124	7	85	10	120	250	40
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	369			656			113			456		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.328			0.583			0.101			0.405		
Final Departure Headway, hd (s)	7.61			7.25			8.84			7.39		
Final Degree of Utilization, x	0.779			1.321			0.278			0.935		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	5.61			5.25			6.84			5.39		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	369			656			113			456		
Capacity	473			496			407			487		
95% Queue Length, Q_{95} (veh)	6.9			28.5			1.1			11.2		
Control Delay (s/veh)	32.6			180.0			15.2			53.4		
Level of Service, LOS	D			F			C			F		
Approach Delay (s/veh)	32.6			180.0			15.2			53.4		
Approach LOS	D			F			C			F		
Intersection Delay, s/veh | LOS	98.0						F					

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HCS7 All-Way Stop Control Report

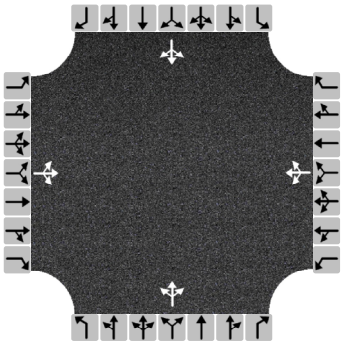
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	09/16/2019
Analysis Year	2025
Analysis Time Period (hrs)	0.25
Time Analyzed	2025 PM Peak Hour Bkgrd
Project Description	Ledgestone South

Site Information

Intersection	Locust_Columbia
Jurisdiction	
East/West Street	Columbia Rd
North/South Street	Locust Grove Rd
Peak Hour Factor	0.95

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	33	143	5	15	404	45	2	21	8	54	103	54
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	191			488			33			222		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.169			0.434			0.029			0.197		
Final Departure Headway, hd (s)	5.42			4.95			6.04			5.65		
Final Degree of Utilization, x	0.287			0.672			0.055			0.349		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	3.42			2.95			4.04			3.65		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	191			488			33			222		
Capacity	664			727			596			637		
95% Queue Length, Q_{95} (veh)	1.2			5.2			0.2			1.6		
Control Delay (s/veh)	10.6			17.5			9.4			11.7		
Level of Service, LOS	B			C			A			B		
Approach Delay (s/veh)	10.6			17.5			9.4			11.7		
Approach LOS	B			C			A			B		
Intersection Delay, s/veh | LOS	14.4						B					

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HCS7 Two-Way Stop-Control Report

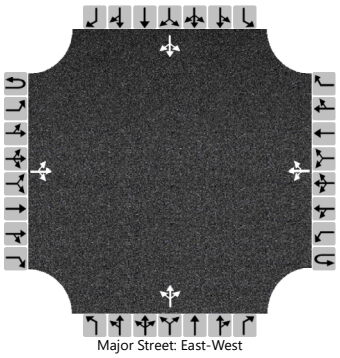
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	9/16/2019
Analysis Year	2025
Time Analyzed	2025 PM Peak Hour Bkgrd
Intersection Orientation	East-West
Project Description	Ledgestone South

Site Information

Intersection	Locust Grove and Hubbard
Jurisdiction	
East/West Street	Hubbard Rd
North/South Street	Locust Grove Rd
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		3	14	18		11	22	1		13	27	5		1	112	18
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		3				12					48				141	
Capacity, c (veh/h)		1583				1571					790				820	
v/c Ratio		0.00				0.01					0.06				0.17	
95% Queue Length, Q_{95} (veh)		0.0				0.0					0.2				0.6	
Control Delay (s/veh)		7.3				7.3					9.9				10.3	
Level of Service (LOS)		A				A					A				B	
Approach Delay (s/veh)	0.6				2.4				9.9				10.3			
Approach LOS									A				B			

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HCS7 Two-Way Stop-Control Report

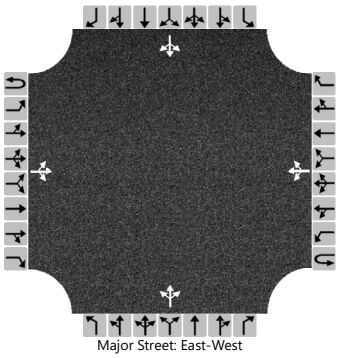
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	9/16/2019
Analysis Year	2025
Time Analyzed	2025 PM Peak Hour Bkgrd
Intersection Orientation	East-West
Project Description	Ledgestone South

Site Information

Intersection	Locust Grove and Deer Fla
Jurisdiction	
East/West Street	Deer Flat
North/South Street	Locust Grove Rd
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		29	66	2		2	306	5		1	10	2		7	48	93
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		32				2					14				164	
Capacity, c (veh/h)		1208				1517					488				588	
v/c Ratio		0.03				0.00					0.03				0.28	
95% Queue Length, Q_{95} (veh)		0.1				0.0					0.1				1.1	
Control Delay (s/veh)		8.1				7.4					12.6				13.5	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)	2.6				0.1				12.6				13.5			
Approach LOS									B				B			

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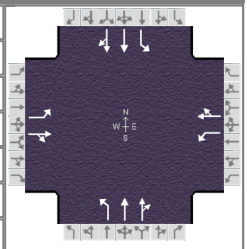
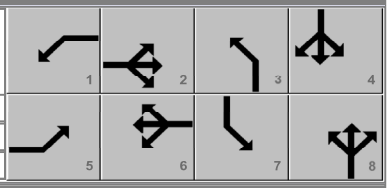
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	WHPacific			Duration, h	0.25
Analyst	K Baker	Analysis Date	8/23/2019	Area Type	Other
Jurisdiction	ACHD	Time Period	AM Peak	PHF	0.91
Urban Street	Meridian Rd	Analysis Year	2025	Analysis Period	1> 7:00
Intersection	Meridian and Hubbard	File Name	Meridian&Hubbard-AM-2025Total.xus		
Project Description	2025 AM Peak Total				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	214	36	22	21	5	98	11	1085	9	44	404	53

Signal Information												
Cycle, s	90.0	Reference Phase	2									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	2.6	3.6	26.5	1.6	2.6	33.0		
Force Mode	Fixed	Simult. Gap N/S	On	Yellow	4.0	4.0	4.0	4.0	0.0	4.0		
				Red	0.0	0.0	0.0	0.0	0.0	0.0		



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	14.2	38.1	6.6	30.5	5.6	37.0	8.2	39.7
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0	3.1	3.0	3.1	3.0
Queue Clearance Time (g_s), s	9.9		2.8		2.4	29.4	3.5	10.8
Green Extension Time (g_e), s	0.4	0.0	0.0	0.0	0.0	3.7	0.0	3.7
Phase Call Probability	1.00		0.44		0.26	1.00	0.70	1.00
Max Out Probability	0.00		0.00		0.03	0.01	0.50	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	235	64		23	113		12	602	600	48	255	247
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1767	1734		1767	1584		1767	1856	1850	1767	1856	1780
Queue Service Time (g_s), s	7.9	2.1		0.8	4.9		0.4	27.4	27.4	1.5	8.7	8.8
Cycle Queue Clearance Time (g_c), s	7.9	2.1		0.8	4.9		0.4	27.4	27.4	1.5	8.7	8.8
Green Ratio (*g/C*)	0.43	0.38		0.32	0.29		0.38	0.37	0.37	0.42	0.40	0.40
Capacity (*c*), veh/h	586	658		523	467		357	681	679	192	735	705
Volume-to-Capacity Ratio (*X*)	0.401	0.097		0.044	0.242		0.034	0.884	0.884	0.252	0.347	0.350
Back of Queue (*Q*), ft/ln (95 th percentile)	139.7	40.3		14.9	88.9		6.9	441.6	430.3	26.6	164.3	155.7
Back of Queue (*Q*), veh/ln (95 th percentile)	5.5	1.6		0.6	3.5		0.3	17.2	17.2	1.0	6.4	6.2
Queue Storage Ratio (*RQ*) (95 th percentile)	1.40	0.00		0.15	0.00		0.02	0.00	0.00	0.09	0.00	0.00
Uniform Delay (d_1), s/veh	17.1	18.0		20.8	24.1		17.5	26.7	26.7	20.4	19.0	19.0
Incremental Delay (d_2), s/veh	0.2	0.3		0.0	1.2		0.0	1.8	1.8	0.3	0.1	0.1
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	17.3	18.3		20.9	25.3		17.6	28.4	28.5	20.6	19.1	19.2
Level of Service (LOS)	B	B		C	C		B	C	C	C	B	B
Approach Delay, s/veh / LOS	17.5	B		24.6	C		28.3	C		19.3	B	
Intersection Delay, s/veh / LOS	24.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.27	B	2.28	B	1.91	B	1.91	B
Bicycle LOS Score / LOS	0.98	A	0.71	A	1.49	A	0.94	A

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HCS7 All-Way Stop Control Report

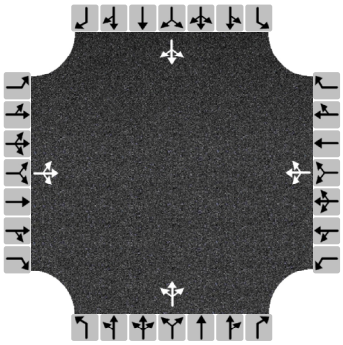
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	09/16/2019
Analysis Year	2025
Analysis Time Period (hrs)	0.25
Time Analyzed	2025 AM Peak Hour Total
Project Description	Ledgestone South

Site Information

Intersection	Locust_Lake Hazel
Jurisdiction	
East/West Street	Lake Hazel Rd
North/South Street	Locust Grove Rd
Peak Hour Factor	0.94

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	26	446	5	15	283	82	5	259	18	59	87	11
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	507			404			300			167		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.451			0.359			0.267			0.148		
Final Departure Headway, hd (s)	7.00			7.15			7.75			8.41		
Final Degree of Utilization, x	0.986			0.803			0.646			0.390		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	5.00			5.15			5.75			6.41		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	507			404			300			167		
Capacity	514			504			464			428		
95% Queue Length, Q_{95} (veh)	13.4			7.6			4.5			1.8		
Control Delay (s/veh)	62.7			33.2			23.8			16.7		
Level of Service, LOS	F			D			C			C		
Approach Delay (s/veh)	62.7			33.2			23.8			16.7		
Approach LOS	F			D			C			C		
Intersection Delay, s/veh | LOS	40.0						E					

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HCS7 All-Way Stop Control Report

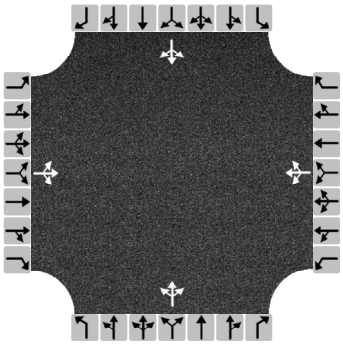
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	09/16/2019
Analysis Year	2025
Analysis Time Period (hrs)	0.25
Time Analyzed	2025 AM Peak Hour Total
Project Description	Ledgestone South

Site Information

Intersection	Locust_Columbia
Jurisdiction	
East/West Street	Columbia Rd
North/South Street	Locust Grove Rd
Peak Hour Factor	0.90

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	95	339	6	6	115	24	6	164	11	28	53	25
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	489			161			201			118		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.435			0.143			0.179			0.105		
Final Departure Headway, hd (s)	5.24			5.63			5.94			6.07		
Final Degree of Utilization, x	0.712			0.252			0.332			0.198		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	3.24			3.63			3.94			4.07		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	489			161			201			118		
Capacity	687			640			606			593		
95% Queue Length, Q_{95} (veh)	6.0			1.0			1.4			0.7		
Control Delay (s/veh)	20.1			10.5			11.9			10.6		
Level of Service, LOS	C			B			B			B		
Approach Delay (s/veh)	20.1			10.5			11.9			10.6		
Approach LOS	C			B			B			B		
Intersection Delay, s/veh | LOS	15.6						C					

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HCS7 Two-Way Stop-Control Report

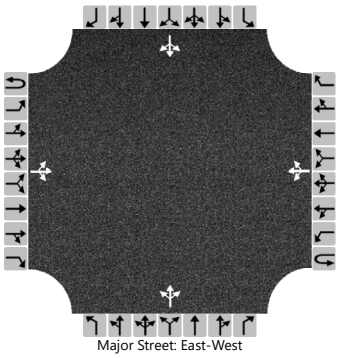
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	9/16/2019
Analysis Year	2025
Time Analyzed	2025 AM Peak Hour Total
Intersection Orientation	East-West
Project Description	Ledgestone South

Site Information

Intersection	Locust Grove and Hubbard
Jurisdiction	
East/West Street	Hubbard Rd
North/South Street	Locust Grove Rd
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		33	39	6		9	20	3		1	145	26		2	51	15
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		37				10					191				76	
Capacity, c (veh/h)		1582				1550					738				750	
v/c Ratio		0.02				0.01					0.26				0.10	
95% Queue Length, Q_{95} (veh)		0.1				0.0					1.0				0.3	
Control Delay (s/veh)		7.3				7.3					11.6				10.3	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)	3.2				2.1				11.6				10.3			
Approach LOS									B				B			

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HCS7 Two-Way Stop-Control Report

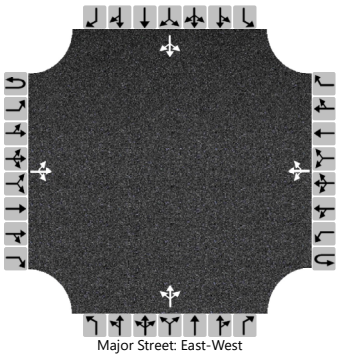
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	9/16/2019
Analysis Year	2025
Time Analyzed	2025 AM Peak Hour Total
Intersection Orientation	East-West
Project Description	Ledgestone South

Site Information

Intersection	Locust Grove and Deer Fla
Jurisdiction	
East/West Street	Deer Flat
North/South Street	Locust Grove Rd
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		41	222	11		1	74	6		5	25	5		5	19	19
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		46				1					39				48	
Capacity, c (veh/h)		1500				1300					518				627	
v/c Ratio		0.03				0.00					0.08				0.08	
95% Queue Length, Q_{95} (veh)		0.1				0.0					0.2				0.2	
Control Delay (s/veh)		7.5				7.8					12.5				11.2	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)		1.3				0.1				12.5				11.2		
Approach LOS										B				B		

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HCS7 Two-Way Stop-Control Report

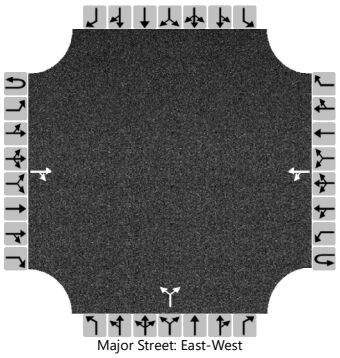
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	10/16/2019
Analysis Year	2025
Time Analyzed	AM Peak Hour Total
Intersection Orientation	East-West
Project Description	Ledgestone South

Site Information

Intersection	Hubbard and Stroebel
Jurisdiction	
East/West Street	Hubbard
North/South Street	Stroebel
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			57	32		8	28			96		24				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage						Undivided										

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.13				6.43		6.23				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.23				3.53		3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						9					130					
Capacity, c (veh/h)						1490					881					
v/c Ratio						0.01					0.15					
95% Queue Length, Q_{95} (veh)						0.0					0.5					
Control Delay (s/veh)						7.4					9.8					
Level of Service (LOS)						A					A					
Approach Delay (s/veh)						1.7				9.8						
Approach LOS										A						

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HCS7 Two-Way Stop-Control Report

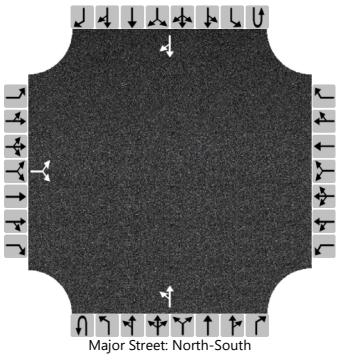
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	10/16/2019
Analysis Year	2025
Time Analyzed	AM Peak Hour Total
Intersection Orientation	North-South
Project Description	Ledgestone South

Site Information

Intersection	Locust Grove and E Access
Jurisdiction	
East/West Street	E Access
North/South Street	Locust Grove
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		108		12						4	68				30	36
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.43		6.23						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			130							4						
Capacity, c (veh/h)			868							1522						
v/c Ratio			0.15							0.00						
95% Queue Length, Q_{95} (veh)			0.5							0.0						
Control Delay (s/veh)			9.9							7.4						
Level of Service (LOS)			A							A						
Approach Delay (s/veh)		9.9								0.4						
Approach LOS		A														

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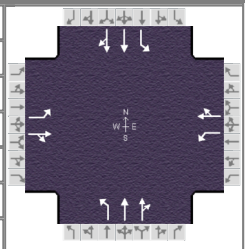
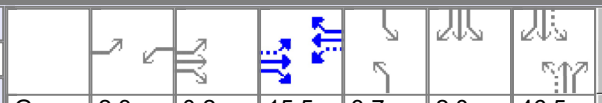
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	WHPacific			Duration, h	0.25
Analyst	K Baker	Analysis Date	8/23/2019	Area Type	Other
Jurisdiction	ACHD	Time Period	AM Peak	PHF	0.95
Urban Street	Meridian Rd	Analysis Year	2025	Analysis Period	1> 5:00
Intersection	Meridian and Hubbard	File Name	Meridian&Hubbard-PM-2025Total.xus		
Project Description	2025 PM Peak Total				

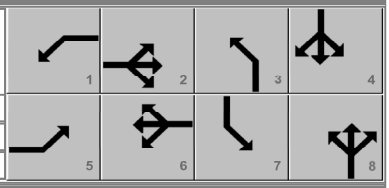


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	111	11	45	18	10	88	36	607	21	109	1302	343

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	2.3	0.2	15.5	3.7	2.0	46.5						
Yellow	4.0	4.0	4.0	4.0	0.0	4.0						
Red	0.0	0.0	0.0	0.0	0.0	0.0						



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	10.4	23.6	6.3	19.5	7.7	50.5	9.7	52.4
Change Period, ($Y+R_c$), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0	3.1	3.1	3.1	3.1
Queue Clearance Time (g_s), s	6.7		2.8		2.9	11.5	4.6	42.7
Green Extension Time (g_e), s	0.1	0.0	0.0	0.0	0.0	6.9	0.0	5.7
Phase Call Probability	0.95		0.38		0.61	1.00	0.94	1.00
Max Out Probability	0.00		0.00		0.99	0.02	1.00	0.31

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	117	59		19	103		38	332	329	115	879	853
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1767	1612		1767	1597		1767	1856	1833	1767	1856	1724
Queue Service Time (g_s), s	4.7	2.7		0.8	5.1		0.9	9.5	9.5	2.6	37.4	40.7
Cycle Queue Clearance Time (g_c), s	4.7	2.7		0.8	5.1		0.9	9.5	9.5	2.6	37.4	40.7
Green Ratio (*g/C*)	0.27	0.22		0.20	0.17		0.56	0.52	0.52	0.58	0.54	0.54
Capacity (*c*), veh/h	353	351		346	274		170	958	946	506	999	928
Volume-to-Capacity Ratio (*X*)	0.331	0.168		0.055	0.376		0.223	0.347	0.347	0.227	0.880	0.919
Back of Queue (*Q*), ft/ln (95 th percentile)	88.6	51		15	103.1		17.1	168.6	162.9	42.3	569.5	587.2
Back of Queue (*Q*), veh/ln (95 th percentile)	3.5	2.0		0.6	4.0		0.7	6.6	6.5	1.7	22.2	23.5
Queue Storage Ratio (*RQ*) (95 th percentile)	0.89	0.00		0.15	0.00		0.06	0.00	0.00	0.14	0.00	0.00
Uniform Delay (d_1), s/veh	26.3	28.6		29.3	33.0		19.7	12.8	12.8	9.1	18.2	19.0
Incremental Delay (d_2), s/veh	0.2	1.0		0.0	3.9		0.2	0.1	0.1	0.1	6.0	9.8
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	26.5	29.6		29.4	36.9		19.9	12.9	12.9	9.2	24.2	28.8
Level of Service (LOS)	C	C		C	D		B	B	B	A	C	C
Approach Delay, s/veh / LOS	27.5	C		35.7	D		13.3	B		25.4	C	
Intersection Delay, s/veh / LOS	23.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.29	B	2.29	B	1.89	B	1.89	B
Bicycle LOS Score / LOS	0.78	A	0.69	A	1.06	A	2.01	B

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HCS7 All-Way Stop Control Report

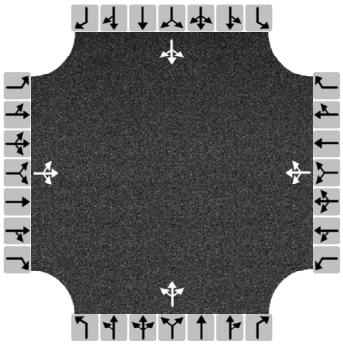
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	09/16/2019
Analysis Year	2025
Analysis Time Period (hrs)	0.25
Time Analyzed	2025 PM Peak Hour Total
Project Description	Ledgestone South

Site Information

Intersection	Locust_Lake Hazel
Jurisdiction	
East/West Street	Lake Hazel Rd
North/South Street	Locust Grove Rd
Peak Hour Factor	0.90

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	13	314	5	19	447	124	7	148	10	120	357	40
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	369			656			183			574		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.328			0.583			0.163			0.511		
Final Departure Headway, hd (s)	8.23			7.82			9.17			7.93		
Final Degree of Utilization, x	0.843			1.423			0.467			1.266		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	6.23			5.82			7.17			5.93		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	369			656			183			574		
Capacity	437			461			393			454		
95% Queue Length, Q_{95} (veh)	8.2			32.0			2.4			24.0		
Control Delay (s/veh)	42.0			224.6			19.9			160.8		
Level of Service, LOS	E			F			C			F		
Approach Delay (s/veh)	42.0			224.6			19.9			160.8		
Approach LOS	E			F			C			F		
Intersection Delay, s/veh | LOS	145.2						F					

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HCS7 All-Way Stop Control Report

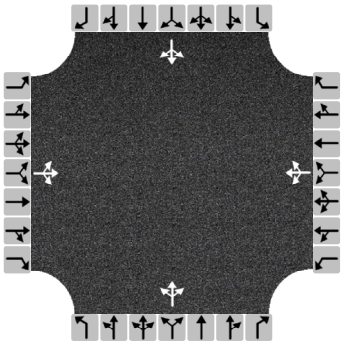
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	09/16/2019
Analysis Year	2025
Analysis Time Period (hrs)	0.25
Time Analyzed	2025 PM Peak Hour Total
Project Description	Ledgestone South

Site Information

Intersection	Locust_Columbia
Jurisdiction	
East/West Street	Columbia Rd
North/South Street	Locust Grove Rd
Peak Hour Factor	0.95

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	33	143	5	15	404	45	2	84	8	54	210	120
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	191			488			99			404		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.169			0.434			0.088			0.359		
Final Departure Headway, hd (s)	6.69			5.99			7.09			6.17		
Final Degree of Utilization, x	0.354			0.812			0.195			0.693		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	4.69			3.99			5.09			4.17		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	191			488			99			404		
Capacity	538			601			508			584		
95% Queue Length, Q_{95} (veh)	1.6			8.2			0.7			5.4		
Control Delay (s/veh)	13.3			29.8			11.8			21.9		
Level of Service, LOS	B			D			B			C		
Approach Delay (s/veh)	13.3			29.8			11.8			21.9		
Approach LOS	B			D			B			C		
Intersection Delay, s/veh | LOS	22.9						C					

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HCS7 Two-Way Stop-Control Report

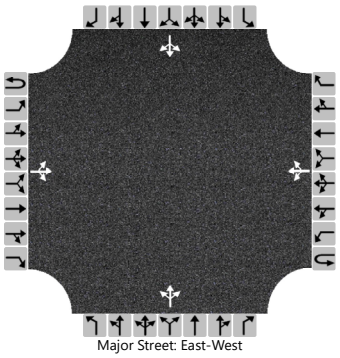
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	9/16/2019
Analysis Year	2025
Time Analyzed	2025 PM Peak Hour Total
Intersection Orientation	East-West
Project Description	Ledgestone South

Site Information

Intersection	Locust Grove and Hubbard
Jurisdiction	
East/West Street	Hubbard Rd
North/South Street	Locust Grove Rd
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		11	22	18		38	36	1		13	82	21		1	206	31
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		12				41					125				256	
Capacity, c (veh/h)		1563				1559					691				712	
v/c Ratio		0.01				0.03					0.18				0.36	
95% Queue Length, Q_{95} (veh)		0.0				0.1					0.7				1.6	
Control Delay (s/veh)		7.3				7.4					11.4				12.9	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)	1.6				3.8				11.4				12.9			
Approach LOS									B				B			

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HCS7 Two-Way Stop-Control Report

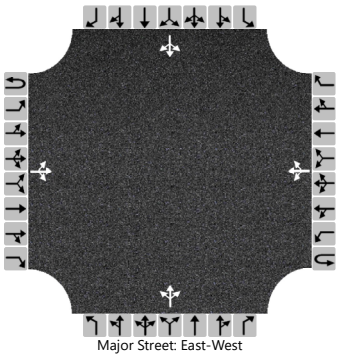
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	9/16/2019
Analysis Year	2025
Time Analyzed	2025 PM Peak Hour Total
Intersection Orientation	East-West
Project Description	Ledgestone South

Site Information

Intersection	Locust Grove and Deer Fla
Jurisdiction	
East/West Street	Deer Flat
North/South Street	Locust Grove Rd
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		29	66	2		2	306	5		1	24	2		7	56	93
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		32				2					30				173	
Capacity, c (veh/h)		1208				1517					475				579	
v/c Ratio		0.03				0.00					0.06				0.30	
95% Queue Length, Q_{95} (veh)		0.1				0.0					0.2				1.3	
Control Delay (s/veh)		8.1				7.4					13.1				13.9	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)	2.6				0.1				13.1				13.9			
Approach LOS									B				B			

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HCS7 Two-Way Stop-Control Report

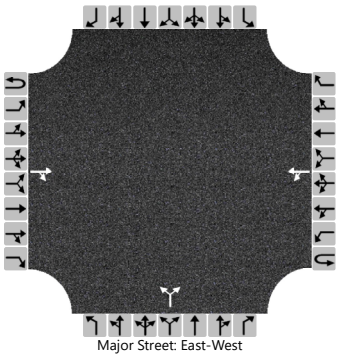
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	10/16/2019
Analysis Year	2025
Time Analyzed	PM Peak Hour Total
Intersection Orientation	East-West
Project Description	Ledgestone South

Site Information

Intersection	Hubbard and Stroebel
Jurisdiction	
East/West Street	Hubbard
North/South Street	Stroebel
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	0	0
Configuration				TR		LT					LR					
Volume (veh/h)			34	107		27	53			63		16				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized																
Median Type | Storage						Undivided										

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.13				6.43		6.23				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.23				3.53		3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						29					86					
Capacity, c (veh/h)						1421					792					
v/c Ratio						0.02					0.11					
95% Queue Length, Q_{95} (veh)						0.1					0.4					
Control Delay (s/veh)						7.6					10.1					
Level of Service (LOS)						A					B					
Approach Delay (s/veh)						2.7				10.1						
Approach LOS										B						

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HCS7 Two-Way Stop-Control Report

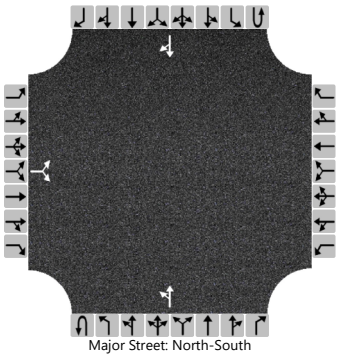
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	10/16/2019
Analysis Year	2025
Time Analyzed	PM Peak Hour Total
Intersection Orientation	North-South
Project Description	Ledgestone South

Site Information

Intersection	Locust Grove and E Access
Jurisdiction	
East/West Street	E Access
North/South Street	Locust Grove
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		71		8						14	44				141	121
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.43		6.23						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			86							15						
Capacity, c (veh/h)			695							1272						
v/c Ratio			0.12							0.01						
95% Queue Length, Q_{95} (veh)			0.4							0.0						
Control Delay (s/veh)			10.9							7.9						
Level of Service (LOS)			B							A						
Approach Delay (s/veh)		10.9								2.0						
Approach LOS		B														

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TRAFFIC SIGNAL WARRANTS

City/Town:	Kuna, ID	Analysis Performed By:	RB
County:	ADA County	Date Analysis Performed:	10/15/2019
Division:		Project Number if Applicable:	
Data Date:		Weather Conditions:	
Major Route:	Lake Hazel	Appr. Lanes: 1	Critical Approach Speed (mph): 50
Minor Route:	Locust Grove	Appr. Lanes: 1	

Volume Level Criteria

1. Is the critical speed of major street traffic > 70 km/h (40 mph) ? [X] Yes [ ] No
2. Is the intersection in a built-up area or isolated community of <10,000 population? [ ] Yes [ ] No

If Question 1 or 2 above is answered "Yes", then use "70%" volume level [X] 70% [ ] 100%

WARRANT 1 - EIGHT-HOUR VEHICULAR VOLUME

Warrant 1 is satisfied if Condition A or Condition B is "100%" satisfied.

Warrant is also satisfied if both Condition A and Condition B are "80%" satisfied, given adequate trials of other remedial measures have been tried.

Satisfied: [ ] Yes [X] No

Adequate trial(s) of other remedial measures tried: [ ] Yes [X] No

List Remedial Measures Tried (Required for 80% Combination of A & B)

Condition A - Minimum Vehicular Volume & Condition B - Interruption of Continuous Traffic

100% Satisfied: [ ] Yes [X] No

(Used if neither Condition A or B is satisfied) 80% Satisfied: [ ] Yes [X] No

	(volumes in veh/hr)	Minimum Requirements				Eight Highest Hours							
	Approach Lanes	1		2 or more									
	Volume Level	100%	70%	100%	70%	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM
W - 1A 100%	Both Approaches on Major Street	500	350	600	420	353	367	305	512	668	924	585	343
	Highest Approach on Minor Street	150	105	200	140	125	127	113	204	315	410	258	159
	(volumes in veh/hr)	Minimum Requirements											
	Approach Lanes	1		2 or more									
	Volume Level	100%	70%	100%	70%								
W - 1B 100%	Both Approaches on Major Street	750	525	900	630	353	367	305	512	668	924	585	343
	Highest Approach on Minor Street	75	53	100	70	125	127	113	204	315	410	258	159
	(volumes in veh/hr)	Minimum Requirements											
	Approach Lanes	1		2 or more									
	Volume Level	100%	70%	100%	70%								
W - 1A 80%	Both Approaches on Major Street	400	280	480	336	353	367	305	512	668	924	585	343
	Highest Approach on Minor Street	120	84	160	112	125	127	113	204	315	410	258	159
	(volumes in veh/hr)	Minimum Requirements											
	Approach Lanes	1		2 or more									
	Volume Level	100%	70%	100%	70%								
W - 1B 80%	Both Approaches on Major Street	600	420	720	504	353	367	305	512	668	924	585	343
	Highest Approach on Minor Street	60	42	80	56	125	127	113	204	315	410	258	159

NOTE: *The satisfaction of a warrant or warrants shall not in itself require the installation of a traffic control signal*

TRAFFIC SIGNAL WARRANTS

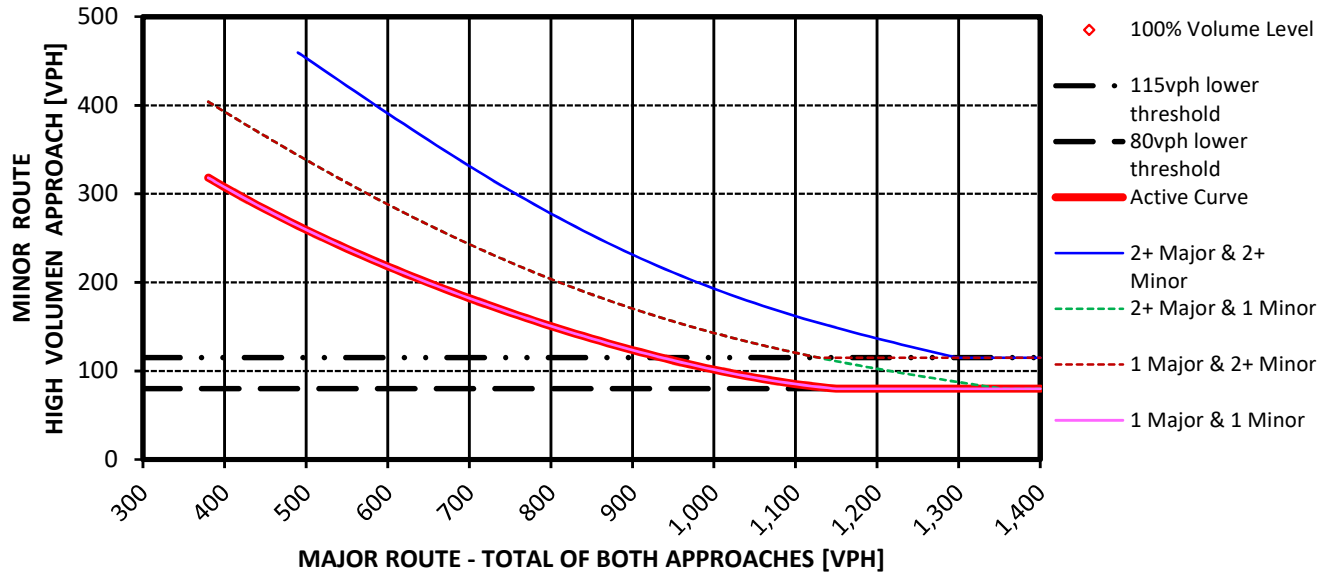
WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

Satisfied: [X] Yes [ ] No

If all four points lie above the appropriate line, then this warrant is satisfied.

(Volumes in veh/hr)	Four Highest Hours			
	3 PM	4 PM	5 PM	6 PM
SUM of Both Approaches on Major Street	512	668	924	585
Highest Minor Street Approach	204	315	410	258

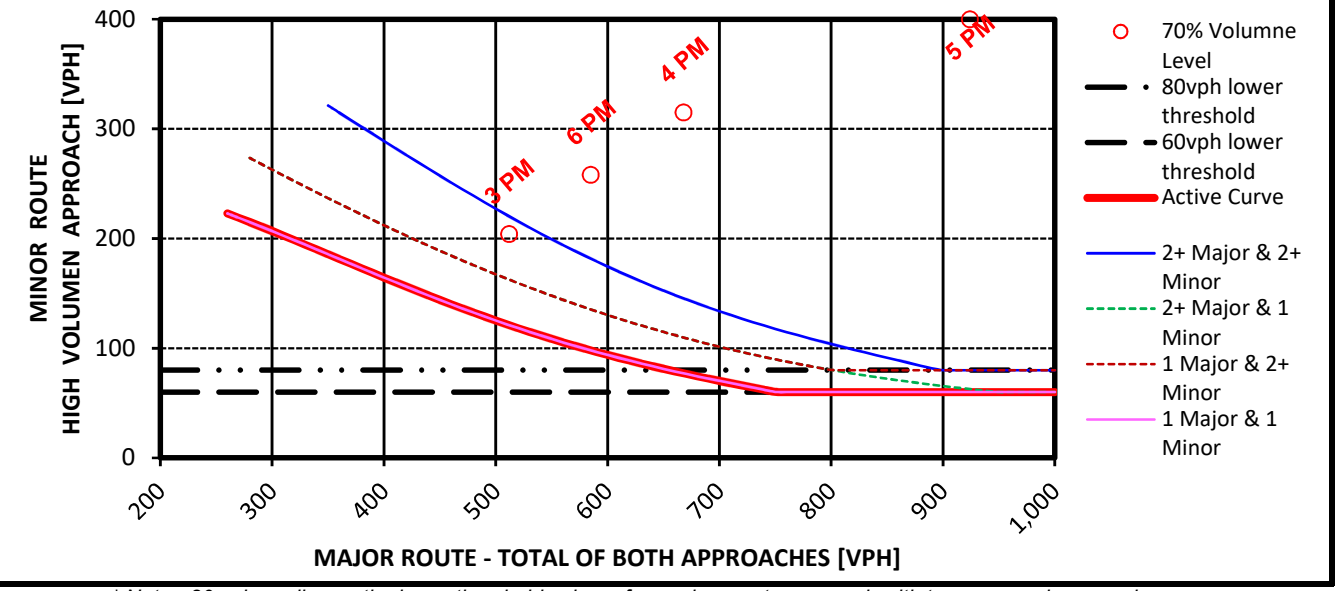
FIGURE W-2: Criteria for "100%" Volume Level



** Note: 115 vph applies as the lower threshold volume for a minor route approach with two or more lanes and 80 vph applies as the lower threshold volume threshold for a minor route approach with one lane.*

FIGURE W-2: Criteria for "70%" Volume Level

(Community less-than 10,000 population or speeds greater-than 70 km/hr [40 mph] on Major Street)



** Note: 80 vph applies as the lower threshold volume for a minor route approach with two or more lanes and 60 vph applies as the lower threshold volume threshold for a minor route approach with one lane.*

NOTE: *The satisfaction of a warrant or warrants shall not in itself require the installation of a traffic control signal.*

TRAFFIC SIGNAL WARRANTS

WARRANT 3 - PEAK HOUR VEHICULAR VOLUME

Applicable: [ ] Yes [X] No

Satisfied: [ ] Yes [X] No

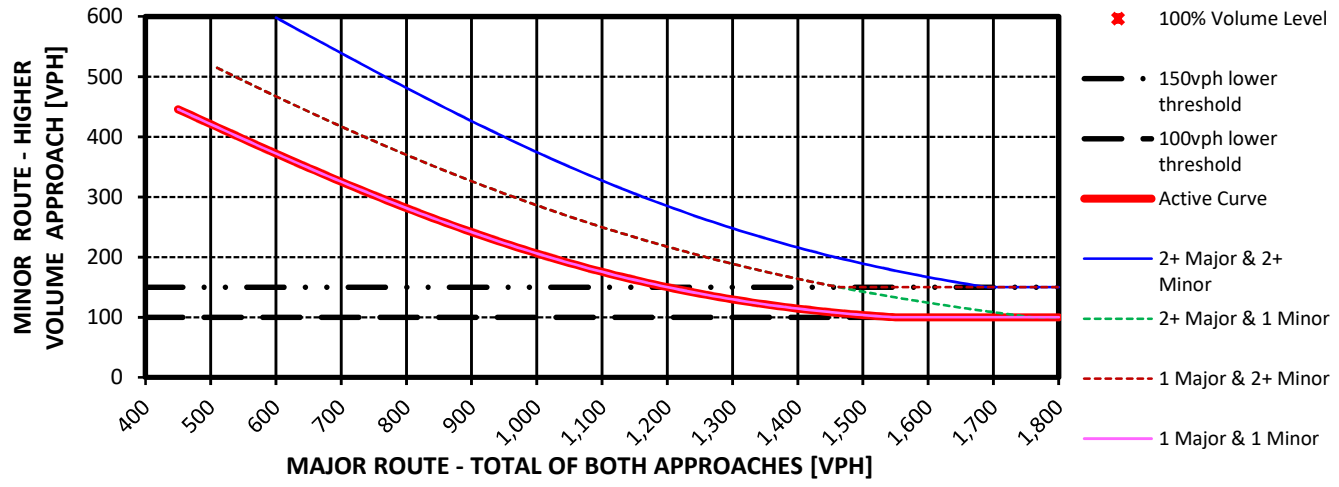
This signal warrant sahll be applied only in unsual cases, such as office complexes, manufacturing plants, industrial complexes, or high-ocupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time period.

Signalization shall be considered if a point lies above the appropriate line or the Delay criteria is met.

Unusual case(s) justifying this Warrant:

Peak Hour Data		
Peak Hour	Major Route	Minor Route
5 PM	924	410

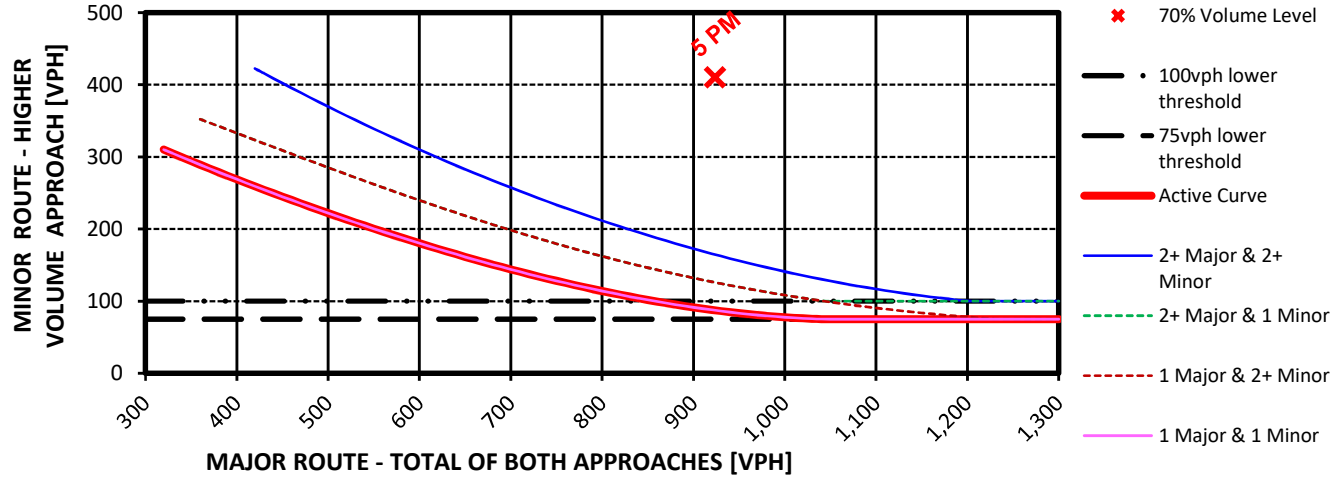
FIGURE W-3: Criteria for "100%" Volume Level



** Note: 150 vph applies as the lower threshold volume for a minor route approach with two or more lanes and 100 vph applies as the lower threshold volume threshold for a minor route approach with one lane.*

FIGURE W-3: Criteria for "70%" Volume Level

(Community less-than 10,000 population or speeds greater-than 70 km/hr [40 mph] on Major Street)



** Note: 100 vph applies as the lower threshold volume for a minor route approach with two or more lanes and 75 vph applies as the lower threshold volume threshold for a minor route approach with one lane.*

DELAY CRITERIA

1. Delay on Minor Approach (vehicle-hours)		
Approaches Lanes:	1	2
Delay Criteria:	4.0	5.0
Delay:		
Fullfilled? [ ] Yes [X] NO		

2. Volume on Minor Approach (veh/hr)		
Approaches Lanes	1	2
Volume Criteria	100	150
Volume :		
Fullfilled? [ ] Yes [X] NO		

3. Total Entering Volume (veh/hr)		
Number of Approaches: [ ] 3 [X] 4 or more		
No. of Approaches	3	4
Volume Criteria	650	800
Volume :		
Fullfilled? [ ] Yes [X] NO		

NOTE: *The satisfaction of a warrant or warrants shall not in itself require the installation of a traffic control signal*

TRAFFIC SIGNAL WARRANTS

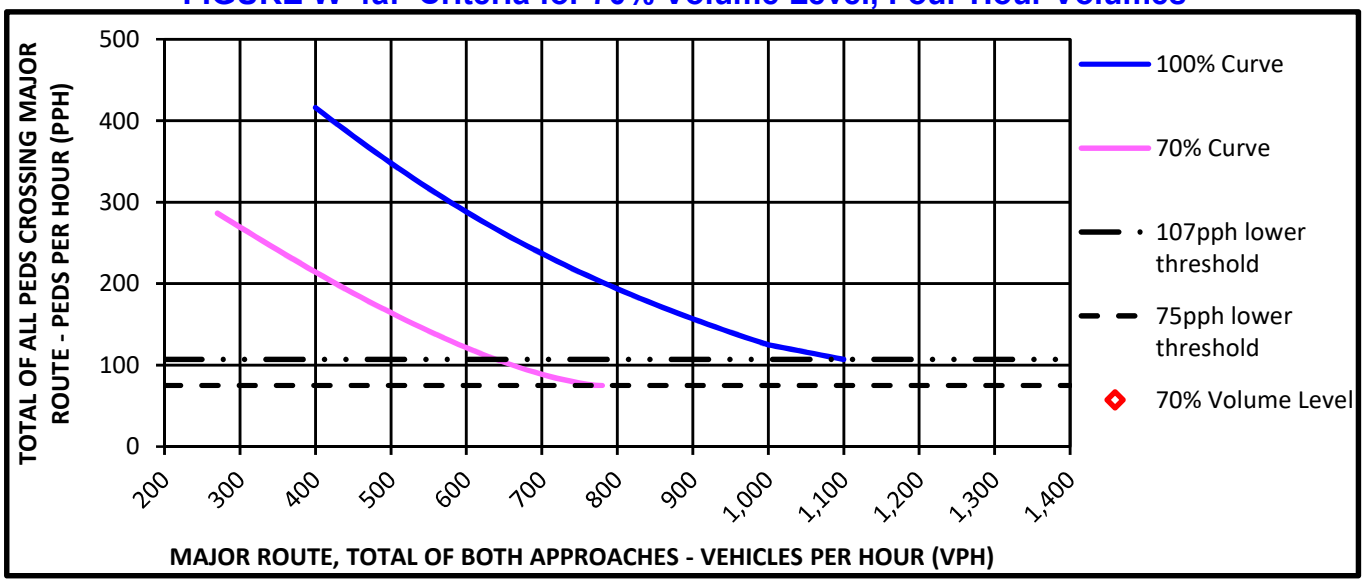
WARRANT 4 - PEDESTRIAN VOLUME

Satisfied: [ ] Yes [X] No

Pedestrian Signal Location Criteria			Fulfilled? Yes	Fulfilled? No
The nearest traffic control device (signal or STOP sign) controlling traffic on the major route is more than 90m (300 ft) away:	[ ] Yes	[X] No		X
If no above, will this proposed signal restrict the progrssive movement of traffic?	[X] Yes	[ ] No		

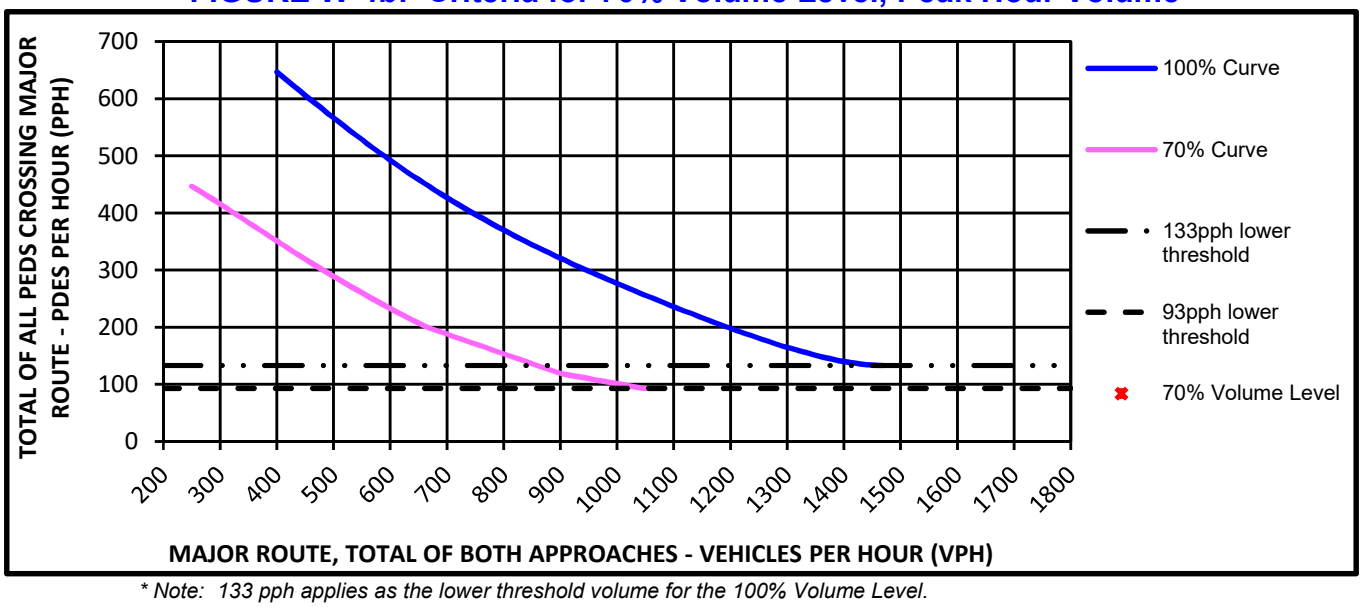
Vehicle volumes in veh/hr and Pedestrian volumnes in ped/hr	*Four Greatest Hours*				Peak Hour
SUM of Both Approaches on Major Route					
Pedestrians crossing the Major Route					

FIGURE W-4a: Criteria for 70% Volume Level, Four-Hour Volumes



** Note: 107 pph applies as the lower threshold volume for the 100% Volume Level.*
75 pph applies as the lower threshold volume for the 70% Volume Level.

FIGURE W-4b: Criteria for 70% Volume Level, Peak Hour Volume



** Note: 133 pph applies as the lower threshold volume for the 100% Volume Level.*
93 pph applies as the lower threshold volume for the 70% Volume Level.

NOTE: *The Satisfaction of a warrant or warrants shall not in itself require the installation of a traffic control signal.*

TRAFFIC SIGNAL WARRANTS

WARRANT 5 - SCHOOL CROSSING

Satisfied: ☐ Yes ☒ No

This warrant is intended for application where the fact that schoolchildren crossing the major route is the principal reason to consider installing a traffic control signal. For the purposes of this warrant, the word "schoolchildren" includes elementary through high school students. This warrant is satisfied if all three of the criteria below are fulfilled after remedial measures have been considered.

Any remedial measures implemented in or around the intersection to improve the safety of the students as noted in Section **4C.06 Warrant 5, School Crossing** in the MUTCD:

Criteria			Fulfilled? Yes	Fulfilled? No
1. *Enter the number of schoolchildren crossing the major route along with the hour this occurs. The hour can be any 60 minute interval (ex 2:15 PM - 3:15 PM enter 2:15 - 3:15). Requires a minimum of 20 schoolchildren durning the any hour.*	*Num. of Students*	*Highest Crossing Hour Period*		X
		-		
2. *For both the morning (AM) and afternoon (PM) periods of operation, enter the number of adequate gaps observed for each period and the number of minutes each period lasted. Requires one period to operate with fewer gaps than the number of minutes in the period.*		*Period*		X
		Minutes / *Gaps*		
	AM			
	PM			
3. *Is the nearest traffic signal along the major route more than 90m (300 ft) from this crossing?*	☐ Yes	☒ No		X
If the signal is within 90m (300 ft) of an existing signalize intersection, will it restrict progressive movement of traffic?	☒ Yes	☐ No		

WARRANT 6 - COORDINATED SIGNAL SYSTEM

Satisfied: ☐ Yes ☒ No

Progressive movement in a coordinated signal system sometimes necessitates the installtion of traffic control signals at intersections that would not otherwise be considered in order to maintain proper paltooning of vehicles. This warrant is satisfied if the below criteria is satified as follows: criteria 1 is satisfied and either criteria 2 or 3 is satisfied.

Criteria	Fulfilled? Yes	Fulfilled? No
1. *The inclusion of this proposed signal, into the coordinated system, does not result in a signal spacing of less than 305m (1,000 ft)?*		X
2. a. *On a one-way street or a street that has traffic predominantly in one direction, are the adjacent traffic control signals so far apart that they do not provide the necessary degree of vehiclular platooning?*		X
b. *On a two-way street, do adjacent traffic control signals **not** provide the necessary degree of platooning and will the proposed and adjacent traffic control signals collectively provide a progressive operation?*		X

NOTE: *The satisfaction of a warrant or warrants shall not in itself require the installation of a traffic control signal.*

TRAFFIC SIGNAL WARRANTS

WARRANT 7 - CRASH EXPERIENCE

Satisfied: [ ] Yes [X] No

This warrant is intended for application where the severity and frequency of crashes are the principal reasons to consider the installation of a traffic control signal. The need for a traffic control signal shall be considered if an engineering study finds that criteria 1, 2, and 3 are met.

Criteria			Fulfilled? Yes	Fulfilled? No
1. *Adequate trial of alternatives with satisfactory observance and enforcement has fialed to reduce the crash frequency as shown below:*				
				X
2. ***How many crashes within the past 12 months?*** *For this criteria to be met, five or more reported crashes, of types suseptible to correction by the installation of a traffic control signal, must have occurred.*				X
3. *If Warrant 1A or Warrant 1B are 80 percent satisfied of the current values or if Warrant 4, 4-hour or peak, is met at the 80 percent values.*	**Met? Yes**	**Met? No**		
Warrant 1, Condition A, Minimum Vehicular Volume (80 percent satisfied):		X		X
Warrant 1, Condition B, Interruption of Continuous Traffic (80 percent satisfied):		X		
Warrant 4, Four-Hour Volume (80 percent satisfied):		X		
Warrant 4, Peak Hour Volume (80 percent satisfied):		X		

WARRANT 8 - ROADWAY NETWORK

Satisfied: [ ] Yes [X] No

This warrant is used to encourage the concentration and organization of traffic flow on a roadway network. This warrant is satisfied if one of the following 2 criteria is met and both routes meet at least on of the characteristics of a Major Route below.

Criteria			Met? Yes	Met? No	Fulfilled? Yes	Fulfilled? No
1. *Both of the criteria to the right are required in order to be met.*	a. *Please enter the total existing, or immediately projected, entering traffic volume during the peak hour of a typical weekday. Requires a minumum of 1,000 vehicles to be met.*	**Volume**		X		X
	b. *Based on an engineering study, does the 5 year projected traffic volumes, for this location, meet one or more of Warrants 1, 2, or 3 during an average weekday? **			X		
2. *Enter the total existing, or immediately projected, entering volume for each of any 5 hours of a non-normal business day.* ***(Saturday or Sunday).*** *1,000 vph for each hour required.*		← Hour				X
		← Volume				

**** Supporting data required for verification of the projected 5 year traffic Warrants.***

A major route, as used in this signal warrant, shall have at least one of the following characteristics:		Met? Yes	Met? No	Fulfilled? Yes	Fulfilled? No
Characteristics of Major Routes					
1. *Is it a part of the street or highway system that serves as the principal roadway network for through traffic flow?*	*Major Route*		X		X
	** Minor Route*		X		
2. *Does it include rural or suburban highways outside, entering, or traversing a city?*	*Major Route*		X		
	** Minor Route*		X		
3. *Does it appear as a major route on an official plan, such as a major street plan in an urban area traffic and transportation study?*	*Major Route*		X		
	** Minor Route*		X		

**** This is a minor route, but for the purposes of this Warrant, shall be considered as the other major route.***

Note: ***Supporting data shall be required to verify the routes meet one of the characteristics of a major route.***

NOTE: *The satisfaction of a warrant or warrants shall not in itself require the installation of a traffic control signal.*

TRAFFIC SIGNAL WARRANTS

WARRANT 9 - INTERSECTION NEAR A GRADE CROSSING

Applicable ☐ Yes ☐ No

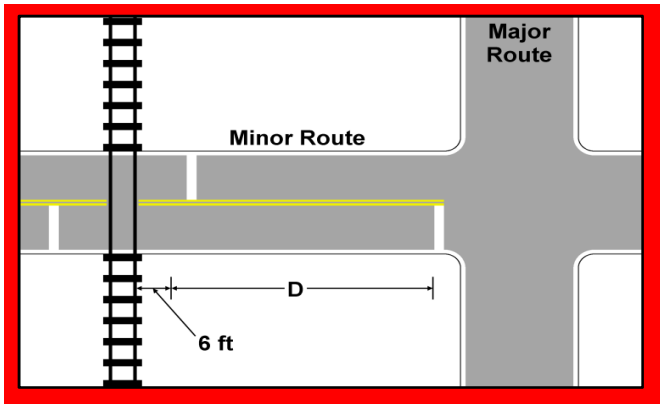
The need for a traffic control signal may be considered if an intersection that is controlled by a STOP or YIELD sign has a rail crossing within 140 feet of the stop/yield line and the highest Equivalent Minor Approach Traffic value lies above the curve represented on the graph below.

Minor Route Adjustment Factors - Enter the following:	
1. The number of occurrances of rail traffic/day:	
2. The percentage of "High-Occupancy Buses" crossing the track/day: (A high-occupancy bus is defined as a bus occupied by at least 20 people)	
3. The percentage of Tractor-trailer Trucks crossing the track/day:	

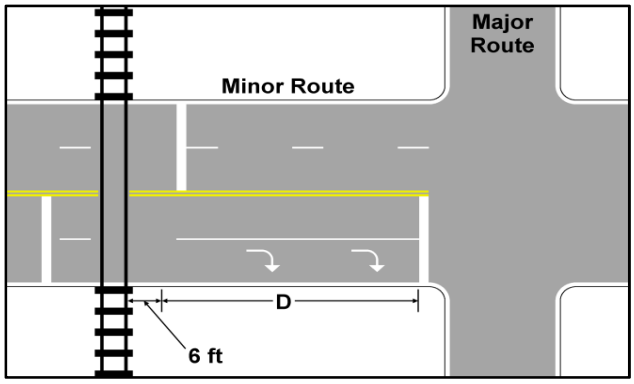
Satisfied: ☐ Yes ☐ No

Peak Hour Data		
Peak Hour	Major Route	Minor Route

Enter the distance value "D" from the STOP/YIELD bar to the track as shown below:

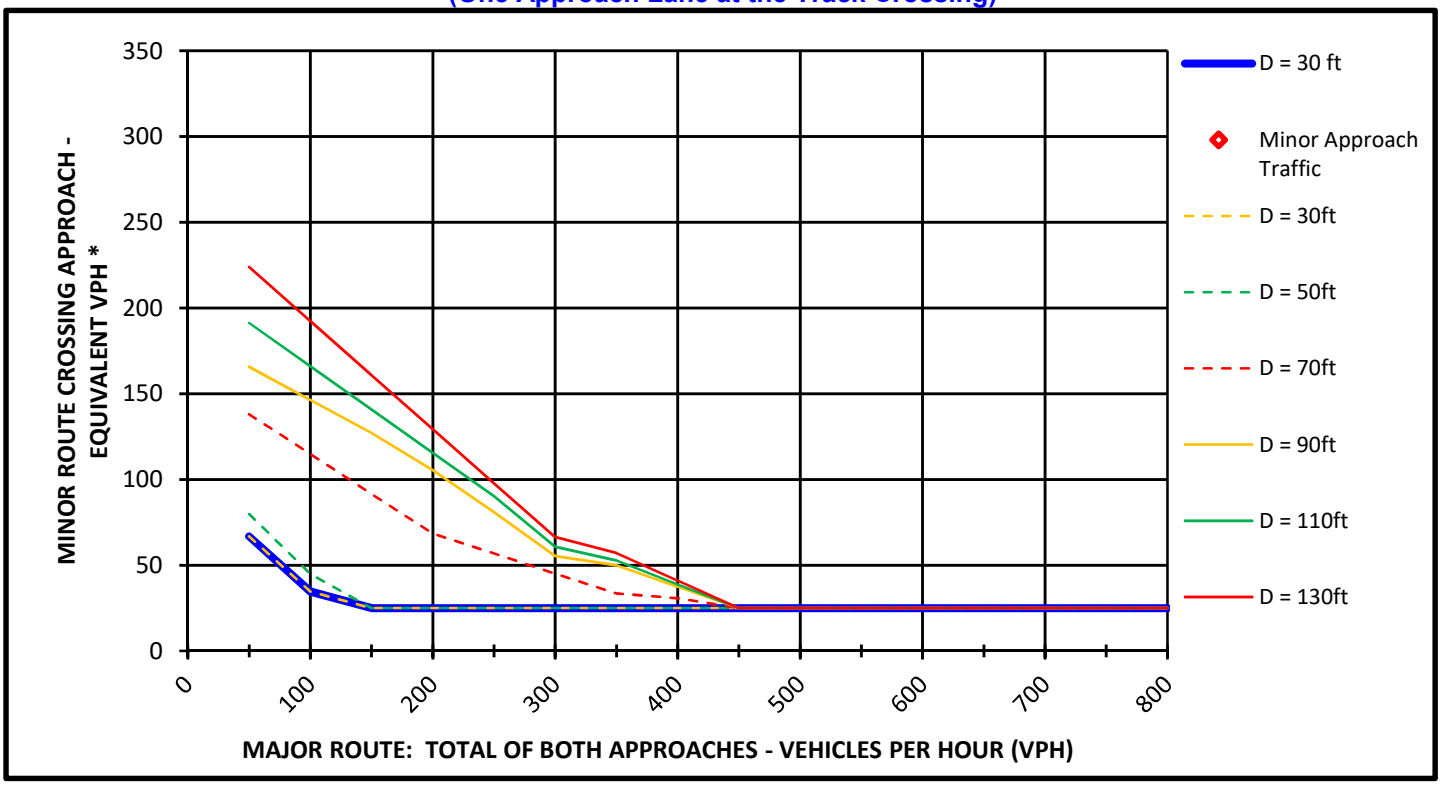


(One Approach Lane at the Track Crossing)



(Two or More Approach Lanes at the Track Crossing)

FIGURE W-9: Intersection Near a Grade Crossing
(One Approach Lane at the Track Crossing)



* *VPH after applying the adjustment factors for Rail, Bus, and Tractor-Trailer traffic*

25 vph applies as the lower threshold volume

NOTE: *The satisfaction of a warrant or warrants shall not in itself require the installation of a traffic control signal.*

TRAFFIC SIGNAL WARRANT SUMMARY

City/Town: Kuna, ID
County: ADA County
Division:
Data Date:

Analysis Performed By: RB
Date Analysis Performed: 10/15/2019
Project Number if Applicable:
Weather Conditions:

Major Route: Lake Hazel — Appr. Lanes: 1
Minor Route: Locust Grove — Appr. Lanes: 1
Critical Approach Speed (mph): 50

	SATISFIED	80% Satisfied		100% Satisfied	
Warrant #1: Eight-Hour Vehicular Volume	[ ] Yes [X] No				
1A - Minimum Vehicular Volume:		[X] Yes	[ ] No	[ ] Yes	[X] No
1B - Interruption of Continuous Traffic:		[ ] Yes	[X] No	[ ] Yes	[X] No

Any Remedial Measures Tried and their Outcome.

Warrant #2: Four-Hour Vehicular Volume [X] Yes [ ] No

Warrant #3: Peak Hour [ ] Yes [X] No

The Unusual Case(s) that Justifies the use of this Warrant.

Warrant #4: Pedestrian Volume [ ] Yes [X] No

Warrant #5: School Crossing [ ] Yes [X] No

Any Remedial Measures Implemented to improve the Safety of the Students.

Warrant #6: Coordinated Signal System [ ] Yes [X] No

Warrant #7: Crash Experience [ ] Yes [X] No

Other Alternatives that have failed to reduce crashes.

Warrant #8: Roadway Network [ ] Yes [X] No

Warrant #9: Intersection Near a Grade Crossing [ ] Yes [X] No

CONCLUSIONS

Warrants Satisfied: 2

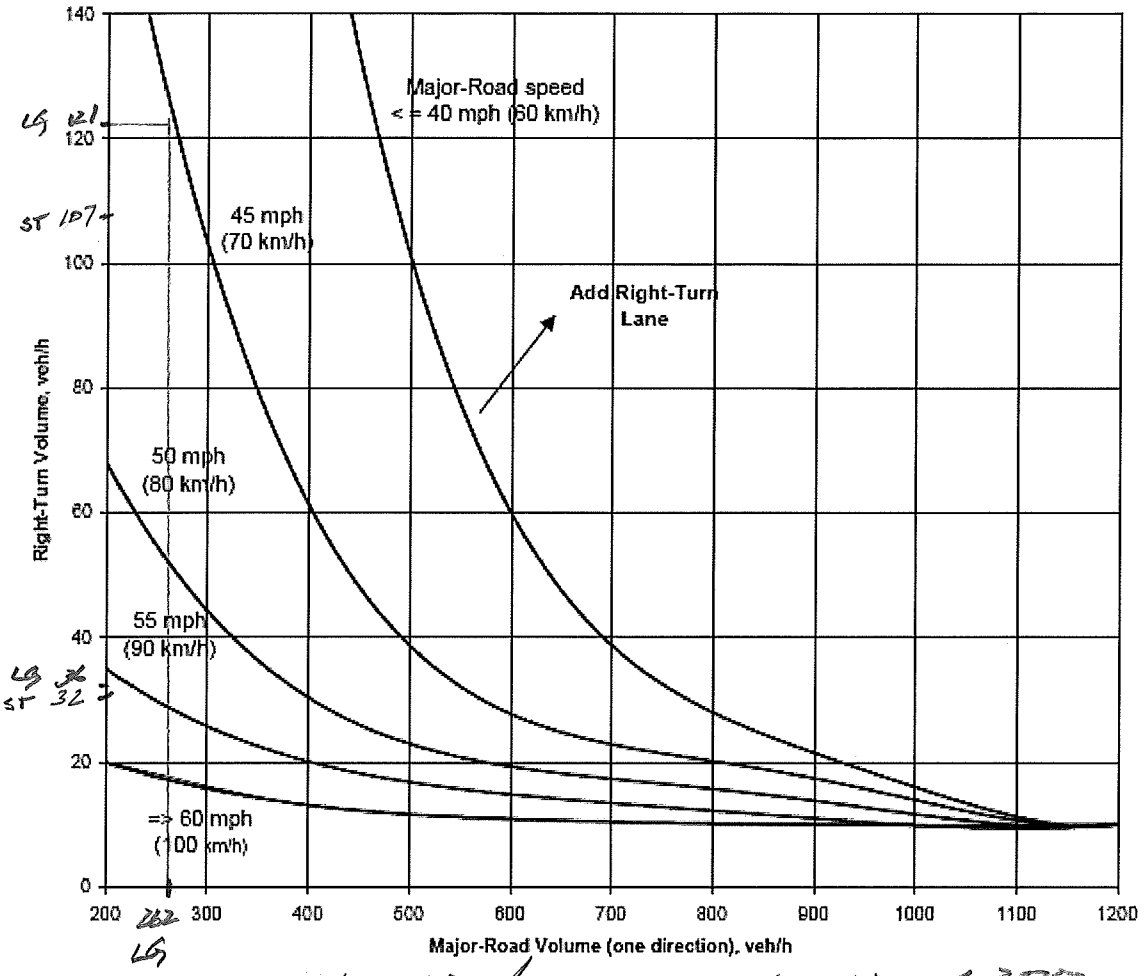
Remarks:

Based on MUTCD 2009 Summary Page

NOTE: *The satisfaction of a warrant or warrants shall not in itself require the installation of a traffic control signal.*

rev. 05/2011

Figure 6 – Right-Turn Lane Guidelines for Two-Lane Roadways



HVBB 4/2D / STROEBEL ADV VOL < 200

The following data are required: LOCUST GROVE – RT TURN LANE IS REQUIRED

1. Advancing Volume (veh/hr) - The advancing volume is to include the right-turn, left-turn and through movements in the same direction as the right-turning vehicle.

2. Right-Turning Volume (veh/hr) - The right-turning volume is the number of advancing vehicles turning right.

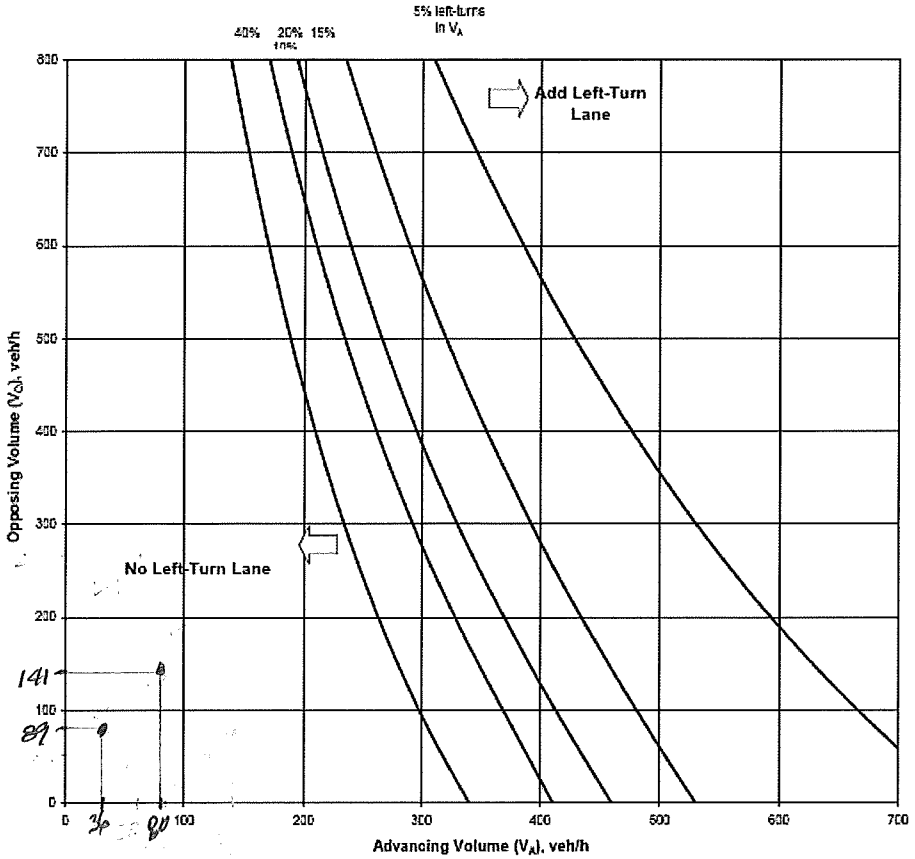
3. Operating Speed (mph) - The greatest of anticipated operating speed, measured 85th percentile speed or posted speed.

Note: Right-turn lane is not needed for right-turn volume less than 10 vph. However, criteria other than volume, e.g. crash experience, may be used to justify a right-turn lane.

If the combination of major road approach volume and right-turn volume intersects above or to the right of the speed trend line corresponding to the major road operating speed, then a right-turn lane is appropriate.

Source: NCHRP Report 279 and 457

Figure 2 – Left-Turn Lane Guidelines for Two-Lane Roads, 45 mph



HUBBARD RD/STROEBEL ACCESS
- NO LEFT TURN REQUIRED

The following data are required:

1. Opposing Volume (veh/hr) - VO - The opposing volume is to include only the right-turn and through movements in the opposite direction of the left turning vehicle.

2. Advancing Volume (veh/hr) - VA - The advancing volume is to include the right-turn, left-turn and through movements in the same direction as the left turning vehicle.

3. Operating Speed (mph) - The greatest of anticipated operating speed, measured 85th percentile speed or posted speed.

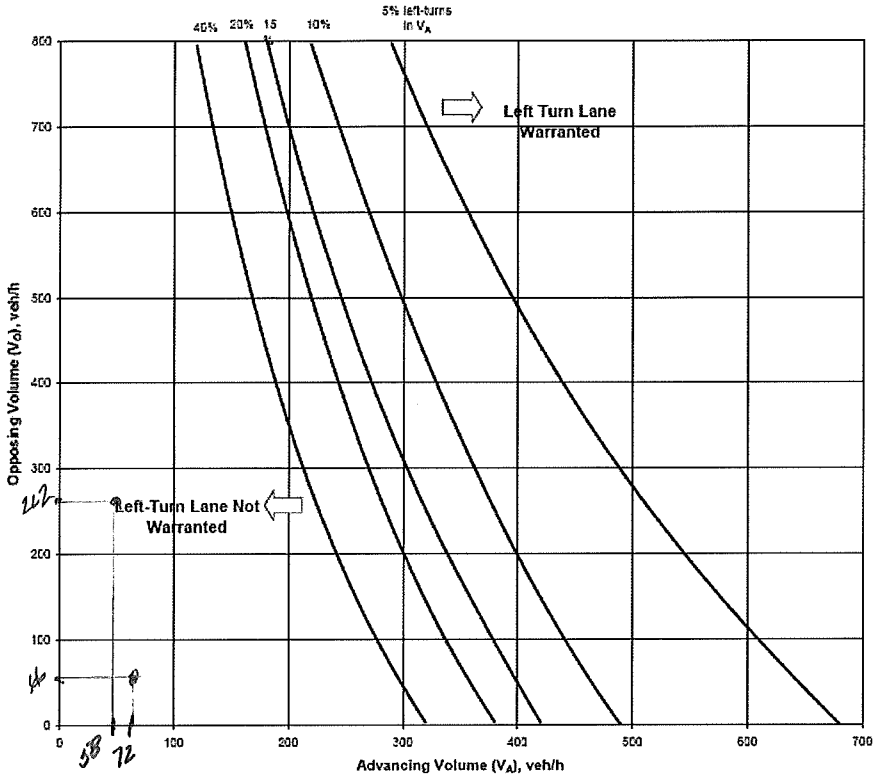
4. Percentage of left turns in VA

Left-turn lane is not needed for left-turn volume less than 10 vph. However, criteria other than volume, such as crash experience, may be used to justify a left-turn lane.

The appropriate trend line is identified on the basis of the percentage of left-turns in the advancing volume, rounded up to the nearest percentage trend line. If the advancing and opposing volume combination intersects above or to the right of this trend line, a left-turn lane is appropriate.

Source: NCHRP Report 279 and 457

Figure 3 – Left-Turn Lane Guidelines for Two-Lane Roads, 50 mph



The following data are required:

LOCUST GROVE ACCESS – NO LEFT TURN REQUIRED

1. Opposing Volume (veh/hr) - VO - The opposing volume is to include only the right-turn and through movements in the opposite direction of the left-turning vehicle.

2. Advancing Volume (veh/hr) - VA - The advancing volume is to include the right-turn, left-turn and through movements in the same direction as the left-turning vehicle.

3. Operating Speed (mph) - The greatest of anticipated operating speed, measured 85th percentile speed or posted speed.

4. Percentage of left-turns in VA

Left-turn lane is not needed for left-turn volume less than 10 vph. However, criteria other than volume, such as crash experience, may be used to justify a left-turn lane.

The appropriate trend line is identified on the basis of the percentage of left-turns in the advancing volume, rounded up to the nearest percentage trend line. If the advancing and opposing volume combination intersects above or to the right of this trend line, a left-turn lane is appropriate.

Source: NCHRP Report 279 and 457

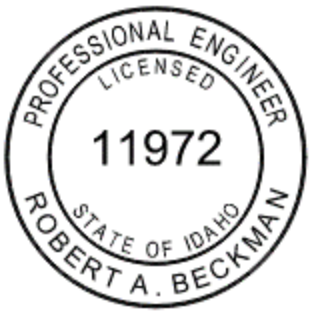
Traffic Impact Study
Ledgestone South Subdivision
Addendum #1
April 2020

Prepared For:

Trilogy Development, Inc.
9839 W. Cable Car Street
Ste. 101
Boise, ID 83709

Prepared By:

WHPacific, an NV5 Company
690 S Industry Way
Ste. 10
Meridian, ID 83642



TRILOGY DEVELOPMENT

WHPacific
AN NV5 COMPANY

1.0 ADDENDUM 1

This Addendum #1 addresses comments received by ACHD dated March 3, 2020 on the Ledgestone South Subdivision Traffic Impact Study. Original comments and subsequent responses are provided as follows:

1.1 COMMENT #1

ACHD staff does not agree with the background growth rate used to complete the study. This was consistent with Patagonia Subdivision and assumed 10% growth on ACHD facilities and 4% growth on SH-69. ACHD has asked for a revision using ACHD approved growth rates which are identified as follows:

- *Hubbard Rd: 63.5%*
- *Deer Flat Rd: 18.5%*
- *Columbia Rd: 13%*
- *Lake Hazel Rd: 9%*
- *Locust Grove Rd: 19%*
- *SH-69: 4%*

These individual rates will lead to volume balancing discrepancies between intersections which ACHD indicated could be ignored These new growth rates will affect 2025 background and 2025 site plus background volumes. ITD further requested that site generate traffic from Ledgestone and Patagonia Subdivisions be included in the 2025 background traffic volumes at SH-69 and Hubbard Road. Revised roadway and intersection LOS results are provided in the following tables. 2025 background and 2025 site plus background figures are also included herein.

Table 6R – Roadway Segment LOS – 2025 Background Traffic (replaces original Table 6)

Roadway Segment	Functional Class	No. of Thru Lanes	Left-Turn Treatment	Threshold Volume		AM Peak Hour Major Direction		PM Peak Hour Major Direction	
				LOS D	LOS E	Vol (vph)	LOS	Vol (vph)	LOS
Hubbard Rd, SH69 to Locust Grove Rd	Minor Arterial	1	No LT Lane	540	575	1091/75 583*	> E	468/116 301*	< D
Hubbard Rd, SH69 to Locust Grove Rd	***Minor Arterial***	***1***	***Continuous LT Lane***	***675***	***720***	***1091/75 583****	***< D***	***468/106 287****	***< D***
Hubbard Rd, Locust Grove to Eagle	Minor Arterial	1	No LT Lane	540	575	536	< D	593	> E

Hubbard Rd, Locust Grove to Eagle	***Minor Arterial***	***1***	***Continuous LT Lane***	***675***	***720***	***536***	***< D***	***593***	***< D***
Locust Grove Rd, Deer Flat to Hubbard	Minor Arterial	1	No LT Lane	540	575	132	< D	343	< D
Locust Grove Rd, Hubbard to Columbia	Minor Arterial	1	No LT Lane	540	575	177	< D	242	< D
Locust Grove Rd, Columbia to Lake Hazel	Minor Arterial	1	No LT Lane	540	575	394	< D	482	< D
Locust Grove Rd, Lake Hazel to Amity	Minor Arterial	1	No LT Lane	540	575	469	< D	863	> E
Locust Grove Rd, Lake Hazel to Amity	***Minor Arterial***	***2***	***Continuous LT Lane***	***1395***	***1540***	***469***	***<D***	***863***	***<D***

*Large volume discrepancy between intersections due to inconsistent growth rates. Average value used.

Per ACHD Policy, the target LOS threshold for roadway segments is LOS E for Principal and Minor Arterial. Three of the six roadway segments do not meet this desired operational threshold under 2025 background conditions. These locations include Hubbard Road, SH69 to Locust Grove Road; Hubbard Road, Locust Grove to Eagle Road; and Locust Grove Road, Lake Hazel to Amity. Incorporating an unrestricted median/continuous left-turn lane will mitigate these conditions. Additional lane capacity is also needed on Locust Grove, Lake Hazel Road to Amity Road. These modifications will be assumed under subsequent roadway segment analyses.

Table 7R – Intersection Traffic Operations – 2025 Background Traffic (replaces original Table 7)

Intersection	Traffic Control Lane Group	AM LOS/Delay/v/c	PM LOS/Delay/v/c
Hubbard Rd/ SH69	Traffic Signal	C/25.5	C/33.3
	Eastbound	C/29.1/0.59	D/35.5/0.22
	Westbound	C/30.0/0.37	D/41.6/0.22
	Northbound	C/29.1/0.89	C/26.9/0.44
	Southbound	B/14.9/0.38	C/35.1/0.91
Deer Flat/ Locust Grove	TWSC	NR	NR
	Eastbound	A/7.8/0.07	A/9.4/0.09
	Westbound	A/8.5/0.00	A/7.5/0.00
	Northbound	C/23.8/0.27	C/22.7/0.13
	Southbound	C/16.8/0.21	E/145.4/1.18
Deer Flat/ Locust Grove	***Traffic Signal***	***B/14.0***	***C/27.3***

Intersection	Traffic Control Lane Group	AM LOS/Delay/v/c	PM LOS/Delay/v/c
	Eastbound	***A/4.2/0.23***	***C/20.5/0.45***
	Westbound	***A/9.3/0.18***	***C/21.8/0.69***
	Northbound	***D/39.1/0.66***	***D/40.0/0.11***
	Southbound	***D/41.7/0.79***	***D/43.8/0.92***
Hubbard/ Locust Grove	TWSC	NR	NR
	Eastbound	B/10.2/0.41	A/8.2/0.06
	Westbound	A/9.1/0.00	A/9.2/0.24
	Northbound	Out of range	Out of range
	Southbound	Out of range	F/974.4/2.94
Hubbard/Locust Grove	***Traffic Signal***	***B/11.1***	***C/23.0***
	Eastbound	***A/5.3/0.36***	***B/14.0/0.71***
	Westbound	***A/6.9/0.26***	***B/19.8/0.73***
	Northbound	***D/37.7/0.78***	***D/35.5/0.16***
	Southbound	***C/25.6/0.16***	***D/52.5/0.89***
Columbia Rd/ Locust Grove	AWSC	F/66.2	F/124.5
	Eastbound	F/110.9/NR	C/20.7/NR
	Westbound	B/13.7/NR	F/223.7/NR
	Northbound	B/13.8/NR	B/12.9/NR
	Southbound	B/13.5/NR	F/54.7/NR
Columbia Rd/Locust Grove	***Traffic Signal***	***B/19.2***	***C/26.8***
	Eastbound	***B/13.5/0.70***	***C/22.0/0.73***
	Westbound	***B/11.9/0.24***	***B/16.9/0.70***
	Northbound	***D/36.1/0.82***	***C/32.6/0.13***
	Southbound	***C/31.8/0.54***	***D/42.7/0.94***
Lake Hazel/ Locust Grove	AWSC	F/141.2	F/386.3
	Eastbound	F/242.7/NR	F/79.8/NR
	Westbound	F/120.4/NR	F/370.7/NR
	Northbound	F/95.1/NR	E/38.9/NR
	Southbound	E/39.2/NR	F/638.3/NR
Lake Hazel/ Locust Grove	***Traffic Signal***	***D/36.3***	***C/32.6***
	Eastbound	***D/49.0/0.94***	***C/31.3/0.61***
	Westbound	***B/16.9/0.40***	***C/32.0/0.92***
	Northbound	***C/30.7/0.90***	***C/32.7/0.55***
	Southbound	***C/34.5/0.79***	***C/33.8/0.93***

For the 2025 background conditions, all intersections except Hubbard Road and SH69, fail to meet ACHD operational thresholds under existing traffic control. Where the projected overall LOS is D or worse, a signal warrant analysis was completed. This analysis indicates that one or more signal warrants would be met at each of these intersection locations. As a result, a traffic signal analysis was further performed at these locations and resulted in acceptable LOS conditions. A roundabout is assumed to be an acceptable improvement alternative in these cases. It should be further noted that

an interim AWSC condition at Deer Flat Road and Locust Grove Road, and Hubbard Road and Locust Grove Road does not achieve acceptable traffic conditions.

Table 9R - Roadway Segment LOS – 2025 Site Plus Background Traffic (replaces original Table 9)

Roadway Segment	Functional Class	No. of Thru Lanes	Left-Turn Treatment	Threshold Volume		AM Peak Hour Major Direction		PM Peak Hour Major Direction	
				LOS D	LOS E	Vol (vph)	LOS	Vol (vph)	LOS
Hubbard Rd, SH69 to Locust Grove Rd	Minor Arterial	1	Continuous LT Lane	675	720	1123/113 618*	< D	575/222 398*	< D
Hubbard Rd, Locust Grove to Eagle	Minor Arterial	1	Continuous LT Lane	675	720	572	< D	634	< D
Locust Grove Rd, Deer Flat to Hubbard	Minor Arterial	1	No LT Lane	540	575	240	< D	351	< D
Locust Grove Rd, Hubbard to Columbia	Minor Arterial	1	No LT Lane	540	575	273	< D	349	< D
Locust Grove Rd, Columbia to Lake Hazel	Minor Arterial	1	No LT Lane	540	575	490	< D	589	> E
Locust Grove Rd, Columbia to Lake Hazel	***Minor Arterial***	***1***	***Continuous LT Lane***	***675***	***720***	***490***	***< D***	***589***	***< D***
Locust Grove Rd, Lake Hazel to Amity	Minor Arterial	1	Continuous LT Lane	675	720	565	< D	970	>E
Locust Grove Rd, Lake Hazel to Amity	***Minor Arterial***	***2***	***Continuous LT Lane***	***1395***	***1540***	***565***	***<D***	***970***	***<D***

*Large volume discrepancy between intersections due to inconsistent growth rates. Average value used.

Two of six roadway segments do not meet desired operational thresholds under 2025 site plus background conditions. These locations include Locust Grove Road, Columbia Road to Lake Hazel Road; and Locust Grove Road, Lake Hazel Road to Amity Road. Incorporating an unrestricted median/continuous left-turn lane will mitigate conditions at Locust Grove Road, Columbia Road to Lake Hazel Road while additional lane capacity will be needed on Locust Grove Road, Lake Hazel Road to Amity Road.

Table 10R – Intersection Traffic Operations – 2025 Site Plus Background Traffic (replaces original Table 10)

Intersection	Traffic Control Lane Group	AM LOS/Delay/v/c	PM LOS/Delay/v/c
Hubbard Rd/ SH69	Traffic Signal	D/38.8	C/33.7
	Eastbound	C/30.9/0.49	D/37.1/0.32
	Westbound	D/43.1/0.39	D/46.6/0.39
	Northbound	D/43.8/0.92	C/25.9/0.43
	Southbound	C/30.7/0.51	D/35.2/0.91
Deer Flat/ Locust Grove	TWSC	NR	NR
	Eastbound	A/7.8/0.07	A/9.3/0.09
	Westbound	A/8.4/0.00	A/7.5/0.00
	Northbound	C/23.8/0.28	C/24.0/0.19
	Southbound	C/18.1/0.26	F/140.9/1.17
Deer Flat/ Locust Grove	***Traffic Signal***	***B/16.4***	***C/29.0***
	Eastbound	***A/6.9/0.24***	***B/18.3/0.44***
	Westbound	***A/9.0/0.17***	***C/21.7/0.66***
	Northbound	***D/42.2/0.60***	***D/45.9/0.15***
	Southbound	***D/44.8/0.78***	***D/51.6/0.93***
Hubbard/ Locust Grove	TWSC	NR	NR
	Eastbound	B/10.2/0.41	A/8.3/0.07
	Westbound	A/9.2/0.01	A/9.5/0.27
	Northbound	OUT OF RANGE	OUT OF RANGE
	Southbound	OUT OF RANGE	OUT OF RANGE
Hubbard/Locust Grove	***Traffic Signal***	***C/25.7***	***C/32.1***
	Eastbound	***C/21.0/0.52***	***C/25.9/0.78***
	Westbound	***C/24.3/0.32***	***C/27.1/0.88***
	Northbound	***D/39.1/0.87***	***D/36.2/0.30***
	Southbound	***C/24.8/0.20***	***D/52.8/0.93***
Columbia/ Locust Grove	AWSC	F/89.5	F/166.8
	Eastbound	F/163.9/NR	C/23.9/NR
	Westbound	C/15.9/NR	F/261.5/NR
	Northbound	C/19.1/NR	C/15.8/NR
	Southbound	C/16.0/NR	F/153.4/NR
Columbia/Locust Grove	***Traffic Signal***	***C/24.7***	***D/36.4***
	Eastbound	***C/22.2/0.71***	***D/40.8/0.90***
	Westbound	***A/6.7/0.25***	***C/25.6/0.85***
	Northbound	***D/37.5/0.86***	***C/28.5/0.21***
	Southbound	***C/32.0/0.49***	***D/42.9/0.95***
Lake Hazel/ Locust Grove	Traffic Signal	D/36.6	D/44.7
	Eastbound	D/48.8/0.92	D/42.4/0.63
	Westbound	C/25.9/0.29	D/50.5/0.96
	Northbound	C/32.6/0.92	D/37.2/0.52
	Southbound	C/28.7/0.71	D/44.0/0.96

Intersection	Traffic Control Lane Group	AM LOS/Delay/v/c	PM LOS/Delay/v/c
Stroebel/ Hubbard	TWSC	NR	NR
	Eastbound	NR	NR
	Westbound	B/11.4/0.02	A/8.9/0.03
	Northbound	E/49.3/0.62	C/16.0/0.19
Locust Grove/ East Access (South of Rio Vallegas)	TWSC	NR	NR
	Eastbound	B/10.8/0.17	B/13.7/0.17
	Northbound	A/7.5/0.00	A/8.5/0.01
	Southbound	NR	NR

All intersection locations under 2025 site plus background traffic conditions perform at an acceptable LOS and overall v/c ratio under the mitigation measures proposed under 2025 background conditions.

1.2 COMMENT #2

The background volumes appear to have been calculated based on 5 years of growth. The counts were collected in 2018 and the analysis is 2025, so 7 years of growth should have been added. This should be revised and resubmitted to staff for review.

Traffic counts were recorded in both 2018 and 2019, however 7 years of growth will be assumed at all locations to remain conservative.

1.3 COMMENT #3

The TIS states signal warrants are met under 2025 background conditions at Lake Hazel/Locust Grove. A roundabout is proposed in accordance with the ACHD CIP, however this intersection is not included in IFYWP, and therefore should be analyzed as a temporary signal and without improvements for 2025 total traffic conditions.

Acknowledged, will revise as requested. 2025 background conditions at Lake Hazel Road and Locust Grove Road under all-way-stop-control are at LOS F overall. This condition further deteriorates under 2025 site plus background conditions.

1.4 COMMENT #4

The signalized intersection analysis performed did not reflect ACHD Policy 7106. The base saturation flow should be 1800 vphpl, the cycle length should be 150 seconds, the yellow times need to be 5 seconds for approaches with posted speed above 40 mph, and red times need to be 1 second for all phases. The signalized intersection analysis should be revised and resubmitted.

Acknowledged, will revise as requested. 150 seconds assumed to mean maximum cycle length which was confirmed with ACHD.

1.5 COMMENT #5

The traffic impact study does not identify when the southbound right turn lane at the Locust Grove Rd/East Access will be needed to serve the site. Please provide this information to staff for review.

At Locust Grove Road and East Access – 2025 site plus background right turn volume is 121 vph in PM peak hour and meets right turn lane guidelines. This lane is needed at 27 vph, or approximately 22% of Buildout and development adjacent to Locust Grove Road (anticipated to occur in last phase).

At Hubbard Road and Stroebel – 2025 site plus background right turn volume is 107 vph in PM peak hour and meets right turn lane guidelines. This lane is needed at 30 vph, or approximately 28% of Buildout.

Left turn lanes are not warranted at either location.

1.6 ADDITIONAL INFORMATION

Revised figures are attached for 2025 background, 2025 site plus background, and site traffic percent increases vs. 2025 background volumes.

2.0 ATTACHMENTS:

ACHD review letter, Ledgestone South Traffic Impact Study, March 3, 2020

Revised Figure 4, Figure 6 and Figure 7

Associated HCS output reports, signal warrant review, and turn lane analysis

Mary May, President
Kent Goldthorpe, Vice-President
Rebecca W. Arnold, Commissioner
Sara M. Baker, Commissioner
Jim D. Hansen, Commissioner

March 3, 2020

Robert Beckman
WH Pacific
2141 W. Airport Way, #104
Boise, ID 83705

Subject: Ledgestone South Traffic Impact Study

The Ada County Highway District staff has completed an initial review of the submitted traffic impact study (TIS) for the proposed Ledgestone South Subdivision. Comments/recommendations provided by District Traffic Services and Planning Review staff are listed below:

1. The TIS states that the same growth rates were used as the growths rates approved for the Patagonia Subdivision TIS completed by Thompson Engineers in 2018 rather than the rates shown in the COMPASS model. ACHD accepted those rates (10% growth on ACHD facilities, 4% on SH-69) specifically for the Patagonia Subdivision TIS and not for this TIS.

   Staff is concerned with the use of this approach. The model run reviewed when the aforementioned rates were accepted would not have included substantial volumes from Patagonia Subdivision and from the initial Ledgestone Subdivision, which would have been included as part of model run for Ledgestone South.

   Additionally, the use of this methodology to determine the growth rates was not approved by ACHD. You had corresponded with ACHD staff regarding the growth rates and were directed to use the growth rates derived from the COMPASS model and to apply them to existing counts (see attached emails). The study should be revised using the grow rates from the COMPASS model and resubmitted to staff for review.

2. The background volumes appear to have been calculated based on 5 years of growth. The counts were collected in 2018 and the analysis year is 2025, so 7 years of growth should have been added. This should be revised and resubmitted to staff for review.

3. The traffic impact study states that additional intersection control is needed at the Lake Hazel/Locust Grove intersection under 2025 background conditions and that the 4 hour signal warrant would be met at that time. It states that a roundabout is ultimately planned at this intersection and that it would work well as a roundabout, so a roundabout is assumed for future analysis.

   This intersection is not included in the IFYWP and therefore is not scheduled for improvements within the next 5 years. A roundabout at this intersection is listed in the 2016 CIP for construction between 2026 and 2030, but this is subject to change. There is currently very limited right of way at the intersection. ACHD does not plan to construct a roundabout at this intersection before 2025 and one should not be assumed. The intersection should be analyzed

as a temporary traffic signal and without improvements for 2025 total traffic conditions. This revised analysis should be submitted to staff for review.

4. The signalized intersection analysis performed for all intersections included in the traffic impact study was not completed correctly. The analysis needs to be completed in accordance with ACHD Policy Section 7106. The base saturation flow rate should be 1800 vphpl, the cycle length should be 150 seconds, the yellow times need to be 5 second for approaches with a posted speed above 40 mph, and the red times need to be 1 second for all phases. The signalized intersection analysis should be revised and resubmitted to staff for review.

5. The traffic impact study does not identify when the southbound right turn lane at the Locust Grove Rd/East Access will be needed to serve the site. Please provide this information to staff for review.

Please let me know if you have any questions.

Sincerely,



Mindy Wallace, AICP
Planning Review Supervisor
Development Services

CC: Gem State Planning - Jane Suggs
Trilogy Development - Shawn Brownlee

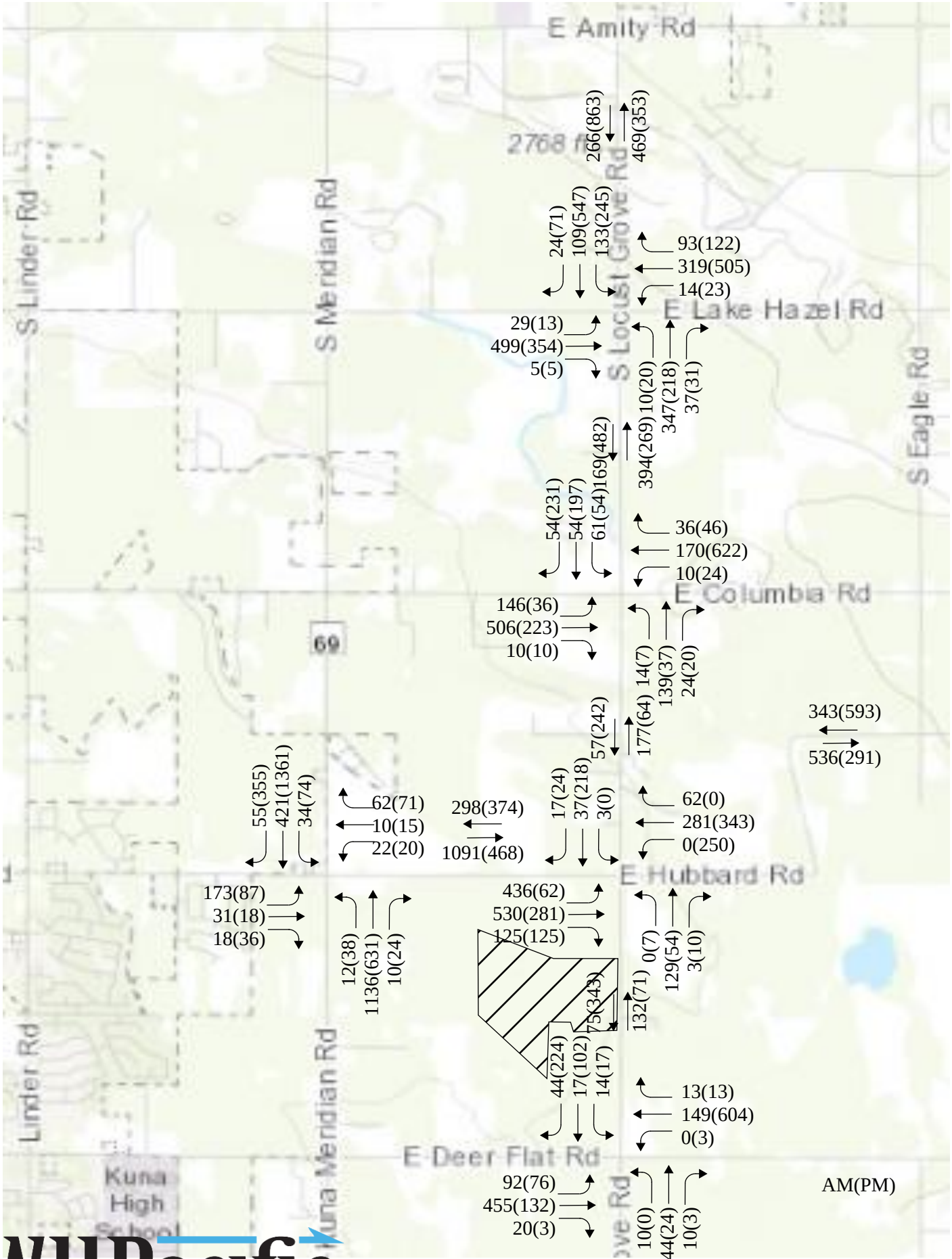


Figure 4
2025 Background Peak
Hour Traffic Volumes

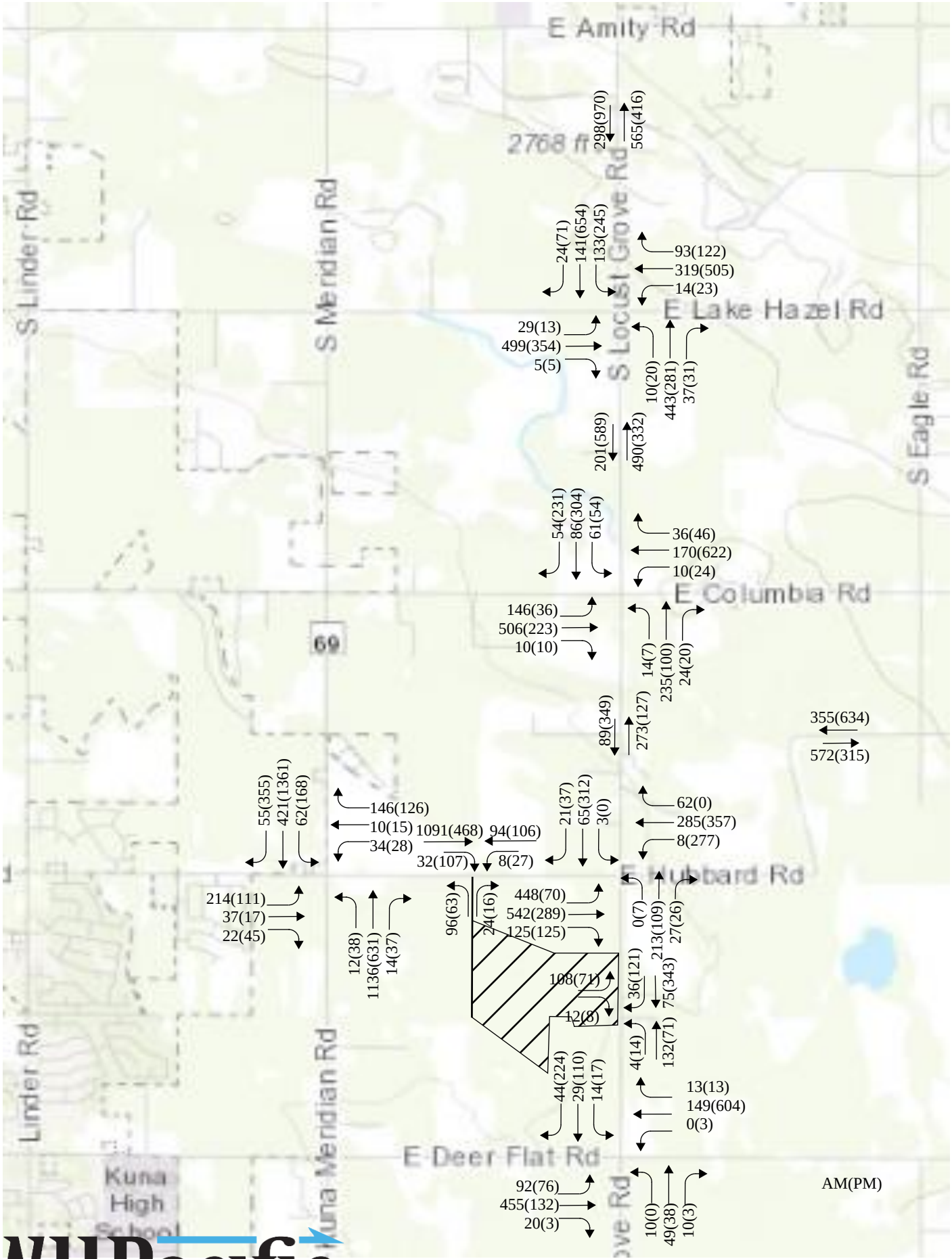


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Figure 6
2025 Site Plus Background
Peak Hour Traffic Volumes

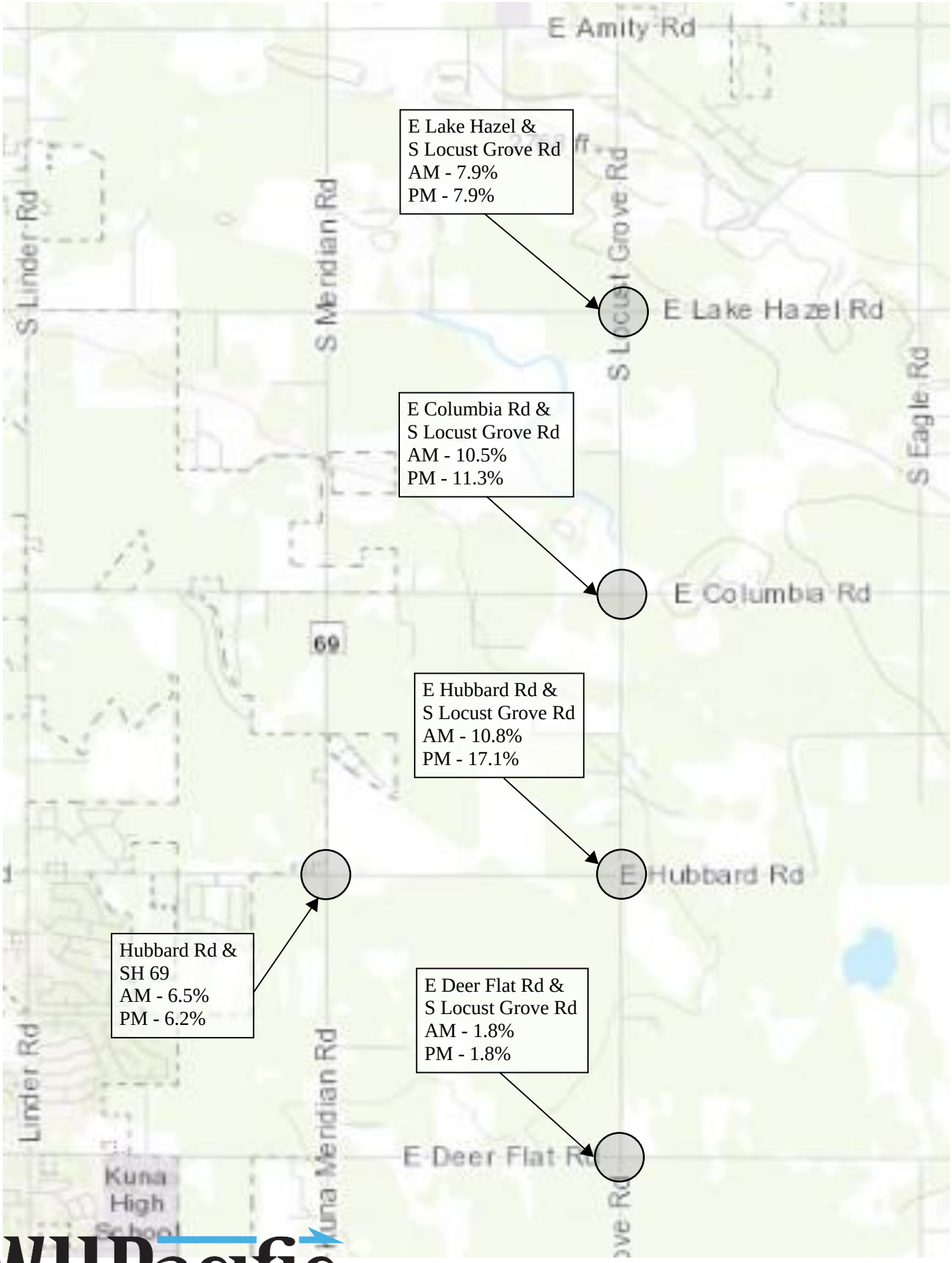

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Figure 7
Projected Total Percent Increase
(from 2025 Background Volume)

HCS7 Two-Way Stop-Control Report

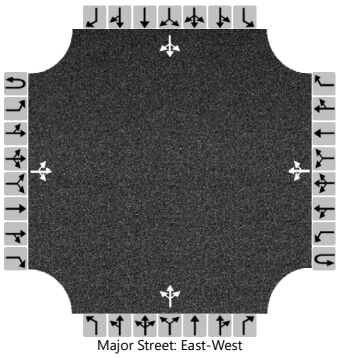
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	03/31/2020
Analysis Year	2025
Time Analyzed	2025 AM Peak Hour Bkgrd
Intersection Orientation	East-West
Project Description	Ledgestone South

Site Information

Intersection	Locust Grove and Deer Fla
Jurisdiction	
East/West Street	Deer Flat
North/South Street	Locust Grove Rd
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		92	455	20		0	149	13		10	44	10		14	17	44
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		102				0					71				83	
Capacity, c (veh/h)		1389				1034					261				389	
v/c Ratio		0.07				0.00					0.27				0.21	
95% Queue Length, Q_{95} (veh)		0.2				0.0					1.1				0.8	
Control Delay (s/veh)		7.8				8.5					23.8				16.8	
Level of Service (LOS)		A				A					C				C	
Approach Delay (s/veh)		1.9				0.0				23.8				16.8		
Approach LOS										C				C		

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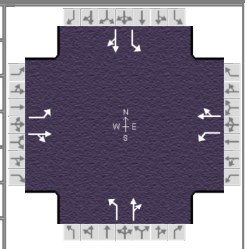
HCS7 Signalized Intersection Results Summary

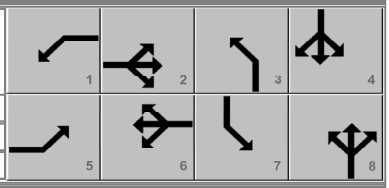
General Information				Intersection Information	
Agency	WHPacific			Duration, h	0.25
Analyst	K Baker	Analysis Date	Apr 3, 2020	Area Type	Other
Jurisdiction	ACHD	Time Period	AM Peak	PHF	0.92
Urban Street	LocustGrove Rd	Analysis Year	2025	Analysis Period	1> 7:00
Intersection	Locust and Deer Flat	File Name	LocustSignals-AM-2025Bkgrd.xus		
Project Description	2025 AM Peak Bkgrd				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	92	455	20	0	149	13	10	44	10	14	17	44

Signal Information			
Cycle, s	80.0	Reference Phase	6
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	44.3	4.0	3.4	4.3	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	0.0	0.0
Red	1.0	1.0	1.0	1.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.3	4.0	1.2	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	10.0	60.3	0.0	50.3	9.4	10.2	9.5	10.3
Change Period, ($Y+R_c$), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Allow Headway (*MAH*), s	3.1	0.0	0.0	0.0	3.1	3.2	3.1	3.2
Queue Clearance Time (g_s), s	2.0				2.5	4.7	2.7	5.4
Green Extension Time (g_e), s	0.6	0.0	0.0	0.0	0.0	0.2	0.0	0.2
Phase Call Probability	1.00				0.85	0.73	0.87	0.77
Max Out Probability	0.00				1.00	0.00	0.62	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	52	269		0	176		11	59		15	66	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1674	1744		1674	1733		1674	1698		1674	1556	
Queue Service Time (g_s), s	0.0	2.9		0.0	4.0		0.5	2.7		0.7	3.4	
Cycle Queue Clearance Time (g_c), s	0.0	2.9		0.0	4.0		0.5	2.7		0.7	3.4	
Green Ratio (*g/C*)	0.58	0.68		0.50	0.55		0.09	0.05		0.10	0.05	
Capacity (*c*), veh/h	747	1184		661	960		161	89		188	84	
Volume-to-Capacity Ratio (*X*)	0.070	0.227		0.000	0.183		0.067	0.658		0.081	0.793	
Back of Queue (*Q*), ft/ln (95 th percentile)	18.1	39.9		0	66.5		8.7	53.8		12.1	63.9	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.7	1.6		0.0	2.6		0.3	2.1		0.5	2.5	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.18	0.00		0.00	0.00		0.03	0.00		0.04	0.00	
Uniform Delay (d_1), s/veh	9.1	2.8		0.0	8.9		33.1	37.2		33.0	37.4	
Incremental Delay (d_2), s/veh	0.0	0.4		0.0	0.4		0.1	3.1		0.1	6.2	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	9.1	3.2		0.0	9.3		33.2	40.3		33.1	43.6	
Level of Service (LOS)	A	A			A		C	D		C	D	
Approach Delay, s/veh / LOS	4.2	A		9.3	A		39.1	D		41.7	D	
Intersection Delay, s/veh / LOS	14.0						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.85	B	1.94	B	1.94	B	1.94	B
Bicycle LOS Score / LOS	1.50	B	0.78	A	0.60	A	0.62	A

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HCS7 Two-Way Stop-Control Report

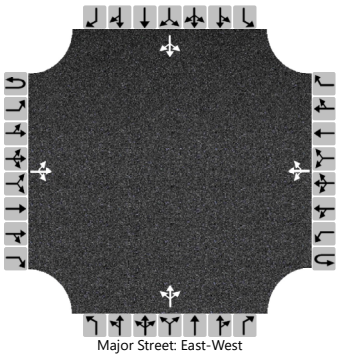
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	03/31/2020
Analysis Year	2025
Time Analyzed	2025 PM Peak Hour Bkgrd
Intersection Orientation	East-West
Project Description	Ledgestone South

Site Information

Intersection	Locust Grove and Deer Fla
Jurisdiction	
East/West Street	Deer Flat
North/South Street	Locust Grove Rd
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		76	132	3		3	604	13		0	24	3		17	102	224
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		84				3					30				381	
Capacity, c (veh/h)		903				1425					234				322	
v/c Ratio		0.09				0.00					0.13				1.18	
95% Queue Length, Q_{95} (veh)		0.3				0.0					0.4				16.2	
Control Delay (s/veh)		9.4				7.5					22.7				145.4	
Level of Service (LOS)		A				A					C				F	
Approach Delay (s/veh)		4.0				0.1				22.7				145.4		
Approach LOS										C				F		

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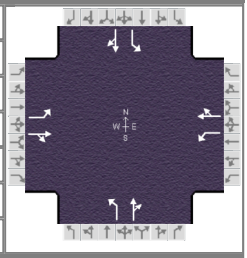
HCS7 Signalized Intersection Results Summary

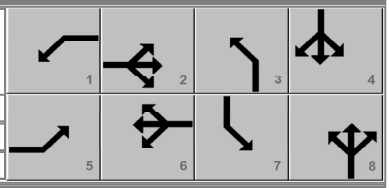
General Information				Intersection Information	
Agency	WHPacific			Duration, h	0.25
Analyst	K Baker	Analysis Date	Apr 3, 2020	Area Type	Other
Jurisdiction	ACHD	Time Period	PM Peak	PHF	0.92
Urban Street	LocustGrove Rd	Analysis Year	2025	Analysis Period	1> 7:00
Intersection	Locust and Deer Flat	File Name	LocustSignals-PM-2025Bkgrd.xus		
Project Description	2025 PM Peak Bkgrd				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	76	132	3	3	604	13	0	24	3	17	102	224

Signal Information			
Cycle, s	110.0	Reference Phase	6
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	4.0	50.9	4.0	4.0	17.1	0.0
Yellow	5.0	5.0	5.0	5.0	5.0	0.0
Red	1.0	1.0	1.0	1.0	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.3	4.0	1.2	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	10.0	66.9	10.0	66.9	0.0	23.1	10.0	33.1
Change Period, (*Y+R c*), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0	0.0	3.3	3.1	3.3
Queue Clearance Time (*g s*), s	2.0		2.1			3.6	3.0	26.3
Green Extension Time (*g e*), s	0.3	0.0	0.0	0.0	0.0	0.8	0.0	0.8
Phase Call Probability	1.00		1.00			1.00	1.00	1.00
Max Out Probability	0.54		0.00			0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	144	256		3	671		0	29		18	354	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1674	1751		1674	1751		1674	1723		1674	1564	
Queue Service Time (*g s*), s	0.0	8.8		0.1	30.5		0.0	1.6		1.0	24.3	
Cycle Queue Clearance Time (*g c*), s	0.0	8.8		0.1	30.5		0.0	1.6		1.0	24.3	
Green Ratio (*g/C*)	0.48	0.55		0.52	0.55		0.10	0.16		0.21	0.25	
Capacity (*c*), veh/h	323	969		553	970		75	268		319	385	
Volume-to-Capacity Ratio (*X*)	0.446	0.264		0.006	0.692		0.000	0.110		0.058	0.920	
Back of Queue (*Q*), ft/ln (95 th percentile)	134.6	145.3		1.8	469.3		0	31.5		18.2	374.2	
Back of Queue (*Q*), veh/ln (95 th percentile)	5.3	5.7		0.1	18.3		0.0	1.2		0.7	14.6	
Queue Storage Ratio (*RQ*) (95 th percentile)	1.35	0.00		0.02	0.00		0.00	0.00		0.06	0.00	
Uniform Delay (*d 1*), s/veh	31.9	13.5		13.4	17.8		0.0	39.9		34.8	40.4	
Incremental Delay (*d 2*), s/veh	0.2	0.4		0.0	4.0		0.0	0.1		0.0	3.9	
Initial Queue Delay (*d 3*), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	32.1	13.9		13.4	21.8		0.0	40.0		34.8	44.3	
Level of Service (LOS)	C	B		B	C			D		C	D	
Approach Delay, s/veh / LOS	20.5	C		21.8	C		40.0	D		43.8	D	
Intersection Delay, s/veh / LOS	27.3						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.89	B	1.96	B	1.94	B	1.94	B
Bicycle LOS Score / LOS	0.87	A	1.60	B	0.54	A	1.10	A

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HCS7 Two-Way Stop-Control Report

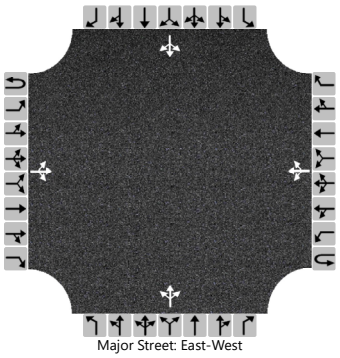
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	03/31/2020
Analysis Year	2025
Time Analyzed	2025 AM Peak Hour Bkgrd
Intersection Orientation	East-West
Project Description	Ledgestone South

Site Information

Intersection	Locust Grove and Hubbard
Jurisdiction	
East/West Street	Hubbard Rd
North/South Street	Locust Grove Rd
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		436	530	125		0	281	62		0	129	3		3	37	17
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		484				0					147				63	
Capacity, c (veh/h)		1172				871										
v/c Ratio		0.41				0.00										
95% Queue Length, Q_{95} (veh)		2.1				0.0										
Control Delay (s/veh)		10.2				9.1										
Level of Service (LOS)		B				A										
Approach Delay (s/veh)		8.5				0.0										
Approach LOS																

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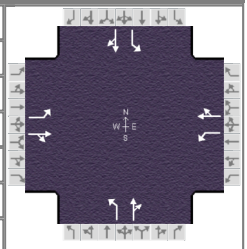
HCS7 Signalized Intersection Results Summary

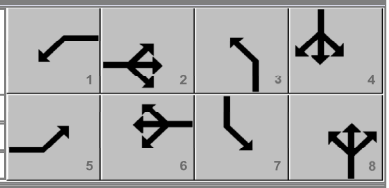
General Information				Intersection Information	
Agency	WHPacific			Duration, h	0.25
Analyst	K Baker	Analysis Date	Apr 3, 2020	Area Type	Other
Jurisdiction	ACHD	Time Period	AM Peak	PHF	0.92
Urban Street	LocustGrove Rd	Analysis Year	2025	Analysis Period	1> 7:00
Intersection	Locust and Hubbard	File Name	LocustSignals-AM-2025Bkgrd.xus		
Project Description	2025 AM Peak Bkgrd				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	436	530	125	0	281	62	0	129	3	3	37	17

Signal Information			
Cycle, s	80.0	Reference Phase	6
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	5.0	39.6	3.0	8.4	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	0.0	0.0
Red	1.0	1.0	1.0	1.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	11.0	56.6	0.0	45.6	0.0	14.4	9.0	23.4
Change Period, ($Y+R_c$), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Allow Headway (*MAH*), s	3.1	0.0	0.0	0.0	0.0	3.1	3.1	3.1
Queue Clearance Time (g_s), s	7.0					8.4	2.1	4.3
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.3
Phase Call Probability	1.00					0.96	0.75	0.73
Max Out Probability	1.00					0.00	1.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	259	389		0	221		0	143		3	59	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1674	1698		1674	1702		1674	1750		1674	1664	
Queue Service Time (g_s), s	5.0	3.4		0.0	3.6		0.0	6.4		0.1	2.3	
Cycle Queue Clearance Time (g_c), s	5.0	3.4		0.0	3.6		0.0	6.4		0.1	2.3	
Green Ratio (*g/C*)	0.58	0.63		0.42	0.50		0.03	0.10		0.17	0.22	
Capacity (*c*), veh/h	713	1075		581	843		232	183		183	361	
Volume-to-Capacity Ratio (*X*)	0.363	0.362		0.000	0.262		0.000	0.783		0.018	0.163	
Back of Queue (*Q*), ft/ln (95 th percentile)	83.7	44.2		0	57.6		0	127.5		2.3	40.4	
Back of Queue (*Q*), veh/ln (95 th percentile)	3.3	1.7		0.0	2.2		0.0	5.0		0.1	1.6	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.84	0.00		0.00	0.00		0.00	0.00		0.01	0.00	
Uniform Delay (d_1), s/veh	9.0	2.1		0.0	6.2		0.0	34.9		28.2	25.4	
Incremental Delay (d_2), s/veh	0.1	0.7		0.0	0.7		0.0	2.8		0.0	0.1	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	9.1	2.8		0.0	6.9		0.0	37.7		28.3	25.5	
Level of Service (LOS)	A	A			A			D		C	C	
Approach Delay, s/veh / LOS	5.3	A		6.9	A		37.7	D		25.6	C	
Intersection Delay, s/veh / LOS	11.1						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.87	B	1.89	B	1.94	B	1.93	B
Bicycle LOS Score / LOS	2.44	B	1.10	A	0.72	A	0.59	A

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HCS7 Two-Way Stop-Control Report

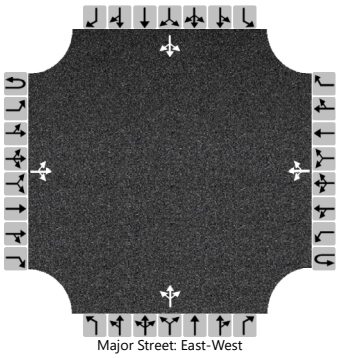
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	03/31/2020
Analysis Year	2025
Time Analyzed	2025 PM Peak Hour Bkgrd
Intersection Orientation	East-West
Project Description	Ledgestone South

Site Information

Intersection	Locust Grove and Hubbard
Jurisdiction	
East/West Street	Hubbard Rd
North/South Street	Locust Grove Rd
Peak Hour Factor	0.93
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		62	281	125		250	343	0		7	54	10		0	218	24
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		67				269					76				260	
Capacity, c (veh/h)		1184				1118									89	
v/c Ratio		0.06				0.24									2.94	
95% Queue Length, Q_{95} (veh)		0.2				0.9									25.3	
Control Delay (s/veh)		8.2				9.2									974.4	
Level of Service (LOS)		A				A									F	
Approach Delay (s/veh)		1.6				5.5								974.4		
Approach LOS														F		

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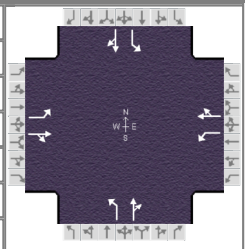
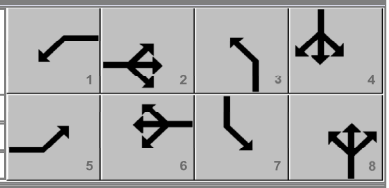
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	WHPacific			Duration, h	0.25
Analyst	K Baker	Analysis Date	Apr 3, 2020	Area Type	Other
Jurisdiction	ACHD	Time Period	PM Peak	PHF	0.92
Urban Street	LocustGrove Rd	Analysis Year	2025	Analysis Period	1> 7:00
Intersection	Locust and Hubbard	File Name	LocustSignals-PM-2025Bkgrd.xus		
Project Description	2025 PM Peak Bkgrd				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	62	281	125	250	343	0	7	54	10	0	218	24

Signal Information												
Cycle, s	120.0	Reference Phase	6									
Offset, s	8	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On	Green	5.2	3.8	56.8	3.7	20.5	0.0		
Force Mode	Float	Simult. Gap N/S	On	Yellow	5.0	5.0	5.0	5.0	5.0	0.0		
				Red	1.0	1.0	1.0	1.0	1.0	0.0		



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	11.2	62.8	21.0	72.6	9.7	36.2	0.0	26.5
Change Period, ($Y+R_c$), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0	3.1	3.1	0.0	3.1
Queue Clearance Time (g_s), s	5.1		15.7		2.4	5.8		19.9
Green Extension Time (g_e), s	0.1	0.0	0.0	0.0	0.0	0.6	0.0	0.6
Phase Call Probability	1.00		1.00		0.92	0.90		1.00
Max Out Probability	0.00		1.00		0.00	0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	86	562		379	0		8	70		0	263	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1674	1663		1674	0		1674	1709		1674	1727	
Queue Service Time (g_s), s	3.1	20.7		13.7	0.0		0.4	3.8		0.0	17.9	
Cycle Queue Clearance Time (g_c), s	3.1	20.7		13.7	0.0		0.4	3.8		0.0	17.9	
Green Ratio (*g/C*)	0.52	0.47		0.62			0.22	0.25		0.12	0.17	
Capacity (*c*), veh/h	424	787		523			136	430		287	295	
Volume-to-Capacity Ratio (*X*)	0.202	0.714		0.726	0.000		0.056	0.162		0.000	0.893	
Back of Queue (*Q*), ft/ln (95 th percentile)	56.7	207.3		202.6	0		8.2	73.4		0	321	
Back of Queue (*Q*), veh/ln (95 th percentile)	2.2	8.1		7.9	0.0		0.3	2.9		0.0	12.5	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.28	0.00		1.01	0.00		0.03	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	16.7	9.6		15.2			38.5	35.1		0.0	48.7	
Incremental Delay (d_2), s/veh	0.1	3.9		2.6	0.0		0.1	0.1		0.0	3.8	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	16.8	13.6		17.9			38.6	35.1		0.0	52.5	
Level of Service (LOS)	B	B		B			D	D			D	
Approach Delay, s/veh / LOS	14.0	B		19.8	B		35.5	D		52.5	D	
Intersection Delay, s/veh / LOS	23.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.91	B	1.90	B	1.94	B	1.95	B
Bicycle LOS Score / LOS	1.33	A	1.55	B	0.61	A	0.92	A

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HCS7 All-Way Stop Control Report

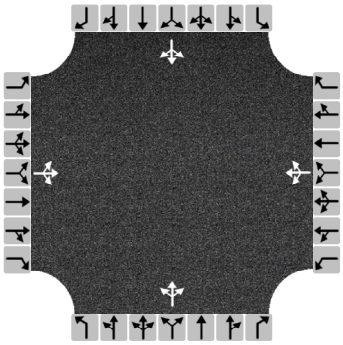
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	03/31/2020
Analysis Year	2025
Analysis Time Period (hrs)	0.25
Time Analyzed	2025 AM Peak Hour Bkgrd
Project Description	Ledgestone South

Site Information

Intersection	Locust_Columbia
Jurisdiction	
East/West Street	Columbia Rd
North/South Street	Locust Grove Rd
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	146	506	10	10	170	36	14	139	24	61	54	54
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	720			235			192			184		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.640			0.209			0.171			0.163		
Final Departure Headway, hd (s)	5.81			6.33			6.87			6.85		
Final Degree of Utilization, x	1.161			0.413			0.367			0.350		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	3.81			4.33			4.87			4.85		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	720			235			192			184		
Capacity	620			568			524			526		
95% Queue Length, Q_{95} (veh)	23.8			2.0			1.7			1.6		
Control Delay (s/veh)	110.9			13.7			13.8			13.5		
Level of Service, LOS	F			B			B			B		
Approach Delay (s/veh)	110.9			13.7			13.8			13.5		
Approach LOS	F			B			B			B		
Intersection Delay, s/veh | LOS	66.2						F					

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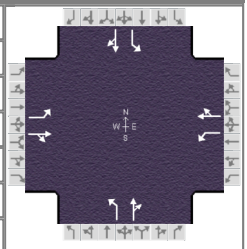
HCS7 Signalized Intersection Results Summary

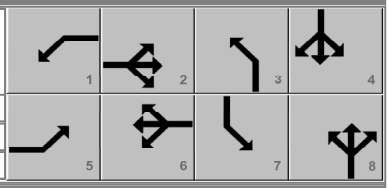
General Information				Intersection Information	
Agency	WHPacific			Duration, h	0.25
Analyst	K Baker	Analysis Date	Apr 3, 2020	Area Type	Other
Jurisdiction	ACHD	Time Period	AM Peak	PHF	0.92
Urban Street	LocustGrove Rd	Analysis Year	2025	Analysis Period	1> 7:00
Intersection	Locust and Columbia	File Name	LocustSignals-AM-2025Bkgrd.xus		
Project Description	2025 AM Peak Bkgrd				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	146	506	10	10	170	36	14	139	24	61	54	54

Signal Information			
Cycle, s	80.0	Reference Phase	6
Offset, s	39	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	4.0	27.2	4.0	4.0	0.6	10.2
Yellow	5.0	5.0	5.0	5.0	0.0	5.0
Red	1.0	1.0	1.0	1.0	0.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.3	4.0	1.2	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	10.0	43.2	10.0	43.2	10.0	16.2	10.6	16.8
Change Period, ($Y+R_c$), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0	3.1	3.1	3.1	3.1
Queue Clearance Time (g_s), s	2.0		2.2		2.6	10.1	4.7	7.4
Green Extension Time (g_e), s	1.4	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Phase Call Probability	1.00		1.00		1.00	0.98	0.99	0.93
Max Out Probability	0.01		0.00		0.00	0.00	1.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	160	567		9	190		15	177		66	117	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1674	1752		1674	1704		1674	1711		1674	1613	
Queue Service Time (g_s), s	0.0	15.9		0.2	4.8		0.6	8.1		2.7	5.4	
Cycle Queue Clearance Time (g_c), s	0.0	15.9		0.2	4.8		0.6	8.1		2.7	5.4	
Green Ratio (*g/C*)	0.37	0.47		0.41	0.46		0.18	0.13		0.19	0.14	
Capacity (*c*), veh/h	546	814		292	792		227	217		218	218	
Volume-to-Capacity Ratio (*X*)	0.293	0.696		0.032	0.240		0.067	0.815		0.304	0.539	
Back of Queue (*Q*), ft/ln (95 th percentile)	95.2	170.8		4.1	81.3		10.9	156.2		48.4	98	
Back of Queue (*Q*), veh/ln (95 th percentile)	3.7	6.7		0.2	3.2		0.4	6.1		1.9	3.8	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.95	0.00		0.04	0.00		0.04	0.00		0.16	0.00	
Uniform Delay (d_1), s/veh	18.9	9.6		15.0	11.1		27.6	34.0		28.1	32.3	
Incremental Delay (d_2), s/veh	0.1	2.4		0.0	0.7		0.0	2.8		0.3	1.4	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	19.0	12.0		15.0	11.8		27.7	36.8		28.4	33.7	
Level of Service (LOS)	B	B		B	B		C	D		C	C	
Approach Delay, s/veh / LOS	13.5	B		11.9	B		36.1	D		31.8	C	
Intersection Delay, s/veh / LOS	19.2						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.90	B	1.94	B	1.93	B	1.93	B
Bicycle LOS Score / LOS	1.67	B	0.87	A	0.81	A	0.79	A

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HCS7 All-Way Stop Control Report

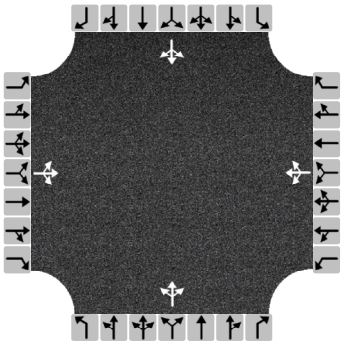
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	03/31/2020
Analysis Year	2025
Analysis Time Period (hrs)	0.25
Time Analyzed	2025 PM Peak Hour Bkgrd
Project Description	Ledgestone South

Site Information

Intersection	Locust_Columbia
Jurisdiction	
East/West Street	Columbia Rd
North/South Street	Locust Grove Rd
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	36	223	10	24	622	46	7	37	20	54	197	231
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	292			752			70			524		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.260			0.669			0.062			0.466		
Final Departure Headway, hd (s)	7.36			6.84			8.30			6.60		
Final Degree of Utilization, x	0.598			1.430			0.160			0.960		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	5.36			4.84			6.30			4.60		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	292			752			70			524		
Capacity	489			526			434			546		
95% Queue Length, Q_{95} (veh)	3.9			36.1			0.6			12.7		
Control Delay (s/veh)	20.7			223.7			12.9			54.7		
Level of Service, LOS	C			F			B			F		
Approach Delay (s/veh)	20.7			223.7			12.9			54.7		
Approach LOS	C			F			B			F		
Intersection Delay, s/veh | LOS	124.5						F					

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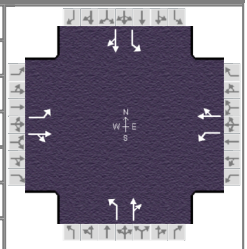
HCS7 Signalized Intersection Results Summary

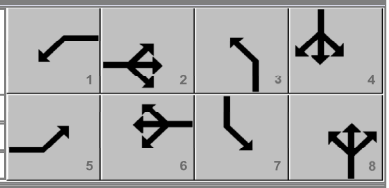
General Information				Intersection Information	
Agency	WHPacific			Duration, h	0.25
Analyst	K Baker	Analysis Date	Apr 3, 2020	Area Type	Other
Jurisdiction	ACHD	Time Period	PM Peak	PHF	0.92
Urban Street	LocustGrove Rd	Analysis Year	2025	Analysis Period	1> 7:00
Intersection	Locust and Columbia	File Name	LocustSignals-PM-2025Bkgrd.xus		
Project Description	2025 PM Peak Bkgrd				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	36	223	10	24	622	46	7	37	20	54	197	231

Signal Information			
Cycle, s	120.0	Reference Phase	6
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	1.9	3.5	52.7	0.9	3.4	33.7						
Yellow	5.0	0.0	5.0	5.0	0.0	5.0						
Red	1.0	0.0	1.0	1.0	0.0	1.0						



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	11.3	62.1	7.9	58.7	6.9	39.7	10.3	43.1
Change Period, ($Y+R_c$), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0	3.1	3.2	3.1	3.2
Queue Clearance Time (g_s), s	5.6		2.8		2.4	5.4	5.0	35.9
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0	0.0	1.1	0.0	1.1
Phase Call Probability	0.95		0.47		0.22	1.00	0.86	1.00
Max Out Probability	0.17		0.79		0.29	0.00	1.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	92	593		19	535		8	62		59	465	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1674	1744		1674	1736		1674	1652		1674	1602	
Queue Service Time (g_s), s	3.6	28.6		0.8	20.9		0.4	3.4		3.0	33.9	
Cycle Queue Clearance Time (g_c), s	3.6	28.6		0.8	20.9		0.4	3.4		3.0	33.9	
Green Ratio (*g/C*)	0.48	0.47		0.45	0.44		0.29	0.28		0.32	0.31	
Capacity (*c*), veh/h	363	816		260	762		81	464		456	495	
Volume-to-Capacity Ratio (*X*)	0.253	0.727		0.074	0.702		0.094	0.134		0.129	0.940	
Back of Queue (*Q*), ft/ln (95 th percentile)	64.9	388.6		13.8	242.3		7.4	62.2		55.3	503.4	
Back of Queue (*Q*), veh/ln (95 th percentile)	2.5	15.2		0.5	9.5		0.3	2.4		2.2	19.7	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.65	0.00		0.14	0.00		0.02	0.00		0.18	0.00	
Uniform Delay (d_1), s/veh	19.4	18.1		21.5	12.4		35.0	32.2		29.1	40.4	
Incremental Delay (d_2), s/veh	0.1	4.3		0.0	4.4		0.2	0.0		0.0	4.0	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	19.5	22.4		21.5	16.8		35.2	32.3		29.2	44.4	
Level of Service (LOS)	B	C		C	B		D	C		C	D	
Approach Delay, s/veh / LOS	22.0	C		16.9	B		32.6	C		42.7	D	
Intersection Delay, s/veh / LOS	26.8						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.91	B	1.92	B	1.94	B	1.93	B
Bicycle LOS Score / LOS	0.97	A	1.73	B	0.60	A	1.35	A

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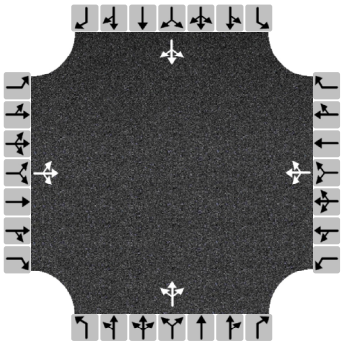
HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	RAB	Intersection	Locust_Lake Hazel
Agency/Co.	WHPacific	Jurisdiction	
Date Performed	03/31/2020	East/West Street	Lake Hazel Rd
Analysis Year	2025	North/South Street	Locust Grove Rd
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed	2025 AM Peak Hour Bkgrd		
Project Description	Ledgestone South		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	29	499	5	14	319	93	10	347	37	133	109	24
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	579			463			428			289		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.515			0.412			0.381			0.257		
Final Departure Headway, hd (s)	9.04			8.92			8.99			9.66		
Final Degree of Utilization, x	1.456			1.147			1.069			0.776		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	7.04			6.92			6.99			7.66		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	579			463			428			289		
Capacity	398			404			401			373		
95% Queue Length, Q_{95} (veh)	29.9			17.4			14.5			6.4		
Control Delay (s/veh)	242.7			120.4			95.1			39.2		
Level of Service, LOS	F			F			F			E		
Approach Delay (s/veh)	242.7			120.4			95.1			39.2		
Approach LOS	F			F			F			E		
Intersection Delay, s/veh | LOS	141.2						F					

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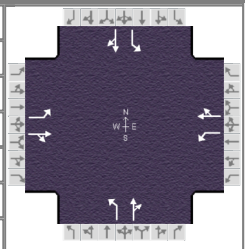
HCS7 Signalized Intersection Results Summary

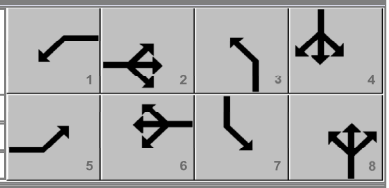
General Information				Intersection Information	
Agency	WHPacific			Duration, h	0.25
Analyst	K Baker	Analysis Date	Apr 3, 2020	Area Type	Other
Jurisdiction	ACHD	Time Period	AM Peak	PHF	0.92
Urban Street	LocustGrove Rd	Analysis Year	2025	Analysis Period	1> 7:00
Intersection	Locust and Lake Hazel	File Name	LocustSignals-AM-2025Bkgrd.xus		
Project Description	2025 AM Peak Bkgrd				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	29	499	5	14	319	93	10	347	37	133	109	24

Signal Information			
Cycle, s	80.0	Reference Phase	6
Offset, s	18	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	4.0	26.6	4.0	21.4	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	0.0	0.0
Red	1.0	1.0	1.0	1.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	10.0	32.6	10.0	32.6	10.0	27.4	10.0	27.4
Change Period, ($Y+R_c$), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0	3.1	3.1	3.1	3.1
Queue Clearance Time (g_s), s	2.9		2.2		2.4	20.7	6.0	7.4
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.1
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	0.96
Max Out Probability	0.03		0.01		0.00	0.00	1.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	32	548		8	223		11	417		145	145	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1674	1755		1674	1689		1674	1728		1674	1703	
Queue Service Time (g_s), s	0.9	24.2		0.2	6.5		0.4	18.7		4.0	5.4	
Cycle Queue Clearance Time (g_c), s	0.9	24.2		0.2	6.5		0.4	18.7		4.0	5.4	
Green Ratio (*g/C*)	0.38	0.33		0.38	0.33		0.32	0.27		0.32	0.27	
Capacity (*c*), veh/h	461	583		177	561		420	463		183	456	
Volume-to-Capacity Ratio (*X*)	0.068	0.940		0.043	0.398		0.026	0.902		0.790	0.317	
Back of Queue (*Q*), ft/ln (95 th percentile)	15.8	497		4	113.2		6.1	310.1		86.1	96.5	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.6	19.4		0.2	4.4		0.2	12.1		3.4	3.8	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.16	0.00		0.04	0.00		0.02	0.00		0.29	0.00	
Uniform Delay (d_1), s/veh	15.8	25.9		20.5	14.8		18.9	28.3		26.4	23.4	
Incremental Delay (d_2), s/veh	0.0	25.0		0.0	2.0		0.0	2.7		18.9	0.1	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	15.9	50.9		20.6	16.8		18.9	31.0		45.4	23.6	
Level of Service (LOS)	B	D		C	B		B	C		D	C	
Approach Delay, s/veh / LOS	49.0	D		16.9	B		30.7	C		34.5	C	
Intersection Delay, s/veh / LOS	36.3						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.91	B	1.91	B	1.92	B	1.92	B
Bicycle LOS Score / LOS	1.44	A	1.25	A	1.19	A	0.96	A

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HCS7 All-Way Stop Control Report

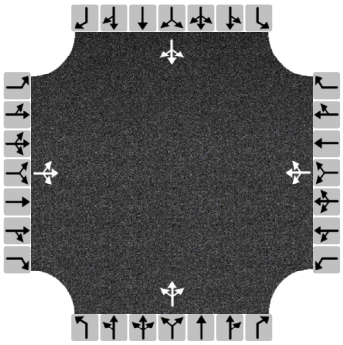
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	03/31/2020
Analysis Year	2025
Analysis Time Period (hrs)	0.25
Time Analyzed	2025 PM Peak Hour Bkgrd
Project Description	Ledgestone South

Site Information

Intersection	Locust_Lake Hazel
Jurisdiction	
East/West Street	Lake Hazel Rd
North/South Street	Locust Grove Rd
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	13	354	5	23	505	122	20	218	31	245	547	71
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	404			707			292			938		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.359			0.628			0.260			0.834		
Final Departure Headway, hd (s)	9.04			8.94			9.56			9.05		
Final Degree of Utilization, x	1.015			1.754			0.777			2.358		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	7.04			6.94			7.56			7.05		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	404			707			292			938		
Capacity	398			403			377			398		
95% Queue Length, Q_{95} (veh)	12.7			44.0			6.5			72.4		
Control Delay (s/veh)	79.8			370.7			38.9			638.3		
Level of Service, LOS	F			F			E			F		
Approach Delay (s/veh)	79.8			370.7			38.9			638.3		
Approach LOS	F			F			E			F		
Intersection Delay, s/veh | LOS	386.3						F					

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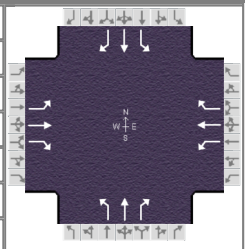
HCS7 Signalized Intersection Results Summary

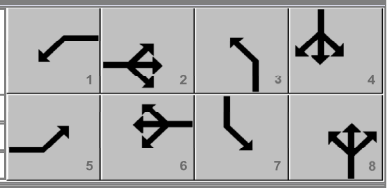
General Information				Intersection Information	
Agency	WHPacific			Duration, h	0.25
Analyst	K Baker	Analysis Date	Apr 3, 2020	Area Type	Other
Jurisdiction	ACHD	Time Period	PM Peak	PHF	0.92
Urban Street	LocustGrove Rd	Analysis Year	2025	Analysis Period	1> 7:00
Intersection	Locust and Lake Hazel	File Name	LocustSignals-PM-2025Bkgrd.xus		
Project Description	2025 PM Peak Bkgrd				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	13	354	5	23	505	122	20	218	31	245	547	71

Signal Information			
Cycle, s	100.0	Reference Phase	6
Offset, s	3	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	2.1	28.4	1.3	1.8	5.9	24.4
Yellow	5.0	5.0	5.0	5.0	5.0	5.0
Red	1.0	1.0	1.0	1.0	1.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.3	3.0	1.2	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	7.3	41.7	8.1	42.5	7.8	30.4	19.8	42.4
Change Period, ($Y+R_c$), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0	3.1	3.1	3.1	3.1
Queue Clearance Time (g_s), s	2.0		3.1		3.0	13.8	13.3	34.5
Green Extension Time (g_e), s	0.4	0.0	0.0	0.0	0.0	1.8	0.4	1.8
Phase Call Probability	0.32		0.52		0.45	1.00	1.00	1.00
Max Out Probability	0.28		1.00		0.00	0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	14	385	5	27	588	142	22	237	34	266	595	77
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1674	1758	1515	1674	1758	1490	1674	1758	1522	1674	1758	1373
Queue Service Time (g_s), s	0.0	18.0	0.2	1.1	31.4	8.3	1.0	11.8	1.7	11.3	32.5	3.8
Cycle Queue Clearance Time (g_c), s	0.0	18.0	0.2	1.1	31.4	8.3	1.0	11.8	1.7	11.3	32.5	3.8
Green Ratio (*g/C*)	0.28	0.36	0.36	0.33	0.37	0.37	0.26	0.24	0.24	0.40	0.36	0.36
Capacity (*c*), veh/h	119	628	541	210	642	544	117	429	372	446	639	499
Volume-to-Capacity Ratio (*X*)	0.119	0.613	0.010	0.127	0.916	0.261	0.185	0.552	0.091	0.597	0.930	0.155
Back of Queue (*Q*), ft/ln (95 th percentile)	15.8	324.5	3.8	19.7	453.4	114.4	18	220	27.9	197.9	534.9	54.4
Back of Queue (*Q*), veh/ln (95 th percentile)	0.6	12.7	0.2	0.8	17.7	4.5	0.7	8.6	1.1	7.7	20.9	2.2
Queue Storage Ratio (*RQ*) (95 th percentile)	0.16	0.00	0.00	0.20	0.00	0.46	0.06	0.00	0.00	0.66	0.00	0.00
Uniform Delay (d_1), s/veh	46.5	26.4	20.7	25.1	27.0	9.5	30.2	33.0	29.2	22.5	30.6	29.0
Incremental Delay (d_2), s/veh	0.2	4.4	0.0	0.0	10.6	0.5	0.3	0.4	0.0	0.5	8.6	0.1
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	46.7	30.9	20.8	25.2	37.6	10.1	30.5	33.4	29.2	23.0	39.2	29.1
Level of Service (LOS)	D	C	C	C	D	B	C	C	C	C	D	C
Approach Delay, s/veh / LOS	31.3	C		32.0	C		32.7	C		33.8	C	
Intersection Delay, s/veh / LOS	32.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.11	B	2.14	B	2.12	B	2.11	B
Bicycle LOS Score / LOS	1.15	A	1.65	B	0.97	A	2.04	B

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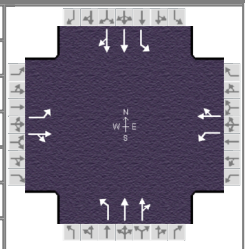
HCS7 Signalized Intersection Results Summary

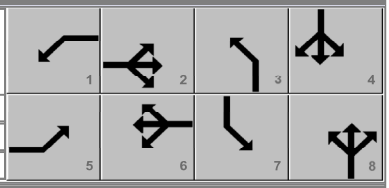
General Information				Intersection Information	
Agency	WHPacific			Duration, h	0.25
Analyst	K Baker	Analysis Date	8/23/2019	Area Type	Other
Jurisdiction	ACHD	Time Period	AM Peak	PHF	0.91
Urban Street	Meridian Rd	Analysis Year	2025	Analysis Period	1> 7:00
Intersection	Meridian and Hubbard	File Name	Meridian&Hubbard-AM-2025Bkgrd.xus		
Project Description	2025 AM Peak Bkgrd				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	173	31	18	22	10	62	12	1136	10	34	421	55

Signal Information			
Cycle, s	70.0	Reference Phase	6
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	4.0	9.8	4.0	28.2	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	0.0	0.0
Red	1.0	1.0	1.0	1.0	0.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	10.0	15.8	10.0	15.8	10.0	34.2	10.0	34.2
Change Period, ($Y+R_c$), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0	3.1	3.0	3.1	3.0
Queue Clearance Time (g_s), s	6.0		2.8		2.3	25.4	2.9	9.5
Green Extension Time (g_e), s	0.0	0.0	0.0	0.0	0.0	2.8	0.0	3.9
Phase Call Probability	0.99		1.00		1.00	1.00	1.00	1.00
Max Out Probability	1.00		1.00		1.00	0.46	1.00	0.02

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	190	54		24	79		13	631	629	37	266	257
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1674	1642		1674	1522		1674	1758	1752	1674	1758	1687
Queue Service Time (g_s), s	4.0	2.0		0.8	3.3		0.3	23.4	23.4	0.9	7.5	7.5
Cycle Queue Clearance Time (g_c), s	4.0	2.0		0.8	3.3		0.3	23.4	23.4	0.9	7.5	7.5
Green Ratio (*g/C*)	0.20	0.14		0.20	0.14		0.46	0.40	0.40	0.46	0.40	0.40
Capacity (*c*), veh/h	321	231		309	214		431	707	705	228	707	679
Volume-to-Capacity Ratio (*X*)	0.593	0.233		0.078	0.370		0.031	0.892	0.892	0.164	0.376	0.379
Back of Queue (*Q*), ft/ln (95 th percentile)	57.1	41.8		14.2	65.6		4.6	398.2	388.2	13.3	123.9	117.5
Back of Queue (*Q*), veh/ln (95 th percentile)	2.2	1.6		0.6	2.6		0.2	15.6	15.5	0.5	4.8	4.7
Queue Storage Ratio (*RQ*) (95 th percentile)	0.57	0.00		0.14	0.00		0.02	0.00	0.00	0.04	0.00	0.00
Uniform Delay (d_1), s/veh	27.1	26.7		23.0	27.3		11.0	19.5	19.5	14.7	14.7	14.8
Incremental Delay (d_2), s/veh	2.0	2.4		0.0	4.9		0.0	9.8	9.8	0.1	0.1	0.1
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	29.1	29.1		23.0	32.1		11.0	29.3	29.3	14.9	14.9	14.9
Level of Service (LOS)	C	C		C	C		B	C	C	B	B	B
Approach Delay, s/veh / LOS	29.1	C		30.0	C		29.1	C		14.9	B	
Intersection Delay, s/veh / LOS	25.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.29	B	2.29	B	1.90	B	1.90	B
Bicycle LOS Score / LOS	0.89	A	0.66	A	1.54	B	0.95	A

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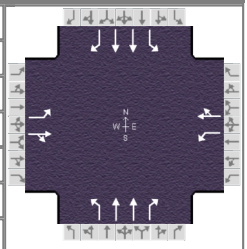
HCS7 Signalized Intersection Results Summary

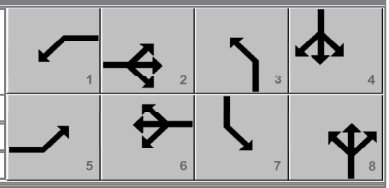
General Information				Intersection Information	
Agency	WHPacific			Duration, h	0.25
Analyst	K Baker	Analysis Date	Apr 3, 2020	Area Type	Other
Jurisdiction	ACHD	Time Period	PM	PHF	0.92
Urban Street	Meridian Rd	Analysis Year	2025	Analysis Period	1> 5:00
Intersection	Meridian and Hubbard	File Name	Meridian&Hubbard-PM-2025Bkgrd.xus		
Project Description	2025 PM Peak Bkgrd				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	87	18	36	20	15	71	38	631	24	74	1361	355

Signal Information			
Cycle, s	150.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	2.4	5.5	42.1	3.3	2.4	70.3	
Yellow	5.0	0.0	5.0	5.0	0.0	5.0	
Red	1.0	0.0	1.0	1.0	0.0	1.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	3.0	1.1	3.0
Phase Duration, s	13.9	53.6	8.4	48.1	9.3	76.3	11.7	78.7
Change Period, ($Y+R_c$), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0	3.1	3.1	3.1	3.1
Queue Clearance Time (g_s), s	7.9		3.4		3.9	22.5	5.7	63.2
Green Extension Time (g_e), s	0.2	0.0	0.0	0.0	0.1	9.6	0.1	9.5
Phase Call Probability	0.98		0.60		0.82	1.00	0.96	1.00
Max Out Probability	0.00		0.00		0.00	0.00	0.00	0.01

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	95	59		22	93		41	686	26	80	1479	386
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1674	1564		1674	1530		1674	1674	1524	1674	1674	1525
Queue Service Time (g_s), s	5.9	4.0		1.4	7.0		1.9	20.5	1.4	3.7	61.2	26.2
Cycle Queue Clearance Time (g_c), s	5.9	4.0		1.4	7.0		1.9	20.5	1.4	3.7	61.2	26.2
Green Ratio (*g/C*)	0.34	0.32		0.30	0.28		0.49	0.47	0.47	0.51	0.48	0.48
Capacity (*c*), veh/h	438	496		444	429		107	1569	715	360	1623	740
Volume-to-Capacity Ratio (*X*)	0.216	0.118		0.049	0.218		0.385	0.437	0.037	0.223	0.912	0.522
Back of Queue (*Q*), ft/ln (95 th percentile)	112.2	74.2		26.7	129.6		36.4	330.7	22.7	68.3	846.1	364.4
Back of Queue (*Q*), veh/ln (95 th percentile)	4.4	2.9		1.0	5.1		1.4	12.9	0.9	2.7	33.0	14.6
Queue Storage Ratio (*RQ*) (95 th percentile)	1.12	0.00		0.27	0.00		0.12	0.00	0.00	0.23	0.00	0.00
Uniform Delay (d_1), s/veh	34.5	36.3		37.6	41.3		33.9	26.6	21.5	20.7	35.7	26.6
Incremental Delay (d_2), s/veh	0.1	0.5		0.0	1.2		0.8	0.1	0.0	0.1	2.4	0.2
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	34.6	36.8		37.6	42.5		34.7	26.7	21.5	20.9	38.1	26.9
Level of Service (LOS)	C	D		D	D		C	C	C	C	D	C
Approach Delay, s/veh / LOS	35.5	D		41.6	D		26.9	C		35.1	D	
Intersection Delay, s/veh / LOS	33.3						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.45	B	2.46	B	1.92	B	1.92	B
Bicycle LOS Score / LOS	0.74	A	0.68	A	1.11	A	2.09	B

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HCS7 Two-Way Stop-Control Report

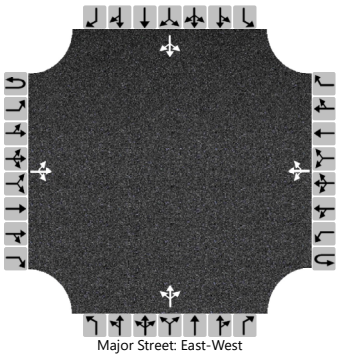
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	3/31/2020
Analysis Year	2025
Time Analyzed	2025 AM Peak Hour Total
Intersection Orientation	East-West
Project Description	Ledgestone South

Site Information

Intersection	Locust Grove and Deer Fla
Jurisdiction	
East/West Street	Deer Flat
North/South Street	Locust Grove Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		92	455	20		0	149	13		10	49	10		14	29	44
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		100				0					75				95	
Capacity, c (veh/h)		1394				1044					266				368	
v/c Ratio		0.07				0.00					0.28				0.26	
95% Queue Length, Q_{95} (veh)		0.2				0.0					1.1				1.0	
Control Delay (s/veh)		7.8				8.4					23.8				18.1	
Level of Service (LOS)		A				A					C				C	
Approach Delay (s/veh)		1.9				0.0				23.8				18.1		
Approach LOS										C				C		

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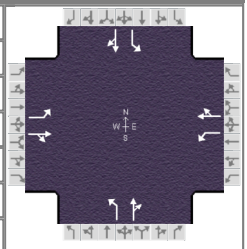
HCS7 Signalized Intersection Results Summary

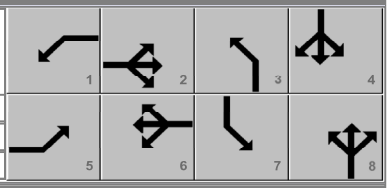
General Information				Intersection Information	
Agency	WHPacific			Duration, h	0.25
Analyst	K Baker	Analysis Date	Apr 3, 2020	Area Type	Other
Jurisdiction	ACHD	Time Period	AM Peak	PHF	0.92
Urban Street	LocustGrove Rd	Analysis Year	2025	Analysis Period	1> 7:00
Intersection	Locust and Deer Flat	File Name	LocustSignals-AM-2025Total.xus		
Project Description	2025 AM Peak Total				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	92	455	20	0	149	13	10	49	10	14	29	44

Signal Information			
Cycle, s	90.0	Reference Phase	6
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	52.7	4.0	3.6	0.1	5.6	0.0
Yellow	5.0	5.0	5.0	0.0	5.0	0.0
Red	1.0	1.0	1.0	0.0	1.0	0.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.3	4.0	1.2	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	10.0	68.7	0.0	58.7	9.6	11.6	9.7	11.8
Change Period, ($Y+R_c$), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Allow Headway (*MAH*), s	3.1	0.0	0.0	0.0	3.1	3.2	3.1	3.2
Queue Clearance Time (g_s), s	2.0				2.5	5.3	2.7	6.4
Green Extension Time (g_e), s	0.6	0.0	0.0	0.0	0.0	0.2	0.0	0.2
Phase Call Probability	1.00				0.90	0.80	0.93	0.86
Max Out Probability	0.00				0.00	0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	56	291		0	176		11	64		15	79	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1674	1744		1674	1733		1674	1703		1674	1586	
Queue Service Time (g_s), s	0.0	6.3		0.0	4.2		0.5	3.3		0.7	4.4	
Cycle Queue Clearance Time (g_c), s	0.0	6.3		0.0	4.2		0.5	3.3		0.7	4.4	
Green Ratio (*g/C*)	0.61	0.70		0.54	0.59		0.10	0.06		0.10	0.06	
Capacity (*c*), veh/h	773	1215		637	1014		147	106		183	101	
Volume-to-Capacity Ratio (*X*)	0.073	0.240		0.000	0.174		0.074	0.603		0.083	0.783	
Back of Queue (*Q*), ft/ln (95 th percentile)	22.6	93.9		0	70.4		9.9	65.2		13.8	84.4	
Back of Queue (*Q*), veh/ln (95 th percentile)	0.9	3.7		0.0	2.8		0.4	2.5		0.5	3.3	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.23	0.00		0.00	0.00		0.03	0.00		0.05	0.00	
Uniform Delay (d_1), s/veh	9.6	6.0		0.0	8.6		36.7	41.1		36.5	41.5	
Incremental Delay (d_2), s/veh	0.0	0.4		0.0	0.4		0.1	2.0		0.1	4.9	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	9.6	6.4		0.0	9.0		36.8	43.1		36.6	46.4	
Level of Service (LOS)	A	A			A		D	D		D	D	
Approach Delay, s/veh / LOS	6.9	A		9.0	A		42.2	D		44.8	D	
Intersection Delay, s/veh / LOS	16.4						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.85	B	1.95	B	1.94	B	1.94	B
Bicycle LOS Score / LOS	1.50	B	0.78	A	0.61	A	0.64	A

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HCS7 Two-Way Stop-Control Report

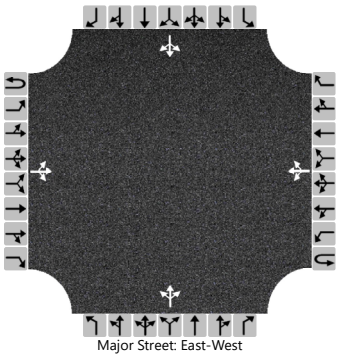
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	03/31/2020
Analysis Year	2025
Time Analyzed	2025 PM Peak Hour Total
Intersection Orientation	East-West
Project Description	Ledgestone South

Site Information

Intersection	Locust Grove and Deer Fla
Jurisdiction	
East/West Street	Deer Flat
North/South Street	Locust Grove Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		76	132	3		3	604	13		0	38	3		17	110	224
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		83				3					45				382	
Capacity, c (veh/h)		915				1429					234				325	
v/c Ratio		0.09				0.00					0.19				1.17	
95% Queue Length, Q_{95} (veh)		0.3				0.0					0.7				16.0	
Control Delay (s/veh)		9.3				7.5					24.0				140.9	
Level of Service (LOS)		A				A					C				F	
Approach Delay (s/veh)		3.9				0.1				24.0				140.9		
Approach LOS										C				F		

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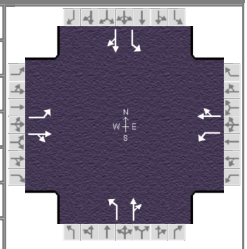
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	WHPacific			Duration, h	0.25
Analyst	K Baker	Analysis Date	Apr 3, 2020	Area Type	Other
Jurisdiction	ACHD	Time Period	PM Peak	PHF	0.92
Urban Street	LocustGrove Rd	Analysis Year	2025	Analysis Period	1> 7:00
Intersection	Locust and Deer Flat	File Name	LocustSignals-PM-2025Total.xus		
Project Description	2025 PM Peak Total				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	76	132	3	3	604	13	0	38	3	17	110	224

Signal Information			
Cycle, s	130.0	Reference Phase	6
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

							1	2	3	4
Green	4.0	65.7	4.0	4.0	22.3	0.0	5	6	7	8
Yellow	5.0	5.0	5.0	5.0	5.0	0.0				
Red	1.0	1.0	1.0	1.0	1.0	0.0				

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.3	4.0	1.2	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	10.0	81.7	10.0	81.7	0.0	28.3	10.0	38.3
Change Period, ($Y+R_c$), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0	0.0	3.2	3.1	3.2
Queue Clearance Time (g_s), s	2.0		2.1			4.8	3.1	31.4
Green Extension Time (g_e), s	0.6	0.0	0.0	0.0	0.0	0.9	0.0	0.9
Phase Call Probability	1.00		1.00			1.00	1.00	1.00
Max Out Probability	0.01		1.00			0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	150	266		3	671		0	45		18	363	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1674	1751		1674	1751		1674	1735		1674	1569	
Queue Service Time (g_s), s	0.0	7.2		0.1	33.7		0.0	2.8		1.1	29.4	
Cycle Queue Clearance Time (g_c), s	0.0	7.2		0.1	33.7		0.0	2.8		1.1	29.4	
Green Ratio (*g/C*)	0.52	0.58		0.55	0.58		0.13	0.17		0.22	0.25	
Capacity (*c*), veh/h	341	1019		604	1020		64	297		309	390	
Volume-to-Capacity Ratio (*X*)	0.439	0.261		0.005	0.658		0.000	0.150		0.060	0.932	
Back of Queue (*Q*), ft/ln (95 th percentile)	156.3	119.9		2	513.7		0	56.9		21.7	447.4	
Back of Queue (*Q*), veh/ln (95 th percentile)	6.1	4.7		0.1	20.1		0.0	2.2		0.8	17.5	
Queue Storage Ratio (*RQ*) (95 th percentile)	1.56	0.00		0.02	0.00		0.00	0.00		0.07	0.00	
Uniform Delay (d_1), s/veh	33.8	9.2		13.4	18.4		0.0	45.8		40.3	47.8	
Incremental Delay (d_2), s/veh	0.2	0.4		0.0	3.3		0.0	0.1		0.0	4.4	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	33.9	9.6		13.4	21.7		0.0	45.9		40.3	52.2	
Level of Service (LOS)	C	A		B	C			D		D	D	
Approach Delay, s/veh / LOS	18.3	B		21.7	C		45.9	D		51.6	D	
Intersection Delay, s/veh / LOS	29.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.89	B	1.96	B	1.95	B	1.94	B
Bicycle LOS Score / LOS	0.87	A	1.60	B	0.56	A	1.12	A

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HCS7 Two-Way Stop-Control Report

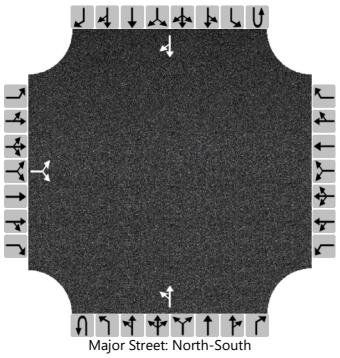
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	03/31/2020
Analysis Year	2025
Time Analyzed	AM Peak Hour Total
Intersection Orientation	North-South
Project Description	Ledgestone South

Site Information

Intersection	Locust Grove and E Access
Jurisdiction	
East/West Street	E Access
North/South Street	Locust Grove
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		108		12						4	132				75	36
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.43		6.23						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			130							4						
Capacity, c (veh/h)			748							1461						
v/c Ratio			0.17							0.00						
95% Queue Length, Q_{95} (veh)			0.6							0.0						
Control Delay (s/veh)			10.8							7.5						
Level of Service (LOS)			B							A						
Approach Delay (s/veh)		10.8								0.2						
Approach LOS		B														

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HCS7 Two-Way Stop-Control Report

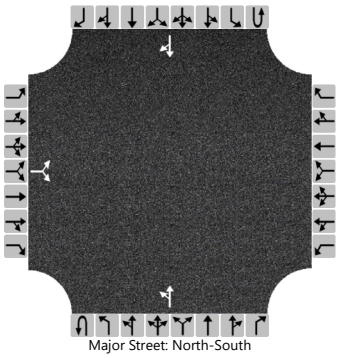
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	03/31/2020
Analysis Year	2025
Time Analyzed	PM Peak Hour Total
Intersection Orientation	North-South
Project Description	Ledgestone South

Site Information

Intersection	Locust Grove and E Access
Jurisdiction	
East/West Street	E Access
North/South Street	Locust Grove
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LR							LT						TR
Volume (veh/h)		71		8						14	71				343	121
Percent Heavy Vehicles (%)		3		3						3						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.43		6.23						4.13						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.53		3.33						2.23						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			86							15						
Capacity, c (veh/h)			500							1055						
v/c Ratio			0.17							0.01						
95% Queue Length, Q_{95} (veh)			0.6							0.0						
Control Delay (s/veh)			13.7							8.5						
Level of Service (LOS)			B							A						
Approach Delay (s/veh)		13.7								1.5						
Approach LOS		B														

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HCS7 Two-Way Stop-Control Report

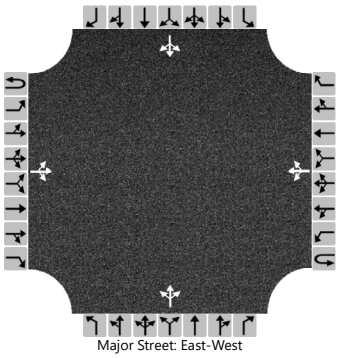
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	03/31/2020
Analysis Year	2025
Time Analyzed	2025 AM Peak Hour Total
Intersection Orientation	East-West
Project Description	Ledgestone South

Site Information

Intersection	Locust Grove and Hubbard
Jurisdiction	
East/West Street	Hubbard Rd
North/South Street	Locust Grove Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		448	542	125		8	285	62		0	213	27		3	65	21
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		487				9					261				97	
Capacity, c (veh/h)		1176				873										
v/c Ratio		0.41				0.01										
95% Queue Length, Q_{95} (veh)		2.1				0.0										
Control Delay (s/veh)		10.2				9.2										
Level of Service (LOS)		B				A										
Approach Delay (s/veh)		8.4				0.3										
Approach LOS																

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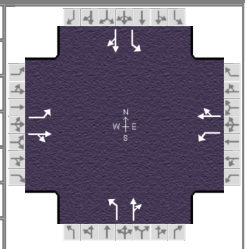
HCS7 Signalized Intersection Results Summary

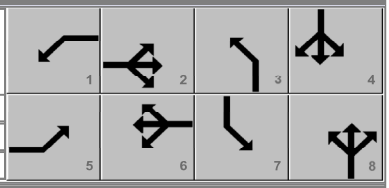
General Information				Intersection Information	
Agency	WHPacific			Duration, h	0.25
Analyst	K Baker	Analysis Date	Apr 3, 2020	Area Type	Other
Jurisdiction	ACHD	Time Period	AM Peak	PHF	0.92
Urban Street	LocustGrove Rd	Analysis Year	2025	Analysis Period	1> 7:00
Intersection	Locust and Hubbard	File Name	LocustSignals-AM-2025Total.xus		
Project Description	2025 AM Peak Total				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	448	542	125	8	285	62	0	213	27	3	65	21

Signal Information			
Cycle, s	90.0	Reference Phase	6
Offset, s	45	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	11.5	25.1	4.0	3.6	15.7	0.0	
Yellow	5.0	5.0	5.0	5.0	5.0	0.0	
Red	1.0	1.0	1.0	1.0	1.0	0.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.2	4.0	1.3	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	17.5	48.6	10.0	41.1	0.0	21.7	9.6	31.4
Change Period, ($Y+R_c$), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0	0.0	3.1	3.1	3.1
Queue Clearance Time (g_s), s	11.2		2.0			15.3	2.1	5.8
Green Extension Time (g_e), s	0.3	0.0	0.2	0.0	0.0	0.5	0.0	0.6
Phase Call Probability	1.00		1.00			1.00	0.91	1.00
Max Out Probability	0.04		0.02			0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	260	388		5	216		0	261		3	93	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1674	1699		1674	1703		1674	1722		1674	1684	
Queue Service Time (g_s), s	9.2	15.7		0.0	9.0		0.0	13.3		0.1	3.8	
Cycle Queue Clearance Time (g_c), s	9.2	15.7		0.0	9.0		0.0	13.3		0.1	3.8	
Green Ratio (*g/C*)	0.43	0.47		0.30	0.39		0.11	0.17		0.24	0.28	
Capacity (*c*), veh/h	501	805		408	665		307	301		178	474	
Volume-to-Capacity Ratio (*X*)	0.520	0.482		0.012	0.324		0.000	0.868		0.018	0.197	
Back of Queue (*Q*), ft/ln (95 th percentile)	170.9	261.7		3.4	178.7		0	243.9		2.4	68.2	
Back of Queue (*Q*), veh/ln (95 th percentile)	6.7	10.2		0.1	7.0		0.0	9.5		0.1	2.7	
Queue Storage Ratio (*RQ*) (95 th percentile)	1.71	0.00		0.03	0.00		0.00	0.00		0.01	0.00	
Uniform Delay (d_1), s/veh	20.2	19.8		22.3	23.1		0.0	36.1		27.5	24.6	
Incremental Delay (d_2), s/veh	0.2	1.5		0.0	1.2		0.0	3.0		0.0	0.1	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	20.4	21.3		22.3	24.3		0.0	39.1		27.5	24.7	
Level of Service (LOS)	C	C		C	C			D		C	C	
Approach Delay, s/veh / LOS	21.0	C		24.3	C		39.1	D		24.8	C	
Intersection Delay, s/veh / LOS	25.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.95	B	1.91	B	1.93	B	1.92	B
Bicycle LOS Score / LOS	2.49	B	1.12	A	0.92	A	0.65	A

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HCS7 Two-Way Stop-Control Report

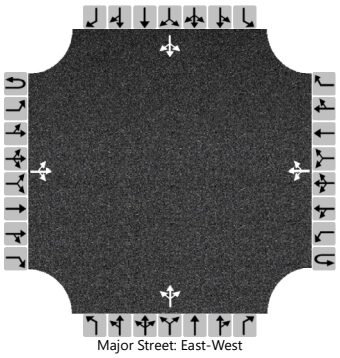
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	03/31/2020
Analysis Year	2025
Time Analyzed	2025 PM Peak Hour Total
Intersection Orientation	East-West
Project Description	Ledgestone South

Site Information

Intersection	Locust Grove and Hubbard
Jurisdiction	
East/West Street	Hubbard Rd
North/South Street	Locust Grove Rd
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes


Major Street: East-West

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		70	289	125		277	357	0		7	109	26		0	312	37
Percent Heavy Vehicles (%)		3				3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.13				4.13				7.13	6.53	6.23		7.13	6.53	6.23
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.23				2.23				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		76				301					154				379	
Capacity, c (veh/h)		1165				1105										
v/c Ratio		0.07				0.27										
95% Queue Length, Q_{95} (veh)		0.2				1.1										
Control Delay (s/veh)		8.3				9.5										
Level of Service (LOS)		A				A										
Approach Delay (s/veh)		1.8				6.0										
Approach LOS																

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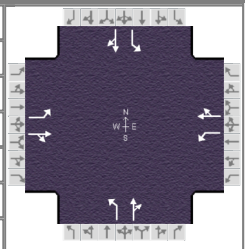
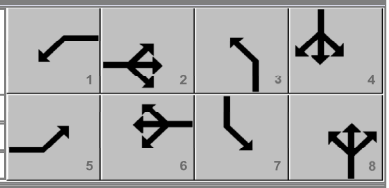
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	WHPacific			Duration, h	0.25
Analyst	K Baker	Analysis Date	Apr 3, 2020	Area Type	Other
Jurisdiction	ACHD	Time Period	PM Peak	PHF	0.92
Urban Street	LocustGrove Rd	Analysis Year	2025	Analysis Period	1> 7:00
Intersection	Locust and Hubbard	File Name	LocustSignals-PM-2025Total.xus		
Project Description	2025 PM Peak Total				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	70	289	125	277	357	0	7	109	26	0	312	37

Signal Information												
Cycle, s	130.0	Reference Phase	6									
Offset, s	0	Reference Point	End									
Uncoordinated	No	Simult. Gap E/W	On									
Force Mode	Float	Simult. Gap N/S	On									
				Green	6.0	7.1	55.3	1.0	30.7	0.0		
				Yellow	5.0	5.0	5.0	5.0	5.0	0.0		
				Red	1.0	1.0	1.0	1.0	1.0	0.0		



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	12.0	61.3	25.1	74.4	7.0	43.7	0.0	36.7
Change Period, ($Y+R_c$), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0	3.1	3.1	0.0	3.1
Queue Clearance Time (g_s), s	6.0		18.5		2.4	10.7		30.0
Green Extension Time (g_e), s	0.1	0.0	0.6	0.0	0.0	0.8	0.0	0.7
Phase Call Probability	0.97		1.00		0.24	1.00		1.00
Max Out Probability	0.00		0.01		0.00	0.01		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	94	554		393	0		8	147		0	379	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1674	1664		1674	0		1674	1698		1674	1725	
Queue Service Time (g_s), s	4.0	32.7		16.5	0.0		0.4	8.7		0.0	28.0	
Cycle Queue Clearance Time (g_c), s	4.0	32.7		16.5	0.0		0.4	8.7		0.0	28.0	
Green Ratio (*g/C*)	0.47	0.43		0.59			0.26	0.29		0.19	0.24	
Capacity (*c*), veh/h	400	707		449			89	492		312	407	
Volume-to-Capacity Ratio (*X*)	0.234	0.784		0.877	0.000		0.086	0.298		0.000	0.931	
Back of Queue (*Q*), ft/ln (95 th percentile)	76.7	405.7		261.2	0		8.5	167.6		0	464.4	
Back of Queue (*Q*), veh/ln (95 th percentile)	3.0	15.8		10.2	0.0		0.3	6.5		0.0	18.1	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.77	0.00		2.61	0.00		0.03	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh	21.2	21.4		22.9			39.3	35.9		0.0	48.6	
Incremental Delay (d_2), s/veh	0.1	5.3		6.4	0.0		0.2	0.1		0.0	4.2	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	21.3	26.7		29.3			39.5	36.0		0.0	52.8	
Level of Service (LOS)	C	C		C			D	D			D	
Approach Delay, s/veh / LOS	25.9	C		27.1	C		36.2	D		52.8	D	
Intersection Delay, s/veh / LOS	32.1						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.92	B	1.91	B	1.94	B	1.94	B
Bicycle LOS Score / LOS	1.36	A	1.62	B	0.74	A	1.11	A

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HCS7 Two-Way Stop-Control Report

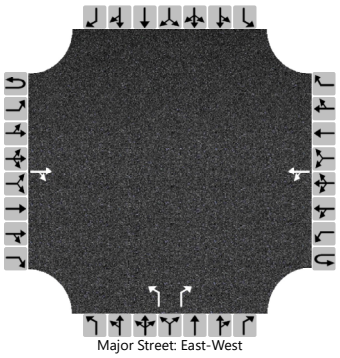
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	03/31/2020
Analysis Year	2025
Time Analyzed	AM Peak Hour Total
Intersection Orientation	East-West
Project Description	Ledgestone South

Site Information

Intersection	Hubbard and Stroebel
Jurisdiction	
East/West Street	Hubbard
North/South Street	Stroebel
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		1	0	1		0	0	0
Configuration				TR		LT				L		R				
Volume (veh/h)			1091	32		8	94			96		24				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized										No						
Median Type | Storage						Undivided										

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.13				6.43		6.23				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.23				3.53		3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						9				104		26				
Capacity, c (veh/h)						568				169		223				
v/c Ratio						0.02				0.62		0.12				
95% Queue Length, Q_{95} (veh)						0.0				3.4		0.4				
Control Delay (s/veh)						11.4				55.9		23.2				
Level of Service (LOS)						B				F		C				
Approach Delay (s/veh)						1.1				49.3						
Approach LOS										E						

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HCS7 Two-Way Stop-Control Report

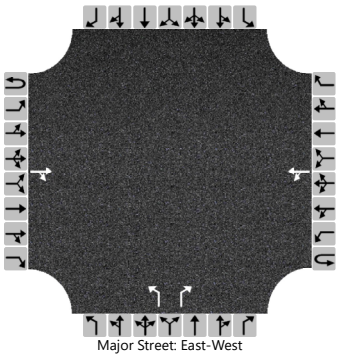
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	03/31/2020
Analysis Year	2025
Time Analyzed	PM Peak Hour Total
Intersection Orientation	East-West
Project Description	Ledgestone South

Site Information

Intersection	Hubbard and Stroebel
Jurisdiction	
East/West Street	Hubbard
North/South Street	Stroebel
Peak Hour Factor	0.92
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		1	0	1		0	0	0
Configuration				TR		LT				L		R				
Volume (veh/h)			468	107		27	106			63		16				
Percent Heavy Vehicles (%)						3				3		3				
Proportion Time Blocked																
Percent Grade (%)										0						
Right Turn Channelized										No						
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.1		6.2				
Critical Headway (sec)						4.13				6.43		6.23				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.23				3.53		3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						29				68		17				
Capacity, c (veh/h)						952				370		521				
v/c Ratio						0.03				0.19		0.03				
95% Queue Length, Q_{95} (veh)						0.1				0.7		0.1				
Control Delay (s/veh)						8.9				16.9		12.1				
Level of Service (LOS)						A				C		B				
Approach Delay (s/veh)					2.0				16.0							
Approach LOS									C							

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HCS7 All-Way Stop Control Report

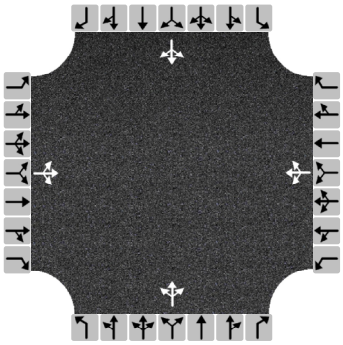
General Information

Analyst	RAB
Agency/Co.	WHPacific
Date Performed	03/31/2020
Analysis Year	2025
Analysis Time Period (hrs)	0.25
Time Analyzed	2025 AM Peak Hour Total
Project Description	Ledgestone South

Site Information

Intersection	Locust_Columbia
Jurisdiction	
East/West Street	Columbia Rd
North/South Street	Locust Grove Rd
Peak Hour Factor	0.92

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	146	506	10	10	170	36	14	235	14	61	86	54
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	720			235			286			218		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.640			0.209			0.254			0.194		
Final Departure Headway, hd (s)	6.45			7.03			7.15			7.30		
Final Degree of Utilization, x	1.289			0.459			0.568			0.443		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	4.45			5.03			5.15			5.30		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	720			235			286			218		
Capacity	558			512			503			493		
95% Queue Length, Q_{95} (veh)	29.4			2.4			3.5			2.2		
Control Delay (s/veh)	163.9			15.9			19.1			16.0		
Level of Service, LOS	F			C			C			C		
Approach Delay (s/veh)	163.9			15.9			19.1			16.0		
Approach LOS	F			C			C			C		
Intersection Delay, s/veh | LOS	89.5						F					

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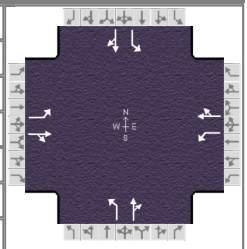
HCS7 Signalized Intersection Results Summary

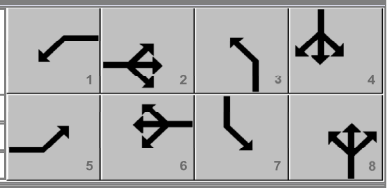
General Information				Intersection Information	
Agency	WHPacific			Duration, h	0.25
Analyst	K Baker	Analysis Date	Apr 3, 2020	Area Type	Other
Jurisdiction	ACHD	Time Period	AM Peak	PHF	0.92
Urban Street	LocustGrove Rd	Analysis Year	2025	Analysis Period	1> 7:00
Intersection	Locust and Columbia	File Name	LocustSignals-AM-2025Total.xus		
Project Description	2025 AM Peak Total				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	146	506	10	10	170	36	14	235	24	61	86	54

Signal Information			
Cycle, s	90.0	Reference Phase	6
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	4.0	31.0	4.0	4.0	17.0	0.0						
Yellow	5.0	5.0	5.0	5.0	5.0	0.0						
Red	1.0	1.0	1.0	1.0	1.0	0.0						



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.3	4.0	1.2	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	10.0	47.0	10.0	47.0	10.0	23.0	10.0	23.0
Change Period, ($Y+R_c$), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0	3.1	3.1	3.1	3.1
Queue Clearance Time (g_s), s	2.0		2.3		2.6	16.2	4.8	9.4
Green Extension Time (g_e), s	1.5	0.0	0.0	0.0	0.0	0.8	0.0	0.8
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	0.00		0.00		0.00	0.00	1.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	160	567		9	191		15	282		66	152	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1674	1752		1674	1704		1674	1729		1674	1644	
Queue Service Time (g_s), s	0.0	23.9		0.3	2.6		0.6	14.2		2.8	7.4	
Cycle Queue Clearance Time (g_c), s	0.0	23.9		0.3	2.6		0.6	14.2		2.8	7.4	
Green Ratio (*g/C*)	0.37	0.46		0.41	0.46		0.23	0.19		0.23	0.19	
Capacity (*c*), veh/h	536	798		221	777		271	326		176	310	
Volume-to-Capacity Ratio (*X*)	0.299	0.710		0.042	0.246		0.056	0.863		0.377	0.491	
Back of Queue (*Q*), ft/ln (95 th percentile)	95.2	336.8		4.8	44.1		11.5	257.2		52	134.6	
Back of Queue (*Q*), veh/ln (95 th percentile)	3.7	13.2		0.2	1.7		0.4	10.0		2.0	5.3	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.95	0.00		0.05	0.00		0.04	0.00		0.17	0.00	
Uniform Delay (d_1), s/veh	18.8	20.7		18.5	5.4		27.1	35.4		28.9	32.6	
Incremental Delay (d_2), s/veh	0.1	2.4		0.0	0.7		0.0	2.7		0.5	0.4	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	18.8	23.1		18.5	6.1		27.1	38.1		29.4	33.1	
Level of Service (LOS)	B	C		B	A		C	D		C	C	
Approach Delay, s/veh / LOS	22.2	C		6.7	A		37.5	D		32.0	C	
Intersection Delay, s/veh / LOS	24.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.90	B	1.95	B	1.93	B	1.93	B
Bicycle LOS Score / LOS	1.67	B	0.87	A	0.98	A	0.85	A

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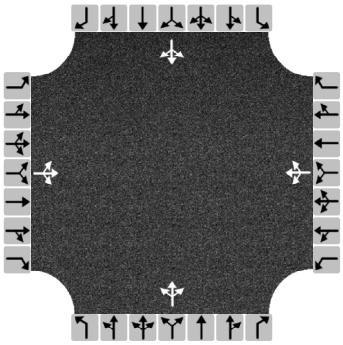
HCS7 All-Way Stop Control Report

General Information		Site Information	
Analyst	RAB	Intersection	Locust_Columbia
Agency/Co.	WHPacific	Jurisdiction	
Date Performed	03/31/2020	East/West Street	Columbia Rd
Analysis Year	2025	North/South Street	Locust Grove Rd
Analysis Time Period (hrs)	0.25	Peak Hour Factor	0.92
Time Analyzed	2025 PM Peak Hour Total		
Project Description	Ledgestone South		

Lanes



Vehicle Volume and Adjustments

Approach	Eastbound			Westbound			Northbound			Southbound		
Movement	L	T	R	L	T	R	L	T	R	L	T	R
Volume	36	223	10	24	622	46	7	100	20	54	304	231
% Thrus in Shared Lane												
Lane	L1	L2	L3	L1	L2	L3	L1	L2	L3	L1	L2	L3
Configuration	LTR			LTR			LTR			LTR		
Flow Rate, v (veh/h)	292			752			138			640		
Percent Heavy Vehicles	3			3			3			3		

Departure Headway and Service Time

Initial Departure Headway, hd (s)	3.20			3.20			3.20			3.20		
Initial Degree of Utilization, x	0.260			0.669			0.123			0.569		
Final Departure Headway, hd (s)	7.89			7.25			8.60			7.07		
Final Degree of Utilization, x	0.641			1.515			0.330			1.257		
Move-Up Time, m (s)	2.0			2.0			2.0			2.0		
Service Time, ts (s)	5.89			5.25			6.60			5.07		

Capacity, Delay and Level of Service

Flow Rate, v (veh/h)	292			752			138			640		
Capacity	456			497			419			509		
95% Queue Length, Q_{95} (veh)	4.4			39.2			1.4			25.7		
Control Delay (s/veh)	23.9			261.5			15.8			153.4		
Level of Service, LOS	C			F			C			F		
Approach Delay (s/veh)	23.9			261.5			15.8			153.4		
Approach LOS	C			F			C			F		
Intersection Delay, s/veh | LOS	166.8						F					

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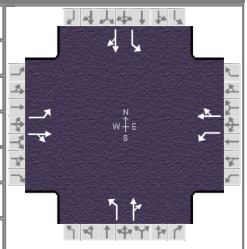
HCS7 Signalized Intersection Results Summary

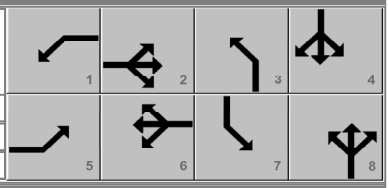
General Information				Intersection Information	
Agency	WHPacific			Duration, h	0.25
Analyst	K Baker	Analysis Date	Apr 3, 2020	Area Type	Other
Jurisdiction	ACHD	Time Period	PM Peak	PHF	0.92
Urban Street	LocustGrove Rd	Analysis Year	2025	Analysis Period	1> 7:00
Intersection	Locust and Columbia	File Name	LocustSignals-PM-2025Total.xus		
Project Description	2025 PM Peak Total				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	36	223	10	24	622	46	7	100	20	54	304	231

Signal Information			
Cycle, s	130.0	Reference Phase	6
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	6.0	37.4	4.0	4.0	0.9	47.7
Yellow	5.0	5.0	5.0	5.0	0.0	5.0
Red	1.0	1.0	1.0	1.0	0.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.2	4.0	1.3	4.0	1.1	4.0	1.1	4.0
Phase Duration, s	12.0	55.4	10.0	53.4	10.0	53.7	10.9	54.6
Change Period, ($Y+R_c$), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0	3.1	3.2	3.1	3.2
Queue Clearance Time (g_s), s	6.9		2.0		2.4	8.8	4.8	47.1
Green Extension Time (g_e), s	0.0	0.0	0.3	0.0	0.0	1.6	0.1	1.5
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	1.00		1.00		0.26	0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	92	593		19	535		8	130		59	582	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1674	1744		1674	1736		1674	1706		1674	1631	
Queue Service Time (g_s), s	4.9	39.7		0.0	27.4		0.4	6.8		2.8	45.1	
Cycle Queue Clearance Time (g_c), s	4.9	39.7		0.0	27.4		0.4	6.8		2.8	45.1	
Green Ratio (*g/C*)	0.35	0.38		0.30	0.36		0.40	0.37		0.40	0.37	
Capacity (*c*), veh/h	199	662		155	633		117	626		512	610	
Volume-to-Capacity Ratio (*X*)	0.461	0.896		0.124	0.846		0.065	0.208		0.115	0.953	
Back of Queue (*Q*), ft/ln (95 th percentile)	93	578.6		27.3	266.5		6.7	128.9		51.7	653.7	
Back of Queue (*Q*), veh/ln (95 th percentile)	3.6	22.6		1.1	10.4		0.3	5.0		2.0	25.5	
Queue Storage Ratio (*RQ*) (95 th percentile)	0.93	0.00		0.27	0.00		0.02	0.00		0.17	0.00	
Uniform Delay (d_1), s/veh	33.2	28.8		55.4	13.7		31.9	28.2		24.0	39.6	
Incremental Delay (d_2), s/veh	0.4	13.1		0.1	10.8		0.1	0.1		0.0	5.2	
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh	33.6	41.9		55.5	24.5		32.0	28.2		24.1	44.8	
Level of Service (LOS)	C	D		E	C		C	C		C	D	
Approach Delay, s/veh / LOS	40.8	D		25.6	C		28.5	C		42.9	D	
Intersection Delay, s/veh / LOS	36.4						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.96	B	1.93	B	1.93	B	1.93	B
Bicycle LOS Score / LOS	0.97	A	1.73	B	0.72	A	1.54	B

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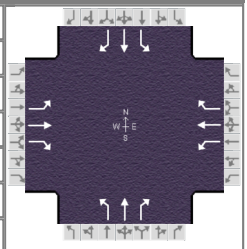
HCS7 Signalized Intersection Results Summary

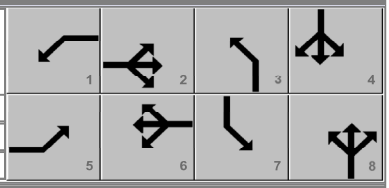
General Information				Intersection Information	
Agency	WHPacific			Duration, h	0.25
Analyst	K Baker	Analysis Date	Apr 3, 2020	Area Type	Other
Jurisdiction	ACHD	Time Period	AM Peak	PHF	0.92
Urban Street	LocustGrove Rd	Analysis Year	2025	Analysis Period	1> 7:00
Intersection	Locust and Lake Hazel	File Name	LocustSignals-AM-2025Total.xus		
Project Description	2025 AM Peak Total				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	29	499	5	14	319	93	10	443	37	133	141	24

Signal Information			
Cycle, s	90.0	Reference Phase	6
Offset, s	16	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Float	Simult. Gap N/S	On

Green	4.0	20.2	4.0	4.0	1.0	26.8
Yellow	5.0	5.0	5.0	5.0	0.0	5.0
Red	1.0	1.0	1.0	1.0	0.0	1.0



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.2	3.0	1.3	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	10.0	36.2	10.0	36.2	10.0	32.8	11.0	33.8
Change Period, ($Y+R_c$), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0	3.1	3.1	3.1	3.1
Queue Clearance Time (g_s), s	3.2		2.0		2.4	25.8	7.0	7.9
Green Extension Time (g_e), s	0.0	0.0	0.2	0.0	0.0	1.0	0.0	1.2
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	0.99
Max Out Probability	0.29		0.44		0.00	0.00	1.00	0.01

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	32	542	5	8	173	50	11	482	40	145	153	26
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1674	1758	1514	1674	1758	1490	1674	1758	1523	1674	1758	1525
Queue Service Time (g_s), s	1.2	26.7	0.2	0.0	7.3	2.0	0.4	23.8	1.7	5.0	5.9	1.1
Cycle Queue Clearance Time (g_c), s	1.2	26.7	0.2	0.0	7.3	2.0	0.4	23.8	1.7	5.0	5.9	1.1
Green Ratio (*g/C*)	0.29	0.34	0.34	0.25	0.34	0.34	0.34	0.30	0.30	0.35	0.31	0.31
Capacity (*c*), veh/h	326	589	508	168	589	499	425	524	454	203	543	472
Volume-to-Capacity Ratio (*X*)	0.097	0.920	0.011	0.045	0.294	0.101	0.026	0.919	0.089	0.712	0.282	0.055
Back of Queue (*Q*), ft/ln (95 th percentile)	21.8	521.4	3.6	7.1	149.7	34.1	6.7	388.7	27	119.6	110.2	17
Back of Queue (*Q*), veh/ln (95 th percentile)	0.9	20.4	0.1	0.3	5.8	1.3	0.3	15.2	1.1	4.7	4.3	0.7
Queue Storage Ratio (*RQ*) (95 th percentile)	0.22	0.00	0.00	0.07	0.00	0.14	0.02	0.00	0.00	0.40	0.00	0.00
Uniform Delay (d_1), s/veh	23.6	28.8	16.3	39.2	25.7	20.0	19.8	30.5	26.4	25.8	23.5	21.8
Incremental Delay (d_2), s/veh	0.0	21.9	0.0	0.0	1.2	0.4	0.0	2.9	0.0	9.6	0.1	0.0
Initial Queue Delay (d_3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	23.6	50.6	16.3	39.2	27.0	20.4	19.9	33.4	26.4	35.4	23.6	21.9
Level of Service (LOS)	C	D	B	D	C	C	B	C	C	D	C	C
Approach Delay, s/veh / LOS	48.8	D		25.9	C		32.6	C		28.7	C	
Intersection Delay, s/veh / LOS	36.6						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.14	B	2.11	B	2.11	B	2.11	B
Bicycle LOS Score / LOS	1.44	A	1.25	A	1.37	A	1.02	A

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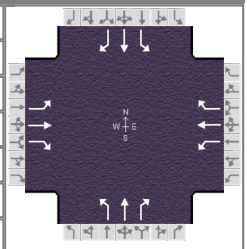
HCS7 Signalized Intersection Results Summary

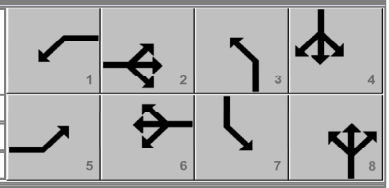
General Information				Intersection Information	
Agency	WHPacific			Duration, h	0.25
Analyst	K Baker	Analysis Date	Apr 3, 2020	Area Type	Other
Jurisdiction	ACHD	Time Period	PM Peak	PHF	0.92
Urban Street	LocustGrove Rd	Analysis Year	2025	Analysis Period	1> 7:00
Intersection	Locust and Lake Hazel	File Name	LocustSignals-PM-2025Total.xus		
Project Description	2025 PM Peak Total				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	13	354	5	23	505	122	20	281	31	245	654	71

Signal Information										
Cycle, s	140.0	Reference Phase	6							
Offset, s	20	Reference Point	End							
Uncoordinated	No	Simult. Gap E/W	On							
Force Mode	Float	Simult. Gap N/S	On							

Green	4.0	48.8	4.0	6.5	46.7	0.0				
Yellow	5.0	5.0	5.0	5.0	5.0	0.0				
Red	1.0	1.0	1.0	1.0	1.0	0.0				



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0
Phase Duration, s	10.0	54.8	10.0	54.8	10.0	52.7	22.5	65.2
Change Period, (*Y+R c*), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0	3.1	3.1	3.1	3.1
Queue Clearance Time (*g s*), s	2.7		3.4		3.2	21.6	16.1	56.9
Green Extension Time (*g e*), s	0.0	0.0	0.0	0.0	0.0	2.4	0.3	2.3
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	0.00		0.00		0.00	0.00	0.02	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	14	385	5	27	588	142	22	305	34	266	711	77
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1674	1758	1514	1674	1758	1490	1674	1758	1523	1674	1758	1525
Queue Service Time (*g s*), s	0.7	25.6	0.3	1.4	45.4	12.1	1.2	19.6	2.1	14.1	54.9	4.3
Cycle Queue Clearance Time (*g c*), s	0.7	25.6	0.3	1.4	45.4	12.1	1.2	19.6	2.1	14.1	54.9	4.3
Green Ratio (*g/C*)	0.38	0.35	0.35	0.38	0.35	0.35	0.36	0.33	0.33	0.47	0.42	0.42
Capacity (*c*), veh/h	119	613	528	249	613	519	112	587	508	455	743	645
Volume-to-Capacity Ratio (*X*)	0.118	0.628	0.010	0.107	0.960	0.274	0.195	0.521	0.066	0.585	0.956	0.120
Back of Queue (*Q*), ft/ln (95 th percentile)	14.1	445.5	5.7	27.3	646.1	184.1	22.4	339	35.4	244.1	875.4	70.9
Back of Queue (*Q*), veh/ln (95 th percentile)	0.6	17.4	0.2	1.1	25.2	7.2	0.9	13.2	1.4	9.5	34.2	2.8
Queue Storage Ratio (*RQ*) (95 th percentile)	0.14	0.00	0.00	0.27	0.00	0.74	0.07	0.00	0.00	0.81	0.00	0.00
Uniform Delay (*d 1*), s/veh	34.9	38.0	29.8	31.2	37.4	45.0	36.1	37.6	31.8	26.0	39.1	24.6
Incremental Delay (*d 2*), s/veh	0.2	4.8	0.0	0.0	15.2	0.5	0.3	0.3	0.0	0.4	13.5	0.0
Initial Queue Delay (*d 3*), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	35.0	42.9	29.8	31.3	52.6	45.5	36.4	37.9	31.8	26.4	52.7	24.6
Level of Service (LOS)	D	D	C	C	D	D	D	D	C	C	D	C
Approach Delay, s/veh / LOS	42.4	D		50.5	D		37.2	D		44.0	D	
Intersection Delay, s/veh / LOS	44.7						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.12	B	2.12	B	2.13	B	2.11	B
Bicycle LOS Score / LOS	1.15	A	1.65	B	1.08	A	2.23	B

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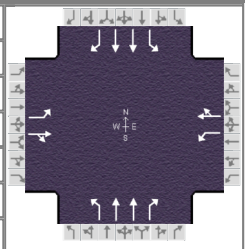
HCS7 Signalized Intersection Results Summary

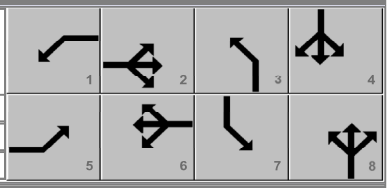
General Information				Intersection Information	
Agency	WHPacific			Duration, h	0.25
Analyst	K Baker	Analysis Date	8/23/2019	Area Type	Other
Jurisdiction	ACHD	Time Period	AM Peak	PHF	0.92
Urban Street	Meridian Rd	Analysis Year	2025	Analysis Period	1> 7:00
Intersection	Meridian and Hubbard	File Name	Meridian&Hubbard-AM-2025Total.xus		
Project Description	2025 AM Peak Total				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	214	37	22	34	10	146	12	1136	14	62	421	55

Signal Information			
Cycle, s	150.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	4.4	6.2	43.9	4.0	1.7	59.9	
Yellow	5.0	5.0	5.0	5.0	0.0	5.0	
Red	1.0	1.0	1.0	1.0	0.0	1.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	3.0	1.1	3.0
Phase Duration, s	22.5	62.1	10.4	49.9	10.0	65.9	11.7	67.6
Change Period, ($Y+R_c$), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0	3.1	3.0	3.1	3.0
Queue Clearance Time (g_s), s	16.1		4.3		2.7	54.7	5.5	16.0
Green Extension Time (g_e), s	0.4	0.0	0.1	0.0	0.0	5.2	0.1	5.2
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	0.00		0.00		0.00	0.00	0.00	0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	233	64		37	170		13	1235	15	67	458	60
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1674	1645		1674	1504		1674	1674	1524	1674	1674	1525
Queue Service Time (g_s), s	14.1	3.8		2.3	13.5		0.7	52.7	0.9	3.5	14.0	3.6
Cycle Queue Clearance Time (g_c), s	14.1	3.8		2.3	13.5		0.7	52.7	0.9	3.5	14.0	3.6
Green Ratio (*g/C*)	0.42	0.37		0.32	0.29		0.43	0.40	0.40	0.44	0.41	0.41
Capacity (*c*), veh/h	478	615		485	440		374	1337	608	133	1374	626
Volume-to-Capacity Ratio (*X*)	0.487	0.104		0.076	0.385		0.035	0.924	0.025	0.508	0.333	0.095
Back of Queue (*Q*), ft/ln (95 th percentile)	248.3	73.4		43.9	234.1		12.6	750.5	15.2	67.5	246.1	60.2
Back of Queue (*Q*), veh/ln (95 th percentile)	9.7	2.9		1.7	9.1		0.5	29.3	0.6	2.6	9.6	2.4
Queue Storage Ratio (*RQ*) (95 th percentile)	2.48	0.00		0.44	0.00		0.04	0.00	0.00	0.23	0.00	0.00
Uniform Delay (d_1), s/veh	30.7	30.6		35.3	42.3		25.6	42.9	27.3	35.6	30.2	27.1
Incremental Delay (d_2), s/veh	0.3	0.3		0.0	2.5		0.0	1.3	0.0	1.1	0.1	0.0
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	30.9	30.9		35.3	44.8		25.6	44.2	27.3	36.7	30.3	27.2
Level of Service (LOS)	C	C		D	D		C	D	C	D	C	C
Approach Delay, s/veh / LOS	30.9	C		43.1	D		43.8	D		30.7	C	
Intersection Delay, s/veh / LOS	38.8						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.45	B	2.46	B	1.93	B	1.93	B
Bicycle LOS Score / LOS	0.98	A	0.83	A	1.53	B	0.97	A

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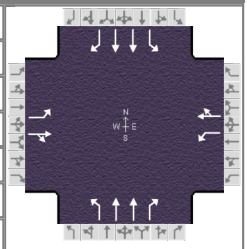
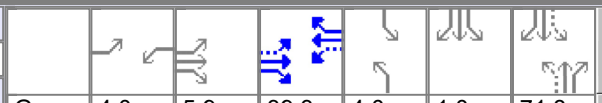
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	WHPacific			Duration, h	0.25
Analyst	K Baker	Analysis Date	8/23/2019	Area Type	Other
Jurisdiction	ACHD	Time Period	PM Peak	PHF	0.92
Urban Street	Meridian Rd	Analysis Year	2025	Analysis Period	1> 5:00
Intersection	Meridian and Hubbard	File Name	Meridian&Hubbard-PM-2025Total.xus		
Project Description	2025 PM Peak Total				

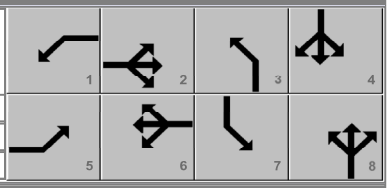


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	111	17	45	28	15	126	38	631	37	168	1361	355

Signal Information			
Cycle, s	150.0	Reference Phase	2
Offset, s	0	Reference Point	Begin
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	4.0	5.9		39.3	4.0	1.0	71.8					
Yellow	5.0	0.0		5.0	5.0	0.0	5.0					
Red	1.0	0.0		1.0	1.0	0.0	1.0					



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2	1	6	3	8	7	4
Case Number	1.1	4.0	1.1	4.0	1.1	3.0	1.1	3.0
Phase Duration, s	15.9	51.2	10.0	45.3	10.0	77.8	11.0	78.8
Change Period, ($Y+R_c$), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Allow Headway (*MAH*), s	3.1	0.0	3.1	0.0	3.1	3.1	3.1	3.1
Queue Clearance Time (g_s), s	9.7		4.0		3.9	22.2	7.0	63.2
Green Extension Time (g_e), s	0.2	0.0	0.0	0.0	0.1	9.7	0.0	9.6
Phase Call Probability	1.00		1.00		1.00	1.00	1.00	1.00
Max Out Probability	0.00		0.00		0.00	0.00	1.00	0.01

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h	121	67		30	153		41	686	40	183	1479	386
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1674	1549		1674	1514		1674	1674	1524	1674	1674	1525
Queue Service Time (g_s), s	7.7	4.8		2.0	12.5		1.9	20.2	2.1	5.0	61.2	26.2
Cycle Queue Clearance Time (g_c), s	7.7	4.8		2.0	12.5		1.9	20.2	2.1	5.0	61.2	26.2
Green Ratio (*g/C*)	0.34	0.30		0.29	0.26		0.51	0.48	0.48	0.51	0.49	0.49
Capacity (*c*), veh/h	380	467		434	397		115	1602	729	360	1624	740
Volume-to-Capacity Ratio (*X*)	0.317	0.144		0.070	0.386		0.360	0.428	0.055	0.507	0.911	0.521
Back of Queue (*Q*), ft/ln (95 th percentile)	146.6	88.2		37.9	222.7		35.1	325	34.7	130.9	846.4	364.2
Back of Queue (*Q*), veh/ln (95 th percentile)	5.7	3.4		1.5	8.7		1.4	12.7	1.4	5.1	33.1	14.6
Queue Storage Ratio (*RQ*) (95 th percentile)	1.47	0.00		0.38	0.00		0.12	0.00	0.00	0.44	0.00	0.00
Uniform Delay (d_1), s/veh	35.9	38.3		38.6	45.4		33.5	25.7	20.9	28.5	35.6	26.6
Incremental Delay (d_2), s/veh	0.2	0.6		0.0	2.8		0.7	0.1	0.0	0.5	2.5	0.2
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	36.0	38.9		38.6	48.2		34.2	25.7	21.0	28.9	38.1	26.8
Level of Service (LOS)	D	D		D	D		C	C	C	C	D	C
Approach Delay, s/veh / LOS	37.1	D		46.6	D		25.9	C		35.2	D	
Intersection Delay, s/veh / LOS	33.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.45	B	2.46	B	1.92	B	1.92	B
Bicycle LOS Score / LOS	0.80	A	0.79	A	1.12	A	2.18	B

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TRAFFIC SIGNAL WARRANTS

City/Town:	Kuna, ID	Analysis Performed By:	RB
County:	ADA County	Date Analysis Performed:	4/9/2020
Division:		Project Number if Applicable:	
Data Date:		Weather Conditions:	

Major Route:	Deer Flat	Appr. Lanes:	1	Critical Approach Speed (mph):	50
Minor Route:	Locust Grove	Appr. Lanes:	1		

Volume Level Criteria

1. Is the critical speed of major street traffic > 70 km/h (40 mph) ? [X] Yes [ ] No
2. Is the intersection in a built-up area or isolated community of <10,000 population? [ ] Yes [ ] No

If Question 1 or 2 above is answered "Yes", then use "70%" volume level [X] 70% [ ] 100%

WARRANT 1 - EIGHT-HOUR VEHICULAR VOLUME

Warrant 1 is satisfied if Condition A or Condition B is "100%" satisfied. Satisfied: [ ] Yes [X] No

Warrant is also satisfied if both Condition A and Condition B are "80%" satisfied, given adequate trials of other remedial measures have been tried.

Adequate trial(s) of other remedial measures tried: [ ] Yes [X] No

List Remedial Measures Tried (Required for 80% Combination of A & B)

Condition A - Minimum Vehicular Volume & Condition B - Interruption of Continuous Traffic

100% Satisfied: [ ] Yes [X] No

(Used if neither Condition A or B is satisfied) 80% Satisfied: [ ] Yes [X] No

	(volumes in veh/hr)	Minimum Requirements				Eight Highest Hours							
	Approach Lanes	1		2 or more		12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM
	Volume Level	100%	70%	100%	70%								
W - 1A 100%	Both Approaches on Major Street	500	350	600	420	375	331	463	581	780	721	493	331
	Highest Approach on Minor Street	150	105	200	140	158	140	196	245	329	304	208	140
	(volumes in veh/hr)	Minimum Requirements											
	Approach Lanes	1		2 or more									
	Volume Level	100%	70%	100%	70%								
W - 1B 100%	Both Approaches on Major Street	750	525	900	630	375	331	463	581	780	721	493	331
	Highest Approach on Minor Street	75	53	100	70	158	140	196	245	329	304	208	140
	(volumes in veh/hr)	Minimum Requirements											
	Approach Lanes	1		2 or more									
	Volume Level	100%	70%	100%	70%								
W - 1A 80%	Both Approaches on Major Street	400	280	480	336	375	331	463	581	780	721	493	331
	Highest Approach on Minor Street	120	84	160	112	158	140	196	245	329	304	208	140
	(volumes in veh/hr)	Minimum Requirements											
	Approach Lanes	1		2 or more									
	Volume Level	100%	70%	100%	70%								
W - 1B 80%	Both Approaches on Major Street	600	420	720	504	375	331	463	581	780	721	493	331
	Highest Approach	60	42	80	56	158	140	196	245	329	304	208	140

NOTE: *The satisfaction of a warrant or warrants shall not in itself require the installation of a traffic control signal*

	on Minor Street	60	42	80	56	158	140	190	245	329	304	208	140

NOTE: *The satisfaction of a warrant or warrants shall not in itself require the installation of a traffic control signal*

TRAFFIC SIGNAL WARRANTS

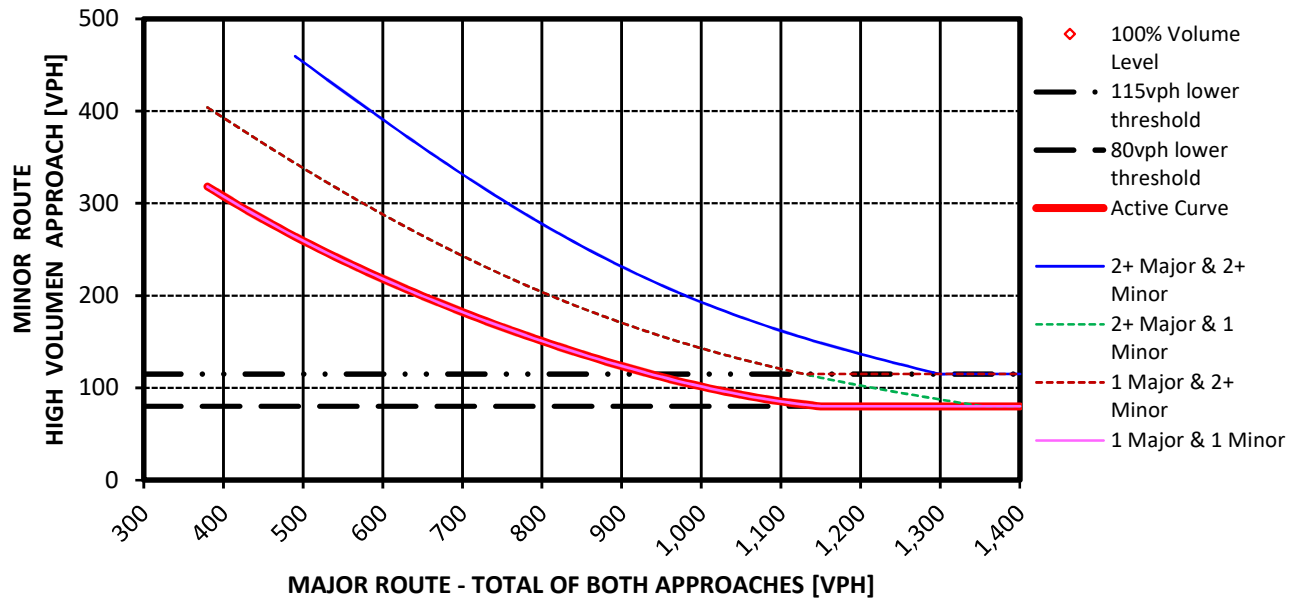
WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

Satisfied: [X] Yes [ ] No

If all four points lie above the appropriate line, then this warrant is satisfied.

(Volumes in veh/hr)	Four Highest Hours			
	3 PM	4 PM	5 PM	6 PM
SUM of Both Approaches on Major Street	581	780	721	493
Highest Minor Street Approach	245	329	304	208

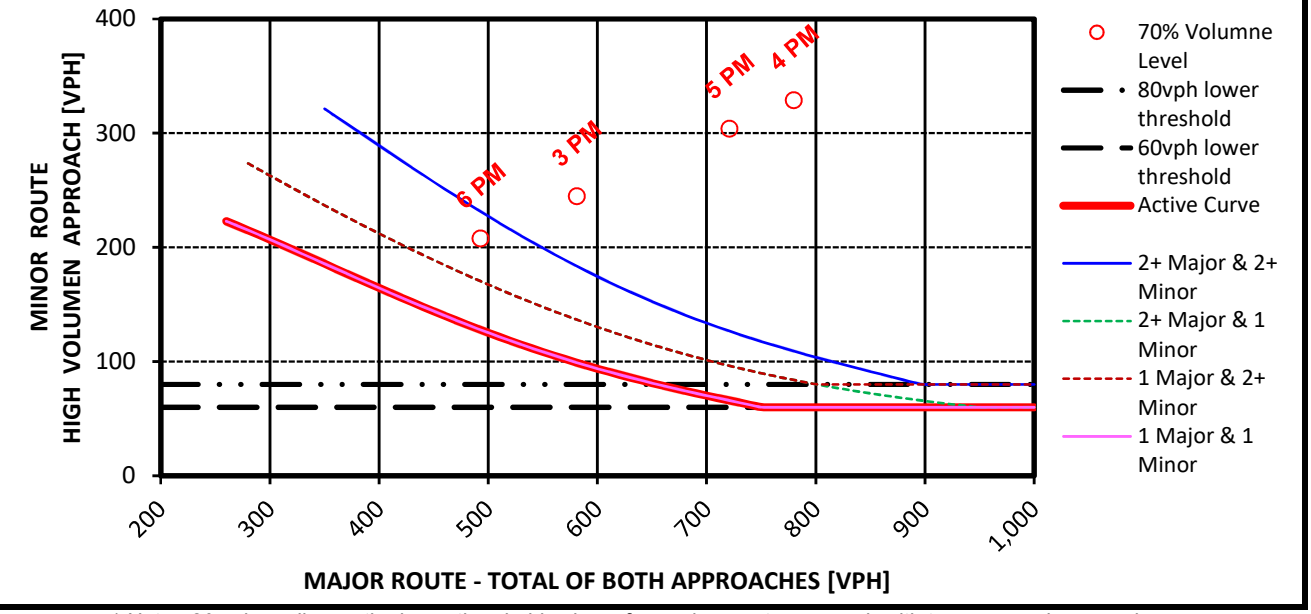
FIGURE W-2: Criteria for "100%" Volume Level



** Note: 115 vph applies as the lower threshold volume for a minor route approach with two or more lanes and 80 vph applies as the lower threshold volume threshold for a minor route approach with one lane.*

FIGURE W-2: Criteria for "70%" Volume Level

(Community less-than 10,000 population or speeds greater-than 70 km/hr [40 mph] on Major Street)



** Note: 80 vph applies as the lower threshold volume for a minor route approach with two or more lanes and*

NOTE: *The satisfaction of a warrant or warrants shall not in itself require the installation of a traffic control signal.*

60 vph applies as the lower threshold volume threshold for a minor route approach with one lane.

NOTE: *The satisfaction of a warrant or warrants shall not in itself require the installation of a traffic control signal.*

TRAFFIC SIGNAL WARRANT SUMMARY

City/Town: Kuna, ID
County: ADA County
Division:
Data Date: 2025 Background

Analysis Performed By: RB
Date Analysis Performed: 4/9/2020
Project Number if Applicable:
Weather Conditions:

Major Route: Deer Flat
Minor Route: Locust Grove

Appr. Lanes: 1
Appr. Lanes: 1

Critical Approach Speed (mph): 50

SATISFIED

Warrant #1: Eight-Hour Vehicular Volume

[ ] Yes [X] No

	80% Satisfied		100% Satisfied	
1A - Minimum Vehicular Volume:	[X] Yes	[ ] No	[ ] Yes	[X] No
1B - Interruption of Continuous Traffic:	[ ] Yes	[X] No	[ ] Yes	[X] No

Any Remedial Measures Tried and their Outcome.

Warrant #2: Four-Hour Vehicular Volume

[X] Yes [ ] No

Warrant #3: Peak Hour

[ ] Yes [X] No

The Unusual Case(s) that Justifies the use of this Warrant.

Warrant #4: Pedestrian Volume

[ ] Yes [X] No

Warrant #5: School Crossing

[ ] Yes [X] No

Any Remedial Measures Implemented to improve the Safety of the Students.

Warrant #6: Coordinated Signal System

[ ] Yes [X] No

Warrant #7: Crash Experience

[ ] Yes [X] No

Other Alternatives that have failed to reduce crashes.

Warrant #8: Roadway Network

[ ] Yes [X] No

Warrant #9: Intersection Near a Grade Crossing

[ ] Yes [X] No

CONCLUSIONS

Warrants Satisfied: 2

Remarks:

Based on MUTCD 2009 Summary Page

NOTE: *The satisfaction of a warrant or warrants shall not in itself require the installation of a traffic control signal.*

rev. 05/2011

TRAFFIC SIGNAL WARRANTS

City/Town:	Kuna, ID	Analysis Performed By:	RB
County:	ADA County	Date Analysis Performed:	4/9/2020
Division:		Project Number if Applicable:	
Data Date:		Weather Conditions:	

Major Route:	Hubbard	Appr. Lanes:	1	Critical Approach Speed (mph):	50
Minor Route:	Locust Grove	Appr. Lanes:	1		

Volume Level Criteria

1. Is the critical speed of major street traffic > 70 km/h (40 mph) ? [X] Yes [ ] No
2. Is the intersection in a built-up area or isolated community of <10,000 population? [ ] Yes [ ] No

If Question 1 or 2 above is answered "Yes", then use "70%" volume level [X] 70% [ ] 100%

WARRANT 1 - EIGHT-HOUR VEHICULAR VOLUME

Warrant 1 is satisfied if Condition A or Condition B is "100%" satisfied. Satisfied: [ ] Yes [X] No

Warrant is also satisfied if both Condition A and Condition B are "80%" satisfied, given adequate trials of other remedial measures have been tried.

Adequate trial(s) of other remedial measures tried: [ ] Yes [X] No

List Remedial Measures Tried (Required for 80% Combination of A & B)

Condition A - Minimum Vehicular Volume & Condition B - Interruption of Continuous Traffic

100% Satisfied: [ ] Yes [X] No

(Used if neither Condition A or B is satisfied) 80% Satisfied: [ ] Yes [X] No

	(volumes in veh/hr)	Minimum Requirements				Eight Highest Hours							
	Approach Lanes	1		2 or more									
	Volume Level	100%	70%	100%	70%	12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM
W - 1A 100%	Both Approaches on Major Street	500	350	600	420	479	423	592	742	995	920	629	423
	Highest Approach on Minor Street	150	105	200	140	109	96	135	169	227	210	143	96
	(volumes in veh/hr)	Minimum Requirements											
	Approach Lanes	1		2 or more									
	Volume Level	100%	70%	100%	70%								
W - 1B 100%	Both Approaches on Major Street	750	525	900	630	479	423	592	742	995	920	629	423
	Highest Approach on Minor Street	75	53	100	70	109	96	135	169	227	210	143	96
	(volumes in veh/hr)	Minimum Requirements											
	Approach Lanes	1		2 or more									
	Volume Level	100%	70%	100%	70%								
W - 1A 80%	Both Approaches on Major Street	400	280	480	336	479	423	592	742	995	920	629	423
	Highest Approach on Minor Street	120	84	160	112	109	96	135	169	227	210	143	96
	(volumes in veh/hr)	Minimum Requirements											
	Approach Lanes	1		2 or more									
	Volume Level	100%	70%	100%	70%								
W - 1B 80%	Both Approaches on Major Street	600	420	720	504	479	423	592	742	995	920	629	423
	Highest Approach	60	42	80	56	109	96	135	169	227	210	143	96

NOTE: *The satisfaction of a warrant or warrants shall not in itself require the installation of a traffic control signal*

2	on Minor Street	60	42	60	50	109	90	135	109	227	210	145	90	

NOTE: *The satisfaction of a warrant or warrants shall not in itself require the installation of a traffic control signal*

TRAFFIC SIGNAL WARRANTS

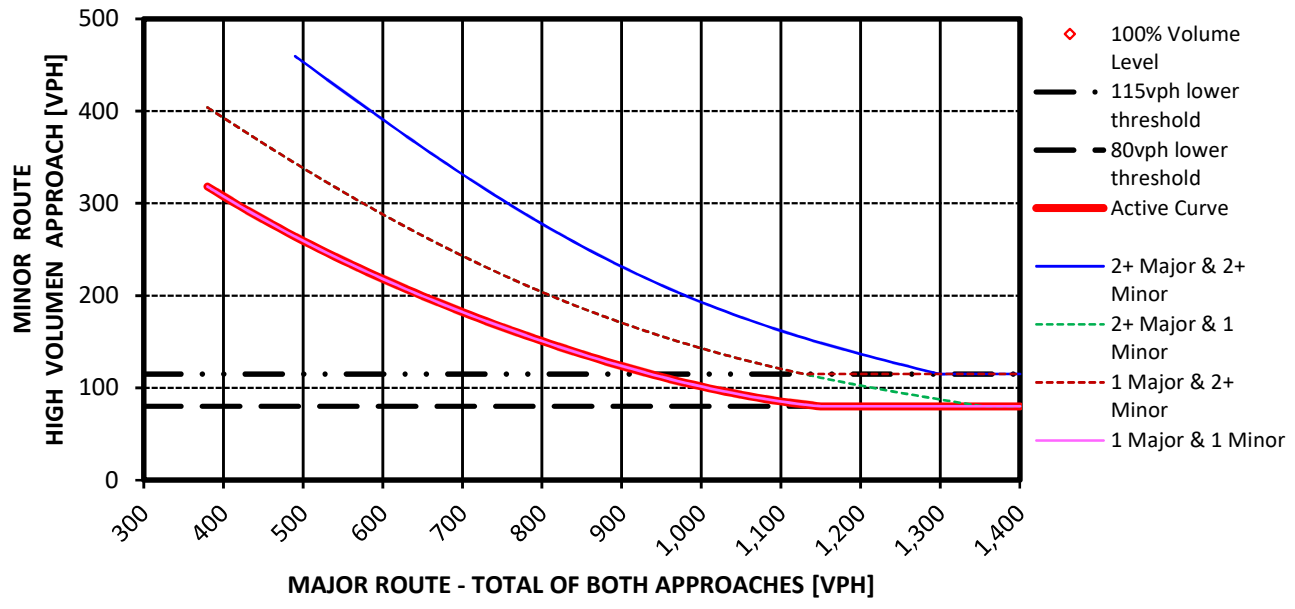
WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

Satisfied: [X] Yes [ ] No

If all four points lie above the appropriate line, then this warrant is satisfied.

(Volumes in veh/hr)	Four Highest Hours			
	3 PM	4 PM	5 PM	6 PM
SUM of Both Approaches on Major Street	742	995	920	629
Highest Minor Street Approach	169	227	210	143

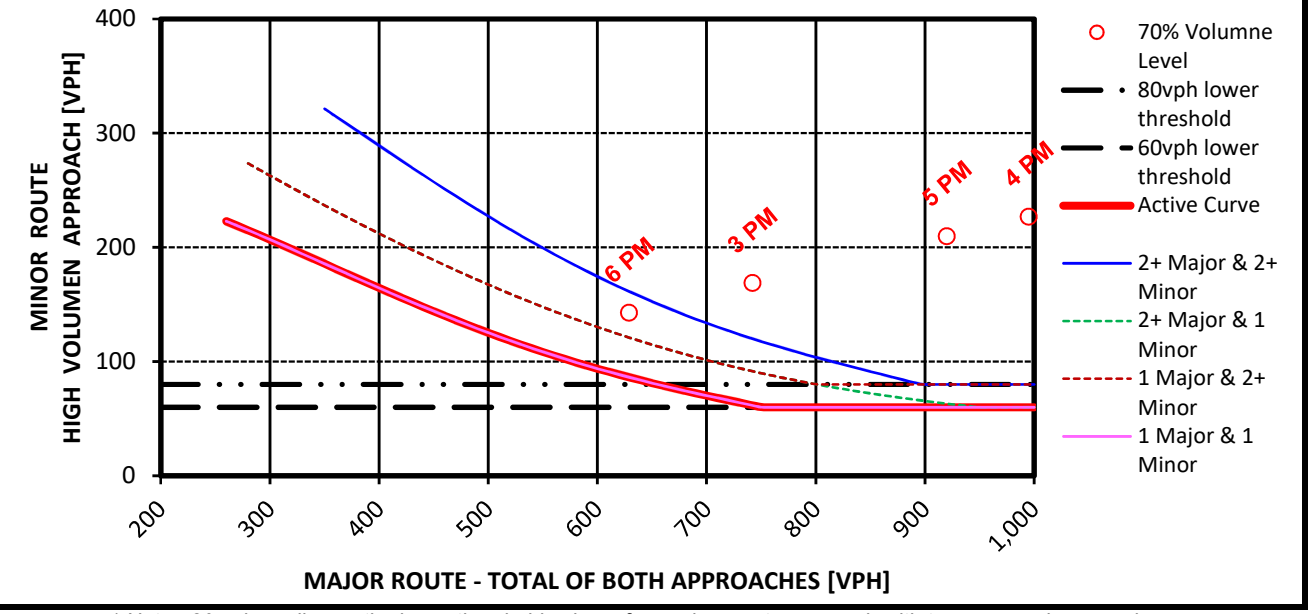
FIGURE W-2: Criteria for "100%" Volume Level



** Note: 115 vph applies as the lower threshold volume for a minor route approach with two or more lanes and 80 vph applies as the lower threshold volume threshold for a minor route approach with one lane.*

FIGURE W-2: Criteria for "70%" Volume Level

(Community less-than 10,000 population or speeds greater-than 70 km/hr [40 mph] on Major Street)



** Note: 80 vph applies as the lower threshold volume for a minor route approach with two or more lanes and*

NOTE: *The satisfaction of a warrant or warrants shall not in itself require the installation of a traffic control signal.*

60 vph applies as the lower threshold volume threshold for a minor route approach with one lane.

NOTE: *The satisfaction of a warrant or warrants shall not in itself require the installation of a traffic control signal.*

TRAFFIC SIGNAL WARRANT SUMMARY

City/Town: Kuna, ID
County: ADA County
Division:
Data Date: 2025 Background

Analysis Performed By: RB
Date Analysis Performed: 4/9/2020
Project Number if Applicable:
Weather Conditions:

Major Route: Hubbard
Minor Route: Locust Grove

Appr. Lanes: 1
Appr. Lanes: 1

Critical Approach Speed (mph): 50

SATISFIED

Warrant #1: Eight-Hour Vehicular Volume — [ ] Yes [X] No

	80% Satisfied		100% Satisfied	
1A - Minimum Vehicular Volume:	[X] Yes	[ ] No	[ ] Yes	[X] No
1B - Interruption of Continuous Traffic:	[X] Yes	[ ] No	[ ] Yes	[X] No

Any Remedial Measures Tried and their Outcome.

Warrant #2: Four-Hour Vehicular Volume — [X] Yes [ ] No

Warrant #3: Peak Hour — [ ] Yes [X] No

The Unusual Case(s) that Justifies the use of this Warrant.

Warrant #4: Pedestrian Volume — [ ] Yes [X] No

Warrant #5: School Crossing — [ ] Yes [X] No

Any Remedial Measures Implemented to improve the Safety of the Students.

Warrant #6: Coordinated Signal System — [ ] Yes [X] No

Warrant #7: Crash Experience — [ ] Yes [X] No

Other Alternatives that have failed to reduce crashes.

Warrant #8: Roadway Network — [ ] Yes [X] No

Warrant #9: Intersection Near a Grade Crossing — [ ] Yes [X] No

CONCLUSIONS

Warrants Satisfied: 2

Remarks:

NOTE: *The satisfaction of a warrant or warrants shall not in itself require the installation of a traffic control signal.*

TRAFFIC SIGNAL WARRANTS

City/Town:	Kuna, ID	Analysis Performed By:	RB
County:	ADA County	Date Analysis Performed:	4/3/2020
Division:		Project Number if Applicable:	
Data Date:		Weather Conditions:	

Major Route:	Columbia	Appr. Lanes:	1	Critical Approach Speed (mph):	50
Minor Route:	Locust Grove	Appr. Lanes:	1		

Volume Level Criteria

1. Is the critical speed of major street traffic > 70 km/h (40 mph) ? [X] Yes [ ] No
2. Is the intersection in a built-up area or isolated community of <10,000 population? [ ] Yes [ ] No

If Question 1 or 2 above is answered "Yes", then use "70%" volume level [X] 70% [ ] 100%

WARRANT 1 - EIGHT-HOUR VEHICULAR VOLUME

Warrant 1 is satisfied if Condition A or Condition B is "100%" satisfied. Satisfied: [X] Yes [ ] No

Warrant is also satisfied if both Condition A and Condition B are "80%" satisfied, given adequate trials of other remedial measures have been tried.

Adequate trial(s) of other remedial measures tried: [ ] Yes [X] No

List Remedial Measures Tried (Required for 80% Combination of A & B)

Condition A - Minimum Vehicular Volume & Condition B - Interruption of Continuous Traffic

100% Satisfied: [X] Yes [ ] No

(Used if neither Condition A or B is satisfied) 80% Satisfied: [ ] Yes [ ] No

	(volumes in veh/hr)	Minimum Requirements				Eight Highest Hours							
	Approach Lanes	1		2 or more		12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM
	Volume Level	100%	70%	100%	70%								
W - 1A 100%	Both Approaches on Major Street	500	350	600	420	434	383	536	672	901	833	570	383
	Highest Approach on Minor Street	150	105	200	140	218	192	269	337	452	418	286	192
	(volumes in veh/hr)	Minimum Requirements											
	Approach Lanes	1		2 or more									
	Volume Level	100%	70%	100%	70%								
W - 1B 100%	Both Approaches on Major Street	750	525	900	630	434	383	536	672	901	833	570	383
	Highest Approach on Minor Street	75	53	100	70	218	192	269	337	452	418	286	192
	(volumes in veh/hr)	Minimum Requirements											
	Approach Lanes	1		2 or more									
	Volume Level	100%	70%	100%	70%								
W - 1A 80%	Both Approaches on Major Street	400	280	480	336	434	383	536	671	901	833	570	383
	Highest Approach on Minor Street	120	84	160	112	218	192	269	337	452	418	286	192
	(volumes in veh/hr)	Minimum Requirements											
	Approach Lanes	1		2 or more									
	Volume Level	100%	70%	100%	70%								
W - 1B 80%	Both Approaches on Major Street	600	420	720	504	434	383	536	671	904	833	570	383
	Highest Approach	60	42	80	56	218	192	269	337	452	418	286	192

NOTE: *The satisfaction of a warrant or warrants shall not in itself require the installation of a traffic control signal*

	on Minor Street	60	42	80	50	218	192	209	337	432	418	280	192

NOTE: *The satisfaction of a warrant or warrants shall not in itself require the installation of a traffic control signal*

TRAFFIC SIGNAL WARRANTS

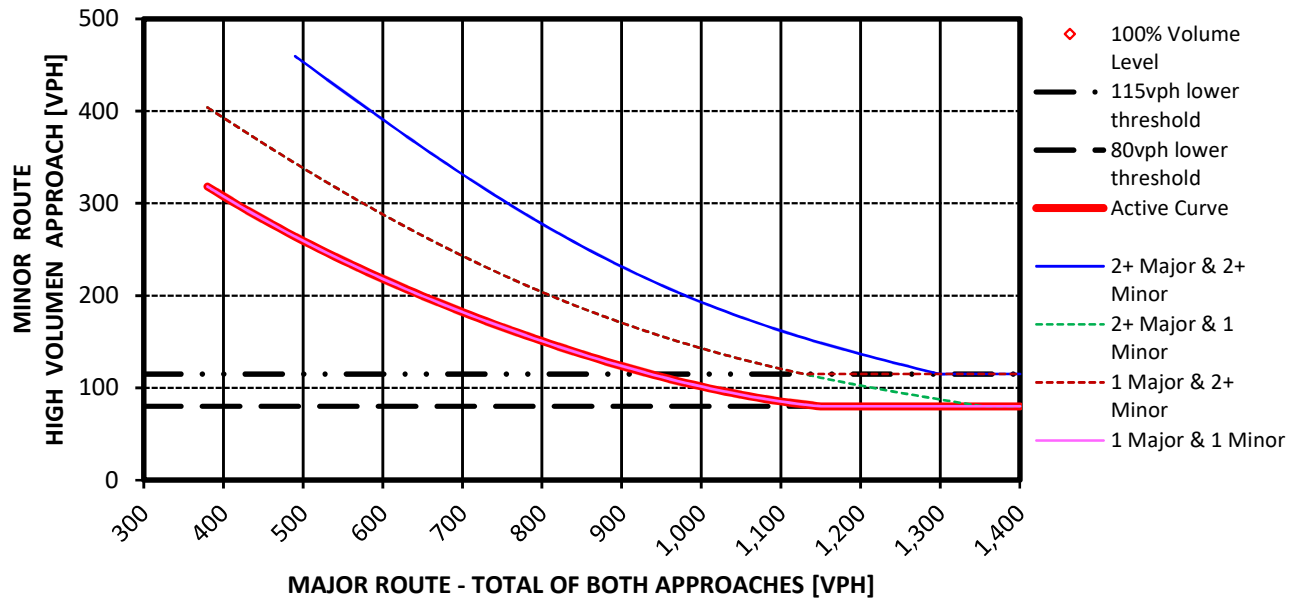
WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

Satisfied: [X] Yes [ ] No

If all four points lie above the appropriate line, then this warrant is satisfied.

(Volumes in veh/hr)	Four Highest Hours			
	3 PM	4 PM	5 PM	6 PM
SUM of Both Approaches on Major Street	672	901	833	570
Highest Minor Street Approach	337	452	418	286

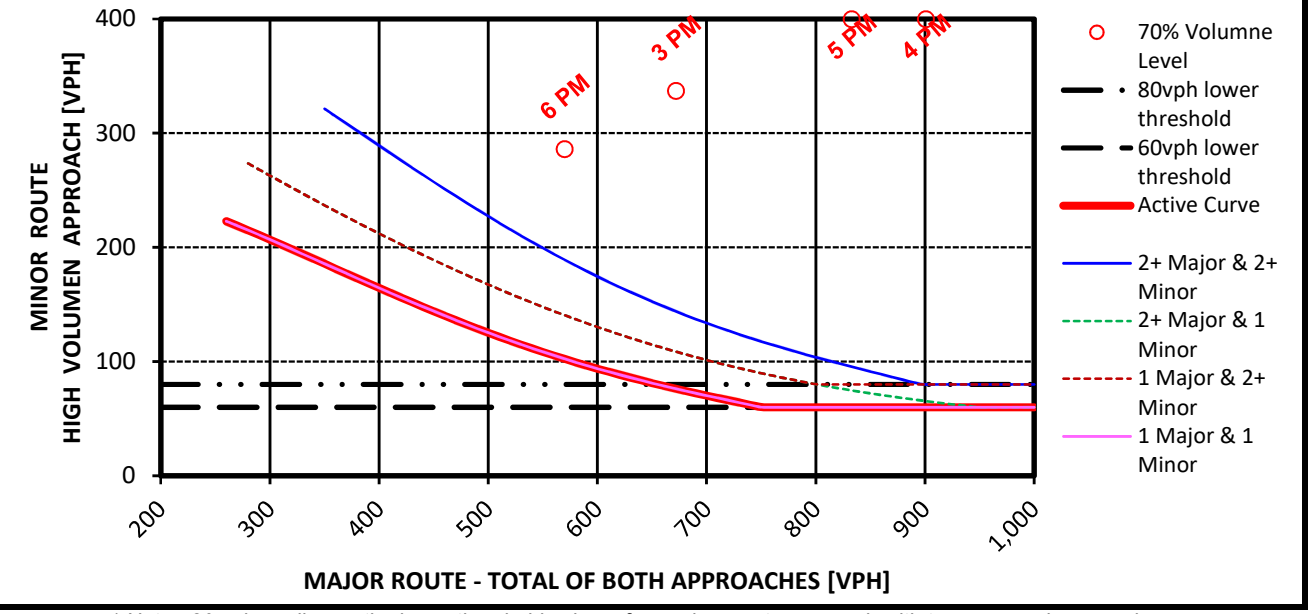
FIGURE W-2: Criteria for "100%" Volume Level



** Note: 115 vph applies as the lower threshold volume for a minor route approach with two or more lanes and 80 vph applies as the lower threshold volume threshold for a minor route approach with one lane.*

FIGURE W-2: Criteria for "70%" Volume Level

(Community less-than 10,000 population or speeds greater-than 70 km/hr [40 mph] on Major Street)



** Note: 80 vph applies as the lower threshold volume for a minor route approach with two or more lanes and*

NOTE: *The satisfaction of a warrant or warrants shall not in itself require the installation of a traffic control signal.*

60 vph applies as the lower threshold volume threshold for a minor route approach with one lane.

NOTE: *The satisfaction of a warrant or warrants shall not in itself require the installation of a traffic control signal.*

TRAFFIC SIGNAL WARRANT SUMMARY

City/Town: Kuna, ID
County: ADA County
Division:
Data Date: 2025 Background

Analysis Performed By: RB
Date Analysis Performed: 4/3/2020
Project Number if Applicable:
Weather Conditions:

Major Route: Columbia — Appr. Lanes: 1
Minor Route: Locust Grove — Appr. Lanes: 1
Critical Approach Speed (mph): 50

	SATISFIED		80% Satisfied		100% Satisfied	
Warrant #1: Eight-Hour Vehicular Volume	[X] Yes	[ ] No				
1A - Minimum Vehicular Volume:			[X] Yes	[ ] No	[X] Yes	[ ] No
1B - Interruption of Continuous Traffic:			[ ] Yes	[X] No	[ ] Yes	[X] No

Any Remedial Measures Tried and their Outcome.

Warrant #2: Four-Hour Vehicular Volume [X] Yes [ ] No

Warrant #3: Peak Hour [ ] Yes [X] No

The Unusual Case(s) that Justifies the use of this Warrant.

Warrant #4: Pedestrian Volume [ ] Yes [X] No

Warrant #5: School Crossing [ ] Yes [X] No

Any Remedial Measures Implemented to improve the Safety of the Students.

Warrant #6: Coordinated Signal System [ ] Yes [X] No

Warrant #7: Crash Experience [ ] Yes [X] No

Other Alternatives that have failed to reduce crashes.

Warrant #8: Roadway Network [ ] Yes [X] No

Warrant #9: Intersection Near a Grade Crossing [ ] Yes [X] No

CONCLUSIONS

Warrants Satisfied: 1 2

Remarks:

Based on MUTCD 2009
Summary Page

NOTE: *The satisfaction of a warrant or warrants shall not in itself require the installation of a traffic control signal.*

rev. 05/2011

TRAFFIC SIGNAL WARRANTS

City/Town:	Kuna, ID	Analysis Performed By:	RB
County:	ADA County	Date Analysis Performed:	4/3/2020
Division:		Project Number if Applicable:	
Data Date:		Weather Conditions:	

Major Route:	Lake Hazel	Appr. Lanes:	1	Critical Approach Speed (mph):	50
Minor Route:	Locust Grove	Appr. Lanes:	1		

Volume Level Criteria

1. Is the critical speed of major street traffic > 70 km/h (40 mph) ? [X] Yes [ ] No
2. Is the intersection in a built-up area or isolated community of <10,000 population? [ ] Yes [ ] No

If Question 1 or 2 above is answered "Yes", then use "70%" volume level [X] 70% [ ] 100%

WARRANT 1 - EIGHT-HOUR VEHICULAR VOLUME

Warrant 1 is satisfied if Condition A or Condition B is "100%" satisfied. Satisfied: [ ] Yes [X] No

Warrant is also satisfied if both Condition A and Condition B are "80%" satisfied, given adequate trials of other remedial measures have been tried.

Adequate trial(s) of other remedial measures tried: [ ] Yes [X] No

List Remedial Measures Tried (Required for 80% Combination of A & B)

Condition A - Minimum Vehicular Volume & Condition B - Interruption of Continuous Traffic

100% Satisfied: [ ] Yes [X] No

(Used if neither Condition A or B is satisfied) 80% Satisfied: [ ] Yes [X] No

	(volumes in veh/hr)	Minimum Requirements				Eight Highest Hours							
	Approach Lanes	1		2 or more		12 PM	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM
	Volume Level	100%	70%	100%	70%								
W - 1A 100%	Both Approaches on Major Street	500	350	600	420	391	407	338	568	740	1,024	648	380
	Highest Approach on Minor Street	150	105	200	140	198	201	180	323	499	650	409	251
	(volumes in veh/hr)	Minimum Requirements											
	Approach Lanes	1		2 or more									
	Volume Level	100%	70%	100%	70%								
W - 1B 100%	Both Approaches on Major Street	750	525	900	630	391	407	338	568	740	1,024	648	380
	Highest Approach on Minor Street	75	53	100	70	198	201	180	323	499	650	409	251
	(volumes in veh/hr)	Minimum Requirements											
	Approach Lanes	1		2 or more									
	Volume Level	100%	70%	100%	70%								
W - 1A 80%	Both Approaches on Major Street	400	280	480	336	391	407	338	568	740	1,024	648	380
	Highest Approach on Minor Street	120	84	160	112	198	201	180	323	499	650	409	251
	(volumes in veh/hr)	Minimum Requirements											
	Approach Lanes	1		2 or more									
	Volume Level	100%	70%	100%	70%								
W - 1B 80%	Both Approaches on Major Street	600	420	720	504	391	407	338	568	740	1,024	648	380
	Highest Approach	60	42	80	56	198	201	180	323	499	650	409	251

NOTE: *The satisfaction of a warrant or warrants shall not in itself require the installation of a traffic control signal*

	on Minor Street	60	42	80	50	798	201	780	523	499	650	409	257

NOTE: *The satisfaction of a warrant or warrants shall not in itself require the installation of a traffic control signal*

TRAFFIC SIGNAL WARRANTS

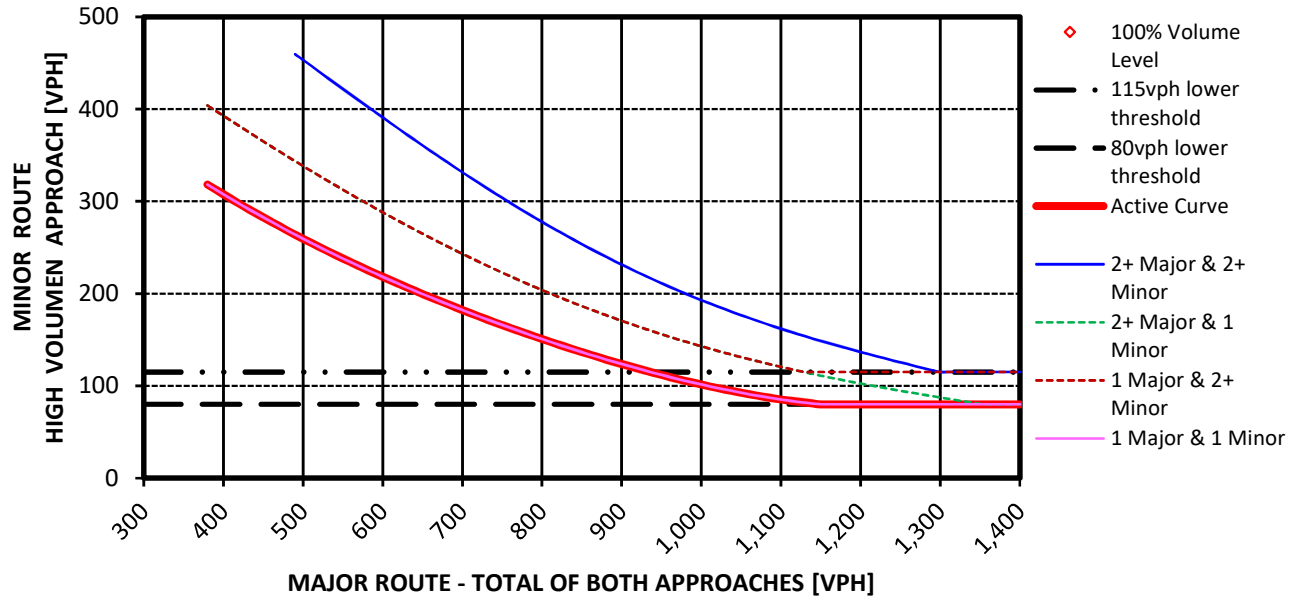
WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

Satisfied: [X] Yes [ ] No

If all four points lie above the appropriate line, then this warrant is satisfied.

(Volumes in veh/hr)	Four Highest Hours			
	3 PM	4 PM	5 PM	6 PM
SUM of Both Approaches on Major Street	568	740	1,024	648
Highest Minor Street Approach	323	499	650	409

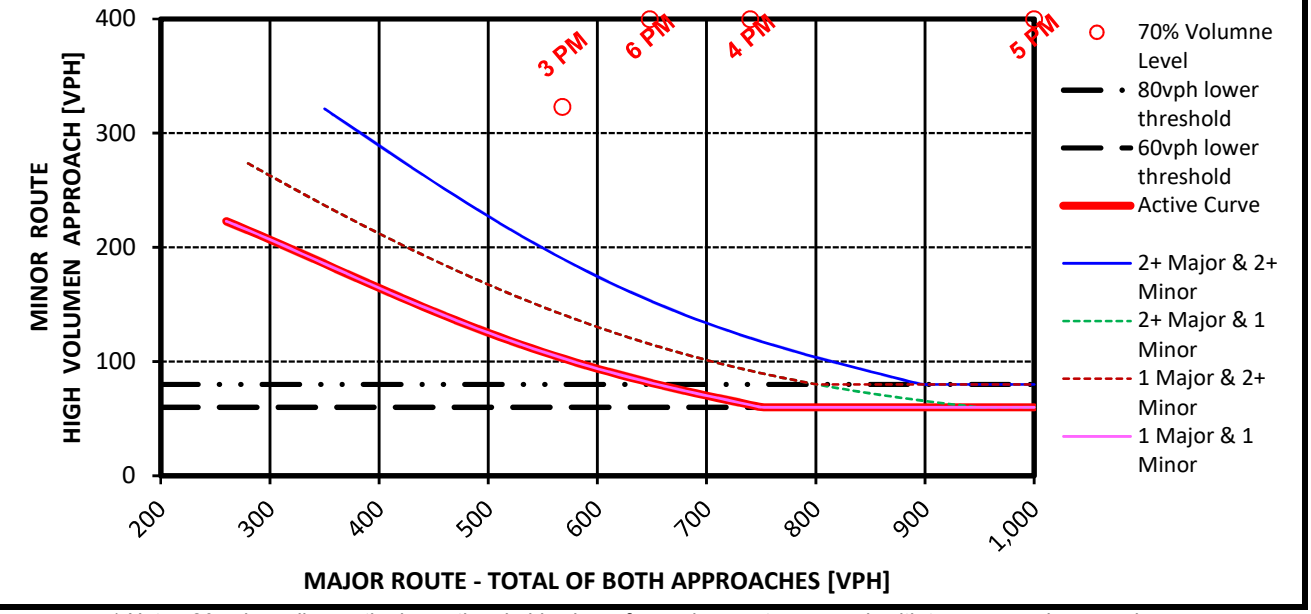
FIGURE W-2: Criteria for "100%" Volume Level



** Note: 115 vph applies as the lower threshold volume for a minor route approach with two or more lanes and 80 vph applies as the lower threshold volume threshold for a minor route approach with one lane.*

FIGURE W-2: Criteria for "70%" Volume Level

(Community less-than 10,000 population or speeds greater-than 70 km/hr [40 mph] on Major Street)



** Note: 80 vph applies as the lower threshold volume for a minor route approach with two or more lanes and*

NOTE: *The satisfaction of a warrant or warrants shall not in itself require the installation of a traffic control signal.*

60 vph applies as the lower threshold volume threshold for a minor route approach with one lane.

NOTE: *The satisfaction of a warrant or warrants shall not in itself require the installation of a traffic control signal.*

TRAFFIC SIGNAL WARRANT SUMMARY

City/Town: Kuna, ID
County: ADA County
Division:
Data Date: 2025 Background

Analysis Performed By: RB
Date Analysis Performed: 4/3/2020
Project Number if Applicable:
Weather Conditions:

Major Route: Lake Hazel — Appr. Lanes: 1
Minor Route: Locust Grove — Appr. Lanes: 1
Critical Approach Speed (mph): 50

	SATISFIED	80% Satisfied		100% Satisfied	
Warrant #1: Eight-Hour Vehicular Volume	☐ Yes ☒ No				
1A - Minimum Vehicular Volume:		☒ Yes	☐ No	☐ Yes	☒ No
1B - Interruption of Continuous Traffic:		☐ Yes	☒ No	☐ Yes	☒ No

Any Remedial Measures Tried and their Outcome.

Warrant #2: Four-Hour Vehicular Volume ☒ Yes ☐ No

Warrant #3: Peak Hour ☐ Yes ☒ No

The Unusual Case(s) that Justifies the use of this Warrant.

Warrant #4: Pedestrian Volume ☐ Yes ☒ No

Warrant #5: School Crossing ☐ Yes ☒ No

Any Remedial Measures Implemented to improve the Safety of the Students.

Warrant #6: Coordinated Signal System ☐ Yes ☒ No

Warrant #7: Crash Experience ☐ Yes ☒ No

Other Alternatives that have failed to reduce crashes.

Warrant #8: Roadway Network ☐ Yes ☒ No

Warrant #9: Intersection Near a Grade Crossing ☐ Yes ☒ No

CONCLUSIONS

Warrants Satisfied: 2

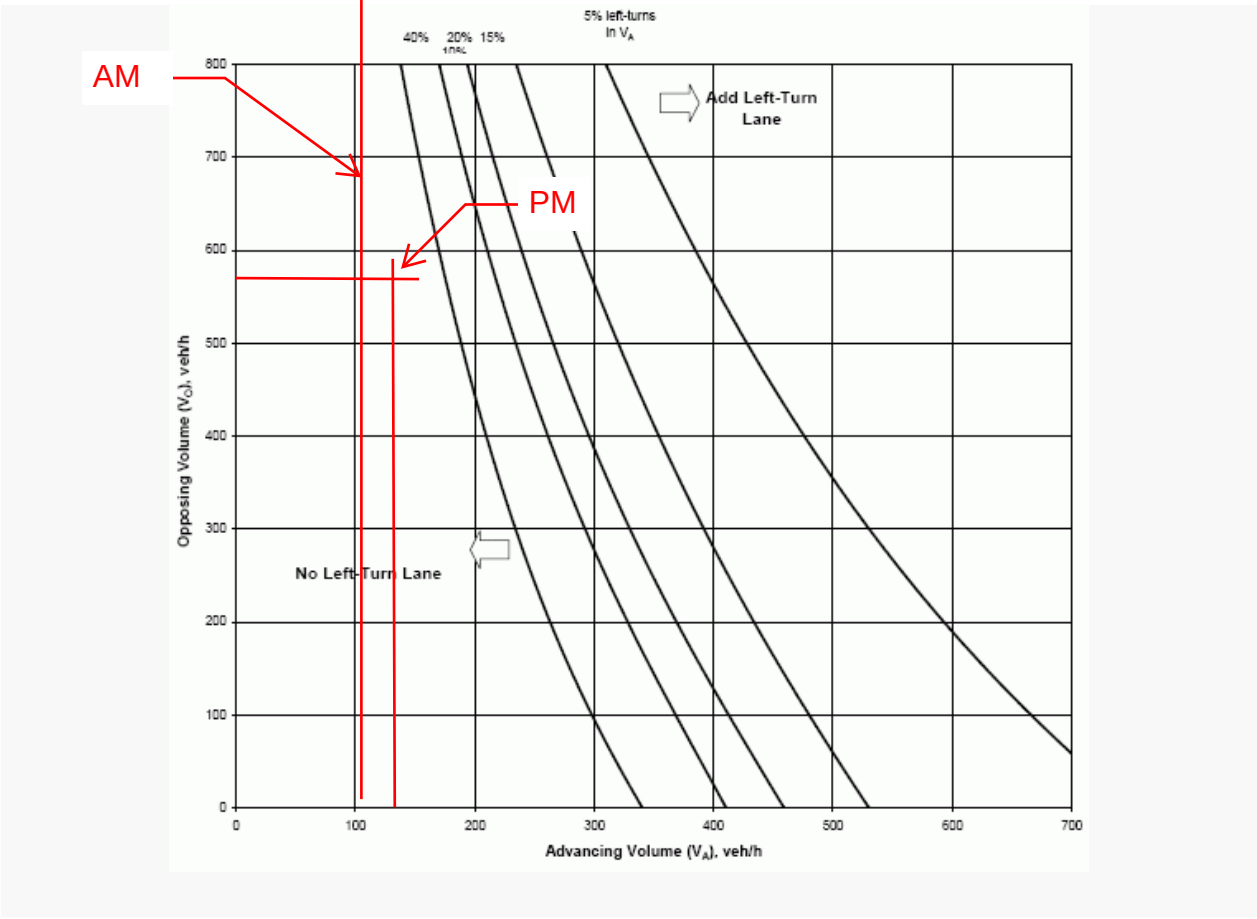
Remarks:

NOTE: *The satisfaction of a warrant or warrants shall not in itself require the installation of a traffic control signal.*

Hubbard and Stroebel

LT lane not warranted.

Figure 2 – Left-Turn Lane Guidelines for Two-Lane Roads, 45 mph



The following data are required:

1. Opposing Volume (veh/hr) - VO - The opposing volume is to include only the right-turn and through movements in the opposite direction of the left turning vehicle.

2. Advancing Volume (veh/hr) - VA - The advancing volume is to include the right-turn, left-turn and through movements in the same direction as the left turning vehicle.

3. Operating Speed (mph) - The greatest of anticipated operating speed, measured 85th percentile speed or posted speed.

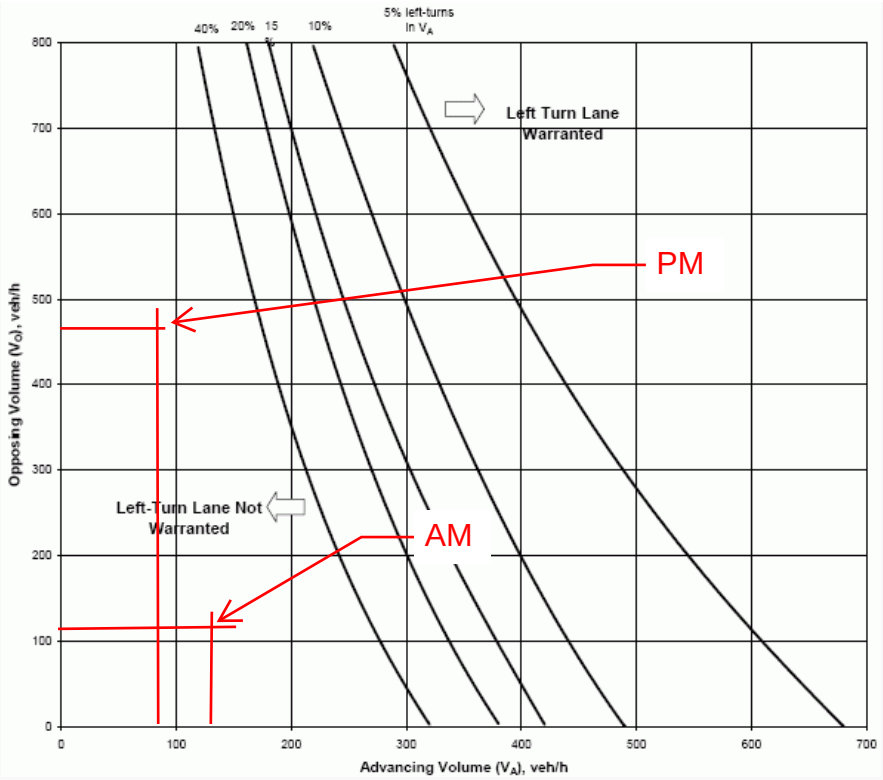
4. Percentage of left turns in VA

Left-turn lane is not needed for left-turn volume less than 10 vph. However, criteria other than volume, such as crash experience, may be used to justify a left-turn lane.

The appropriate trend line is identified on the basis of the percentage of left-turns in the advancing volume, rounded up to the nearest percentage trend line. If the advancing and opposing volume combination intersects above or to the right of this trend line, a left-turn lane is appropriate.

Source: NCHRP Report 279 and 457

Figure 3 – Left-Turn Lane Guidelines for Two-Lane Roads, 50 mph



The following data are required:

1. Opposing Volume (veh/hr) - VO - The opposing volume is to include only the right-turn and through movements in the opposite direction of the left-turning vehicle.

2. Advancing Volume (veh/hr) - VA - The advancing volume is to include the right-turn, left-turn and through movements in the same direction as the left-turning vehicle.

3. Operating Speed (mph) - The greatest of anticipated operating speed, measured 85th percentile speed or posted speed.

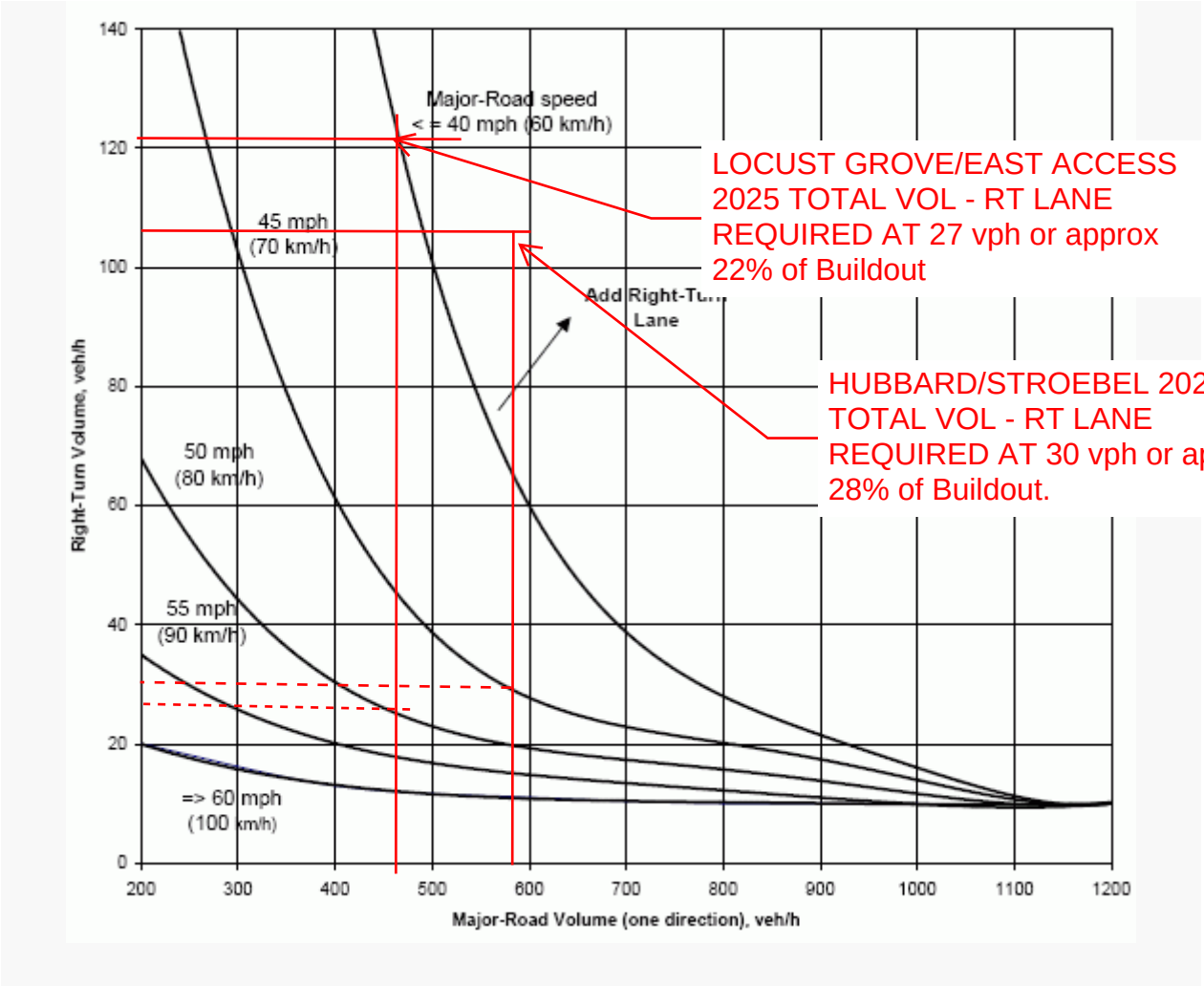
4. Percentage of left-turns in VA

Left-turn lane is not needed for left-turn volume less than 10 vph. However, criteria other than volume, such as crash experience, may be used to justify a left-turn lane.

The appropriate trend line is identified on the basis of the percentage of left-turns in the advancing volume, rounded up to the nearest percentage trend line. If the advancing and opposing volume combination intersects above or to the right of this trend line, a left-turn lane is appropriate.

Source: NCHRP Report 279 and 457

Figure 6 – Right-Turn Lane Guidelines for Two-Lane Roadways



The following data are required:

1. Advancing Volume (veh/hr) - The advancing volume is to include the right-turn, left-turn and through movements in the same direction as the right-turning vehicle.

2. Right-Turning Volume (veh/hr) - The right-turning volume is the number of advancing vehicles turning right.

3. Operating Speed (mph) - The greatest of anticipated operating speed, measured 85th percentile speed or posted speed.

Note: Right-turn lane is not needed for right-turn volume less than 10 vph. However, criteria other than volume, e.g. crash experience, may be used to justify a right-turn lane.

If the combination of major road approach volume and right-turn volume intersects above or to the right of the speed trend line corresponding to the major road operating speed, then a right-turn lane is appropriate.

Source: NCHRP Report 279 and 457

City of Kuna
P.O. Box 13
Kuna, Idaho 83634
Phone: (208) 922-5274
Fax: (208) 922-5989
Web www.Kunacity.id.gov

City of Kuna
COMMITMENT TO PROPERTY POSTING

Per City Code 5-1A-8, the applicant for all applications requiring a public hearing shall post the subject property not less than ten (10) days prior to the hearing. The applicant shall post a copy of the public hearing notice or the application (s) on the property under consideration.

The applicant shall submit proof of property posting in the form of a notarized statement and a photograph of the posting to the City no later than seven (7) days prior to the public hearing attesting to where and when the sign (s) were posted. Unless such Certificate is received by the required date, the hearing will be continued.

The sign (s) shall be removed no later than three (3) days after the end of the public hearing for which the sign (s) had been posted.

I am aware of the above requirements and will comply with the posting requirements as stated in Kuna City Code 5-1A-8

Jane Seyn
Applicant/agent signature

12/10/19
Date

Neighborhood Meeting Certification

CITY OF KUNA PLANNING & ZONING * 763 W. Avalon, Kuna, Idaho, 83634 * www.kunacity.id.gov * (208) 922-5274 * Fax: (208) 922-5989

GENERAL INFORMATION:

You must conduct a neighborhood meeting prior to application for variance, conditional use, zoning ordinance map amendment, expansion or extension of a nonconforming use, and/or a subdivision. Please see Section 5-1A-2 of the Kuna City Code or ask one of our planners for more information on neighborhood meetings.

The meeting must be held either on a weekend between 10 a.m. and 7 p.m., or a weekday between 6 p.m. and 8 p.m. Meetings cannot be conducted on holidays, holiday weekends, or the day before or after a holiday or holiday weekend. The meeting must be held at one of the following locations:

- The Subject Property;
- The nearest available public meeting place (Examples include fire stations, libraries and community centers);
- An office space within a 1-mile radius of the subject property.

The meeting cannot take place more than 2 months prior to acceptance of the application and the application will not be accepted before the neighborhood meeting is conducted. You are required to send written notification of your meeting, allowing a reasonable amount of time before your meeting for property owners to plan to attend. Contacting and/or meeting individually with residents will not fulfill Neighborhood Meeting requirements.

You may request a list of the people you need to invite to the neighborhood meeting from our department. This list includes property owners within 300 feet of the subject property. Once you have held your neighborhood meeting, please complete this certification form and include it with your application.

Please Note: The neighborhood meeting must be conducted in one location for attendance by all neighboring residents. Contacting and/or meeting individually with residents does not comply with the neighborhood meeting requirements.

Please include a copy of the sign-in sheet for your neighborhood meeting, so we have written record of who attended your meeting and the letter of intent sent to each recipient. In addition, provide any concerns that may have been addressed by individuals that attended the meeting.

Description of proposed project: annexation, rezone and plat for 390-400 single family home lots

Date and time of neighborhood meeting: 11/14/19 and 02/19/20 at 6 pm

Location of neighborhood meeting: Kuna High School

SITE INFORMATION:

Location: Quarter: ____ Section: 18 Township: 2N Range: 1E Total Acres: 96.6

Subdivision Name: Ledgestone South Subdivision Lot: ____ Block: ____

Site Address: 2425 N. Locus Grove Road Tax Parcel Number(s): S1418123451, S1418427800

S1418417200

Please make sure to include **all** parcels & addresses included in your proposed use.

CURRENT PROPERTY OWNER:

Name: TJ Johnson

Address: 2425 N. Locust Grove Road City: Kuna State: ID Zip: 83634

CONTACT PERSON (Mail recipient and person to call with questions):

Name: Jane Suggs Business (if applicable): Gem State Planning

Address: 9840 W. Overland Road City: Boise State: ID Zip: 83709

PROPOSED USE:

I request a neighborhood meeting list for the following proposed use of my property (check all that apply):

Application Type	*Brief Description*
Annexation	annex approximately 97 acres with R-6 and R-8 zones
Re-zone	
Subdivision (Sketch Plat and/or Prelim. Plat)	subdivision for 393 home lots
Special Use	
Variance	
Expansion of Extension of a Nonconforming Use	
Zoning Ordinance Map Amendment	

APPLICANT:

Name: Jane Suggs / Gem State Planning

Address: 9840 W. Overland Road

City: Boise State: ID Zip: 83709

Telephone: 208-602-6941 Fax:

I certify that a neighborhood meeting was conducted at the time and location noted on this form and in accord with Section 5-1A-2 of the Kuna City Code

Signature: (Applicant) Jane Suggs Date 02/27/20

Gem State Planning, LLC

February 11, 2020

Subject: Ledgestone South – a new residential community

Dear Neighbors:

You and your family are invited to attend a neighborhood meeting to discuss the plans to develop Ledgestone South Subdivision, a residential community located just south of the Ledgestone Subdivision (currently under construction on Hubbard Road at the new Stroebel Road).

You may recall receiving a similar notification about a neighborhood meeting that was held in November 2019. Thank you to those who attended that meeting. However, since that time, we have revised the layout of Ledgestone South to incorporate the extension of Ardell Road through the property. The changes have reduced the number of buildable lots from 396 to 377. The amount of open space has not changed.

Our meeting will be held on **Wednesday, February 19, 2020, at 6 pm at the Kuna High School,** 637 E. Deer Flat Road. We will be meeting in the cafeteria.

If you have any questions about the meeting or the proposed community, please do not hesitate to e-mail me at jane@gemstateplanning.com or call me at 208-602-6941.

Sincerely,

Jane Suggs
Planner

9840 W. Overland Road, Suite 120, Boise, Idaho 83709

PRIMOWNER	SECOWNER	ADDCONCAT	STATCONCAT
BEATTY MELVIN GEORGE JR	BEATTY MARIE	2390 N LOCUST GROVE RD	KUNA, ID 83634-0000
DEERE BENJAMIN F	DEERE KENDA J	2440 N LOCUST GROVE RD	KUNA, ID 83634-0000
ENDURANCE HOLDINGS LLC		1977 E OVERLAND RD	MERIDIAN, ID 83642-0000
GARRETT BRUCE	JOHNSON-GARRETT ROBYN	2933 N LOCUST GROVE RD	KUNA, ID 83634-0000
GROTHAUS DANIEL LEE &	GROTHAUS SHIRLEY LOUISE	2404 DEER FLAT	KUNA, ID 83634-0000
HUNEMILLER RUSSELL D	HUNEMILLER KAREN	16130 N ELDER ST	NAMPA, ID 83687-0000
JOHNSON T J	JOHNSON G ELAINE	4357 E VACHERON ST	MERIDIAN, ID 83642-0000
JRL PROPERTIES LLC		9839 W CABLE CAR ST STE 101	BOISE, ID 83709-0000
KIRKHAM GRANT E TRUST	KIRKHAM ROBERTA M TRUST	1857 N LOCUST GROVE RD	KUNA, ID 83634-0000
KOUDELKA J J JR	KOUDELKA MADGE H	PO BOX 1564	NAMPA, ID 83653-1564
MANNING AUSTIN	MANNING ROSIE	2800 E DEER FLAT RD	KUNA, ID 83634-0000
NATIONS PATRICIA A		18549 EMERALD LAKE AVE	NAMPA, ID 83687-0000
SELECT DEVELOPMENT & CONT		PO BOX 1030	MERIDIAN, ID 83680-0000
STAGG ROGER L & JOSETTE M F	STAGG ROGER L TRUSTEE	2303 N LOCUST GROVE RD	KUNA, ID 83634-1313
WALL BRIAN C	WALL RENEE K	2930 E DEER FLAT RD	KUNA, ID 83634-0000

Landowner List

Ledgestone South Subdivision
(TJ Johnson property)
2nd Neighborhood Meeting
Wednesday, February 19, 2020
6 pm

	Name	Address	Email / Phone
1.	Bud Beatty	2390 N Locust Grove Rd	MGBudBeatty@GMail.Com
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			

NEIGHBORHOOD MEETING MINUTES

Meeting Date: 2/19/20 Number of Attendees: 2

Meeting Location: Kuna High School

Description of Project Presented:

Ledgestone South - 2nd neighborhood meeting due to re-design to include mid mile east-west collector, Ardell Road 393 buildable lots

Attendee's comments:

- attendance by Marie: Bud Beatty (fire commissioner)
- questions about schedule & phasing

I hereby certify that the above information is complete and correct to the best of my knowledge.

Jane Suggs

Printed Name

Jane Suggs

Signature

5/1/20

Date

WHPacific
AN NIV15 COMPANY

November 6, 2019

Subject: Ledgestone South – a new residential community

Dear Neighbors:

You and your family are invited to attend a neighborhood meeting to discuss the plans to develop Ledgestone South, a new residential community, located between Hubbard Road to the north, Deer Flat Road to the south and between Locust Grove Road and Kuna-Meridian Road/Hwy 69.

Please see the map on the back showing the existing parcels that will make up Ledgestone South. These parcels are located just south of the recently approved Ledgestone Subdivision. The development will cover about 97 acres and will include approximately 400 lots of varying sizes for single family homes.

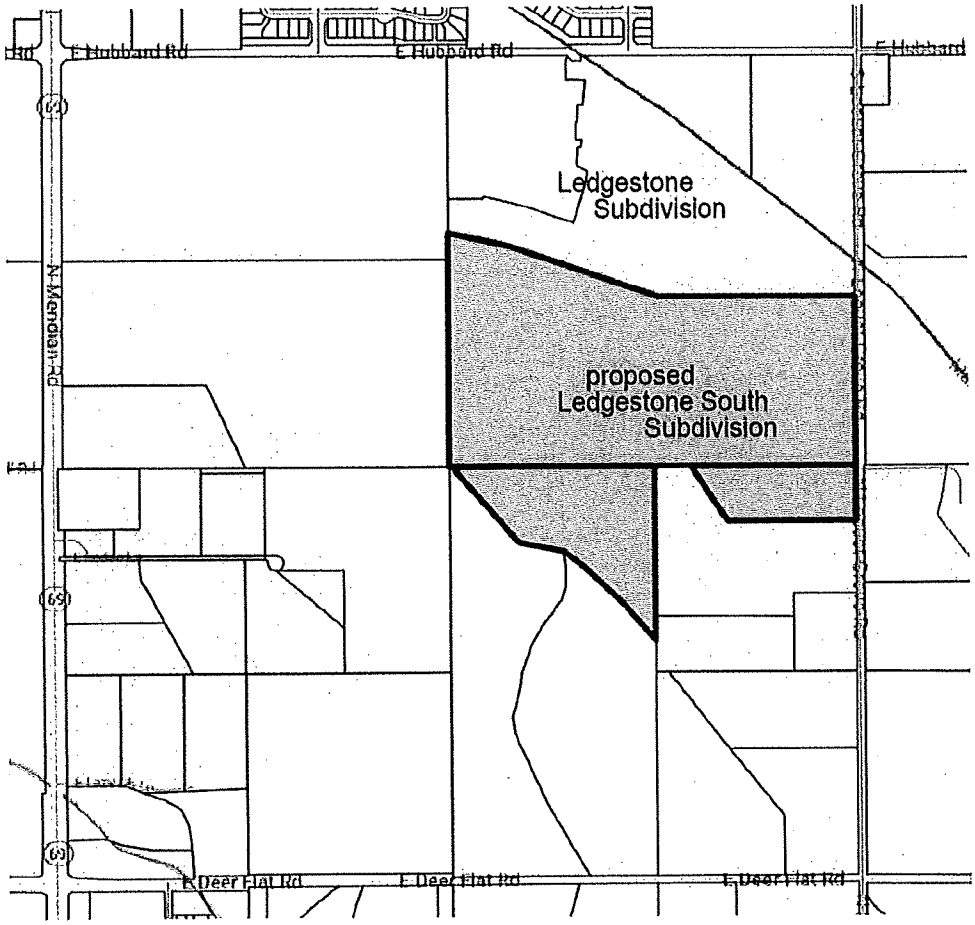
The meeting will be held on **Thursday, November 14, 2019, at 6 pm at the Kuna High School Library**, 637 E. Deer Flat Road. Enter by the front door and the library is along the right corridor.

If you have any questions about the meeting or the proposed project, please do not hesitate to call me at 208-275-8729 or e-mail me at jsuggs@whpacific.com.

Sincerely,

Jane Suggs

Jane Suggs
Planner


E Hubbard Rd
E Hubbard Rd
E Hubbard
N Kingman Rd
Ledgestone
Subdivision
proposed
Ledgestone South
Subdivision
E Deer Flat Rd
E Deer Flat Rd
E Deer Flat Rd

Ledgestone South Subdivision
(TJ Johnson property)
Neighborhood Meeting
Thursday, November 14, 2019
6 pm

	Name	Address	Email / Phone
1.	Roger Stagg	2303 N. Locust Grove	staggroger@gmail.com
2.	Austin Manning	3800 E. Deer Flat	austin.manning@chubiinternational.com
3.	Brian + Renee Wall	2930 E Deer Flat	rwall@wallcpa.com
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			
15.			
16.			
17.			
18.			
19.			

NEIGHBORHOOD MEETING MINUTES

Meeting Date: 11/14/19 Number of Attendees: 4

Meeting Location: Kuna High School

Description of Project Presented:

Ledgestone South - south of Ledgestone Sub- recently approved, single family lots - 396 buildable lots

Attendee's comments:

- schedule for construction?
- what type of fence?
- maintaining irrigation, discussion about ditch along S/W border
- lots of runoff from irrigation @ Locust Grove & Deer Flat (not adjacent to Ledgestone South)

I hereby certify that the above information is complete and correct to the best of my knowledge.

Jane Suggs

Printed Name

Jane Suggs

Signature

5/1/20

Date

City of Kuna
Design Review Application

P.O. Box 13
Kuna, Idaho 83634
(208) 922.5274
Fax: (208) 922.5989
Website: www.kunacity.id.gov

FILE NO.: _____

CROSS REF.:_____

FILES:_____

The City of Kuna has adopted a Design Review process whose purpose is to make Kuna a pleasant and comfortable place to live and work. This Design Review process is based on standards and guidelines found in the Design Review Ordinance No. 2007-02 and the Architecture and Site Design Booklet. Both documents can be found online (www.cityofkuna.com) or are picked up in the City's Planning and zoning department is located at 751 W 4th Street, Kuna ID.

The Design Review application applies to the following land use actions:

►Multi- family dwellings (3 or more)
►Commercial
►Industrial
►Institutional
►Office
►Common Area
►Subdivision Signage
►Proposed Conversions
►Proposed changes in land use and/or building use or exterior remodeling
►Exterior restoration, and enlargement or expansion of existing buildings, signs or sites.

Application Submittal Requirements

Applicant Use		Staff Use
☐	Date of pre- application meeting : 2/14/20 *Note: Pre-Applications are valid for a period of three (3) months.*	☐
☐	A complete Design Review Application form *Note: It is the applicant's responsibility to use a current application.*	☐
☐	Detailed letter of explanation or justification for the application, describing the project and design elements, and how the project complies with Design Review standards.	☐
☐	One (1) Vicinity Map (8 ½" x 11") at 1" = 300' scale (or similar), label the location of the property and adjacent streets.	☐
☐	One 8 ½" x 11" colored aerial photo depicting proposed site, street names, and surrounding area within five-hundred feet (500').	☐
☐	Copy of Deed; and, if the applicant is not the owner, an **original** notarized statement (affidavit of legal interest) from the owner (and all interested parties) stating the applicant is authorized to submit this application.	☐

☑ Detailed site, landscape, drainage plan, elevation and to scale. *(No smaller than 1"=30', unless otherwise approved.)* ☐

One of each plan (site, landscape, drainage plan and elevations) is required to be submitted in the following plan sizes:

(2) 24" x 36" LARGE FORMAT PLANS
(1) 11" X 17" PLAN REDUCATIONS
(1) 8 ½" x 11" PLAN REDUCTIONS

☐ Provide a color rendering and material sample board specifically noting where each color and material is to be located on the structure. ☐

Note: Provide photo of the colored rendering and material samples board to City Staff electronically in a JPG or PDF format.

The Applicant is obligated to provide a site plan that graphically portrays the site and includes the following features:

Site Plan

Applicant Use		Staff Use
☐	North Arrow	☐
☐	To scale drawings	☐
☐	Property lines	☐
☐	Name of "Plan Preparer" with contact information	☐
☐	Name of project and date	☐
☐	Existing structures, identify those which are to be relocated or removed	☐
☐	On-site and adjoining streets, alleys, private drives and rights-of-way	☐
☐	Drainage location and method of on-site retention / detention	☐
☐	Location of public restrooms	☐
☐	Existing / proposed utility service and any above-ground utility structures and their location	☐
☐	Location and width of easements, canals and drainage ditches	☐
☐	Location and dimension of off-street parking	☐
☐	Locations and sizes of any loading area, docks, ramps and vehicle storage or service areas	☐
☐	Trash storage areas and exterior mechanical equipment, with proposed method of screening	☐
☐	Sign locations *(a separate sign application must be submitted with this application)*	☐
☐	On-site transportation circulation plan for motor vehicles, pedestrians and bicycles	☐
☐	Locations and uses of ALL open spaces	☐
☐	Locations, types and sizes of sound and visual buffers *(Note: all buffers must be located outside the public right-of-way)*	☐
☐	Parking layout including spaces, driveways, curb cuts, circulation patterns, pedestrian walks and vision triangle	☐
☐	Locations of subdivision lines *(if applicable)*	☐
☐	Illustration that demonstrates adequate sight distance is provided for motor vehicles, pedestrians and bicycles	☐
☐	Location of walls and fences and indication of their height and material of construction	☐
☐	Roofline and foundation plan of building, location on the site	☐
☐	Location and designations of all sidewalks	☐
☐	Location and designation of all rights-of-way and property lines	☐

Landscape and Streetscape Plan

The landscape and streetscape plans need to be drawn by the project architect, professional landscape architect, landscape designer, or qualified nurseryman for development's possessing more than twelve thousand (12,000) square feet of private land. The landscaped and streetscape plans must be colored. The Planning Director or City Forester may require the preparation of a landscape plan for smaller developments by one of the noted individuals if the lot(s) have unique attributes.

Applicant Use		Staff Use
☐	North Arrow	☐
☐	To scale drawings	☐
☐	Boundaries, property lines and dimensions	☐
☐	Name of "Plan Preparer" with contact information	☐
☐	Name of project and date	☐
☐	Type and location of all plant materials and other ground covers. *Please review the City's plant list and rely upon it to identify the site's planting strategy. Include botanical and common name, quantity, spacing and sizes of all proposed landscape materials at the time of planting, and at maturity. A list of acceptable trees is available upon request from City Planning Staff.*	☐
☐	Existing vegetation identified by specific size. Identify those which are proposed to be relocated or removed	☐
☐	Method of irrigation *Note: All plant materials, except existing native plants not damaged during construction or xeriscape species shown not to require regular watering, shall be irrigated by underground sprinkler systems set on a timer in order to obtain proper watering duration and ease of maintenance.*	☐
☐	Location, description, materials, and cross-sections of special features, including berming, retaining walls, hedges, fencings, fountains street/pathway furniture *(benches, etc.), etc.*	☐
☐	Sign locations *Note: A separate sign application must be submitted with this application*	☐
☐	Locations and uses for open spaces	☐
☐	Parking layout including spaces, driveways, curb cuts, circulation patterns, pedestrian walks and vision triangle	☐
☐	Illustration that demonstrates adequate sight distance is provided for motor vehicles, pedestrians and bicycles	☐
☐	Location and designations of all sidewalks	☐
☐	Clearly identify pressurized irrigation lines and underground water storage	☐
☐	Engineered grading and drainage plans: A generalized drainage plan showing direction drainage with proposed on-site retention. Upon submission of building/construction plans for an approved design review application, a detailed site grading and drainage plan, prepared by a registered professional engineer (PE) shall be submitted to the City for review and approval by the City Engineer.	☐

Building Elevations

Applicant Use		Staff Use
☐	Detailed elevation plans of each side of any proposed building(s) or additions(s) *Note: Four (4) elevations to include all sides of development and must be in color*	☐
☐	Identify the elevations as to north, south, east, and west orientation	☐
☐	Colored copies of all proposed building materials and indication where each material and color application is to be located *Note: Submit as 11"x17" reductions*	☐
☐	Screening/treatment of mechanical equipment	☐
☐	Provide a cross-section of the building showing any roof top mechanical units and their roof placement	☐
☐	Detailed elevation plans showing the materials to be used in construction of trash enclosures	☐

Lighting Plan

Applicant Use		Staff Use
☐	Exterior lighting including detailed cut sheets and photometric plan (pedestrian, vehicle, security, decoration)	☐
☐	Types and wattage of all light fixtures *Note: The City encourages use of "dark sky" lighting fixtures*	☐
☐	Placement of all light fixtures shown on elevations and landscaping plans	☐

Roof Plans

Applicant Use		Staff Use
☐	Size and location of all roof top mechanical units	☐

Design Review Application

Applicant: Jane Suggs / Gem State Planning Phone: 208-602-6941

☐ Owner ☑ Representative Fax/Email:

Applicant's Address: 9840 W. Overland Road

Boise, Idaho Zip: 83709

Owner: TJ Johnson Phone:

Owner's Address: 2425 N. Locust Grove Road Email:

Kuna, Idaho Zip: 83642

Represented By: *(if different from above)* applicant Phone:

Address: Email:

Zip:

Address of Property: 2425 N. Locust Grove Road

Zip:

Distance from Major Cross Street: 1/4 mile south of Hubbard Road Street Name(s):

Please check the box that reflects the intent of the application

☐ **BUILDING DESIGN REVIEW**
☑ **SUBDIVISION / COMMON AREA LANDSCAPE**
☐ **DESIGN REVIEW MODIFICATION**
☐ **STAFF LEVEL APPLICATION**

This Design Review application is a request to construct, add or change the following: *(Briefly explain the nature of the request.)*

landscaping on common lots throughout the subdivision

1. Dimension of Property: 96.6. acres
2. Current Land Use(s): agriculture
3. What are the land uses of the adjoining properties?
   - North: new subdivision under construction
   - South: agriculture and farm residence
   - East: agriculture and farm residence
   - West: agriculture, soon to be proposed mixed use development
4. Is the project intended to be phased, if so what is the phasing time period? 2021-2025
   Please explain: see phasing plan in preliminary plat set

5. The number and use(s) of all structures: SF homes, swimming pool, picnic shelter

6. Building heights: _____ Number of stories: _____

The height and width relationship of new structures shall be compatible and consistent with the architectural character of the area and proposed use.

Note: The maximum building height for each zoning district is as follows:

L-O: 35'	C-2: 60'	CBD: 80'	M-2: 60'	P: 60'
C-1: 35'	C-3: 60'	M-1: 60'	M-3: 60'	

7. What is the percentage of building space on the lot when compared to the total lot area? _____

8. Exterior building materials & colors: *(Note: This section must be completed in compliance with the City of Kuna Ordinance No. 2007-21A (as amended); found online at (www.cityofkuna.com) under the City Code.*

MATERIAL **COLOR**

Roof: _____ / _____

Walls: (State percentage of wall coverage fro each type of building material below for each frontage wall) If there is not adequate space to identify the various building materials and applications, please list them on the attached sheet of this application. Please attach photos to support application types.

% of Wood application: _____ / _____

% EIFS: *(Exterior Insulation Finish System)* _____ / _____

% Masonry: _____ / _____

% Face Block: _____ / _____

% Stucco: _____ / _____

& other material(s): _____ / _____

List all other materials: _____

Windows/Doors: _____ / _____
(Type of window frames & styles / doors & styles, material)

Soffits and fascia material: _____ / _____

Trim, etc.: _____ / _____

Other: _____ / _____

9. Please identify Mechanical Units: _____

Type/Height: _____

Proposed Screening Method: _____

10. Please identify trash enclosure: *(size, location, screening & construction materials)* _____

11. Are there any irrigation ditches/canals on or adjacent to the property? _____

If yes, what is the name of the irrigation or drainage provider? Boise - Kuna Irrigation District

12. Fencing: *(Please provide information about new fencing material as well as any exiting fencing material)*

6' vinyl lattice top fence

Type: _____

Size: _____

Location: _____

(Please note that the City has height limitations of fencing material and requires a fence permit to be obtained prior to installation)

13. Proposed method of On-site Drainage Retention/Detention:
subsurface infiltration basins, possibly some surface drainage facilities

14. Percentage of Site Devoted to Building Coverage: _____

% of Site Devoted to Landscaping: *(Including landscaped rights-of-way)* _____ Square Footage: _____

% of Site that is Hard Surface: *(Paving, driveways, walkways, etc.)* _____ Square Footage: _____

% of Site Devoted to other uses: _____

Describe: _____

% of landscaping within the parking lot (landscaped islands, etc.): _____

15. For details, please provide dimensions of landscaped areas within public rights-of-way:

16. Are there any existing trees of 4" or greater in caliper on the property? *(Please provide the information on the site plans.)*

If yes, what type, size and the general location? *(The City's goal is to preserve existing trees with a four inch (4") or greater caliper whenever possible)*:

17. Dock Loading Facilities:

Number of docking facilities and their location: _____

Method of screening: _____

18. Pedestrian Amenities: *(bike racks, receptacles, drinking fountains, benches, etc.)* Park and extensive pathways

19. Setbacks of the proposed building from property lines:

Front _____ -feet Rear _____ -feet Side _____ -feet Side _____ -feet

20. Parking requirements: _____

Total Number of Parking Spaces: 6 spaces + 1 hdcp Width and Length of Spaces: _____

Total Number of Compact Spaces 8'x17'): _____

21. Is any portion of the property subject to flooding conditions? Yes _____ No ✓

IF THE PLANNING DIRECTOR OR DESIGNEE, THE DESIGN REVIEW BOARD AND/OR THE CITY COUNCIL DETERMINE THAT ADDITIONAL AND/OR REVISED INFORMATION IS NEEDED, AND/OR IF OTHER UNFORESEEN CIRCUMSTANCES ARISE, ANY DATES OUTLINED FOR PROCESSING MAY BE RE-SCHEDULED BY THE CITY. APPLICANT/REPRESENTATIVE MUST ATTEND THE DESIGN REVIEW BOARD MEETING/PLANNING AND ZONING MEETINGS.

The Ada County Highway District may also conduct public meetings regarding this application. IF you have questions about the meeting date or the traffic that this development may generate or the impact of that traffic on streets in the area, please contact the Ada County Highway District at 208.387.6170. In order to expedite you request, please have ready the file number indicated in this notice.

Signature of Applicant Jane Suggs Date 03-26-20

City staff comments:

Signature of receipt by City Staff_____ Date_____

FOR ADDITIONAL INFORMATION:

(Please list page number and item in reference)



DEVELOPMENT DATA

TOTAL AREA	96.60 ACRES
RESIDENTIAL LOTS	393
COMMON LOTS	44
TOTAL LOTS	437
COMMON AREA	14.68 ACRES (15.2%)
USABLE OPEN SPACE	11.18 ACRES (11.6%)
EXISTING ZONING	RR
PROPOSED ZONING	R-6/R-8

PLANT PALETTE

SYM	COMMON NAME	BOTANICAL NAME	SIZE
	EVERGREEN TREES		
	AUSTRIAN PINE	PINUS NIGRA	6-8' HT B&B
	BLACK HILLS SPRUCE	PICEA GLAUCA 'DENSATA'	6-8' HT B&B
	BLUE SPRUCE	PICEA PUNGENS 'GLAUCA'	6-8' HT B&B
	MOONGLOW JUNIPER	JUNIPERUS SCOPULORUM 'MOONGLOW'	6-8' HT B&B
	NORWAY SPRUCE	PICEA ABIES	6-8' HT B&B
	VANDERWOLFS PINE	PINUS FLEXILIS 'VANDERWOLFS'	6-8' HT B&B
	STREET TREES (CLASS III)		
	LONDON PLANETREE	PLATANUS x ACERIFOLIA	2" CAL B&B
	RED OAK	QUERCUS RUBRA	2" CAL B&B
	STREET TREES (CLASS II)		
	AUTUMN PURPLE ASH	FRAXINUS AMERICANA 'AUTUMN PURPLE'	2" CAL B&B
	SKYLINE HONEYLOCUST	GLEDITSIA TRIACANTHOS INERMIS 'SKYCOLE'	2" CAL B&B
	LITTLELEAF LINDEN	TILIA CORDATA	2" CAL B&B
	AMERICAN SWEETGUM	LIQUIDAMBER STYRACIFLUA	2" CAL B&B
	TULIP TREE	LIRODENDRON TULIPIFERA	2" CAL B&B
	ORNAMENTAL TREES (CLASS I)		
	AMUR MAPLE	ACER GINNALA 'FLAME'	2" CAL B&B
	CHANTICLEER PEAR	PYRUS CALLERYANA 'GLEN'S FORM'	2" CAL B&B
	ROYAL RAINDROPS CRABAPPLE	MALUS x 'JFS-KW5'	2" CAL B&B
	SPRINGSNOW CRABAPPLE	MALUS 'SPRINGSNOW'	2" CAL B&B
	SHRUBS/ORNAMENTAL GRASSES/PERENNIALS		
	BLACK EYED SUSAN	RUDBECKIA FULGIDA 'GOLDSTRUM'	1 GAL, 24" O.C.
	BLUE RUG JUNIPER	JUNIPERUS HORIZONTALIS 'WILTONI'	2 GAL
	CREEPING MAHONIA	MAHONIA REPENS	3 GAL
	RED FLOWER CARPET ROSE	ROSA 'FLOWER CARPET- NOARE'	3 GAL
	DWARF FOUNTAIN GRASS	PENNISETUM ALOPECUROIDES 'HAMELN'	5 GAL
	DARTS GOLD NINEBARK	PHYSOCARPUS OPULIFOLIUS 'DART'S GOLD'	1 GAL
	STELLA D'ORO DAYLILY	HEMEROCALLIS 'STELLA D'ORO'	3 GAL
	EMERALD 'N' GOLD EUONYMUS	EUONYMUS FORTUNEI 'EMERALD 'N' GOLD'	5 GAL
	ENDLESS SUMMER HYDRANGEA	HYDRANGEA ARBORESCENS 'PIIHM-I'	5 GAL
	FINE LINE BUCKTHORN	RHAMNUS FRAGULA 'RON WILLIAMS'	5 GAL
	GOLDFLAME SPIREA	SPIRAEA x BUMALDA 'GOLDFLAME	3 GAL
	GRO-LOW SUMAC	RHUS AROMATICA 'GRO-LOW'	5 GAL
	IVORY HALO DOGWOOD	CORNUS ALBA 'BAILHALO'	5 GAL
	KARL FOERSTER REED GRASS	CALAMAGROSTIS ARUNDINACEA 'K.F.'	1 GAL
	LITTLE DEVIL NINEBARK	PHYSOCARPUS OPULIFOLIUS 'DONNA MAY'	5 GAL
	HIDCOTE BLUE ENGLISH LAVENDER	LAVANDULA ANGUSTIFOLIA 'HIDCOTE BLUE'	3 GAL
	OTTO LUYKEN LAUREL	PRUNUS LAUROCERAGUS 'OTTO LUYKEN'	5 GAL
	P.J.M RHODODENDRON	RHODODRENDRON 'P.J.M'	5 GAL
	MAIDEN GRASS	MISCANTHUS SINENSIS 'GRACILLIMUS'	1 GAL
	SUMMERWINE NINEBARK	PHYSOCARPUS OPULIFOLIA 'SEWARD'	5 GAL

LAWN

6' VINYL LATTICE TOP FENCE ALONG PERIMETER PROPERTY LINES, COMMON LOTS, AND SIDE LOTS (TYP).

NOTES

1. ALL LANDSCAPE SHALL BE INSTALLED IN ACCORDANCE WITH KUNA CITY ORDINANCE REQUIREMENTS. ALL LOTS WILL COMPLY WITH KUNA CITY ORDINANCE REQUIRING ONE (1) TREE PER LOT (PROVIDED BY BUILDER AND/OR DEVELOPER).
2. ALL PLANTING AREAS TO BE WATERED WITH AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM.
3. TREES SHALL NOT BE PLANTED WITHIN THE 10-CLEAR ZONE OF ALL ACHD STORM DRAIN PIPE, STRUCTURES, OR FACILITIES. SEEPAGE BEDS MUST BE PROTECTED FROM ANY AND ALL CONTAMINATION DURING THE CONSTRUCTION AND INSTALLATION OF THE LANDSCAPE IRRIGATION SYSTEM. ALL SHRUBS PLANTED OVER OR ADJACENT TO SEEPAGE BEDS TO HAVE A ROOT BALL THAT DOES NOT EXCEED 18" IN DIAMETER. NO LAWN SOD TO BE PLACED OVER DRAINAGE SWALE SAND WINDOWS (IF PRESENT).
4. NO TREES SHALL IMPEDE THE 40' STREET AND DEPARTURE VISION TRIANGLES AT ALL INTERSECTIONS. NO CONIFEROUS TREES OR SHRUBS OVER 3' HIGH AT MATURITY WILL BE LOCATED WITHIN VISION TRIANGLE OR ACHD ROW. AS TREES MATURE, THE OWNER SHALL BE RESPONSIBLE FOR PRUNING TREE CANOPIES TO MEET ACHD REQUIREMENTS FOR MAINTAINING CLEAR VISIBILITY WITHIN 40' STREET AND DEPARTURE VISION TRIANGLE. TREES SHALL BE PLANTED NO CLOSER THAN 50' FROM STOP SIGNS.
5. LANDSCAPE AND TREES IN FRONT OF BUILDING LOTS ON INTERIOR STREETS TO BE COMPLETED DURING CONSTRUCTION OF THESE LOTS. TREE LOCATIONS MAY BE ALTERED TO ACCOMMODATE DRIVEWAYS AND UTILITIES. TREES SHALL NOT BE PLANTED WITHIN 5' OF WATER METERS OR UTILITY LINES.
6. PLANT LIST IS REPRESENTATIVE AND SUBJECT TO SUBSTITUTIONS OF SIMILAR SPECIES BY OWNER, SUBJECT TO CITY FORESTER'S PRE-APPROVAL. PLANTING BED DESIGN AND QUANTITIES MAY BE ALTERED DURING FINAL PLAT LANDSCAPE PLAN DESIGN. BURLAP AND WIRE BASKETS TO BE REMOVED FROM ROOT BALL AS MUCH AS POSSIBLE, AT LEAST HALFWAY DOWN THE BALL OF THE TREE. ALL NYLON ROPES TO BE COMPLETELY REMOVED FROM TREES.

LANDSCAPE CALCULATIONS

LANDSCAPE BUFFER ARE REQUIRED TO BE PLANTED WITH THE FOLLOWING PLANTS PER 100 LINEAR FEET: TWO (2) SHADE TREES, THREE (3) EVERGREEN TREES, AND TWELVE (12) SHRUBS. EACH REQUIRED SHADE TREE MAY BE SUBSTITUTED FOR TWO (2) FLOWERING/ORNAMENTAL TREES.

LOCATION	BUFFER WIDTH	LENGTH	REQUIRED	PROVIDED
S. STROEBEL RD.	25'	1380' / 100' =	28 TREES	28 TREES (21 SHADE TREES + 14 ORNAMENTAL TREES)
			42 EVERGREENS	46 EVERGREENS
			165 SHRUBS	165+ SHRUBS
S. LOCUST GROVE RD.	25'	1190' / 100' =	24 TREES	30.5 TREES (25 SHADE TREES + 11 ORNAMENTAL TREES)
			36 EVERGREENS	39 EVERGREENS
			143 SHRUBS	143+ SHRUBS

LANDSCAPE CALCULATIONS (cont.)

LOCATION	BUFFER WIDTH	LENGTH	REQUIRED	PROVIDED
E. BLOUNT ST. (NORTH)	20'	2370' / 100' =	48 TREES	53.5 TREES (44 SHADE TREES + 19 ORNAMENTAL TREES)
			72 EVERGREENS	73 EVERGREENS
			285 SHRUBS	285+ SHRUBS
E. BLOUNT ST. (SOUTH)	20'	2360' / 100' =	48 TREES	50.5 TREES (43 SHADE TREES + 15 ORNAMENTAL TREES)
			71 EVERGREENS	71 EVERGREENS
			284 SHRUBS	284+ SHRUBS
TOTAL NUMBER OF BUFFER TREES:				421 TREES
TOTAL NUMBER OF COMMON AREA TREES:				392 TREES
TOTAL NUMBER OF TREES				813 TREES

JENSENBELTS ASSOCIATES
Site Planning / Landscape Architecture
1509 Tyrell Lane, Ste 130 Boise, ID 83706
Ph. (208) 343-7775 www.jensenbelts.com

NORTH

0' 120' 240' 360'

SCALE 1" = 120'

MARCH 23, 2020

OWNER OF RECORD	DEVELOPER	PLANNER/CONTACT
TJ JOHNSON	TRILOGY DEVELOPMENT, INC.	SHAWN BROWNLEE
2425 N. LOCUST GROVE RD.	9839 W. CABLE CAR ST.	TRILOGY DEVELOPMENT, INC.
KUNA, IDAHO 83634	BOISE, IDAHO 83709	9839 W. CABLE CAR ST.
		BOISE, IDAHO 83709

LEDGESTONE SOUTH SUBDIVISION

KUNA, ID

PRELIMINARY PLAT LANDSCAPE PLAN



DEVELOPMENT DATA

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	TULIP TREE	LIRODENDRON TULIPIFERA	2" CAL B&B
	ORNAMENTAL TREES (CLASS I)		
	AMUR MAPLE	ACER GINNALA 'FLAME'	2" CAL B&B
	CHANTICLEER PEAR	PYRUS CALLERYANA 'GLEN'S FORM'	2" CAL B&B
	ROYAL RAINDROPS CRABAPPLE	MALUS x 'JFS-KW5'	2" CAL B&B
	SPRINGSNOW CRABAPPLE	MALUS 'SPRINGSNOW'	2" CAL B&B
	SHRUBS/ORNAMENTAL GRASSES/PERENNIALS		
	BLACK EYED SUSAN	RUDBECKIA FULGIDA 'GOLDSTRUM'	1 GAL, 24" O.C.
	BLUE RUG JUNIPER	JUNIPERUS HORIZONTALIS 'WILTONI'	2 GAL
	CREEPING MAHONIA	MAHONIA REPENS	3 GAL
	RED FLOWER CARPET ROSE	ROSA 'FLOWER CARPET- NOARE'	3 GAL
	DWARF FOUNTAIN GRASS	PENNISETUM ALOPECUROIDES 'HAMELN'	5 GAL
	DARTS GOLD NINEBARK	PHYSOCARPUS OPULIFOLIUS 'DART'S GOLD'	1 GAL
	STELLA D'ORO DAYLILY	HEMEROCALLIS 'STELLA D'ORO'	3 GAL
	EMERALD 'N' GOLD EUONYMUS	EUONYMUS FORTUNEI 'EMERALD 'N' GOLD'	5 GAL
	ENDLESS SUMMER HYDRANGEA	HYDRANGEA ARBORESCENS 'PIIHM-I'	5 GAL
	FINE LINE BUCKTHORN	RHAMNUS FRAGULA 'RON WILLIAMS'	5 GAL
	GOLDFLAME SPIREA	SPIRAEA x BUMALDA 'GOLDFLAME	3 GAL
	GRO-LOW SUMAC	RHUS AROMATICA 'GRO-LOW'	5 GAL
	IVORY HALO DOGWOOD	CORNUS ALBA 'BAILHALO'	5 GAL
	KARL FOERSTER REED GRASS	CALAMAGROSTIS ARUNDINACEA 'K.F.'	1 GAL
	LITTLE DEVIL NINEBARK	PHYSOCARPUS OPULIFOLIUS 'DONNA MAY'	5 GAL
	HIDCOTE BLUE ENGLISH LAVENDER	LAVANDULA ANGUSTIFOLIA 'HIDCOTE BLUE'	3 GAL
	OTTO LUYKEN LAUREL	PRUNUS LAUROCERAGUS 'OTTO LUYKEN'	5 GAL
	PJM RHODODENDRON	RHODODRENDRON 'PJM'	5 GAL
	MAIDEN GRASS	MISCANTHUS SINENSIS 'GRACILLIMUS'	1 GAL
	SUMMERWINE NINEBARK	PHYSOCARPUS OPULIFOLIA 'SEWARD'	5 GAL

LAWN

6' VINYL LATTICE TOP FENCE ALONG PERIMETER PROPERTY LINES, COMMON LOTS, AND SIDE LOTS (TYP).

NOTES

1. ALL LANDSCAPE SHALL BE INSTALLED IN ACCORDANCE WITH KUNA CITY ORDINANCE REQUIREMENTS. ALL LOTS WILL COMPLY WITH KUNA CITY ORDINANCE REQUIRING ONE (1) TREE PER LOT (PROVIDED BY BUILDER AND/OR DEVELOPER).
2. ALL PLANTING AREAS TO BE WATERED WITH AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM.
3. TREES SHALL NOT BE PLANTED WITHIN THE 10-CLEAR ZONE OF ALL ACHD STORM DRAIN PIPE, STRUCTURES, OR FACILITIES. SEEPAGE BEDS MUST BE PROTECTED FROM ANY AND ALL CONTAMINATION DURING THE CONSTRUCTION AND INSTALLATION OF THE LANDSCAPE IRRIGATION SYSTEM. ALL SHRUBS PLANTED OVER OR ADJACENT TO SEEPAGE BEDS TO HAVE A ROOT BALL THAT DOES NOT EXCEED 18" IN DIAMETER. NO LAWN SOD TO BE PLACED OVER DRAINAGE SWALE SAND WINDOWS (IF PRESENT).
4. NO TREES SHALL IMPEDE THE 40' STREET AND DEPARTURE VISION TRIANGLES AT ALL INTERSECTIONS. NO CONIFEROUS TREES OR SHRUBS OVER 3' HIGH AT MATURITY WILL BE LOCATED WITHIN VISION TRIANGLE OR ACHD ROW. AS TREES MATURE, THE OWNER SHALL BE RESPONSIBLE FOR PRUNING TREE CANOPIES TO MEET ACHD REQUIREMENTS FOR MAINTAINING CLEAR VISIBILITY WITHIN 40' STREET AND DEPARTURE VISION TRIANGLE. TREES SHALL BE PLANTED NO CLOSER THAN 50' FROM STOP SIGNS.
5. LANDSCAPE AND TREES IN FRONT OF BUILDING LOTS ON INTERIOR STREETS TO BE COMPLETED DURING CONSTRUCTION OF THESE LOTS. TREE LOCATIONS MAY BE ALTERED TO ACCOMMODATE DRIVEWAYS AND UTILITIES. TREES SHALL NOT BE PLANTED WITHIN 5' OF WATER METERS OR UTILITY LINES.
6. PLANT LIST IS REPRESENTATIVE AND SUBJECT TO SUBSTITUTIONS OF SIMILAR SPECIES BY OWNER, SUBJECT TO CITY FORESTER'S PRE-APPROVAL. PLANTING BED DESIGN AND QUANTITIES MAY BE ALTERED DURING FINAL PLAT LANDSCAPE PLAN DESIGN. BURLAP AND WIRE BASKETS TO BE REMOVED FROM ROOT BALL AS MUCH AS POSSIBLE, AT LEAST HALFWAY DOWN THE BALL OF THE TREE. ALL NYLON ROPES TO BE COMPLETELY REMOVED FROM TREES.

LANDSCAPE CALCULATIONS

LANDSCAPE BUFFER ARE REQUIRED TO BE PLANTED WITH THE FOLLOWING PLANTS PER 100 LINEAR FEET: TWO (2) SHADE TREES, THREE (3) EVERGREEN TREES, AND TWELVE (12) SHRUBS. EACH REQUIRED SHADE TREE MAY BE SUBSTITUTED FOR TWO (2) FLOWERING/ORNAMENTAL TREES.

LOCATION	BUFFER WIDTH	LENGTH	REQUIRED	PROVIDED
S. STROEBEL RD.	25'	1380' / 100' =	28 TREES	28 TREES (21 SHADE TREES + 14 ORNAMENTAL TREES)
			42 EVERGREENS	46 EVERGREENS
			165 SHRUBS	165+ SHRUBS
S. LOCUST GROVE RD.	25'	1190' / 100' =	24 TREES	30.5 TREES (25 SHADE TREES + 11 ORNAMENTAL TREES)
			36 EVERGREENS	39 EVERGREENS
			143 SHRUBS	143+ SHRUBS

LANDSCAPE CALCULATIONS (cont.)

LOCATION	BUFFER WIDTH	LENGTH	REQUIRED	PROVIDED
E. BLOUNT ST. (NORTH)	20'	2370' / 100' =	48 TREES	53.5 TREES (44 SHADE TREES + 19 ORNAMENTAL TREES)
			72 EVERGREENS	73 EVERGREENS
			285 SHRUBS	285+ SHRUBS
E. BLOUNT ST. (SOUTH)	20'	2360' / 100' =	48 TREES	50.5 TREES (43 SHADE TREES + 15 ORNAMENTAL TREES)
			71 EVERGREENS	71 EVERGREENS
			284 SHRUBS	284+ SHRUBS
TOTAL NUMBER OF BUFFER TREES:				421 TREES
TOTAL NUMBER OF COMMON AREA TREES:				392 TREES
TOTAL NUMBER OF TREES				813 TREES

STATE OF IDAHO — Kimberly Lee Beggerly — LANDSCAPE ARCHITECT — LA-16535

JENSENBELTS ASSOCIATES
Site Planning / Landscape Architecture
1500 Tyrell Lane, Ste 130 Boise, ID 83706
Ph. (208) 343-7175 www.jensenbelts.com

MARCH 23, 2020

NORTH

0' 120' 240' 360'

SCALE 1" = 120'

OWNER OF RECORD
TJ JOHNSON
2425 N. LOCUST GROVE RD.
KUNA, IDAHO 83634

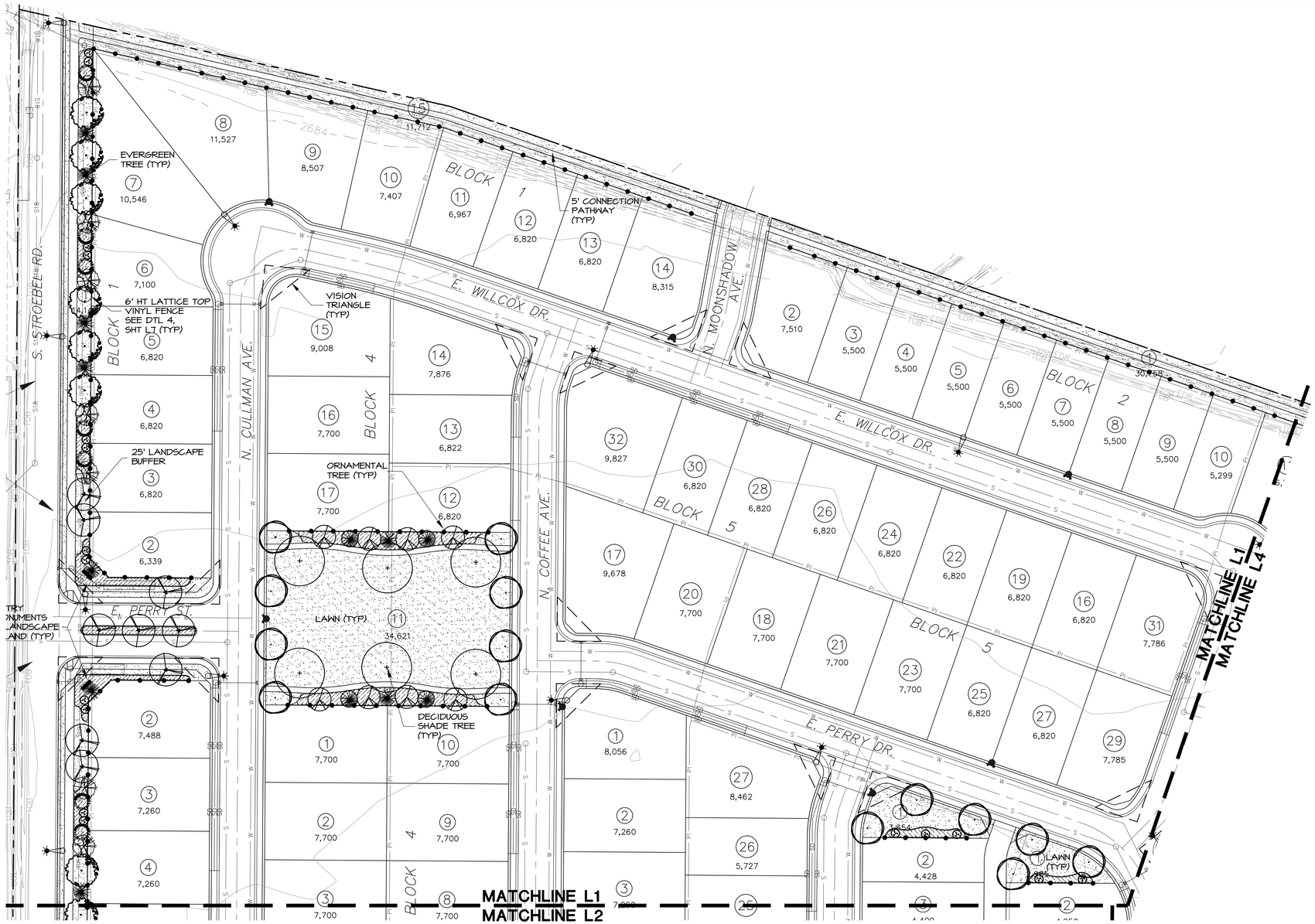
DEVELOPER
TRILOGY DEVELOPMENT, INC.
9839 W. CABLE CAR ST.
BOISE, IDAHO 83709

PLANNER/CONTACT
SHAWN BROWNLEE
TRILOGY DEVELOPMENT, INC.
9839 W. CABLE CAR ST.
BOISE, IDAHO 83709

LEDGESTONE SOUTH SUBDIVISION

KUNA, ID

PRELIMINARY PLAT LANDSCAPE PLAN



PLANT PALETTE

(REFERENCE SHT L7)

SYM	COMMON NAME
	EVERGREEN TREES
	AUSTRIAN PINE
	BLACK HILLS SPRUCE
	BLUE SPRUCE
	MOONGLOW JUNIPER
	NORWAY SPRUCE
	VANDERWOLFS PINE
	STREET TREES (CLASS III)
	LONDON PLANETREE
	RED OAK
	STREET TREES (CLASS II)
	AUTUMN PURPLE ASH
	SKYLINE HONEYLOCUST
	LITTLELEAF LINDEN
	AMERICAN SWEETGUM
	TULIP TREE
	ORNAMENTAL TREES (CLASS I)
	AMUR MAPLE
	CHANTICLEER PEAR
	ROYAL RAINDROPS CRABAPPLE
	SPRINGSNOW CRABAPPLE

SYM	COMMON NAME
	SHRUBS/ORNAMENTAL GRASSES/PERENNIALS
	BLACK EYED SUSAN
	BLUE RUG JUNIPER
	CREEPING MAHONIA
	RED FLOWER CARPET ROSE
	DWARF FOUNTAIN GRASS
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	STELLA D'ORO DAYLILY
	EMERALD 'N' GOLD EUONYMUS
	ENDLESS SUMMER HYDRANGEA
	FINE LINE BUCKTHORN
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	GRO-LOW SUMAC
	IVORY HALO DOGWOOD
	KARL FOERSTER REED GRASS
	LITTLE DEVIL NINEBARK
	HIDCOTE BLUE ENGLISH LAVENDER
	OTTO LUYKEN LAUREL
	PJM RHODODENDRON
	MAIDEN GRASS
	SUMMERWINE NINEBARK

SYM	
	LAWN
	6' VINYL LATTICE TOP FENCE ALONG PERIMETER PROPERTY LINES, COMMON LOTS, AND SIDE LOTS (TYP). SEE DTL 4, SHT L7.

NOTES

1. REFER TO SHEET L7 FOR PLANT PALETTE, DEVELOPMENT DATA, LANDSCAPE CALCULATIONS, LANDSCAPE DETAILS, AND FENCING DETAILS.

NORTH

0' 50' 100' 150'

SCALE 1" = 50'

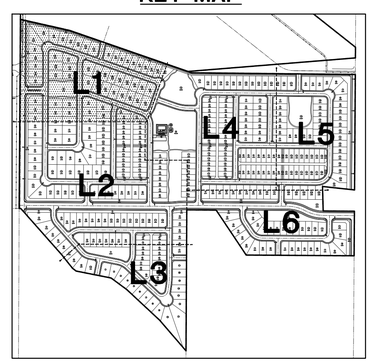
JENSENBELTS ASSOCIATES

Site Planning / Landscape Architecture

1609 Tyrell Lane, Ste 130 Boise, ID 83706

Ph. (208) 343-7175 www.jensenbelts.com

KEY MAP



Bailey Engineering, Inc.

CIVIL ENGINEERING | PLANNING | CADD

1119 E. STATE STREET, SUITE 210
EAGLE, ID 83616

TEL: 208-938-0013
www.baileyengineers.com

CHECKED BY: KGS

DRAWN BY: JJN

REVISED

NO.	DATE	DESCRIPTION

PRELIMINARY PLAT LANDSCAPE PLAN

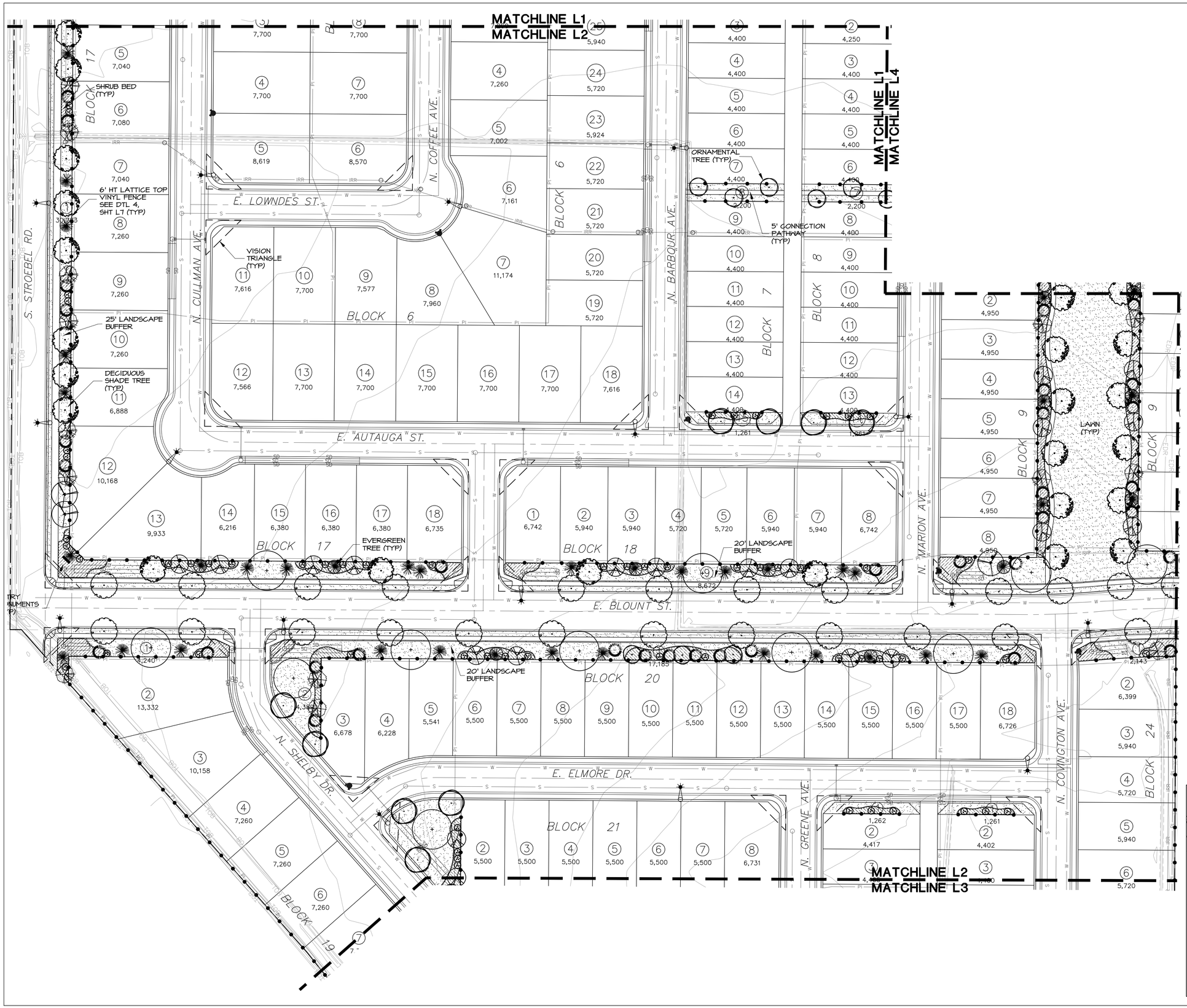
LEDGESTONE SOUTH SUBDIVISION

TRILOGY DEVELOPMENT, INC.

DATE: 03-23-2020

PROJECT: JBA-1993

SHEET L1



PLANT PALETTE

(REFERENCE SHT L7)

SYM	COMMON NAME
	EVERGREEN TREES
	AUSTRIAN PINE
	BLACK HILLS SPRUCE
	BLUE SPRUCE
	MOONGLOW JUNIPER
	NORWAY SPRUCE
	VANDERWOLFS PINE
	STREET TREES (CLASS III)
	LONDON PLANETREE
	RED OAK
	STREET TREES (CLASS II)
	AUTUMN PURPLE ASH
	SKYLINE HONEYLOCUST
	LITTLELEAF LINDEN
	AMERICAN SWEETGUM
	TULIP TREE
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	CHANTICLEER PEAR
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	OTTO LUYKEN LAUREL
	PJM RHODODENDRON
	MAIDEN GRASS
	SUMMERWINE NINEBARK
	LAWN
	6' VINYL LATTICE TOP FENCE ALONG PERIMETER PROPERTY LINES, COMMON LOTS, AND SIDE LOTS (TYP). SEE DTL 4, SHT L7.

NOTES

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Site Planning / Landscape Architecture
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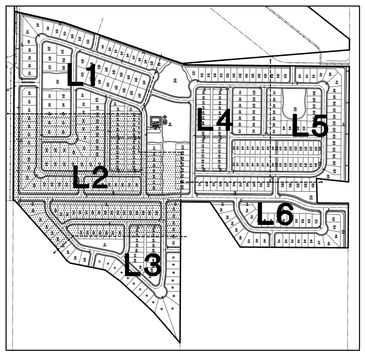
Ph. (208) 343-7175 www.jensenbelts.com

NORTH

0' 50' 100' 150'
SCALE 1" = 50'

KEY MAP



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CHECKED BY: KCS
DRAWN BY: JJN

REVISED

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PRELIMINARY PLAT LANDSCAPE PLAN
LEDGESTONE SOUTH SUBDIVISION
TRILOGY DEVELOPMENT, INC.

DATE: 03-23-2020
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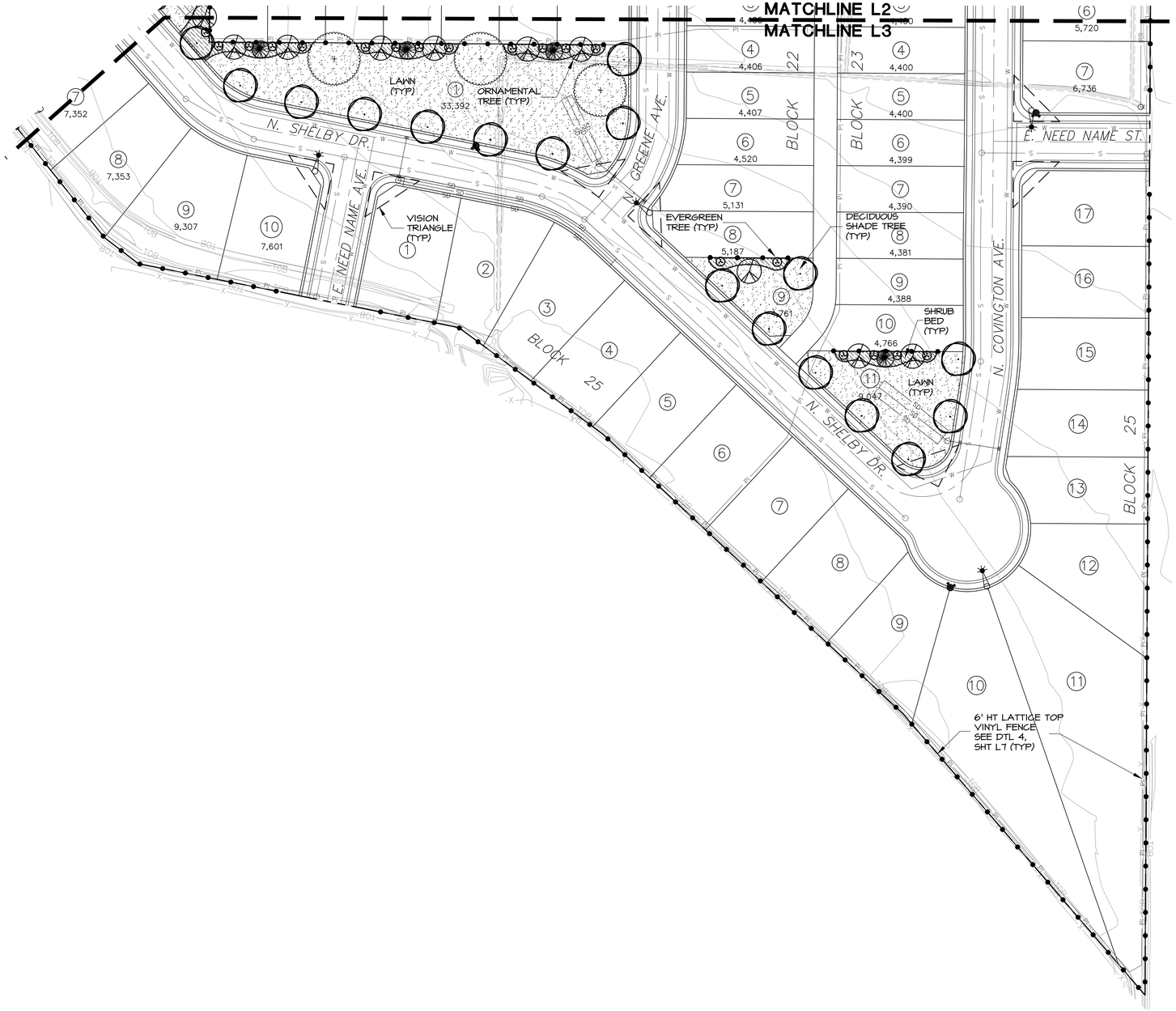
SHEET L2



PLANT PALETTE

(REFERENCE SHT L7)

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	EVERGREEN TREES
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	BLACK HILLS SPRUCE
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	IVORY HALO DOGWOOD
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	LITTLE DEVIL NINEBARK
	HIDCOTE BLUE ENGLISH LAVENDER
	OTTO LUKEN LAUREL
	PJM RHODODENDRON
	MAIDEN GRASS
	SUMMERWINE NINEBARK
	LAWN
	6' VINYL LATTICE TOP FENCE ALONG PERIMETER PROPERTY LINES, COMMON LOTS, AND SIDE LOTS (TYP). SEE DTL 4, SHT L7.

NOTES

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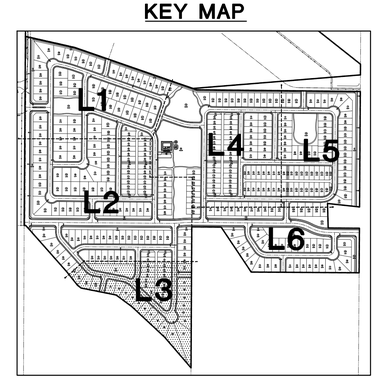
KEY MAP



NORTH

SCALE 1" = 50'

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STATE OF IDAHO — LOUISA S. BOND — 21635 — REGISTERED LANDSCAPE ARCHITECT

CHECKED BY: KCS

DRAWN BY: JJN

REVISED

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PRELIMINARY PLAT LANDSCAPE PLAN

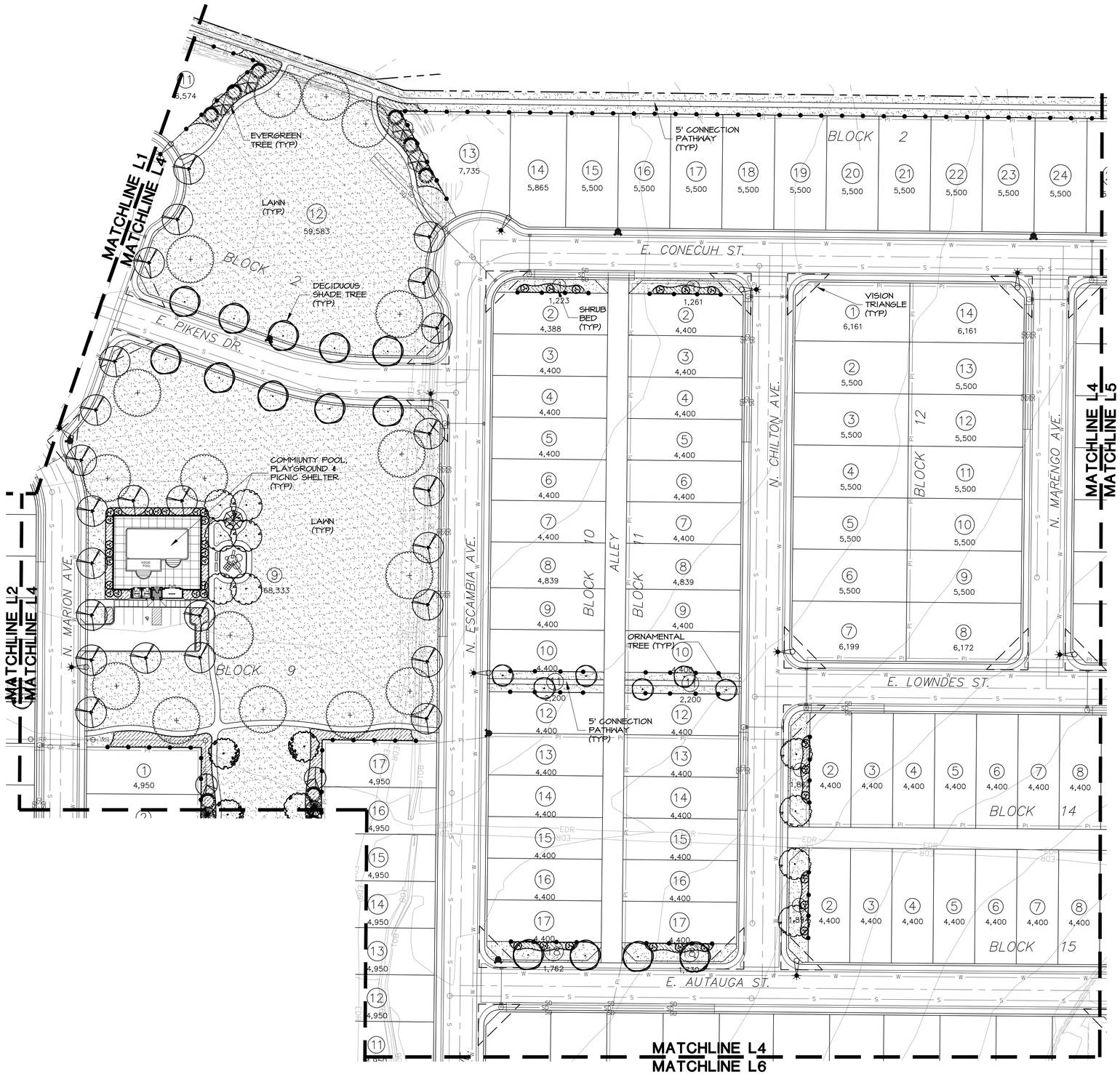
LEDGESTONE SOUTH SUBDIVISION

TRILOGY DEVELOPMENT, INC.

DATE: 03-23-2020

PROJECT: JBA-1993

SHEET L3



PLANT PALETTE

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	AUSTRIAN PINE
	BLACK HILLS SPRUCE
	BLUE SPRUCE
	MOONGLOW JUNIPER
	NORWAY SPRUCE
	VANDERWOLFS PINE
	STREET TREES (CLASS III)
	LONDON PLANETREE
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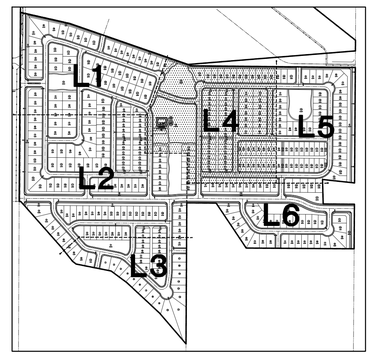
KEY MAP



NORTH

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0' 50' 100' 150'
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CHECKED BY: KCS
DRAWN BY: JJN

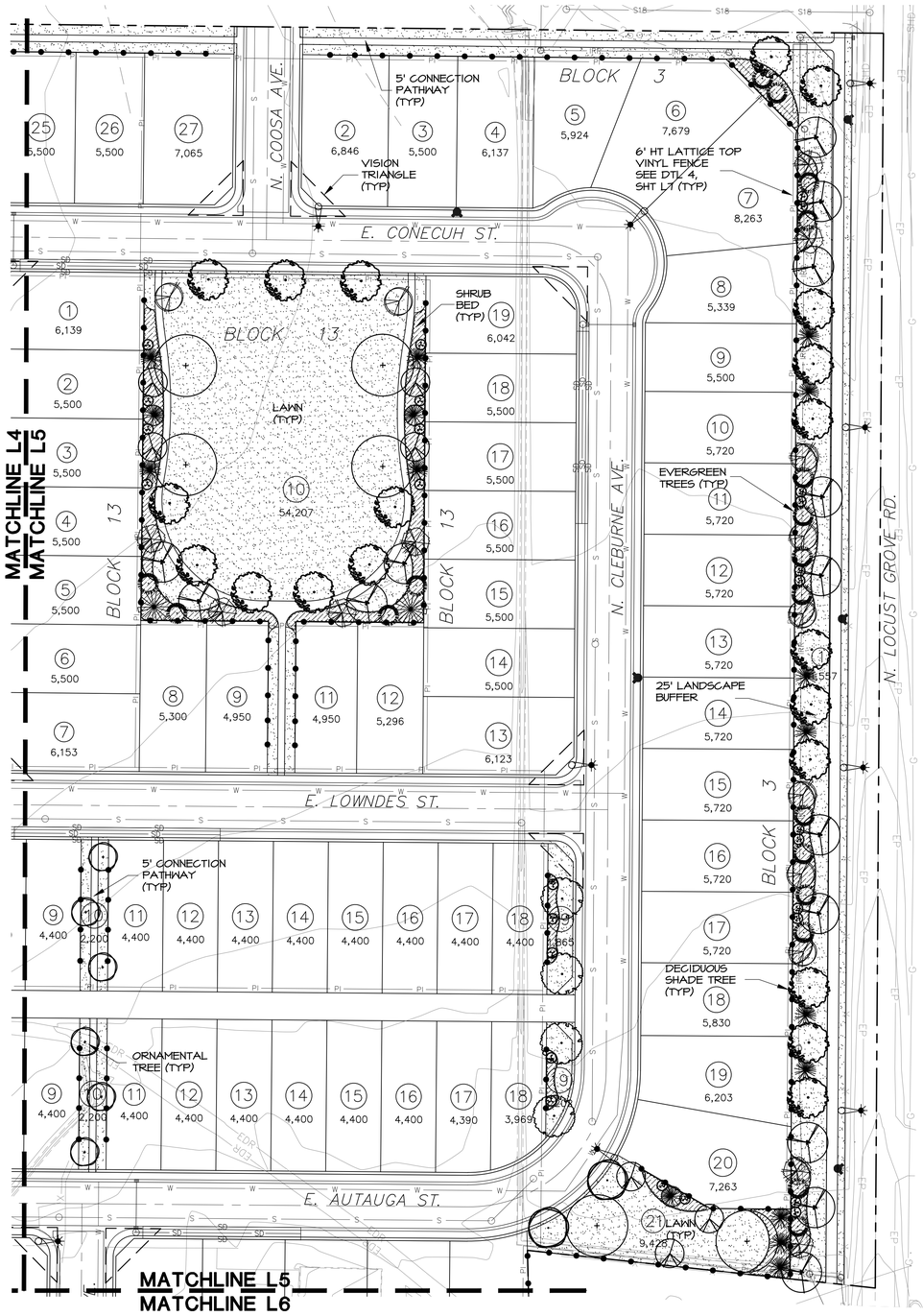
REVISED

NO.	DATE	DESCRIPTION

PRELIMINARY PLAT LANDSCAPE PLAN
LEDGESTONE SOUTH SUBDIVISION
TRILOGY DEVELOPMENT, INC.

DATE: 03-23-2020
PROJECT: JBA-1993

SHEET L4



PLANT PALETTE

(REFERENCE SHT L7)

SYM	COMMON NAME
	EVERGREEN TREES
	AUSTRIAN PINE
	BLACK HILLS SPRUCE
	BLUE SPRUCE
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NOTES

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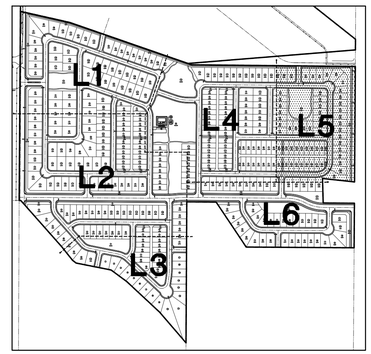
KEY MAP



NORTH

SCALE 1" = 50'

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STATE OF IDAHO — LOUISA STRAUCH — 17635 — REGISTERED LANDSCAPE ARCHITECT

CHECKED BY: KCS

DRAWN BY: JJN

REVISED

NO.	DATE	DESCRIPTION

PRELIMINARY PLAT LANDSCAPE PLAN

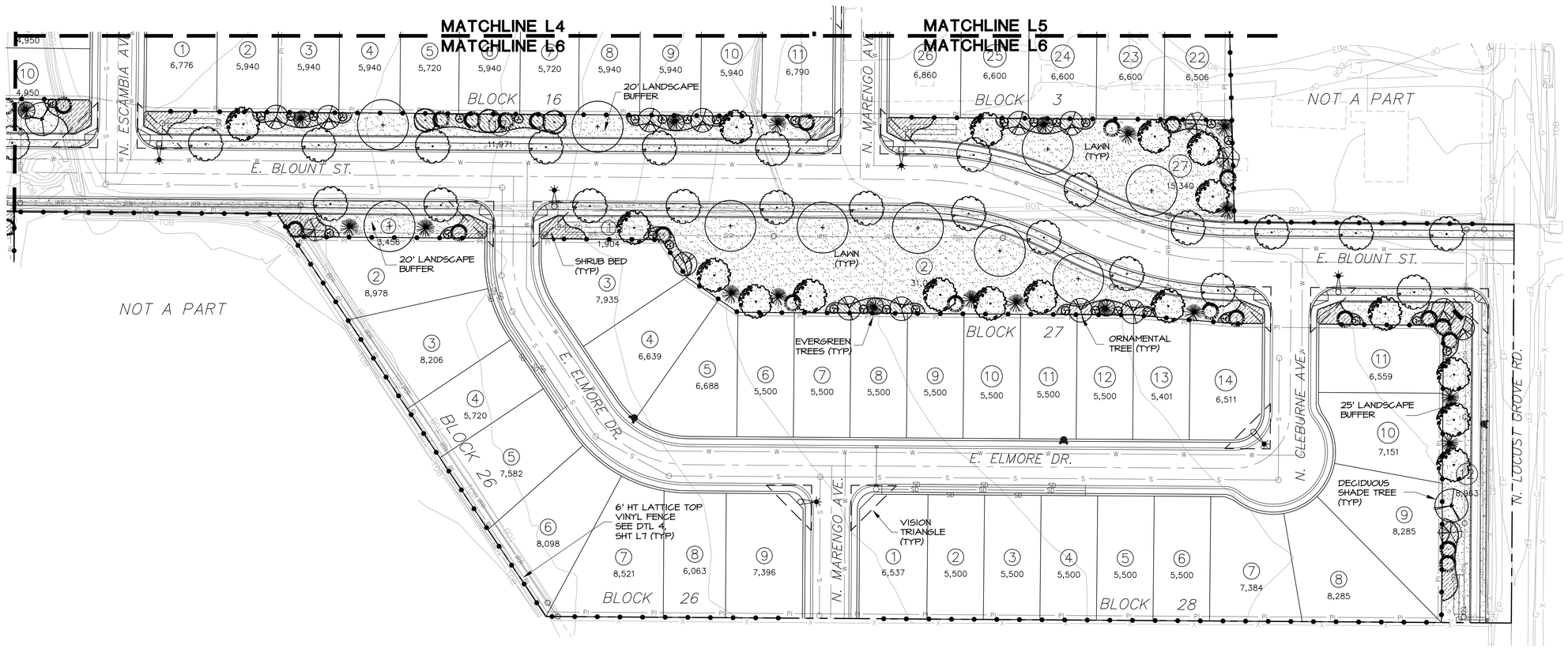
LEDGESTONE SOUTH SUBDIVISION

TRILOGY DEVELOPMENT, INC.

DATE: 03-23-2020

PROJECT: JBA-1993

SHEET L5



PLANT PALETTE

(REFERENCE SHT L7)

SYM	COMMON NAME
	EVERGREEN TREES
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	BLACK HILLS SPRUCE
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	NORWAY SPRUCE
	VANDERWOLFS PINE
	STREET TREES (CLASS III)
	LONDON PLANETREE
	RED OAK
	STREET TREES (CLASS II)
	AUTUMN PURPLE ASH
	SKYLINE HONEYLOCUST
	LITTLELEAF LINDEN
	AMERICAN SWEETGUM
	TULIP TREE
	ORNAMENTAL TREES (CLASS I)
	AMUR MAPLE
	CHANTICLEER PEAR
	ROYAL RAINDROPS CRABAPPLE
	SPRINGSNOW CRABAPPLE

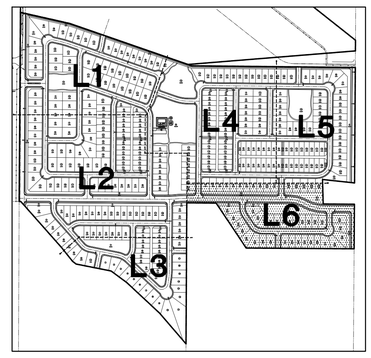
SYM	COMMON NAME
	SHRUBS/ORNAMENTAL GRASSES/PERENNIALS
	BLACK EYED SUSAN
	BLUE RUG JUNIPER
	CREEPING MAHONIA
	RED FLOWER CARPET ROSE
	DWARF FOUNTAIN GRASS
	DARTS GOLD NINEBARK
	STELLA D'ORO DAYLILY
	EMERALD 'N' GOLD EUONYMUS
	ENDLESS SUMMER HYDRANGEA
	FINE LINE BUCKTHORN
	GOLDFLAME SPIREA
	GRO-LOW SUMAC
	IVORY HALO DOGWOOD
	KARL FOERSTER REED GRASS
	LITTLE DEVIL NINEBARK
	HIDCOTE BLUE ENGLISH LAVENDER
	OTTO LUYKEN LAUREL
	PJM RHODODENDRON
	MAIDEN GRASS
	SUMMERWINE NINEBARK

SYM	
	LAWN
	6' VINYL LATTICE TOP FENCE ALONG PERIMETER PROPERTY LINES, COMMON LOTS, AND SIDE LOTS (TYP). SEE DTL 4, SHT L7.

NOTES

1. REFER TO SHEET L7 FOR PLANT PALETTE, DEVELOPMENT DATA, LANDSCAPE CALCULATIONS, LANDSCAPE DETAILS, AND FENCING DETAILS.

KEY MAP



JENSENBELTS ASSOCIATES
Site Planning / Landscape Architecture
1809 Tyrell Lane, Ste 130 Boise, ID 83706
Ph. (208) 343-7175 www.jensenbelts.com

NORTH

0' 50' 100' 150'

SCALE 1" = 50'

Bailey Engineering, Inc.
CIVIL ENGINEERING | PLANNING | CADD
1119 E. STATE STREET, SUITE 210
EAGLE, ID 83616
TEL: 208.938.0013
www.baileyengineers.com

STATE OF IDAHO — LANDSCAPE ARCHITECT — 6535

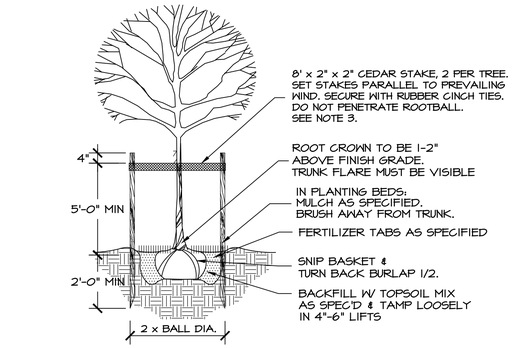
CHECKED BY: KCS
DRAWN BY: JJN

REVISED
NO. DATE DESCRIPTION

PRELIMINARY PLAT LANDSCAPE PLAN
LEDGESTONE SOUTH SUBDIVISION
TRILOGY DEVELOPMENT, INC.

DATE: 03-23-2020
PROJECT: JBA-1993

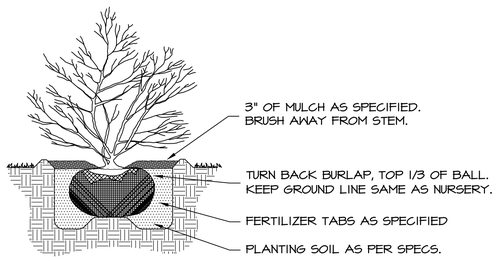
SHEET L6



NOTES:
1. REMOVE ALL TWINE, ROPE, OR BINDINGS FROM ALL TRUNKS.
2. REMOVE BURLAP AND WIRE BASKETS FROM THE TOP 1/2 OF ALL ROOT BALLS AFTER PLANTING. IF SYNTHETIC WRAP/BURLAP IS USED, IT MUST BE COMPLETELY REMOVED.
3. STAKING OF TREES TO BE THE CONTRACTOR'S OPTION; HOWEVER, THE CONTRACTOR IS RESPONSIBLE TO INSURE THAT ALL TREES ARE PLANTED STRAIGHT AND REMAIN STRAIGHT FOR A MIN OF 1 YEAR. ALL STAKING SHALL BE REMOVED AT THE END OF THE 1 YEAR WARRANTY PERIOD.
4. TREE TREES PLANTED IN TURF AREAS: REMOVE TURF 3' DIA. FROM TREE TRUNK.

(1) TREE PLANTING/STAKING

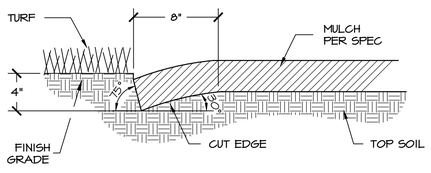
NOT TO SCALE



NOTE: DIG HOLE TWICE THE SIZE OF ROOTBALL.

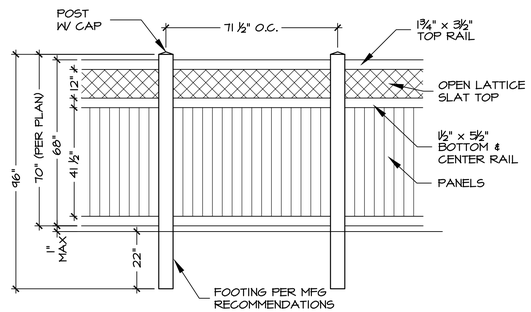
(2) SHRUB PLANTING

NOT TO SCALE



(3) PLANTER CUT BED EDGE

NOT TO SCALE



NOTES:
1. ALL END CAP AND PATHWAY FENCE TO STOP 24' FROM PROPERTY LINE.

(4) VINYL LATTICE TOP FENCE

NOT TO SCALE

LANDSCAPE CALCULATIONS

LANDSCAPE BUFFER ARE REQUIRED TO BE PLANTED WITH THE FOLLOWING PLANTS PER 100 LINEAR FEET: TWO (2) SHADE TREES, THREE (3) EVERGREEN TREES, AND TWELVE (12) SHRUBS. EACH REQUIRED SHADE TREE MAY BE SUBSTITUTED FOR TWO (2) FLOWERING/ORNAMENTAL TREES.

LOCATION	BUFFER WIDTH	LENGTH	REQUIRED	PROVIDED
S. STROEBEL RD.	25'	1380' / 100' =	28 TREES	28 TREES (21 SHADE TREES + 14 ORNAMENTAL TREES)
			42 EVERGREENS	46 EVERGREENS
			165 SHRUBS	165+ SHRUBS
S. LOCUST GROVE RD.	25'	1190' / 100' =	24 TREES	30.5 TREES (25 SHADE TREES + 11 ORNAMENTAL TREES)
			36 EVERGREENS	39 EVERGREENS
			143 SHRUBS	143+ SHRUBS
E. BLOUNT ST. (NORTH)	20'	2370' / 100' =	48 TREES	53.5 TREES (44 SHADE TREES + 19 ORNAMENTAL TREES)
			72 EVERGREENS	73 EVERGREENS
			285 SHRUBS	285+ SHRUBS
E. BLOUNT ST. (SOUTH)	20'	2360' / 100' =	48 TREES	50.5 TREES (43 SHADE TREES + 15 ORNAMENTAL TREES)
			71 EVERGREENS	71 EVERGREENS
			284 SHRUBS	284+ SHRUBS
TOTAL NUMBER OF BUFFER TREES:				421 TREES
TOTAL NUMBER OF COMMON AREA TREES:				342 TREES
TOTAL NUMBER OF TREES				813 TREES

DEVELOPMENT DATA

TOTAL AREA	96.60 ACRES
RESIDENTIAL LOTS	393
COMMON LOTS	44
TOTAL LOTS	437
COMMON AREA	14.68 ACRES (15.2%)
USABLE OPEN SPACE	11.18 ACRES (11.6%)
EXISTING ZONING	RR
PROPOSED ZONING	R-6/R-8

PLANT PALETTE

SYM	COMMON NAME	BOTANICAL NAME	SIZE	MATURE SIZE
	EVERGREEN TREES			
	AUSTRIAN PINE	PINUS NIGRA	6-8' HT B&B	50' HT x 20' W
	BLACK HILLS SPRUCE	PICEA GLAUCA 'DENSATA'	6-8' HT B&B	25' HT x 12' W
	BLUE SPRUCE	PICEA PUNGENS 'GLAUCA'	6-8' HT B&B	15' HT x 15' W
	MOONGLOW JUNIPER	JUNIPERUS SCOPULORUM 'MOONGLOW'	6-8' HT B&B	20' HT x 8' W
	NORWAY SPRUCE	PICEA ABIES	6-8' HT B&B	50' HT x 25'W
	VANDERWOLFS PINE	PINUS FLEXILIS 'VANDERWOLFS'	6-8' HT B&B	30' HT x 15' W
	STREET TREES (CLASS III)			
	LONDON PLANETREE	PLATANUS x ACERIFOLIA	2" CAL B&B	75' HT x 60' W
	RED OAK	QUERCUS RUBRA	2" CAL B&B	70' HT x 45' W
	STREET TREES (CLASS II)			
	AUTUMN PURPLE ASH	FRAXINUS AMERICANA 'AUTUMN PURPLE'	2" CAL B&B	45' HT x 35' W
	SKYLINE HONEYLOCUST	GLEDITSIA TRIACANTHOS INERMIS 'SKYCOLE'	2" CAL B&B	45' HT x 30' W
	LITTLELEAF LINDEN	TILIA CORDATA	2" CAL B&B	40' HT x 30' W
	AMERICAN SWEETGUM	LIQUIDAMBER STYRACIFLUA	2" CAL B&B	60' HT x 40' W
	TULIP TREE	LIRODENDRON TULIPIFERA	2" CAL B&B	50' HT x 30' W
	ORNAMENTAL TREES (CLASS I)			
	AMUR MAPLE	ACER GINNALA 'FLAME'	2" CAL B&B	20' HT x 25' W
	CHANTICLEER PEAR	PYRUS CALLERYANA 'GLEN'S FORM'	2" CAL B&B	30' HT x 15' W
	ROYAL RAINDROPS CRABAPPLE	MALUS x 'JFS-KW5'	2" CAL B&B	20' HT x 15' W
	SPRINGSNOW CRABAPPLE	MALUS 'SPRINGSNOW'	2" CAL B&B	20' HT x 15' W
	SHRUBS/ORNAMENTAL GRASSES/PERENNIALS			
	BLACK EYED SUSAN	RUDBECKIA FULGIDA 'GOLDSTRUM'	1 GAL. 24" O.C.	2' HT x 2' W
	BLUE RUG JUNIPER	JUNIPERUS HORIZONTALIS 'WILTONI'	2 GAL	6" HT x 6' W
	CREEPING MAHONIA	MAHONIA REPENS	3 GAL	18" HT x 3' W
	RED FLOWER CARPET ROSE	ROSA 'FLOWER CARPET- NOARE'	3 GAL	3' HT x 3' W
	DWARF FOUNTAIN GRASS	PENNISETUM ALOPECUROIDES 'HAMELN'	5 GAL	2' HT x 2' W
	DARTS GOLD NINEBARK	PHYSOCARPUS OPULIFOLIUS 'DART'S GOLD'	1 GAL	4' HT x 4' W
	STELLA D'ORO DAYLILY	HEMEROCALLIS 'STELLA D'ORO'	3 GAL	1.5' HT x 2' W
	EMERALD 'N' GOLD EUONYMUS	EUONYMUS FORTUNEI 'EMERALD 'N' GOLD'	5 GAL	2' HT x 4' W
	ENDLESS SUMMER HYDRANGEA	HYDRANGEA ARBORESCENS 'PIIHM-I'	3 GAL	4' HT x 4' W
	FINE LINE BUCKTHORN	RHAMNUS FRAGULA 'RON WILLIAMS'	5 GAL	6' HT x 2.5' W
	GOLDFLAME SPIREA	SPIRAEA x BUMALDA 'GOLDFLAME	3 GAL	4' HT x 4' W
	GRO-LOW SUMAC	RHUS AROMATICA 'GRO-LOW'	5 GAL	2.5' HT x 6' W
	IVORY HALO DOGWOOD	CORNUS ALBA 'BAILHALO'	5 GAL	5' HT x 6' W
	KARL FOERSTER REED GRASS	CALAMAGROSTIS ARUNDINACEA 'K.F.'	1 GAL	4' HT x 2' W
	LITTLE DEVIL NINEBARK	PHYSOCARPUS OPULIFOLIUS 'DONNA MAY'	5 GAL	3' HT x 3' W
	HIDCOTE BLUE ENGLISH LAVENDER	LAVANDULA ANGUSTIFOLIA 'HIDCOTE BLUE'	3 GAL	3' HT X 3' W
	OTTO LUYKEN LAUREL	PRUNUS LAUROCERASUS 'OTTO LUYKEN'	5 GAL	3' HT x 6' W
	PJM RHODODENDRON	RHODODRENDRON 'PJM'	5 GAL	4' HT x 4' W
	MAIDEN GRASS	MISCANTHUS SINENSIS 'GRACILLIMUS'	1 GAL	7' HT x 4' W
	SUMMERWINE NINEBARK	PHYSOCARPUS OPULIFOLIA 'SEWARD'	5 GAL	6' HT x 6' W

LAWN

6' VINYL LATTICE TOP FENCE ALONG PERIMETER PROPERTY LINES, COMMON LOTS, AND SIDE LOTS (TYP). SEE DTL 4, THIS SHT.

NOTES

1. ALL LANDSCAPE SHALL BE INSTALLED IN ACCORDANCE WITH KUNA CITY ORDINANCE REQUIREMENTS. ALL LOTS WILL COMPLY WITH KUNA CITY ORDINANCE REQUIRING ONE (1) TREE PER LOT (PROVIDED BY BUILDER AND/OR DEVELOPER).
2. ALL PLANTING AREAS TO BE WATERED WITH AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM.
3. TREES SHALL NOT BE PLANTED WITHIN THE 10-CLEAR ZONE OF ALL ACHD STORM DRAIN PIPE, STRUCTURES, OR FACILITIES. SEEPAGE BEDS MUST BE PROTECTED FROM ANY AND ALL CONTAMINATION DURING THE CONSTRUCTION AND INSTALLATION OF THE LANDSCAPE IRRIGATION SYSTEM. ALL SHRUBS PLANTED OVER OR ADJACENT TO SEEPAGE BEDS TO HAVE A ROOT BALL THAT DOES NOT EXCEED 18" IN DIAMETER. NO LAWN SOD TO BE PLACED OVER DRAINAGE SWALE SAND WINDOWS (IF PRESENT).
4. NO TREES SHALL IMPEDE THE 40' STREET AND DEPARTURE VISION TRIANGLES AT ALL INTERSECTIONS. NO CONIFEROUS TREES OR SHRUBS OVER 3' HIGH AT MATURITY WILL BE LOCATED WITHIN VISION TRIANGLE OR ACHD ROW. AS TREES MATURE, THE OWNER SHALL BE RESPONSIBLE FOR PRUNING TREE CANOPIES TO MEET ACHD REQUIREMENTS FOR MAINTAINING CLEAR VISIBILITY WITHIN 40' STREET AND DEPARTURE VISION TRIANGLE. TREES SHALL BE PLANTED NO CLOSER THAN 50' FROM STOP SIGNS.
5. LANDSCAPE AND TREES IN FRONT OF BUILDING LOTS ON INTERIOR STREETS TO BE COMPLETED DURING CONSTRUCTION OF THESE LOTS. TREE LOCATIONS MAY BE ALTERED TO ACCOMMODATE DRIVEWAYS AND UTILITIES. TREES SHALL NOT BE PLANTED WITHIN 5' OF WATER METERS OR UTILITY LINES.
6. PLANT LIST IS REPRESENTATIVE AND SUBJECT TO SUBSTITUTIONS OF SIMILAR SPECIES BY OWNER, SUBJECT TO CITY FORESTER'S PRE-APPROVAL. PLANTING BED DESIGN AND QUANTITIES MAY BE ALTERED DURING FINAL PLAT LANDSCAPE PLAN DESIGN. BURLAP AND WIRE BASKETS TO BE REMOVED FROM ROOT BALL AS MUCH AS POSSIBLE, AT LEAST HALFWAY DOWN THE BALL OF THE TREE. ALL NYLON ROPES TO BE COMPLETELY REMOVED FROM TREES.

OWNER OF RECORD
TJ JOHNSON
2425 N. LOCUST GROVE RD.
KUNA, IDAHO 83634

DEVELOPER
TRILOGY DEVELOPMENT, INC.
9839 W. CABLE CAR ST.
BOISE, IDAHO 83709

PLANNER/CONTACT
SHAWN BROWNLEE
TRILOGY DEVELOPMENT, INC.
9839 W. CABLE CAR ST.
BOISE, IDAHO 83709

JENSENBELTS ASSOCIATES
Site Planning / Landscape Architecture
1509 Tyrell Lane, Ste 150 Boise, ID 83706
Ph. (208) 343-7175 www.jensenbelts.com

Bailey Engineering, Inc.
CIVIL ENGINEERING | PLANNING | CADD
1119 E. STATE STREET, SUITE 210
EAGLE, ID 83616
TEL: 208.938.0013
www.baileyengineers.com

STATE OF IDAHO — CLAYTON S. BAILEY — 6535 — REGISTERED LANDSCAPE ARCHITECT

CHECKED BY: KCS
DRAWN BY: JJN

REVISED
NO. DATE DESCRIPTION

PRELIMINARY PLAT LANDSCAPE PLAN
LEDGESTONE SOUTH SUBDIVISION
TRILOGY DEVELOPMENT, INC.

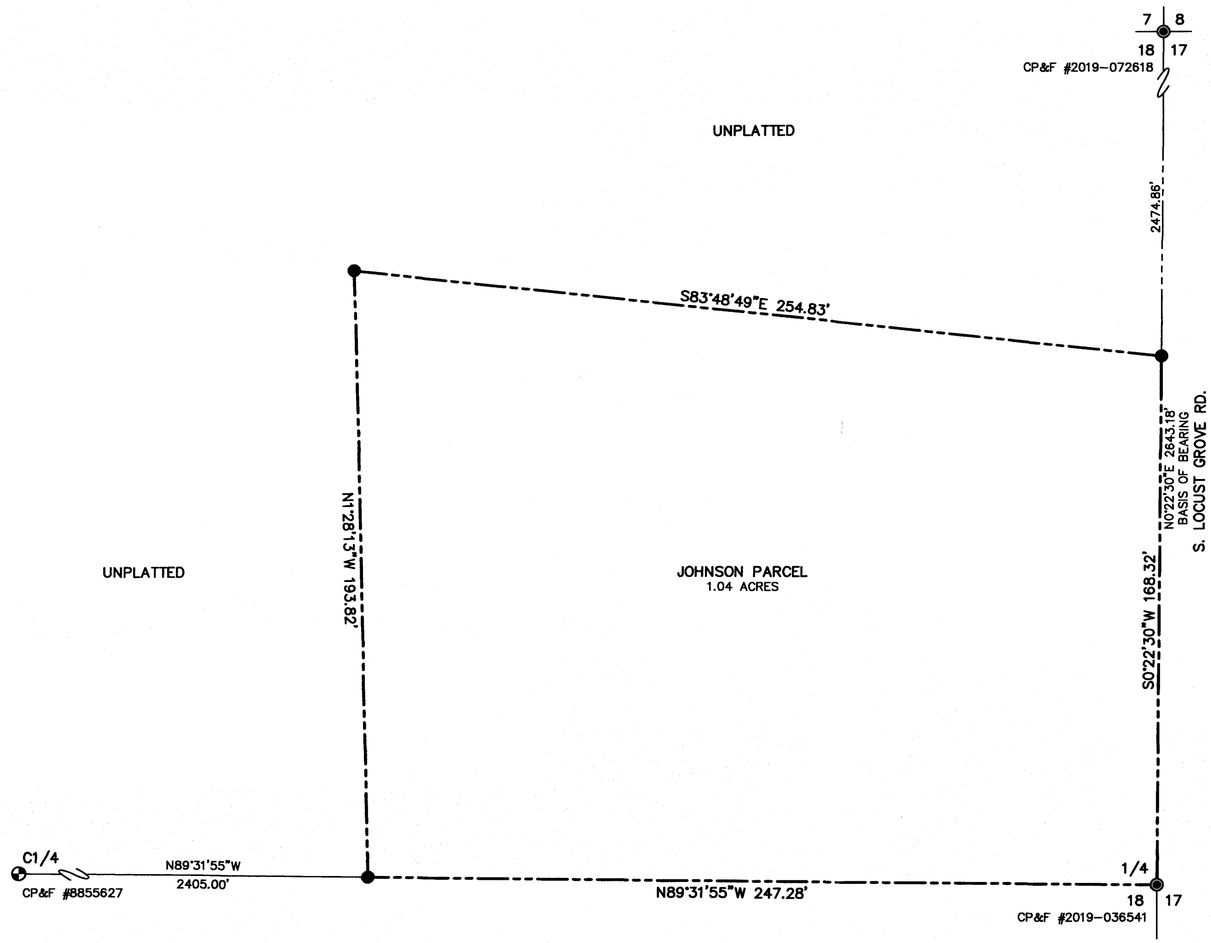
DATE: 03-23-2020
PROJECT: JBA-1993
SHEET L7

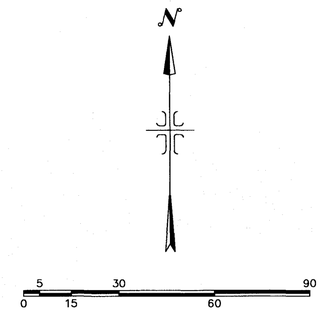
RECORD OF SURVEY FOR

T. J. JOHNSON

LOCATED IN THE SE 1/4 OF THE NE 1/4 OF SECTION 18,
T.2N., R.1E., B.M., ADA COUNTY, IDAHO

ROS NO. 12262





SCALE: 1" = 30'

LEGEND

- FOUND BRASS CAP MONUMENT
- FOUND ALUMINUM CAP MONUMENT
- SET 5/8" IRON PIN WITH CAP
- PROPERTY BOUNDARY LINE
- SECTION LINE

SURVEYORS NARRATIVE:

THE PURPOSE OF THIS SURVEY IS TO SEPARATE THE 1.04 ACRE PARCEL SHOWN HERON FROM THE EXISTING PROPERTY. THE PROPERTY IS A PORTION OF PARCEL B AS SHOWN ON ROS 11579. THE SECTION CORNER MONUMENTATION SHOWN ON THIS SURVEY AND LOCATED ON THE GROUND WERE HELD AS CONTROLLING CORNERS FOR THIS SURVEY.

CERTIFICATE OF LAND SURVEYOR

I, GREGORY CARTER, DO HEREBY CERTIFY THAT I AM A REGISTERED PROFESSIONAL LAND SURVEYOR, LICENSED BY THE STATE OF IDAHO, AND THAT THIS MAP HAS BEEN PREPARED FROM AN ACTUAL SURVEY MADE ON THE GROUND UNDER MY DIRECT SUPERVISION, AND THAT THIS MAP IS AN ACCURATE REPRESENTATION OF SAID SURVEY, AND IS IN CONFORMITY WITH THE CURRENT LAWS OF THE STATE OF IDAHO PERTAINING TO PLATS AND SURVEYS.

PROFESSIONAL LAND SURVEYOR LICENSED 7729 3/19/2020 STATE OF IDAHO GREGORY G. CARTER

GREGORY S. CARTER — LICENSE NO. 7729

COUNTY RECORDER'S CERTIFICATE

INST. NO. 2020-033741

STATE OF IDAHO, COUNTY OF ADA, ss.

FILED FOR RECORD AT THE REQUEST OF T.J. JOHNSON
26 MIN. PAST 12 O'CLOCK P M. THIS 23rd DAY OF March 2020
PHIL McGRANE, RECORDER
BY _____ DEPUTY
FEE $ 5.00

RECORDING INDEX NUMBER: 211-18-1-3-0-00-000

IDAHO SURVEY GROUP, LLC
9955 W. EMERALD ST.
BOISE, IDAHO 83704
(208) 846-8570

P:\Ledgestone Sub (Johnson 58ac) 18-148\dwg\Johnson 1.04 acre rec.dwg 3/19/2020 3:04:03 PM

Jace Hellman

From: Jace Hellman
Sent: Wednesday, May 20, 2020 3:11 PM
To: Ada County Engineer; Ada County Highway District; Adam Ingram; Becky Rone - Kuna USPS Addressing; Bob Bachman; Bobby Withrow; Boise Project Board of Control (TRitthaler@boiseproject.org); Brent Moore (Ada County); Cable One t.v.; Central District Health Dept. CDHD; COMPASS; David Reinhart; DEQ (Alicia.martin@deq.idaho.gov); Eric Adolfson; Idaho Power; Idaho Power Easements; 'Idaho Power Easments 2'; Intermountain Gas; ITD; J&M Sanitation - Chad Gordon; Jim Obert; jmcdaniel@adaweb.net; Julie Stanely - Regional Address Mgmt.; Krystal Hinkle; Kuna Postmaster - Marc C. Boyer; Lisa Holland; Megan Leatherman; Nampa Meridian Irrigation District; New York Irrigation; Paul Stevens; Phil Roberts; Planning Mgr: Ada County Development Services; Reggie Edwards; Wendy
Subject: Kuna Planning and Zoning Request for Comment - Case Nos. 20-03-S (Preliminary Plat), 20-01-AN (Annexation) and 20-07-DR (Design Review - Ledgestone South
Attachments: Ledgestone South Agency Packet.pdf

May 20, 2020

Notice is hereby given by the City of Kuna that the following action(s) are under consideration:

File Number & Case Name:	20-01-AN (Annexation),20-03-S (Preliminary Plat) & 20-07-DR (Design Review) – Ledgestone South.
Project Description	Trilogy Development, Inc and Gem State Planning request to annex four parcels consisting of approximately 97 acres into Kuna City Limits with an R-6 (Medium Density Residential) and R-8 (Medium Density Residential) zoning district classification and to subdivide the 97 acres into 437 total lots (393 buildable lots and 44 common lots). The subject sites are located along North Locust Grove Road and future extensions of Ardell Road and Stroebel Road, within Section 18, Township 2 North, Range 1 East; (APNs: S1418123460, S1418123485, S1418427800 and S1418417200).
Site Location	2425 N. Locust Grove Road and Surrounding Parcels (see parcel numbers above)
Applicant	**Trilogy Development, Inc** 9839 W. Cable Car St., Suite 101 Boise, ID 83709 208-895-8858
Representative	**Gem State Planning - Jane Suggs** 9840 W. Overland Road, Suite 120 Boise, ID 83709 208-602-6941 jane@gemstateplanning.com

Exhibit B1

Tentative Public Hearing Date	Tuesday, **July 28, 2020** 6:00 pm Kuna City Hall is located at 751 W. 4th Street, Kuna, ID 83634
Staff Contact	Jace Hellman, Planner II jhellman@kunaid.gov Phone: 208.922.5274 Fax: 208.922.5989
Enclosed is information to assist you with your consideration and response. All comments as to how this action may affect the service(s) your agency provides, is greatly appreciated. Please contact staff with any questions. **If your agency needs different or additional information to review and provide comments please notify our office and they will be sent to you.** If your agency needs additional time for review, please let our office know as soon as possible. *No response within 15 business days will indicate you have no objection or comments for this project.*	

Please let me know if you office needs any additional information.

Thank you,

Jace Hellman
Planner II
751 W 4th St
Kuna, ID 83634
jhellman@kunaid.gov

KUNA
Planning & Zoning

IDAHO TRANSPORTATION DEPARTMENT
P.O. Box 8028
Boise, ID 83707-2028

(208) 334-8300
itd.idaho.gov

April 27, 2020

Shawn Brownlee
Trilogy Development
9839 W. Cable Car St, Suite 101
Boise, ID 83709

RE: Ledgestone South Subdivision – ITD Development Condition Memo

Via Email

Dear Mr. Brownlee,

The Idaho Transportation Department (ITD) has reviewed the Traffic Impact Study (TIS) addendum for the Ledgestone South Subdivision dated April 2020. The development is located east of SH-69 between Hubbard Road and Deer Flat Road. It is not taking direct access off SH-69.

ITD has determined that no improvements to SH-69 are required as long as the development does not alter from what was proposed in the TIS and addendum.

Maintaining safety and mobility for Idaho's motorists is of the utmost importance to ITD. Please let me know if you have any questions. I can be reached by phone at (208) 256-4312 extension #7 or email at erika.bowen@itd.idaho.gov.

Sincerely,

Erika R Bowen
District 3 Traffic Technical Engineer

cc.
Mindy Wallace, ACHD
Troy Behunin, City of Kuna

RON PLATT
CHAIRMAN OF THE BOARD

BRIAN MCDEVITT
VICE CHAIRMAN OF THE BOARD

ROBERT D. CARTER
PROJECT MANAGER

THOMAS RITTHALER
ASSISTANT PROJECT MANAGER

APRYL GARDNER
SECRETARY-TREASURER

MARY SUE CHASE
ASSISTANT SECRETARY-TREASURER

BOISE PROJECT BOARD OF CONTROL

(FORMERLY BOISE U.S. RECLAMATION PROJECT)

2465 OVERLAND ROAD
BOISE, IDAHO 83705-3155

RECEIVED
MAY 26 2020
CITY OF KUNA

OPERATING AGENCY FOR 167,000 ACRES FOR THE FOLLOWING IRRIGATION DISTRICTS

NAMPA-MERIDIAN DISTRICT
BOISE-KUNA DISTRICT
WILDER DISTRICT
NEW YORK DISTRICT
BIG BEND DISTRICT

TEL: (208) 344-1141
FAX: (208) 344-1437

21 June 2020

City of Kuna
751 W. 4th St.
Kuna, Idaho 83634

RE: Ledgestone South, Trilogy Development **20-01-AN, 20-03-S**
642 S Ash St., Kuna 83634
Boise-Kuna Irrigation District **BK-184-A1, 184 A, 187 B**
New York Irrigation District **NY-367-001-00, 367-001-01**
Hubbard Lateral 53+30, 74+00, 74+10, 76+30
Sec. 18, T2N, R1W, BM.

Jace Hellman, Planner II:

There are no Boise Project facilities located on the above-mentioned property, however it does in fact possess a valid water right with two irrigation districts.

Local irrigation/drainage ditches that cross this property, in order to serve neighboring properties, must remain unobstructed and protected by an appropriate easement.

The developer must contact Boise-Kuna Irrigation District and New York Irrigation District as soon as possible as to who will own and operate the pressurized irrigation system for this development.

Boise Project must receive confirmation from both Irrigation Districts as to who will own and operate the PI system prior to any approval of a drainage and irrigation plan.

.

Exhibit
B2

If you have any further questions or comments regarding this matter, please do not hesitate to contact me at (208) 344-1141.

Sincerely,

Thomas Ritthaler
Assistant Project Manager, BPBC

tbr/tr

cc: Clint McCormick — Watermaster, Div.2 BPBC
Lauren Boehlke — Secretary-Treasurer, BKID
Terri Hasson — Secretary-Treasurer, NYID
File

Communities in Motion 2040 2.0 Development Review

The Community Planning Association of Southwest Idaho (COMPASS) is the metropolitan planning organization (MPO) for Ada and Canyon Counties. COMPASS has developed this review as a tool for local governments to evaluate whether land developments are consistent with the goals of *Communities in Motion 2040 2.0* (CIM 2040), the regional long-range transportation plan for Ada and Canyon Counties. This checklist is not intended to be prescriptive, but rather a guidance document based on CIM 2040 2.0 goals.

Development Name: Ledgestone South **Agency: Kuna**

CIM Vision Category: Future Neighborhoods

New households: 393 **New jobs: 0** **Exceeds CIM forecast: Yes**



CIM Corridor: **Locust Grove Rd** Pedestrian level of stress: **R** Bicycle level of stress: **R**	Level of Stress considers facility type, number of vehicle lanes, and speed. Roads with **G or PG** ratings better support bicyclists and pedestrians of all ages and comfort levels.
Housing within 1 mile: **310** Jobs within 1 mile: **24** Jobs/Housing Ratio: **0.08**	A good jobs/housing balance – a ratio between **1 and 1.5** – reduces traffic congestion. Higher numbers indicate the need for more housing and lower numbers indicate an employment need.
Nearest police station: **4 miles** Nearest fire station: **3.2 miles**	Developments within **1.5 miles** of police and fire stations ensure that emergency services are more efficient and reduce the cost of these important public services.
Farmland consumed: **Yes** Farmland within 1 mile: **1,531 acres**	Farmland contributes to the local economy, creates additional jobs, and provides food security to the region. Development in farm areas decreases the productivity and sustainability of farmland.
Nearest bus stop: **>4 miles** Nearest public school: **2.4 miles** Nearest public park: **1.4 miles** Nearest grocery store: **1.1 miles**	Residents who live or work less than **½ mile** from critical services have more transportation choices. Walking and biking reduces congestion by taking cars off the road, while supporting a healthy and active lifestyle.

Recommendations

This proposal exceeds growth forecasted for this area. Transportation infrastructure may not be able to support the new transportation demands. It is on the fringe of urban development in an area predominately farmland area, far from employment centers and public transportation. The closest bus service is more than four miles away and ValleyConnect 2.0 does not plan to serve this area.

received
6.5.2020

More information about COMPASS and *Communities in Motion 2040 2.0*:
Web: www.compassidaho.org
Email info@compassidaho.org
More information about the development review process:
http://www.compassidaho.org/dashboard/devreview.htm

COMPASS
COMMUNITY PLANNING ASSOC
of Southw

Exhibit
B6

CENTRAL DISTRICT HEALTH DEPARTMENT

CENTRAL DISTRICT HEALTH DEPARTMENT
Environmental Health Division

Return to:
- [ ] ACZ
- [ ] Boise
- [ ] Eagle
- [ ] Garden City
- [ ] Meridian
- [x] Kuna
- [ ] Star

Rezone # 20-01-AM

Conditional Use # _____

Preliminary / Final / Short Plat 20-03-S

Ledgestone South

- [ ] 1. We have No Objections to this Proposal.
- [ ] 2. We recommend Denial of this Proposal.
- [ ] 3. Specific knowledge as to the exact type of use must be provided before we can comment on this Proposal.
- [ ] 4. We will require more data concerning soil conditions on this Proposal before we can comment.
- [ ] 5. Before we can comment concerning individual sewage disposal, we will require more data concerning the depth of:
  - [ ] high seasonal ground water
  - [ ] bedrock from original grade
  - [ ] waste flow characteristics
  - [ ] other _____
- [ ] 6. This office may require a study to assess the impact of nutrients and pathogens to receiving ground waters and surface waters.
- [ ] 7. This project shall be reviewed by the Idaho Department of Water Resources concerning well construction and water availability.
- [x] 8. After written approvals from appropriate entities are submitted, we can approve this proposal for:
  - [x] central sewage
  - [ ] interim sewage
  - [ ] individual sewage
  - [ ] community sewage system
  - [x] central water
  - [ ] individual water
  - [ ] community water well
- [x] 9. The following plan(s) must be submitted to and approved by the Idaho Department of Environmental Quality:
  - [x] central sewage
  - [ ] sewage dry lines
  - [ ] community sewage system
  - [x] central water
  - [ ] community water
- [ ] 10. This Department would recommend deferral until high seasonal ground water can be determined if other considerations indicate approval.
- [ ] 11. If restroom facilities are to be installed, then a sewage system MUST be installed to meet Idaho State Sewage Regulations.
- [ ] 12. We will require plans be submitted for a plan review for any:
  - [ ] food establishment
  - [ ] beverage establishment
  - [ ] swimming pools or spas
  - [ ] grocery store
  - [ ] child care center
- [x] 13. Infiltration beds for storm water disposal are considered shallow injection wells. An application and fee must be submitted to CDHD.
- [ ] 14. _____

Reviewed By: Lou Bazzi

Date: 6 / 2 / 2020

received 6.4.2020

Exhibit B5

3/2019-jm

Rev

Richard Beck
Interim Director

Ada County Courthouse
200 West Front Street
Boise ID 83702
208.287.7900
Fax 208.287.7909
www.adacounty.id.gov

Department Divisions
Building
Community Planning
Engineering & Surveying
Permitting

Ada County Commissioners
Diana Lachiondo, First District
Patrick Malloy, Second District
Kendra Kenyon, Third District

ADA COUNTY
Development Services Department

received
5.27.2020

May 27, 2020

Via Email: jhellman@kunaid.gov

Jace Hellman
Kuna City Hall
751 W 4th Street
Kuna, ID 83634

RE: Ledgestone South Subdivision / 2425 N. Locust Grove Road /
20-01-AN & 20-03-S

Jace,

The City of Kuna has requested feedback regarding a proposed annexation and preliminary plat for the Ledgestone South Subdivision, which would include 393 homes on approximately 97 acres at 2425 N. Locust Grove. The property is located within Kuna's Area of City Impact B, which was approved by Ada County in 2017 as part of an agreement with the City of Kuna that it would be subject to Ada County's Future Land Use map and Comprehensive Plan.

Ada County finds the proposed development to not be in conformance with the Future Land Use map adopted by Ada County for Kuna's Area of City Impact B, as it designates the subject property as *Agriculture (Irrigated)*. The Comprehensive Plan discourages residential development within this designation and lists farmland, cropland, vineyards, pastures, orchards and other low intensity agricultural uses as primary uses.

Additionally, portions of this site are designated as Prime Farmland by the U.S. Department of Agriculture, which are lands that have been identified as having the best combination of physical and chemical characteristics for the production of crops that are still available for farming. As *Goal 2.5b* of the Ada County Comprehensive Plan supports the conservation of prime agricultural land and irrigated farmland, the County would like to see this property preserved for agricultural use, and for urban developments such as this to occur closer to Kuna's downtown, within its Area of City Impact A. The preservation of existing agricultural land is especially important at this time due to the significant loss of farmland the region has experienced due to growth, and the development pressures that continue to affect agricultural lands in the County.

Exhibit
B4

The proposed development will also pre-maturely expand urban land uses in rural areas of Ada County, extending demands for public facilities, services and utilities to areas in which they have not been anticipated by the County. This subdivision will create an increased demand on many County services such as the Sheriff, Paramedics, Coroner, Mosquito Abatement, and others. Allowing this annexation and associated development to proceed will also enable the further annexation of parcels to the east that are further separated from existing services.

Ada County looks forward to continuing to work with Kuna to best develop a workable land use vision within Kuna's Area of City Impact B that balances the need for economic development with an interest in providing efficient public facilities and preserving public and agricultural lands.

Thank you for this opportunity to provide feedback.

Sincerely,

Brent Moore

Brent Moore, MCMP, AICP
Community & Regional Planner
Ada County Development Services

cc: Richard Beck, Interim Director, Ada County Development Services
Jason Boal, Interim Deputy Director, Ada County Development Services
Mark Perfect, Planning & Zoning Administrator, Ada County Development Services

received
5.27.2020

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1445 North Orchard • Boise, ID 83706 • (208) 373-0550

Brad Little, Governor
John H. Tippets, Director

May 28, 2020

Jace Hellman, Planner II
Kuna Planning & Zoning
751 W 4th St
Kuna, ID 83634

RE: Ledgestone South Subdivision 20-01-AN, 20-03-S, and 20-07-DR

Thank you for the opportunity to respond to your request for comment. While DEQ does not review projects on a project-specific basis, we attempt to provide the best review of the information provided. DEQ encourages agencies to review and utilize the Idaho Environmental Guide to assist in addressing project-specific conditions that may apply. This guide can be found at: deq.idaho.gov/assistance-resources/environmental-guide-for-local-govts.

The following information does not cover every aspect of this project; however, we have the following general comments to use as appropriate:

1. **Air Quality**
   - Please review IDAPA 58.01.01 for all rules on Air Quality, especially those regarding fugitive dust (58.01.01.651), trade waste burning (58.01.01.600-617), and odor control plans (58.01.01.776).

     All property owners, developers, and their contractor(s) must ensure that reasonable controls to prevent fugitive dust from becoming airborne are utilized during all phases of construction activities per IDAPA 58.01.01.651.

     DEQ recommends the city/county require the development and submittal of a dust prevention and control plan prior to final plat approval. Dust prevention and control plans incorporate appropriate best management practices to control fugitive dust that may be generated at sites.

     Citizen complaints received by DEQ regarding fugitive dust from development and construction activities will be referred to the city or county to address under their ordinances.

     Information on fugitive dust control plans can be found at:
     http://www.deq.idaho.gov/media/61833-dust_control_plan.pdf

   - Per IDAPA 58.01.01.600-617, the open burning of any construction waste is prohibited. The property owner, developer, and their contractor(s) are responsible for ensuring no prohibited open burning occurs during construction.

     For questions, contact David Luft, Air Quality Manager, at (208) 373-0550.

Exhibit
B3

2. Wastewater and Recycled Water

- DEQ recommends verifying that there is adequate sewer to serve this project prior to approval. Please contact the sewer provider for a capacity statement, declining balance report, and willingness to serve this project.

- IDAPA 58.01.16 and IDAPA 58.01.17 are the sections of Idaho rules regarding wastewater and recycled water. Please review these rules to determine whether this or future projects will require DEQ approval. IDAPA 58.01.03 is the section of Idaho rules regarding subsurface disposal of wastewater. Please review this rule to determine whether this or future projects will require permitting by the district health department.

  All projects for construction or modification of wastewater systems require preconstruction approval. Recycled water projects and subsurface disposal projects require separate permits as well.

- DEQ recommends that projects be served by existing approved wastewater collection systems or a centralized community wastewater system whenever possible. Please contact DEQ to discuss potential for development of a community treatment system along with best management practices for communities to protect ground water.

- DEQ recommends that cities and counties develop and use a comprehensive land use management plan, which includes the impacts of present and future wastewater management in this area. Please schedule a meeting with DEQ for further discussion and recommendations for plan development and implementation.

  For questions, contact Valerie Greear, Water Quality Engineering Manager at (208) 373-0550.

3. Drinking Water

- DEQ recommends verifying that there is adequate water to serve this project prior to approval. Please contact the water provider for a capacity statement, declining balance report, and willingness to serve this project.

- IDAPA 58.01.08 is the section of Idaho rules regarding public drinking water systems. Please review these rules to determine whether this or future projects will require DEQ approval.

  All projects for construction or modification of public drinking water systems require preconstruction approval.

- DEQ recommends verifying if the current and/or proposed drinking water system is a regulated public drinking water system (refer to the DEQ website at: deq.idaho.gov/water-quality/drinking-water.aspx). For non-regulated systems, DEQ recommends annual testing for total coliform bacteria, nitrate, and nitrite.

- If any private wells will be included in this project, we recommend that they be tested for total coliform bacteria, nitrate, and nitrite prior to use and retested annually thereafter.

- DEQ recommends using an existing drinking water system whenever possible or construction of a new community drinking water system. Please contact DEQ to discuss this project and to explore options to both best serve the future residents of this development and provide for

protection of ground water resources.

- DEQ recommends cities and counties develop and use a comprehensive land use management plan which addresses the present and future needs of this area for adequate, safe, and sustainable drinking water. Please schedule a meeting with DEQ for further discussion and recommendations for plan development and implementation.

  For questions, contact Valerie Greear, Water Quality Engineering Manager at (208) 373-0550.

4. Surface Water

- A DEQ short-term activity exemption (STAE) from this office is required if the project will involve de-watering of ground water during excavation and discharge back into surface water, including a description of the water treatment from this process to prevent excessive sediment and turbidity from entering surface water.

- Please contact DEQ to determine whether this project will require a National Pollution Discharge Elimination System (NPDES) Permit. A Construction General Permit from EPA may be required if this project will disturb one or more acres of land, or will disturb less than one acre of land but are part of a common plan of development or sale that will ultimately disturb one or more acres of land.

- If this project is near a source of surface water, DEQ requests that projects incorporate construction best management practices (BMPs) to assist in the protection of Idaho's water resources. Additionally, please contact DEQ to identify BMP alternatives and to determine whether this project is in an area with Total Maximum Daily Load stormwater permit conditions.

- The Idaho Stream Channel Protection Act requires a permit for most stream channel alterations. Please contact the Idaho Department of Water Resources (IDWR), Western Regional Office, at 2735 Airport Way, Boise, or call (208) 334-2190 for more information. Information is also available on the IDWR website at:
  http://www.idwr.idaho.gov/WaterManagement/StreamsDams/Streams/AlterationPermit/AlterationPermit.htm

- The Federal Clean Water Act requires a permit for filling or dredging in waters of the United States. Please contact the US Army Corps of Engineers, Boise Field Office, at 10095 Emerald Street, Boise, or call 208-345-2155 for more information regarding permits.

  For questions, contact Lance Holloway, Surface Water Manager, at (208) 373-0550.

5. Hazardous Waste And Ground Water Contamination

- **Hazardous Waste.** The types and number of requirements that must be complied with under the federal Resource Conservations and Recovery Act (RCRA) and the Idaho Rules and Standards for Hazardous Waste (IDAPA 58.01.05) are based on the quantity and type of waste generated. Every business in Idaho is required to track the volume of waste generated, determine whether each type of waste is hazardous, and ensure that all wastes are properly disposed of according to federal, state, and local requirements.

- No trash or other solid waste shall be buried, burned, or otherwise disposed of at the project site. These disposal methods are regulated by various state regulations including Idaho's Solid Waste

Management Regulations and Standards, Rules and Regulations for Hazardous Waste, and Rules and Regulations for the Prevention of Air Pollution.

- **Water Quality Standards.** Site activities must comply with the Idaho Water Quality Standards (IDAPA 58.01.02) regarding hazardous and deleterious-materials storage, disposal, or accumulation adjacent to or in the immediate vicinity of state waters (IDAPA 58.01.02.800); and the cleanup and reporting of oil-filled electrical equipment (IDAPA 58.01.02.849); hazardous materials (IDAPA 58.01.02.850); and used-oil and petroleum releases (IDAPA 58.01.02.851 and 852).

  Petroleum releases must be reported to DEQ in accordance with IDAPA 58.01.02.851.01 and 04. Hazardous material releases to state waters, or to land such that there is likelihood that it will enter state waters, must be reported to DEQ in accordance with IDAPA 58.01.02.850.

- **Ground Water Contamination.** DEQ requests that this project comply with Idaho's Ground Water Quality Rules (IDAPA 58.01.11), which states that "No person shall cause or allow the release, spilling, leaking, emission, discharge, escape, leaching, or disposal of a contaminant into the environment in a manner that causes a ground water quality standard to be exceeded, injures a beneficial use of ground water, or is not in accordance with a permit, consent order or applicable best management practice, best available method or best practical method."

  For questions, contact Albert Crawshaw, Waste & Remediation Manager, at (208) 373-0550.

6. **Additional Notes**
   - If an underground storage tank (UST) or an aboveground storage tank (AST) is identified at the site, the site should be evaluated to determine whether the UST is regulated by DEQ. EPA regulates ASTs. UST and AST sites should be assessed to determine whether there is potential soil and ground water contamination. Please call DEQ at (208) 373-0550, or visit the DEQ website deq.idaho.gov/waste-mgmt-remediation/storage-tanks.aspx for assistance.

   - If applicable to this project, DEQ recommends that BMPs be implemented for any of the following conditions: wash water from cleaning vehicles, fertilizers and pesticides, animal facilities, composted waste, and ponds. Please contact DEQ for more information on any of these conditions.

We look forward to working with you in a proactive manner to address potential environmental impacts that may be within our regulatory authority. If you have any questions, please contact me, or any of our technical staff at (208) 373-0550.

Sincerely,

Aaron Scheff

Aaron Scheff
Regional Administrator
Boise Regional Office

ec: CM#2020AEK132

Kuna School District

Inspiring each student to become a lifelong learner and a contributing, responsible citizen.

Wendy Johnson, *Superintendent*

Kim Bekkedahl, *Asst. Superintendent of Student Learning Services*

David Reinhart, *Asst. Superintendent of School Support Services*

Elmira Feather, *Finance Manager*

Deb McGrath, *Director of Federal and State Programs*

Jim Obert, *Administrator of IT and Major Projects*

Kelly Schamber, *Special Education Director*

Allison Westfall, *Director of Communications*

July 8, 2020

Subject: Ledgestone South Subdivision

Dear Honorable Members of the Planning and Zoning Commission,

Kuna School District has experienced approximately 2% growth over the last few years. Based on the 2016 Kuna School District Growth Report and Demographic Forecast, we predict that these homes, when completed, will house 255 school aged children based on our calculation of .65 students per household, which is the Ada County standard calculation. Approval of the Ledgestone South Subdivision will affect enrollments at the following schools:

Anticipated 2020-21	Enrollment	Capacity
Silver Trail Elementary	477	600
Fremont Middle School	576	730
Kuna High School	1350	1500
Swan Falls High School	450	500

As you notice from the above numbers, Silver Trail Elementary School and Fremont Middle School currently have capacity. Kuna High School will have capacity due to the opening of Swan Falls High School this fall.

We are aware of additional proposed subdivisions in the Silver Trail Elementary and Fremont Middle School attendance zones that may bring them to capacity in the near future. Once these schools are at capacity, our Board of Trustees will have to determine whether or not a bond vote will be needed to expand our current school capacity.

Regards,

District Planners
Jim Obert and David Reinhart

711 E. Porter Rd., Kuna, Idaho 83634
Phone: (208) 922-1000 FAX: (208) 922-5646

Exhibit B7

CITY OF KUNA
P.O. BOX 13
KUNA, ID 83634
www.kunacity.id.gov

Paul A. Stevens, P.E.
Kuna City Engineer

MEMORANDUM

Date: 19 June 2020

From: Paul A. Stevens, P.E.

To: Wendy Howell, Planning and Zoning Director

RE: 20-01-AN (Annexation),20-03-S (Preliminary Plat) & 20-07-DR (Design Review) – Ledgestone South.

The 20-01-AN (Annexation),20-03-S (Preliminary Plat) & 20-07-DR (Design Review) – Ledgestone South. Request dated 20 May 2020 has been reviewed. The application provides a preliminary plat, a narrative explaining the developers vision for the subdivision, a landscape plan, and various explanatory maps and pictures. These comments apply to the preliminary plat and the rezone as they affect public works infrastructure. Landscaping, population density, parking requirements, emergency access, intense pedestrian and vehicular traffic and similar topics are evaluated by the Planning and Zoning Department. Review and evaluation of civil design drawings is accomplished separately, when received.

These comments may be expanded or refined based on future land-use actions. The following comments apply considering current, effective requirements:

1. **General**
   a. Ledgestone South. Subdivision is zoned by ADA County as RR. The site is approximately 97 acres. The rezone requests changing the zoning to R-6/R-8, medium density residential. The preliminary plat contains 393 residential lots and 44 common lots. The proposed net density is 5.65 Dwelling Units per Acre (DUA).
   b. Typical dwelling units are reckoned at approximately 3.18 people per household. At this rate the projected population for this subdivision will be approximately 1742.8 people or 18 people per acre.
   c. A commensurate impact on the City of Kuna's pressurized irrigation, sewer, and water utilities will result.
   d. A commensurate impact to traffic volumes and densities will follow.
   e. Access to Ledgestone South Subdivision is shown as two access points on S. Stroebel Road. Additional access points will be developed as road infrastructure improvements are extended to the east side of the project.
   f. It is imperative that E. Ardell Road is preserved as an unhindered, through road.
   g. While a walking path and other areas for outside activities are incorporated into the project, connection to the City of Kuna pathways is not yet available.
   h. A plan approval letter will be required if this project affects any local irrigation districts.
   i. Verify that existing and proposed elevations match at property boundaries such that a slope burden is not imposed on adjacent properties. Grading plans are required for the subdivision.
   j. Where lots have to be stair stepped to accommodate grades, the privacy fence must be on the high side of the lot's property line such that privacy is actually achieved.

Exhibit B8

k. State the vertical datum used for elevations on all drawings. A local grid is not acceptable. All elevations must be state plane coordinate system elevations.
l. Provide engineering certification on all final engineering drawings.

2. Inspection Fees

a. An inspection fee will be levied for City inspection of water, sewer and irrigation facilities construction associated with this development. The current inspection fee is $1.00 per lineal foot of sewer, water and pressure irrigation pipe. Payment is due and payable prior to City's approval of final construction plans.
b. The developer shall retain a qualified responsible, Idaho registered professional engineer to provide sufficient inspection to certify to DEQ that the project was completed in accordance with approved plans and specifications and to provide accurate as-built (record) drawings to the City. IDAPA 10.01.02 lists the professional engineer's project responsibilities.
c. The developer's engineer and the City's inspector are permitted to coordinate inspections.

3. Right-of-Way

a. Ledgestone South Subdivision will impact travel on S. Stroebel Road, E. Ardell Road, & E. Hubbard Road.
a. All street construction must meet or exceed ACHD and City of Kuna development standards.
b. Sufficient right-of-way for existing and future classified streets shall be provided pursuant to City & ACHD standards.
c. Approaches onto classified streets must comply with ACHD approach policies.
d. Sidewalk, curb and gutter, street widening and any related storm drainage facilities, consistent with city code and policies, shall be provided in connection with property development.
e. All city mainlines crossing proposed lots, running along the back of lots and sides of lots shall have easements that allow the City of Kuna to access and maintain the utilities.

4. Sanitary Sewer & Potable Water

a. It is recommended that this application be conditioned to conform to the sewer and water master plans as applicable.
b. The applicant's property is presently uninhabited, is not connected to City services and is subject to connection fees for the ultimate connected sewer load and water demand as provided in the City's Standard Tables. City Code (6-4-2) requires connection to the City sewer system for all sanitary sewer needs. City Code (6-4-2X) requires connection to City water services.
c. City code 5-16-3: B.2 states that applicant shall extend public sewer and water to each parcel when water and sewer are available within three hundred (300) feet of the parcels.
d. All sewer and water infrastructure must meet or exceed City of Kuna requirements.
e. Water and sewer flow models will be required to verify adequate water supply and fire suppression and sewage removal. The Developer shall be responsible for developing the infrastructure model modifications. Currently the City of Kuna is utilizing Keller Associates for this function.
f. Sewer and water connection fees apply to each lot containing a home or other facility.
g. Ledgestone South Sewage is anticipated to flow to Patagonia Lift Station. The sewage is subsequently lifted at Danskin Lift Station. **Neither lift station can support this project as currently configured.** The developer may be asked to participate in the cost to develop additional capacity. Improvements may include the lift station, force and gravity sewer mainlines.
h. All existing sewage treatment facilities (septic tank and drain field) must be decommissioned in accordance with Idaho Department of Environmental Quality requirements. Documentation shall be provided to the City of Kuna.

i. All existing wells shall be abandoned in accordance with Idaho Department of Water Resources (IDWR) requirements. Documentation shall be provided to the City of Kuna.

5. Pressurized Irrigation

a. It is recommended that this application be conditioned to conform to the Pressure Irrigation Master Plan.
b. The applicant's property is not connected to the City's pressurized irrigation system. Relying on drinking water for irrigation purposes conflicts with City Code (6-4-2).
c. Condition this project to require connection and annexation to the City's Pressurized Irrigation system.
d. All pressurized irrigation infrastructure shall meet or exceed City of Kuna standards.
e. Pressurized irrigation valves shall be easily accessible by the lot using the irrigation service.
f. Annexation into the municipal irrigation district and pooling of water rights is a requirement of the final plat approval. This site is served by Boise Kuna Irrigation District.
g. Existing irrigation ditches (supply & drain) must be relocated as needed and as approved by the irrigation ditch company/users.
h. Pressurized irrigation flow model will be required to verify adequate pressurized irrigation supply.
i. All residential, common lots and open areas with irrigation are required to connect to the pressurized irrigation system and to pay the associated connection fee.

6. Grading and Storm Drainage

a. Verify that existing and proposed elevations match at property boundaries such that a slope burden is not imposed on adjacent properties. Slopes shall not be steeper than 3:1 on lots adjacent to a street or common lot and no steeper than 4:1 for lots with common rear lot lines.
b. Provide a grading and drainage plan which supports and maintains all upstream drainage rights and all downstream irrigation delivery rights as they presently exist for this property.
c. The City of Kuna relies on the ACHD Stormwater Policy Manual to establish the requirements for design of private storm water disposal systems.
d. Provide a storm water disposal & treatment plan which accounts for increased storm water runoff volumes. Provide detailed drawings of drainage & treatment facilities with supporting calculations for review and approval.
e. Runoff from public right-of-way is regulated by ACHD. On site storm water retention shall be reviewed by the City Engineer in conjunction with the Civil Engineering construction improvements review.

7. As-Built Drawings

a. As-built drawings are required at the conclusion of any public facility construction project and are the responsibility of the developer's engineer. The city may help track changes but will not be responsible for the finished product. As-built drawings will be required before occupancy or final plat approval is granted.

8. Property Description

a. The applicant provided a preliminary plat and supporting documents as part of the application.

Project/File: **Ledgestone South Subdivision/ KPP19-0009/ 20-01-AN/20-07-DR/20-03-S**
This is an annexation and rezone application to annex 97 acres with an R-6 and R-8 zoning district and a preliminary plat application to develop 393 buildable lots and 44 common lots on 97 acres.

Lead Agency: City of Kuna

Site address: 2425 N. Locust Grove Road

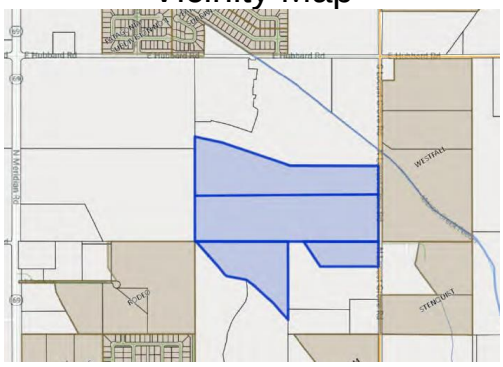
Staff Approval: August 3, 2020

Applicant: Trilogy Development, Inc.
9839 W. Cable Car Street, Suite 101
Boise, ID 83709

Representative: Jane Suggs
Gem State Planning
9840 W. Overland Road, Suite 120
Boise, ID 83709

Staff Contact: Paige Bankhead, E.I.
Phone: 387-6293
E-mail: pbankhead@achdidaho.org

Vicinity Map



A. Findings of Fact

1. **Description of Application:** The applicant is requesting approval of an annexation and rezone application to annex 96.6 acres with a R-6 and R-8 zoning district and 0.4 acres with an R-6 zoning district totaling 97 acres. The applicant is also requesting approval of a preliminary plat application to develop 393 buildable lots and 44 common lots on 96.6 acres.

   The City of Kuna's Future Land Use Map designates this area as medium density residential.

2. **Description of Adjacent Surrounding Area:**

Direction	Land Use	Zoning
North	Medium Density Residential	R-6
South	Rural Urban Transition (Ada County)	RUT
East	Rural Urban Transition (Ada County)	RUT
West	Commercial	C-1

3. **Site History:** ACHD has not previously reviewed this site.

4. **Adjacent Development:** The following developments are pending or underway in the vicinity of the site:

- Patagonia Subdivision, consisting of 470 single-family residential lots, located north of this site was approved by ACHD in October 2014 and is in various stages of development.
- Ledgestone Subdivision, consisting of 253 single-family residential lots, located directly north of the site, was approved by ACHD in January 2019.

5. **Transit:** Transit services are not available to serve this site.

6. **New Center Lane Miles:** The proposed development includes 4.28 centerline miles of new public road.

7. **Impact Fees:** There will be an impact fee that is assessed and due prior to issuance of any building permits. The assessed impact fee will be based on the impact fee ordinance that is in effect at that time. The impact fee assessment will not be released until the civil plans are approved by ACHD.

8. **Capital Improvements Plan (CIP)/ Integrated Five Year Work Plan (IFYWP):**
   - The intersection of SH-69 (Meridian Road) and Hubbard Road is listed in the CIP to be widened to 6-lanes on the north leg, 5-lanes on the south, 4-lanes east, and 3-lanes on the west leg, and signalized between 2031 and 2035.
   - The intersection of Lake Hazel Road and Locust Grove Road is listed in the CIP to be reconstructed as a single lane roundabout to be widened to 3-lanes on the north leg, 2-lanes on the south, 2-lanes east, and 3-lanes on the west leg with a westbound bypass right turn bypass lane between 2026 and 2030.

12. **Roadways to Bikeways Master Plan:** ACHD's Roadways to Bikeways Master Plan (BMP) was adopted by the ACHD Commission in May of 2009 and was update in 2018. The plan seeks to implement the Planned Bicycle Network to support bicycling as a viable transportation option for Ada County residents with a wide range of ages and abilities, maintain bicycle routes in a state of good repair in order to ensure they are consistently available for use, promote awareness of existing bicycle routes and features and support encouragement programs and to facilitate coordination and cooperation among local jurisdictions in implementing the Roadways to Bikeways Plan recommendations.

    The BMP identifies Locust Grove Road abutting the site as a Level 2 facility and the new east-west and north-south MSM collector roads as Level 1 facilities. The applicant will construct the new collectors consistent with the MSM and the Roadways to Bikeways Master plan.

B. Traffic Findings for Consideration

1. **Trip Generation:** This development is estimated to generate 3,710 additional vehicle trips per day (10 existing); 393 additional vehicle trips per hour in the PM peak hour (1 existing), based on the traffic impact study.

2. **Traffic Impact Study**
   WHPacific prepared a traffic impact study for the proposed Ledgestone Subdivision. An executive summary of the findings **as presented by WHPacific can found in Attachment 3**. The executive summary is **not the opinion of ACHD staff**. ACHD has reviewed the submitted traffic impact study for consistency with ACHD policies and practices, and may have additional requirements beyond what is noted in the summary. ACHD Staff comments on the submitted traffic impact study can be found below under staff comments.

   a. Policy
   Mitigation Proposals: Mitigation recommendations shall be provided within the report. At a minimum, for each roadway segment and intersection that does not meet the minimum acceptable level of service planning threshold or v/c ratio, the report must discuss feasible

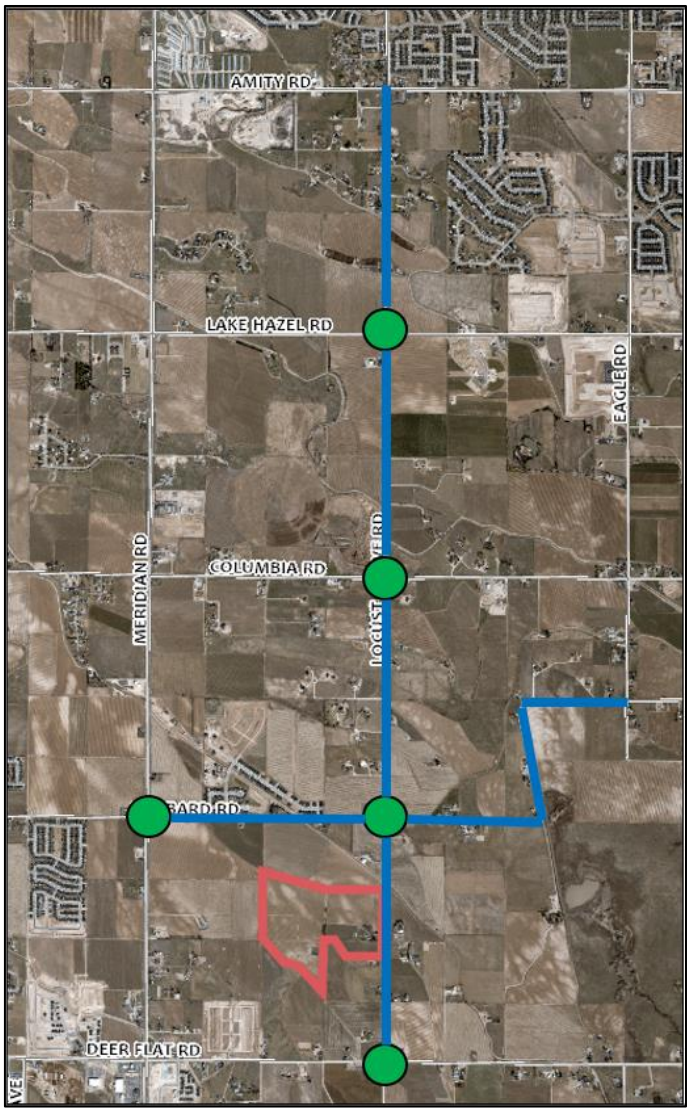
measures to avoid or reduce the impact to the system. To be considered adequate, measures should be specific and feasible. Mitigation may also include:

- Revision to the Phasing Plan to coincide with the District's planning Capital Projects.
- Reducing the scope and/or scale of the project.

Alternative Mitigation Measures: 7106.7.3 states that if traditional mitigation measures such as roadway widening and intersection improvements are infeasible as determined by ACHD, the TIS may recommend alternative mitigation measures. Alternative mitigation measures shall demonstrate that impacts from the project will be offset.

- If the impacted roadway segments and/or intersections are programmed as funded in the Integrated Five Year Work Plan (IFYWP) or the Capital Improvements Plan (CIP); no alternative mitigation is required.
- If the impacted roadway segments and/or intersections are not programmed in either the IFYWP or the CIP; the applicant may (i) analyze the shoulder hour and (ii) provide a safety analysis to determine alternative mitigation requirements.
    - If the impacted roadway segments and intersections meet the minimum acceptable level of service planning thresholds in the shoulder hour the applicant may suggest feasible alternative mitigation such as: sidewalks, bike facilities, connectivity, safety improvements, etc. within 1.5 miles of the proposed development.
    - If the shoulder hour planning thresholds are exceeded the applicant may request to enter into a Development Agreement and pay into the Priority Corridor Fund an amount determined by the ACHD to offset impacts from the project.
- Alternative Mitigation may also include:
    - Revision to the Phasing Plan to coincide with the District's future Capital Projects.
    - Reducing the scope and/or scale of the project.

Level of Service Planning Thresholds: District Policy 7206.4.1 states that, Level of Service Planning Thresholds have been established for principal arterials and minor arterials within ACHD's Capital Improvement Plan and are also listed in section 7106. Unless otherwise required to provide a Traffic Impact Study under section 7106, a proposed development with site traffic less than 10% of the existing downstream roadway or intersection peak hour traffic shall not be required to provide mitigation for a roadway or intersection that currently exceeds the minimum acceptable level of service planning threshold or V/C ratio.



Intersections (green circle) and Roadway Segments (blue lines) analyzed in the TISS

Staff Comments/Recommendations: Staff has reviewed the submitted traffic impact study (TIS) and generally agrees with the findings and recommendations. The TIS notes that all roadway segments and intersections meet ACHD's minimum operational thresholds for the existing traffic conditions.

The TIS recommends improvements to Hubbard Road from SH-69 to Locust Grove Road and from Locust Grove Road to Eagle Road. However, the site traffic is less than 10% of the 2025 total traffic. Therefore, no improvements are required for this segment of Hubbard Road consistent with District's Level of Service Planning Thresholds policy, that states a proposed development with site traffic less than 10% of the existing downstream roadway or intersection peak hour traffic shall not be required to provide mitigation for a roadway or intersection that currently exceeds minimum acceptable level of service planning threshold or V/C ratio.

The TIS recommends the following improvements for the roadway segments that exceed ACHD thresholds for the 2025 background and 2025 total traffic. The percentage of site traffic for the 2025 total traffic is noted.

- Locust Grove Road
  - Deer Flat to Hubbard (17%) - Continuous center turn lane

- Hubbard to Columbia (13%) - 2 through lanes in each direction with a center turn lane
- Lake Hazel to Amity (13%) - 2 through lanes in each direction with a center turn lane
- Columbia Road to Lake Hazel Road (18%) – Continuous center turn lane

The roadway segments that are anticipated to exceed ACHD's acceptable level of service thresholds are not scheduled for improvements in ACHD's IFYWP or CIP, with the exception of Locust Grove Road from Lake Hazel Road to Amity Road which is listed in the draft CIP to be widened to 3-lanes and is anticipated to adopted in August 2020. The TIS notes that this segment of Locust Grove Road meets the level of service planning thresholds for a 3-lane minor arterial for the 2025 background traffic, but exceeds the thresholds the 2025 total traffic and should be widened to 5-lanes to mitigate the 2025 total traffic. The TIS notes that there are 254 existing PM peak hour trips for this segment of Locust Grove Road; allowing an additional 321 PM peak hour trips on this segment of Locust Grove Road before reaching ACHD's acceptable level of service planning threshold of 575 PM peak hour trips for a 2-lane minor arterial roadway and 466 PM peak hour trips for a 3-lane minor arterial roadway. Apex Northwest Subdivision has proposed to enter a Cooperative Development Agreement to widen a portion of this segment of Locust Grove Road to 3-lanes abutting their site. If this segment of Locust Grove Road is not widened to 3-lanes prior to ACHD's approval of the final plat or plan that contains the 322nd building lot, then the applicant will need to recommend alternative mitigation measures in an updated traffic impact study prior to ACHD's plan approval and signature on the final plat that contains the 322nd building lot. Additional widening or improvements to Locust Grove may not be feasible since there is not enough right-of-way for the recommended improvements to be made at this time. As an alternative, the applicant may stop final platting and wait for ACHD to make the improvements.

All roadway segments listed above are located off-site with the exception of a portion of Locust Grove Road from Deer Flat Road to Hubbard Road that abuts the site. The TIS recommends that this segment of Locust Grove Road be widened to 3-lanes for the 2025 background traffic, and subsequently the 2025 total traffic. Consistent with District policy for Level of Service Planning Thresholds, the applicant should be required to improve this segment of Locust Grove Road since the site's peak hour trips are greater than 10% of the 2025 total traffic. However, this improvement may infeasible since there is not enough right-of-way for the recommended improvements to be made at this time on this segment. Therefore, staff recommends that the applicant be required to recommend alternative mitigation measures in an updated traffic impact study prior to ACHD's approval of the final plat or plan that contains the 301st building lot since there is not enough right-of-way to widen this segment of Locust Grove Road to 3-lanes. As an alternative, the applicant may stop final platting and wait for ACHD to make the improvements.

The TIS recommended widening Locust Grove Road from Columbia Road to Lake Hazel Road to 3-lanes to mitigate the 2025 total traffic. However, the TIS notes that this segment of Locust Grove Road is only anticipated to be over the acceptable level of service planning thresholds by 16 peak hour trips for the 2025 total traffic. Therefore, staff recommends that no improvements be required with this development application. Improvements for this segment of Locust Grove Road may be required in the future based on findings of future traffic impact studies.

The TIS recommends widening Locust Grove Road from Hubbard Road to Columbia Road to 3-lanes to mitigate the 2025 background traffic and widen to 5-lanes to mitigate the 2025 total traffic. Consistent with District policy for Level of Service Planning Thresholds, the applicant should be required to improve this segment of Locust Grove Road since the site's peak hour trips are greater than 10% of the 2025 total traffic. However, this improvement is infeasible at this time as there is currently not enough right-of-way for the recommended improvements to be made at this time. Therefore, staff recommends that the applicant be required to recommend alternative mitigation measures in an updated traffic impact study prior to ACHD's approval of the final plat or plan that contains the 301st building lot.

The TIS recommends the following improvements for the intersections that exceed ACHD thresholds for the 2025 background and 2025 total traffic. The percentage of site traffic for the 2025 total traffic is noted.

- Hubbard Road/Locust Grove Road (16.7%)– Traffic Signal with left turn lanes on all approaches.
- Columbia Road/Locust Grove Road (11.4%) – Traffic Signal with left turn lanes on all approaches.
- Lake Hazel Road/Locust Grove Road (8.9%) – Traffic Signal with left and right turn lanes on all approaches.

The site traffic is less than 10% of the 2025 total traffic at the intersection of Lake Hazel Road and Locust Grove Road. Therefore, no improvements are required for this segment of Hubbard Road consistent with District's Level of Service Planning Thresholds policy, that states a proposed development with site traffic less than 10% of the existing downstream roadway or intersection peak hour traffic shall not be required to provide mitigation for a roadway or intersection that currently exceeds minimum acceptable level of service planning threshold or V/C ratio.

Ledgestone Subdivision has been required to convert the Locust Grove Road/Hubbard Road intersection to an all-way stop control intersection prior to plan approval and ACHD's signature on the final plat that contains the 225th lot. The applicant should coordinate the installation of the traffic signal if it is proposed to be installed before converting the intersection to an all-way stop control intersection.

The TIS recommends installing a traffic signal and left turn lanes on all approaches at Hubbard Road/Locust Grove Road and Columbia Road/Locust Grove Road to mitigate the 2025 background traffic and 2025 total traffic. These intersections are not listed in the CIP or IFYWP. Prior to ACHD's signature on the final plat which contains the 301st building lot the applicant should be required to submit an updated traffic impact study to staff for review for the Locust Grove Road/Columbia Road intersection and the Locust Grove Road/Hubbard Road intersection.

The peak hour trip counts for improvement thresholds for intersections and roadway segments were not originally included in the TIS. The peak hour trip thresholds for the installation of signals at the study intersections were higher than the thresholds noted above, however, there are several developments proposed in the area and there is substantial growth proposed. Therefore, the peak hour traffic thresholds for improvements was reduced to ensure the intersections are improved when necessary.

To verify the assumptions of the TIS and to ensure that improvements are made when necessary to serve the site the application should be required to submit an updated traffic impact study prior to ACHD signature on the final plat that contains the 301st building lot. The updated TIS should include all of the study area intersections and roadway segments included in the original study. A shoulder hour analysis should be provided per ACHD policy 7106.7.3 for all offsite roadway segments. Additional improvements may be required based on the findings of the updated traffic impact study.

The applicant should construct a dedicated southbound right-turn lane on Locust Grove Road at Ardell Road when Ardell Road is constructed to intersect Locust Grove Road, as recommended by the TIS.

3. Condition of Area Roadways

Traffic Count is based on Vehicles per hour (VPH)

Roadway	Frontage	Functional Classification	PM Peak Hour Traffic Count	PM Peak Hour Level of Service
Hubbard Road (SH-69 to Locust Grove Rd)	0-feet	Minor Arterial	47	Better than "D"
Hubbard Road (Locust Grove to Eagle Rd)	0-feet	Minor Arterial	19	Better than "D"
Locust Grove Road (Deer Flat to Hubbard)	1,440-feet	Minor Arterial	101	Better than "D"
Locust Grove Road (Hubbard to Columbia)	0-feet	Minor Arterial	71	Better than "D"
Locust Grove Road (Columbia to Lake Hazel)	0-feet	Minor Arterial	142	Better than "D"
Locust Grove Road (Lake Hazel to Amity)	0-feet	Minor Arterial	254	Better than "D"

* Acceptable level of service for a two-lane minor arterial is "E" (575 VPH).

4. Average Daily Traffic Count (VDT)

Average daily traffic counts are based on ACHD's most current traffic counts.

- The average daily traffic count for Hubbard Road between SH-69 and Locust Grove Road was 628 on 8/7/2018.
- The average daily traffic count for Hubbard Road east of Locust Grove Road was 561 on 10/17/2018.
- The average daily traffic count for Locust Grove Road between Hubbard Road and Deer Flat Road was 1,127 on 8/7/2018.
- The average daily traffic count for Locust Grove Road between Hubbard Road and Columbia Road was 1,009 on 8/7/2018.
- The average daily traffic count for Locust Grove Road between Columbia Road and Lake Hazel Road was 2,049 on 8/7/2018.
- The average daily traffic count for Locust Grove Road between Lake Hazel Road and Amity Road was 2,582 on 10/16/2018.

C. Findings for Consideration.

1. Hubbard Road/Locust Grove Road Intersection

The traffic impact study notes that the Hubbard Road/Locust Grove Road intersection will exceed acceptable LOS "E" and will need to be improved with an interim signal. To verify the assumptions of the traffic impact study and to ensure that improvements are made when warranted; staff has recommended that an updated traffic impact study be provided with future phases, which includes an updated analysis of the Hubbard Road/Locust Grove Road intersection. The updated traffic impact study should be submitted prior to ACHD's signature on the final plat which contains the 301st lot.

If the updated traffic impact study shows that the Hubbard Road/Locust Grove Road intersection will exceed acceptable LOS "E" and that signal warrants are met, then the applicant will be required to install an interim signal prior to ACHD's signature on the final plat which contains the

301st lot. Additionally, the applicant will need to obtain plan approval and enter into a signal agreement with ACHD.

The signal agreement should include requirements that the intersection be designed as a 3 X 3 intersection with three 12-foot wide travel lanes: one receiving lane, one dedicated left turn lane, and one thru/right lane on each approach; that the applicant is responsible for all costs associated with the hardware, design, and installation of the interim signal, and that interim improvements are not eligible for reimbursement by ACHD.

In order to ensure the Hubbard Road/Locust Grove Road intersection will be improved when warranted, the following items must be in place prior to plans acceptance for the final plat which necessitates the improvement based on the findings of the updated traffic impact study:

- Signal Agreement
- Full design and approved plans for the intersection

2. Columbia Road/Locust Grove Road Intersection

The traffic impact study notes that the Columbia Road/Locust Grove Road intersection will exceed acceptable LOS "E" and will need to be improved with an interim signal. To verify the assumptions of the traffic impact study and to ensure that improvements are made when warranted; staff has recommended that an updated traffic impact study be provided with future phases, which includes an updated analysis of the Columbia Road/Locust Grove Road intersection. The updated traffic impact study should be submitted prior to ACHD's signature on the final plat which contains the 301st lot.

If the updated traffic impact study shows that the Columbia Road/Locust Grove Road intersection will exceed acceptable LOS "E" and that signal warrants are met then the applicant will be required to install an interim signal prior to ACHD's signature on the final plat which contains the 301st lot. Additionally, the applicant will need to obtain plan approval and enter into a signal agreement with ACHD.

The signal agreement should include requirements that the intersection be designed as a 3 X 3 intersection with three 12-foot wide travel lanes: one receiving lane, one dedicated left turn lane, and one thru/right lane on each approach; that the applicant is responsible for all costs associated with the hardware, design, and installation of the interim signal, and that interim improvements are not eligible for reimbursement by ACHD.

In order to ensure the Columbia Road/Locust Grove Road intersection will be improved when warranted, the following items must be in place prior to plans acceptance for the final plat which necessitates the improvement based on the findings of the updated traffic impact study:

- Signal Agreement
- Full design and approved plans for the intersection

3. Locust Grove Road

a. Existing Conditions: Locust Grove Road is improved with 2-travel lanes and no curb, gutter or sidewalk abutting the site. There is 58-feet of right-of-way for Locust Grove Road (26-feet from centerline).

b. Policy:

Arterial Roadway Policy: District Policy 7205.2.1 states that the developer is responsible for improving all street frontages adjacent to the site regardless of whether or not access is taken to all of the adjacent streets.

Master Street Map and Typology Policy: District Policy 7205.5 states that the design of improvements for arterials shall be in accordance with District standards, including the Master Street Map and Livable Streets Design Guide. The developer or engineer should contact the District before starting any design.

Street Section and Right-of Way Width Policy: District Policy 7205.2.1 & 7205.5.2 states that the standard 3-lane street section shall be 46-feet (back-of-curb to back-of-curb) within 70 feet of right-of-way. This width typically accommodates a single travel lane in each direction, a continuous center left-turn lane, and bike lanes.

Right-of-Way Dedication: District Policy 7205.2 states that The District will provide compensation for additional right-of-way dedicated beyond the existing right-of-way along arterials listed as impact fee eligible in the adopted Capital Improvements Plan using available impact fee revenue in the Impact Fee Service Area.

No compensation will be provided for right-of-way on an arterial that is not listed as impact fee eligible in the Capital Improvements Plan.

The District may acquire additional right-of-way beyond the site-related needs to preserve a corridor for future capacity improvements, as provided in Section 7300.

Sidewalk Policy: District Policy 7205.5.7 requires a concrete sidewalk at least 5-feet wide to be constructed on both sides of all arterial streets. A parkway strip at least 6-feet wide between the back-of-curb and street edge of the sidewalk is required to provide increased safety and protection of pedestrians. Consult the District's planter width policy if trees are to be placed within the parkway strip. Sidewalks constructed next to the back-of-curb shall be a minimum of 7-feet wide.

Detached sidewalks are encouraged and should be parallel to the adjacent roadway. Meandering sidewalks are discouraged.

A permanent right-of-way easement shall be provided if public sidewalks are placed outside of the dedicated right-of-way. The easement shall encompass the entire area between the right-of-way line and 2-feet behind the back edge of the sidewalk. Sidewalks shall either be located wholly within the public right-of-way or wholly within an easement.

Frontage Improvements Policy: District Policy 7205.2.1 states that the developer shall widen the pavement to a minimum of 17-feet from centerline plus a 3-foot wide gravel shoulder adjacent to the entire site. Curb, gutter and additional pavement widening may be required (See Section 7205.5.5).

ACHD Master Street Map: ACHD Policy Section 3111.1 requires the Master Street Map (MSM) guide the right-of-way acquisition, arterial street requirements, and specific roadway features required through development. This segment of Locust Grove Road is designated in the MSM as a Residential Arterial with 3-lanes and on-street bike lanes, a 46-foot street section within 74-feet of right-of-way.

c. Applicant Proposal: The applicant has proposed to dedicate additional right-of-way to total 40-feet from the centerline of Locust Grove Road abutting the site and improve Locust Grove Road abutting the site with pavement widening to 21-feet from centerline of the roadway, vertical curb, a 5-foot wide planter strip, and 8-foot wide concrete sidewalk within right-of-way with 1-foot of right-of-way behind sidewalk.

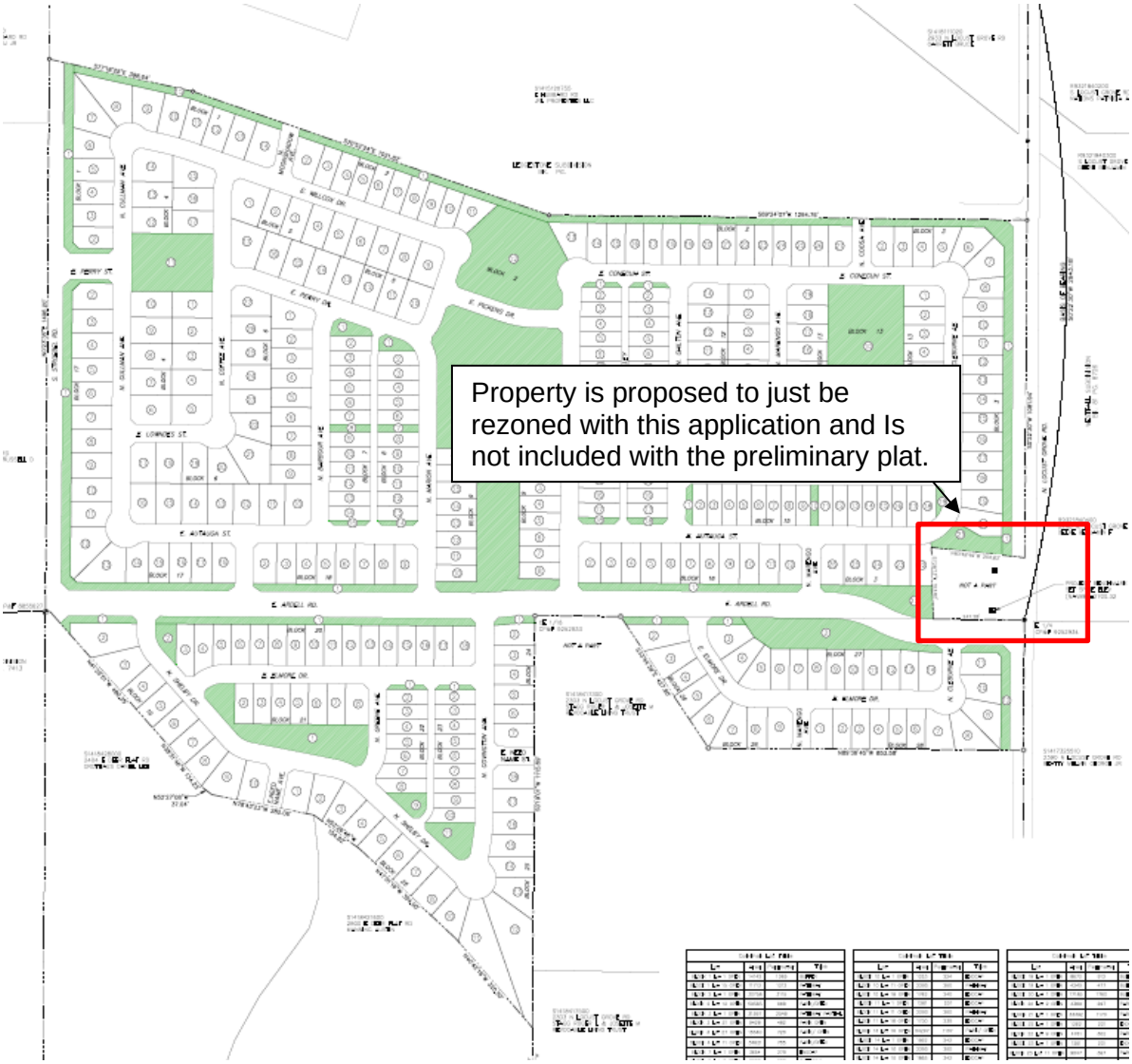
d. Staff Comments/Recommendations: Locust Grove Road is not centered on the section line and varies between 1 to 2 feet. Consistent with the adjacent developments, frontage improvements and right-of-way dedication along Locust Grove Road should be measured from section line.

The applicant's proposal to construct Locust Grove Road as ½ of a 46-foot wide street section with vertical curb gutter and an 8-foot wide detached concrete sidewalk abutting the site exceeds ACHD policy which requires right-of-way dedication, pavement widening and the construction of sidewalks on arterial roadways.

At a minimum the applicant should be required to improve Locust Grove Road with pavement widening to 17-feet from the centerline of the roadway plus a 3-foot wide gravel shoulder, borrow ditch and 5-foot wide concrete sidewalk located 30-feet from section line adjacent to the entire site. Dedicate right-of-way to total a minimum of 37-feet from section line and provide a sidewalk easement extending 2-feet behind the back of sidewalk for all sidewalk located outside the dedicated right-of-way. The applicant should be required to construct a northbound dedicated left-turn lane at Ardell Road.

If the applicant chooses to fully improve Locust Grove Road abutting the site as proposed then it should be improved as ½ of a 46-foot street section with vertical curb, gutter, a minimum 6-foot wide planter strip and 8-foot wide concrete sidewalk, consistent with the MSM. The applicant should dedicate right-of-way to total 48.5-feet from section line of Locust Grove Road abutting the site.

The 0.4 acre residential parcel abutting the site and Locust Grove Road is included with this rezoning application, but is not included with the preliminary plat application. Typically, rezoning applications do not require abutting site improvements, however, staff recommends that this segment of Locust Grove Road abutting the 0.4 acre parcel be improved consistent with the improvements for Locust Grove Road on either to the north and south of the parcel with the Ledgestone South development, construct sidewalk and dedicate additional right-of-way so there is not a gap in improvements on Locust Grove Road.



The applicant should be required to construct a southbound dedicated right-turn lane on Locust Grove Road at Ardell Road when Ardell Road is constructed to intersect Locust Grove Road, consistent with the TIS recommendations.

If street trees are desired within the planter strips, then 8-foot wide planter strips should be provided.

Compensation will not be provided for the right-of-way dedication or improvements since this segment of Locust Grove Road is not scheduled in the IFYWP or listed in the CIP.

4. Ardell Road

a. Existing Conditions: There are no collector roadways within the site.

b. Policy:

Collector Street Policy: District policy 7206.2.1 states that the developer is responsible for improving all collector frontages adjacent to the site or internal to the development as required below, regardless of whether access is taken to all of the adjacent streets.

Master Street Map and Typologies Policy: District policy 7206.5 states that if the collector street is designated with a typology on the Master Street Map, that typology shall be considered for the required street improvements. If there is no typology listed in the Master Street Map, then standard street sections shall serve as the default.

Street Section and Right-of-Way Policy: District policy 7206.5.2 states that the standard right-of-way width for collector streets shall typically be 50 to 70-feet, depending on the location and width of the sidewalk and the location and use of the roadway. The right-of-way width may be reduced, with District approval, if the sidewalk is located within an easement; in which case the District will require a minimum right-of-way width that extends 2-feet behind the back-of-curb on each side.

The standard street section shall be 46-feet (back-of-curb to back-of-curb). This width typically accommodates a single travel lane in each direction, a continuous center left-turn lane, and bike lanes.

Residential Collector Policy: District policy 7206.5.2 states that the standard street section for a collector in a residential area shall be 36-feet (back-of-curb to back-of-curb). The District will consider a 33-foot or 29-foot street section with written fire department approval and taking into consideration the needs of the adjacent land use, the projected volumes, the need for bicycle lanes, and on-street parking.

Sidewalk Policy: District policy 7206.5.6 requires a concrete sidewalk at least 5-feet wide to be constructed on both sides of all collector streets. A parkway strip at least 6-feet wide between the back-of-curb and street edge of the sidewalk is required to provide increased safety and protection of pedestrians. Consult the District's planter width policy if trees are to be placed within the parkway strip. Sidewalks constructed next to the back-of-curb shall be a minimum of 7-feet wide.

Detached sidewalks are encouraged and should be parallel to the adjacent roadway. Meandering sidewalks are discouraged.

A permanent right-of-way easement shall be provided if public sidewalks are placed outside of the dedicated right-of-way. The easement shall encompass the entire area between the right-of-way line and 2-feet behind the back edge of the sidewalk. Sidewalks shall either be located wholly within the public right-of-way or wholly within an easement.

Half Street Policy: District Policy 7207.2.2 required improvements shall consist of pavement widening to one-half the required width, including curb, gutter and concrete sidewalk (minimum 5-feet), plus 12-feet of additional pavement widening beyond the centerline established for the street to provide an adequate roadway surface, with the pavement crowned at the ultimate centerline. A 3-foot wide gravel shoulder and a borrow ditch sized to accommodate the roadway storm runoff shall be constructed on the unimproved side.

ACHD Master Street Map: ACHD Policy Section 3111.1 requires the Master Street Map (MSM) guide the right-of-way acquisition, collector street requirements, and specific roadway features required through development. A new collector roadway was identified on the MSM with the street typology of Residential Collector. The new collector roadway should intersect Locust Grove Road at the half-mile between Hubbard Road and Deer Flat Road and continue through the property stubbing to the west. The Residential Collector typology as depicted in the Livable Street Design Guide recommends a 2-lane roadway with bike lanes, and on street parking, a 36-foot street section within 50 to 70-feet of right-of-way.

c. Applicant Proposal: The applicant has proposed to construct Ardell Road to intersect Locust Grove and extend it through the site to the west and stub it to the west property line. The applicant has proposed to construct Ardell Road as a 46-foot wide street section with 3-lanes, vertical curb, gutter and attached 5-foot wide concrete sidewalk within 70-feet of right-of-way.

d. Staff Comments/Recommendations: The applicant's proposal exceeds District policy and the MSM which requires a 36-foot wide residential collector street section with curb, gutter and a 5-foot wide detached (or 7-foot wide attached) concrete sidewalk. At a minimum, the applicant should be required to construct Ardell Road as a 36-foot wide street section with

vertical curb, gutter, and a 5-foot wide detached (or 7-foot wide attached) concrete sidewalk consistent with the MSM. The applicant should be required to dedicate right-of-way from 2-feet behind the back of sidewalk on each side. For detached sidewalk, the applicant may reduce the right-of-way width to 2-feet behind the back of curb and provide a permanent right-of-way easement that extends from the right-of-way line to 2-feet behind the back of sidewalk.

The 0.4 acre residential parcel abutting the site and the future Ardell Road is included with this rezoning application, but is not included with the preliminary plat application. Typically, rezoning applications do not require abutting site improvements, however, staff recommends that this segment of Ardell Road abutting the 0.4 acre parcel be improved consistent with the improvements for Ardell Road to the west of the parcel with the Ledgestone South development, construct sidewalk and dedicate additional right-of-way so there is not a gap in improvements on Ardell Road.

If street trees are desired, an 8-foot wide planter strip should be required.

5. Stroebel Road

a. Existing Conditions: There are no collector roadways within the site.

b. Policy:

Collector Street Policy: District policy 7206.2.1 states that the developer is responsible for improving all collector frontages adjacent to the site or internal to the development as required below, regardless of whether access is taken to all of the adjacent streets.

Master Street Map and Typologies Policy: District policy 7206.5 states that if the collector street is designated with a typology on the Master Street Map, that typology shall be considered for the required street improvements. If there is no typology listed in the Master Street Map, then standard street sections shall serve as the default.

Street Section and Right-of-Way Policy: District policy 7206.5.2 states that the standard right-of-way width for collector streets shall typically be 50 to 70-feet, depending on the location and width of the sidewalk and the location and use of the roadway. The right-of-way width may be reduced, with District approval, if the sidewalk is located within an easement; in which case the District will require a minimum right-of-way width that extends 2-feet behind the back-of-curb on each side.

The standard street section shall be 46-feet (back-of-curb to back-of-curb). This width typically accommodates a single travel lane in each direction, a continuous center left-turn lane, and bike lanes.

Residential Collector Policy: District policy 7206.5.2 states that the standard street section for a collector in a residential area shall be 36-feet (back-of-curb to back-of-curb). The District will consider a 33-foot or 29-foot street section with written fire department approval and taking into consideration the needs of the adjacent land use, the projected volumes, the need for bicycle lanes, and on-street parking.

Sidewalk Policy: District policy 7206.5.6 requires a concrete sidewalk at least 5-feet wide to be constructed on both sides of all collector streets. A parkway strip at least 6-feet wide between the back-of-curb and street edge of the sidewalk is required to provide increased safety and protection of pedestrians. Consult the District's planter width policy if trees are to be placed within the parkway strip. Sidewalks constructed next to the back-of-curb shall be a minimum of 7-feet wide.

Detached sidewalks are encouraged and should be parallel to the adjacent roadway. Meandering sidewalks are discouraged.

A permanent right-of-way easement shall be provided if public sidewalks are placed outside of the dedicated right-of-way. The easement shall encompass the entire area between the right-of-way line and 2-feet behind the back edge of the sidewalk. Sidewalks shall either be located wholly within the public right-of-way or wholly within an easement.

Half Street Policy: District Policy 7206.2.2 required improvements shall consist of pavement widening to one-half the required width, including curb, gutter and concrete sidewalk (minimum 5-feet), plus 12-feet of additional pavement widening beyond the centerline established for the street to provide an adequate roadway surface, with the pavement crowned at the ultimate centerline. A 3-foot wide gravel shoulder and a borrow ditch sized to accommodate the roadway storm runoff shall be constructed on the unimproved side.

ACHD Master Street Map: ACHD Policy Section 3111.1 requires the Master Street Map (MSM) guide the right-of-way acquisition, collector street requirements, and specific roadway features required through development. A new collector roadway was identified on the MSM with the street typology of Residential Collector. The new collector roadway should intersect Locust Grove Road at the half-mile between Hubbard Road and Deer Flat Road and continue through the property stubbing to the west. The Residential Collector typology as depicted in the Livable Street Design Guide recommends a 2-lane roadway with bike lanes, and on street parking, a 36-foot street section within 50 to 70-feet of right-of-way.

c. **Applicant Proposal:** The applicant has proposed to dedicate 42-feet of right-of-way abutting the site's west property for Stroebel Road and construct Stroebel Road from Ardell Road and stub it to the site's north property line. The applicant has proposed to construct Stroebel Road as ½ of a 36-foot wide street section with vertical curb, gutter, bike lanes, a 5-foot wide planter strip and 8-foot wide concrete sidewalk on the east side of the road with an additional 12-feet of pavement widening beyond the centerline of the road with a 3-foot wide gravel shoulder and borrow ditch on the unimproved side within right-of-way.

d. **Staff Comments/Recommendations:** The applicant's proposal is consistent with the MSM and meets District policy and should be approved, as proposed, except for the proposed 5-foot wide planter strip. For detached sidewalk, the applicant should be required to provide a minimum 6-foot wide planter strip, or 8-foot wide planter strip if street trees are desired. The applicant's proposal to construct an 8-foot wide sidewalk exceeds the District's policy which requires a 5-foot wide detached sidewalk or 7-foot wide attached sidewalk. At a minimum, the applicant should be required to construct a 5-foot wide detached concrete sidewalk or 7-foot wide attached concrete sidewalk.

6. Internal Local Roads

a. **Existing Conditions:** There are no local roadways within the site. There is one local road, Moonshadow Avenue, that is proposed to stub to the site's north property line. This stub street is not constructed yet and was approved as part of ACHD's action on Ledgestone Subdivision directly north of the site.

b. **Policy:**

Local Roadway Policy: District Policy 7207.2.1 states that the developer is responsible for improving all local street frontages adjacent to the site regardless of whether or not access is taken to all of the adjacent streets.

Street Section and Right-of-Way Policy: District Policy 7207.5 states that right-of-way widths for all local streets shall generally not be less than 47-feet wide and that the standard street section shall be 33-feet (back-of-curb to back-of-curb).

Standard Urban Local Street—33-foot Street Section and Right-of-way Policy: District Policy 7207.5.2 states that the standard street section shall be 33-feet (back-of-curb to back-of-curb) for developments with any buildable lot that is less than 1 acre in size. This street section

shall include curb, gutter, and minimum 5-foot wide concrete sidewalks on both sides and shall typically be constructed within 47-feet of right-of-way.

For the City of Kuna and City of Star: Unless otherwise approved by Kuna or Star, the standard street section shall be 36-feet (back-of-curb to back-of-curb) for developments with any buildable lot that is less than 1 acre in size. This street section shall include curb, gutter, and minimum 5-foot wide concrete sidewalks on both sides and shall typically be constructed within 50-feet of right-of-way.

Continuation of Streets Policy: District Policy 7207.2.4 states that an existing street, or a street in an approved preliminary plat, which ends at a boundary of a proposed development shall be extended in that development. The extension shall include provisions for continuation of storm drainage facilities. Benefits of connectivity include but are not limited to the following:

- Reduces vehicle miles traveled.
- Increases pedestrian and bicycle connectivity.
- Increases access for emergency services.
- Reduces need for additional access points to the arterial street system.
- Promotes the efficient delivery of services including trash, mail and deliveries.
- Promotes appropriate intra-neighborhood traffic circulation to schools, parks, neighborhood commercial centers, transit stops, etc.
- Promotes orderly development.

Sidewalk Policy: District Policy 7207.5.7 states that five-foot wide concrete sidewalk is required on both sides of all local street, except those in rural developments with net densities of one dwelling unit per 1.0 acre or less, or in hillside conditions where there is no direct lot frontage, in which case a sidewalk shall be constructed along one side of the street. Some local jurisdictions may require wider sidewalks.

The sidewalk may be placed next to the back-of-curb. Where feasible, a parkway strip at least 8-feet wide between the back-of-curb and the street edge of the sidewalk is recommended to provide increased safety and protection of pedestrians and to allow for the planting of trees in accordance with the District's Tree Planting Policy. If no trees are to be planted in the parkway strip, the applicant may submit a request to the District, with justification, to reduce the width of the parkway strip.

Detached sidewalks are encouraged and should be parallel to the adjacent roadway. Meandering sidewalks are discouraged.

A permanent right-of-way easement shall be provided if public sidewalks are placed outside of the dedicated right-of-way. The easement shall encompass the entire area between the right-of-way line and 2-feet behind the back edge of the sidewalk. Sidewalks shall either be located wholly within the public right-of-way or wholly within an easement.

Landscape Medians Policy: District policy 7207.5.16 states that landscape medians are permissible where adequate pavement width is provided on each side of the median to accommodate the travel lanes and where the following is provided:

- The median is platted as right-of-way owned by ACHD.
- The width of an island near an intersection is 12-feet maximum for a minimum distance of 150-feet. Beyond the 150-feet, the island may increase to a maximum width of 30-feet.
- At an intersection that is signalized or is to be signalized in the future, the median width shall be reduced to accommodate the necessary turn lane storage and tapers.

- The Developer or Homeowners Association shall apply for a license agreement if landscaping is to be placed within these medians.
- The license agreement shall contain the District's requirements of the developer including, but not limited to, a "hold harmless" clause; requirements for maintenance by the developer; liability insurance requirements; and restrictions.
- Vertical curbs are required around the perimeter of any raised median. Gutters shall slope away from the curb to prevent ponding.

c. Applicant's Proposal: The applicant has proposed to continue Moonshadow Avenue into the site. The applicant has proposed to construct the internal local streets as 36-foot wide street sections with curb, gutter and attached 5-foot wide concrete sidewalks within 50-feet of right-of-way.

The applicant has proposed to construct the entry portion of Perry Street as a 50-foot wide street section with two 21-foot wide travel lanes, an 8-foot wide landscaped island, curb, gutter and attached 5-foot wide concrete sidewalks within 70-feet of right-of-way.

The applicant has proposed to construct 8 knuckles.

d. Staff Comments/Recommendations: The applicant's proposal meets District policy and should be approved, as proposed. The applicant may reduce the right-of-way width to 2-feet behind the back of sidewalk. If street trees are desired, 8-foot wide planter strips are required. The applicant or homeowners association should enter into a license agreement with ACHD for any landscaping proposed to be located within the island.

7. Alleys

a. Existing Conditions: There are no alleys within the site.

b. Policy:

New Alley Policy: District Policy 7210.3.1 requires the minimum right-of-way width for all new residential alleys shall be a minimum of 16-feet or a maximum of 20-feet. If the residential alley is 16-feet in width building setbacks required by the land use agency having jurisdiction shall provide sufficient space for the safe backing of vehicles into the alley (see Section 7210.3.3). The minimum right-of-way width for all new commercial or mixed-use alleys shall be 20-feet. All alleys shall be improved by paving the full width and length of the right-of-way.

Dedication of clear title to the right-of-way and the improvement of the alley, and acceptance of the improvement by the District as meeting its construction standards, are required for all alleys contained in a proposed development.

Alley Length Policy: District Policy 7210.3.2 states that alleys shall be no longer than 700-feet in length. If the lead land use agency having jurisdiction requires a shorter block length, the alley shall be no longer than the agency's required block length.

Alley Parking & Setbacks Policy: District Policy 7210.3.3 states that parking within the alley right-of-way is prohibited. "No Parking" signs are required to be installed by the developer. The signs should be located at the alley/street intersections. Parking which is entered from the alley shall be designed so the minimum clear distance from the back of the parking stall to the opposite side of the alley is 20-feet for all perpendicular parking.

Setbacks for structures taking access from the alley should be closely coordinated with the lead land use agency. The setbacks shall either discourage parking within the alley (where it may partially block or occur within the right-of-way) or allow adequate area for one perpendicular parking pad. In order to discourage parking, building setbacks shall be minimal from the alley right-of-way line, while still achieving the required 20-feet of back-up space from a garage or

other parking structure to the opposite side of the alley (i.e. 4-foot setback + 16-foot alley= 20-feet for back-up space).

Alley Intersections and Offsets Policy: District policy 7210.3.7 states that alleys should intersect public streets at each end. In specific circumstances as outlined in the policies below, the District may consider allowing an alley to intersect a public street at only one end. A 90-degree angle of intersection shall be designed where practical. In no case shall the intersecting angle be less than 75-degrees, as measured from centerline of intersecting street. An access to an alley shall be located a minimum of 50-feet from the nearest street (measured centerline to centerline).

Alley/Local Street Intersections Policy: District Policy 7210.3.7.2 states that alleys may intersect all types of local streets including minor local streets. Alleys shall generally be designed with a curb cut type approach when intersecting a local street. Alleys shall generally intersect streets in the middle of the block equally offsetting the intersecting streets. Alleys shall either align with alley/street intersections or provide a minimum 100-foot offset (measured centerline to centerline) from other local street intersections. For alley intersections with local streets, the District may consider a reduced offset if the lead land use agency's required lot size allows for shorter buildable lots.

c. Applicant Proposal: The applicant has proposed to construct several alleys:

- A 530-foot long alley extending from Perry Drive to Autauga Street,
- A 665-foot long alley extending from Conecuh Street to Autauga Street,
- A 700-foot long alley extending from Chilton Avenue to Cleburne Avenue,
- A 390-foot long alley extending from Elmore Drive to Shelby Drive.

The applicant has proposed to construct the alleys with 16-feet of pavement with rolled curb and gutter within 20-feet of right-of-way.

d. Staff Comments/Recommendations: The applicant's proposal meets District policy and should be approved, as proposed, except for the proposed curb and gutter that exceeds District policy. At a minimum, the applicant should be required to pave the entire width and length of the right-of-way for the alleys. The applicant should be required to install "NO PARKING" signs at the alley/street intersections.

8. Roadway Offsets

a. Existing Conditions: There are no roadways within the site.

b. Policy:

Collector Offset Policy: District policy 7205.4.3 states that optimum spacing for new unsignalized collector roadways intersecting minor arterials is 1,320-feet as identified in Table 1a (7205.4.6).

District policy 7206.4.5, states that the preferred spacing for a new local street intersecting a collector roadway to align or offset a minimum of 330-feet from any other street (measured centerline to centerline).

District policy 7206.4.2 states that the preferred spacing for new collectors intersecting existing collectors is ¼ mile to allow for adequate signal spacing and alignment.

Local Offset Policy: District policy 7207.4.2, requires local roadways to align or provide a minimum offset of 125-feet from any other street (measured centerline to centerline).

c. Applicant's Proposal: The applicant has proposed to construct Ardell Road, a collector roadway, to intersect Locust Grove Road, a minor arterial roadway, 2,640-feet south of Hubbard Road.

The applicant has proposed to construct several local roads to intersect Ardell Road, a collector roadway.

- Cleburne Avenue 200-feet west of Locust Grove Road,
- Elmore Drive 307-feet west of Marengo Avenue,
- Escambia Avenue 230-feet east of Covington Avenue,
- Marion Avenue 156-feet west of Covington Avenue,
- Shelby Drive 265-feet west of an unnamed local road

The applicant has proposed to construct Strobel Road, a collector roadway, to intersect Ardell Road 250-feet west of Shelby Drive.

d. Staff Comments/Recommendations: The applicant's proposal to construct Ardell Road to intersect Locust Grove Road and Stroebel Road to intersect Ardell Road meets District policy and should be approved, as proposed.

The applicant's proposal to construct the local roadways intersecting Ardell Road does not meet the District's policy which states that new local streets intersecting a collector roadway should align or offset a minimum of 330-feet. The applicant should be required to construct all local roads intersecting Ardell Road to align or offset a minimum of 330-feet.

9. Stub Streets

a. Existing Conditions: There is one local street, Moonshadow Avenue, proposed to stub to the site's north property line. The stub street is not constructed yet and was approved as part of ACHD's action on Ledgestone Subdivision directly north of the site.

b. Policy:

Stub Street Policy: District policy 7206.4.3 (collector) and 7207.2.4.3 (local) states that stub streets will be required to provide circulation or to provide access to adjoining properties. Stub streets will conform with the requirements described in Section 7207.2.4 (local), except a temporary cul-de-sac will not be required if the stub street has a length no greater than 150-feet. A sign shall be installed at the terminus of the stub street stating that, "THIS ROAD WILL BE EXTENDED IN THE FUTURE." Or that "THIS IS A DESIGNATED COLLECTOR ROADWAY. THIS STREET WILL BE EXTENDED AND WIDENDED IN THE FUTURE."

In addition, stub streets must meet the following conditions:

- A stub street shall be designed to slope towards the nearest street intersection within the proposed development and drain surface water towards that intersection; unless an alternative storm drain system is approved by the District.
- The District may require appropriate covenants guaranteeing that the stub street will remain free of obstructions.

Temporary Dead End Streets Policy: 7206.2.4 (collector) and 7207.2.4.4 (local) requires that the design and construction for cul-de-sac streets shall apply to temporary dead end streets. The temporary cul-de-sac shall be paved and shall be the dimensional requirements of a standard cul-de-sac. The developer shall grant a temporary turnaround easement to the District for those portions of the cul-de-sac which extend beyond the dedicated street right-of-way. In the instance where a temporary easement extends onto a buildable lot, the entire lot shall be

encumbered by the easement and identified on the plat as a non-buildable lot until the street is extended.

c. Applicant Proposal: The applicant as proposed to construct Stroebel Road to stub to the site's north property line at the northwest corner.

The applicant has also proposed to construct Ardell Road to stub to the site's west property line and intersect Stroebel Road. The applicant has proposed to construct the following local roadways to stub to the site's south property line:

- Marengo Avenue 600-feet to the west of the east property line.
- An unnamed local road 610-feet east of the west property line.

The applicant has proposed to construct the following local roadways to stub to the site's north property line:

- Coosa Avenue, 410-feet west of the site's east property line.

d. Staff Comments/Recommendations: The applicant's proposal meets District policy and should be approved, as proposed. The applicant should be required to install at sign at the terminus of the Ardell Road and Stroebel Road stating that "THIS IS A DESIGNATED COLLECTOR ROADWAY. THIS STREET WILL BE WIDENED AND EXTENDED IN THE FUTURE." The applicant should be required to install a sign at the terminus of the local roads stating that "THIS ROAD WILL BE EXTENDED IN THE FUTURE."

The applicant should be required to construct a temporary cul-de-sac consistent with the District's dimensional requirements for a standard cul-de-sac at the terminus of Stroebel Road per District policy which requires a temporary cul-de-sac at the terminus of a stub street if the street length is greater than 150-feet. The developer shall grant a temporary turnaround easement to the District for those portions of the cul-de-sac which extend beyond the dedicated street right-of-way. In the instance where a temporary easement extends into a buildable lot, the entire lot shall be encumbered by the easement and identified on the plat as a non-buildable lot until the street is extended.

10. Traffic Calming

a. Speed Control and Traffic Calming Policy (Local)**:** District policy 7207.3.7 states that the design of local street systems should discourage excessive speeds by using passive design elements. If the design or layout of a development is anticipated to necessitate future traffic calming implementation by the District, then the District will require changes to the layout and/or the addition of passive design elements such as horizontal curves, bulb-outs, chokers, etc. The District will also consider texture changes to the roadway surface (i.e. stamped concrete) as a passive design element. These alternative methods may require maintenance and/or license agreement.

b. Staff Comments/Recommendations: There are several long sections of local roadways proposed within the development, which are greater than 750-feet in length and will need to be redesigned to reduce the length or the roadways or to include the use of passive design elements. The following roadways should be redesigned:

- Wilcox Drive
- Cullman Avenue
- Autuaga Street
- Shelby Drive
- Escambia Avenue
- Conecuh Street

Stop signs, speed humps/bumps and valley gutter will not be accepted as traffic calming.

The applicant should be required to submit a revised preliminary plat showing the redesigned roadways for review and approval prior to ACHD's signature on the first final plat.

11. Tree Planters

Tree Planter Policy: Tree Planter Policy: The District's Tree Planter Policy prohibits all trees in planters less than 8-feet in width without the installation of root barriers. Class II trees may be allowed in planters with a minimum width of 8-feet, and Class I and Class III trees may be allowed in planters with a minimum width of 10-feet.

12. Landscaping

Landscaping Policy: A license agreement is required for all landscaping proposed within ACHD right-of-way or easement areas. Trees shall be located no closer than 10-feet from all public storm drain facilities. Landscaping should be designed to eliminate site obstructions in the vision triangle at intersections. District Policy 5104.3.1 requires a 40-foot vision triangle and a 3-foot height restriction on all landscaping located at an uncontrolled intersection and a 50-foot offset from stop signs. Landscape plans are required with the submittal of civil plans and must meet all District requirements prior to signature of the final plat and/or approval of the civil plans.

13. Other Access

Locust Grove Road is classified as a minor arterial roadway, Ardell Road and Stroebel Road are classified as collector roadways. Other than the access specifically approved with this application, direct lot access is prohibited to these roadways and should be noted on the final plat.

D. Site Specific Conditions of Approval

1. Redesign the following roadways to reduce the length of the roadways or to include the use of passive design elements and submit a revised preliminary plat showing the redesigned roadways for review and approval prior to ACHD's signature on the first final plat.

- Wilcox Drive
- Cullman Avenue
- Autuaga Street
- Shelby Drive
- Escambia Avenue
- Conecuh Street

Stop signs, Speed humps/bumps and valley gutter will not be accepted as traffic calming.

2. Submit a revised preliminary plat showing the revised local roads intersecting Ardell Road to align or off offset a minimum of 330-feet for review and approval prior to ACHD's signature on the first final plat

3. Prior to ACHD's signature on the final plat which contains the 301st building lot the submit a revised traffic impact study. The updated TIS should include all of the study area intersections and roadway segments included in the original study. A shoulder hour analysis should be provided per ACHD policy 7106.7.3 for all offsite roadway segments. Additional improvements may be required based on the findings of the updated traffic impact study.

4. Prior to ACHD's signature on the final plat which contains the 301st building lot the applicant should be required to submit an updated traffic impact study. The updated traffic impact study shall include, at a minimum, a signal warrant analysis for the Hubbard Road/Locust Grove Road intersection. Additional improvements for future phases may be required based on the findings of the future updated traffic impact studies.

If it is determined through the updated traffic impact study that improvements are needed at the Hubbard Road/Locust Grove Road intersection, then install an interim signal within the existing right-of-way at the Hubbard Road/Locust Grove Road intersection.

Enter into a signal agreement with ACHD for the installation of the interim signal at the Hubbard Road/Locust Grove Road intersection. The signal agreement shall include that the intersection be designed to provide a 3 X 3 intersection with three 12-foot wide travel lanes: one receiving lane, one dedicated left turn lane, and one thru/right lane on each approach; that the applicant is responsible for all costs associated with the hardware, design, and installation of the interim signal, and that interim improvements are not eligible for reimbursement by ACHD.

In order to ensure the Hubbard Road/Locust Grove Road intersection will be improved when warranted, the following items must be in place prior plans acceptance for the final plat which contains the 301st building lot:

- Signal Agreement
- Full design and approved plans for the intersection

5. Prior to ACHD's signature on the final plat which contains the 301st building lot the applicant should be required to submit an updated traffic impact study. The updated traffic impact study shall include, at a minimum, a signal warrant analysis for the Columbia Road/Locust Grove Road intersection. Additional improvements for future phases may be required based on the findings of the future updated traffic impact studies.

If it is determined through the updated traffic impact study that improvements are needed at the Columbia Road/Locust Grove Road intersection, then install an interim signal within the existing right-of-way at the Columbia Road/Locust Grove Road intersection.

Enter into a signal agreement with ACHD for the installation of the interim signal at the Columbia Road/Locust Grove Road intersection. The signal agreement shall include that the intersection be designed to provide a 3 X 3 intersection with three 12-foot wide travel lanes: one receiving lane, one dedicated left turn lane, and one thru/right lane on each approach; that the applicant is responsible for all costs associated with the hardware, design, and installation of the interim signal, and that interim improvements are not eligible for reimbursement by ACHD.

In order to ensure the Columbia Road/Locust Grove Road intersection will be improved when warranted, the following items must be in place prior plans acceptance for the final plat which contains the 301st building lot:

- Signal Agreement
- Full design and approved plans for the intersection

6. Dedicate additional right-of-way to total a minimum of 37-feet from the centerline of Locust Grove Road abutting the site.

7. Improve Locust Grove Road abutting the site with additional pavement widening to total 17-feet from the section line and construct a 5-foot wide detached concrete sidewalk and locate it a minimum of 30-feet from the section line. Detached sidewalk located outside of the right-of-way may be placed in a permanent right-of-way easement.

8. If the applicant chooses to fully improve Locust Grove Road abutting the site, it should be improved as ½ of a 46-foot wide 3-lane residential arterial street section with vertical curb, gutter, and a 5-foot wide detached concrete sidewalk (or 7-foot attached) consistent with the MSM. If street trees are desired, an 8-foot wide planter strip should be provided. Detached sidewalk located outside of the right-of-way may be placed in a permanent right-of-way easement.

9. If the applicant chooses to improve Locust Grove Road abutting the 0.4 acre parcel that is proposed to be rezoned with this development application, it should be improved consistent with the improvements on Locust Grove Road with the Ledgestone South development to the north and south of the parcel. If street trees are desired, an 8-foot wide planter strip should be provided.

10. Construct a dedicated southbound right-turn lane on Locust Grove Road at Ardell Road when Ardell Road is constructed to intersect Locust Grove Road.

11. Construct Ardell Road to intersect Locust Grove Road, a minor arterial roadway, 2,640-feet south of Hubbard Road, as proposed.

12. Construct Ardell Road as a 36-foot wide street section with vertical curb, gutter, and a 5-foot wide detached (or 7-foot wide attached) concrete sidewalk. Dedicate right-of-way for the street to 2-feet behind the back of sidewalk on each side. For detached sidewalk, the applicant may reduce the right-of-way width to 2-feet behind the back of curb and provide a permanent right-of-way easement that extends from the right-of-way line to 2-feet behind the back of sidewalk. If street trees are desired, an 8-foot wide planter strip is required.

13. If the applicant chooses to fully improve Ardell Road abutting the 0.4 acre parcel that is proposed to be rezoned with this development application, it should be improved consistent with the improvements on Ardell Road to the west of the 0.4 acre parcel with the Ledgestone South development. If street trees are desired, an 8-foot wide planter strip should be provided.

14. Construct Stroebel Road along the west property line to intersect Ardell Road, as proposed.

15. Dedicate 42-feet of right-of-way abutting the site's west property for Stroebel Road, as proposed.

16. Construct Stroebel Road from Ardell Road and stub the street to the site's north property line, as proposed.

17. Construct Stroebel Road as ½ of a 36-foot wide street section with vertical curb, gutter, bike lanes, a minimum of 5-foot wide detached (7-foot attached) concrete sidewalk on the east side of the road with an additional 12-feet of pavement widening beyond the centerline of the road with a 3-foot wide gravel shoulder and borrow ditch on the unimproved side within right-of-way, as proposed. Dedicate right-of-way for the street to 2-feet behind the back of sidewalk. For detached sidewalk, the applicant may reduce the right-of-way width to 2-feet behind the back of curb and provide a permanent right-of-way easement that extends from the right-of-way line to 2-feet behind the back of sidewalk. If street trees are desired, an 8-foot wide planter strip is required.

18. Construct all local roads intersecting Ardell Road to align or offset at least 330-feet from any other road.

19. Construct one collector roadway, Stroebel Road, to stub to the site's north property line at the northwest corner and the site's south property line at the southwest corner, as proposed. Install at sign at the terminus of the roadway stating that "THIS IS A DESIGNATED COLLECTOR ROADWAY. THIS STREET WILL BE WIDENED AND EXTENDED IN THE FUTURE."

20. Construct one collector roadway, Ardell Road, to stub to the site's west property line at the site's southwest corner, as proposed. Install at sign at the terminus of the roadway stating that "THIS IS A DESIGNATED COLLECTOR ROADWAY. THIS STREET WILL BE WIDENED AND EXTENDED IN THE FUTURE."

21. Construct a temporary cul-de-sac at the terminus of Stroebel Road. The developer shall grant a temporary turnaround easement to the District for those portions of the cul-de-sac which extend beyond the dedicated street right-of-way. In the instance where a temporary easement extends into a buildable lot, the entire lot shall be encumbered by the easement and identified on the plat as a non-buildable lot until the street is extended.

22. Construct the following local roadways to stub to site's the south property line, as proposed:

- Marengo Avenue 600-feet to the west of the east property line.
- An unnamed local road 610-feet east of the west property line.

23. Construct the following local roadways to stub to the site's north property line, as proposed:

- Coosa Avenue, 410-feet west of the site's east property line.

24. Install a sign at the terminus of the local road stub streets stating that "THIS ROAD WILL BE EXTENDED IN THE FUTURE."

25. Continue Moonshadow Avenue into the site, as proposed.

26. Construct the internal local streets as 36-foot wide street sections with curb, gutter and attached 5-foot wide concrete sidewalks within 50-feet of right-of-way, as proposed. If street trees are desired, 8-foot wide planter strips are required.

27. Construct the entry portion of Perry Street as a 50-foot wide street section with two 21-foot wide travel lanes, an 8-foot wide landscaped island, curb, gutter and attached 5-foot wide concrete sidewalks within 70-feet of right-of-way, as proposed. The center landscape island should be platted as right-of-way owned by ACHD. The applicant or homeowners association should enter into a license agreement with ACHD for any landscaping proposed to be located within the island. The applicant may reduce the right-of-way width to 2-feet behind the back of sidewalk. If street trees are desired, 8-foot wide planter strips are required.

28. Construct 8 knuckles, as proposed.

29. Construct the following alleys, dedicate 20-feet of right-of-way for the alleys and pave the alleys their entire width and length, as proposed:

- A 530-foot long alley extending from Perry Drive to Autauga Street
- A 665-foot long alley extending from Conecuh Street to Autauga Street
- A 700-foot long alley extending from Chilton Avenue to Cleburne Avenue
- A 390-foot long alley extending from Elmore Drive to Shelby Drive

30. Install "NO PARKING" signs at the alley/street intersections.

31. Other than the access specifically approved with this application, direct lot access is prohibited to Locust Grove Road, Ardell Road and Stroebel Road and should be noted on the final plat.

32. Submit civil plans to ACHD Development Services for review and approval. The impact fee assessment will not be released until the civil plans are approved by ACHD.

33. Payment of impact fees is due prior to issuance of a building permit.

34. Comply with all Standard Conditions of Approval.

E. Standard Conditions of Approval

1. All proposed irrigation facilities shall be located outside of the ACHD right-of-way (including all easements). Any existing irrigation facilities shall be relocated outside of the ACHD right-of-way (including all easements).

2. Private Utilities including sewer or water systems are prohibited from being located within the ACHD right-of-way.

3. In accordance with District policy, 7203.3, the applicant may be required to update any existing non-compliant pedestrian improvements abutting the site to meet current Americans with Disabilities Act (ADA) requirements. The applicant's engineer should provide documentation of ADA compliance to District Development Review staff for review.

4. Replace any existing damaged curb, gutter and sidewalk and any that may be damaged during the construction of the proposed development. Contact Construction Services at 387-6280 (with file number) for details.

5. A license agreement and compliance with the District's Tree Planter policy is required for all landscaping proposed within ACHD right-of-way or easement areas.

6. All utility relocation costs associated with improving street frontages abutting the site shall be borne by the developer.

7. It is the responsibility of the applicant to verify all existing utilities within the right-of-way. The applicant at no cost to ACHD shall repair existing utilities damaged by the applicant. The applicant shall be required to call DIGLINE (1-811-342-1585) at least two full business days prior to breaking ground within ACHD right-of-way. The applicant shall contact ACHD Traffic Operations 387-6190 in the event any ACHD conduits (spare or filled) are compromised during any phase of construction.

8. Utility street cuts in pavement less than five years old are not allowed unless approved in writing by the District. Contact the District's Utility Coordinator at 387-6258 (with file numbers) for details.

9. All design and construction shall be in accordance with the ACHD Policy Manual, ISPWC Standards and approved supplements, Construction Services procedures and all applicable ACHD Standards unless specifically waived herein. An engineer registered in the State of Idaho shall prepare and certify all improvement plans.

10. Construction, use and property development shall be in conformance with all applicable requirements of ACHD prior to District approval for occupancy.

11. No change in the terms and conditions of this approval shall be valid unless they are in writing and signed by the applicant or the applicant's authorized representative and an authorized representative of ACHD. The burden shall be upon the applicant to obtain written confirmation of any change from ACHD.

12. If the site plan or use should change in the future, ACHD Planning Review will review the site plan and may require additional improvements to the transportation system at that time. Any change in the planned use of the property which is the subject of this application, shall require the applicant to comply with ACHD Policy and Standard Conditions of Approval in place at that time unless a waiver/variance of the requirements or other legal relief is granted by the ACHD Commission.

F. Conclusions of Law

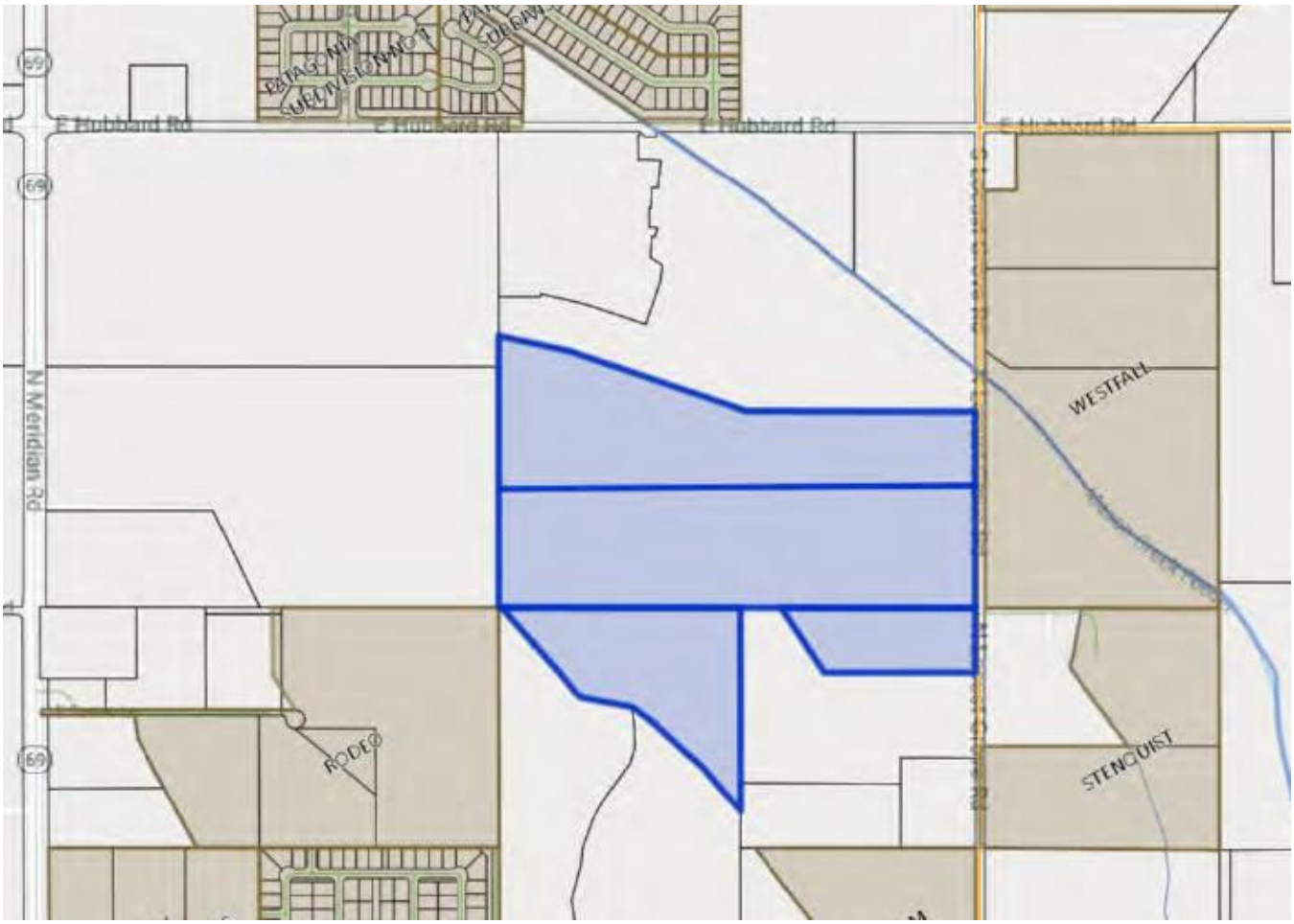
1. The proposed site plan is approved, if all of the Site Specific and Standard Conditions of Approval are satisfied.

2. ACHD requirements are intended to assure that the proposed use/development will not place an undue burden on the existing vehicular transportation system within the vicinity impacted by the proposed development.

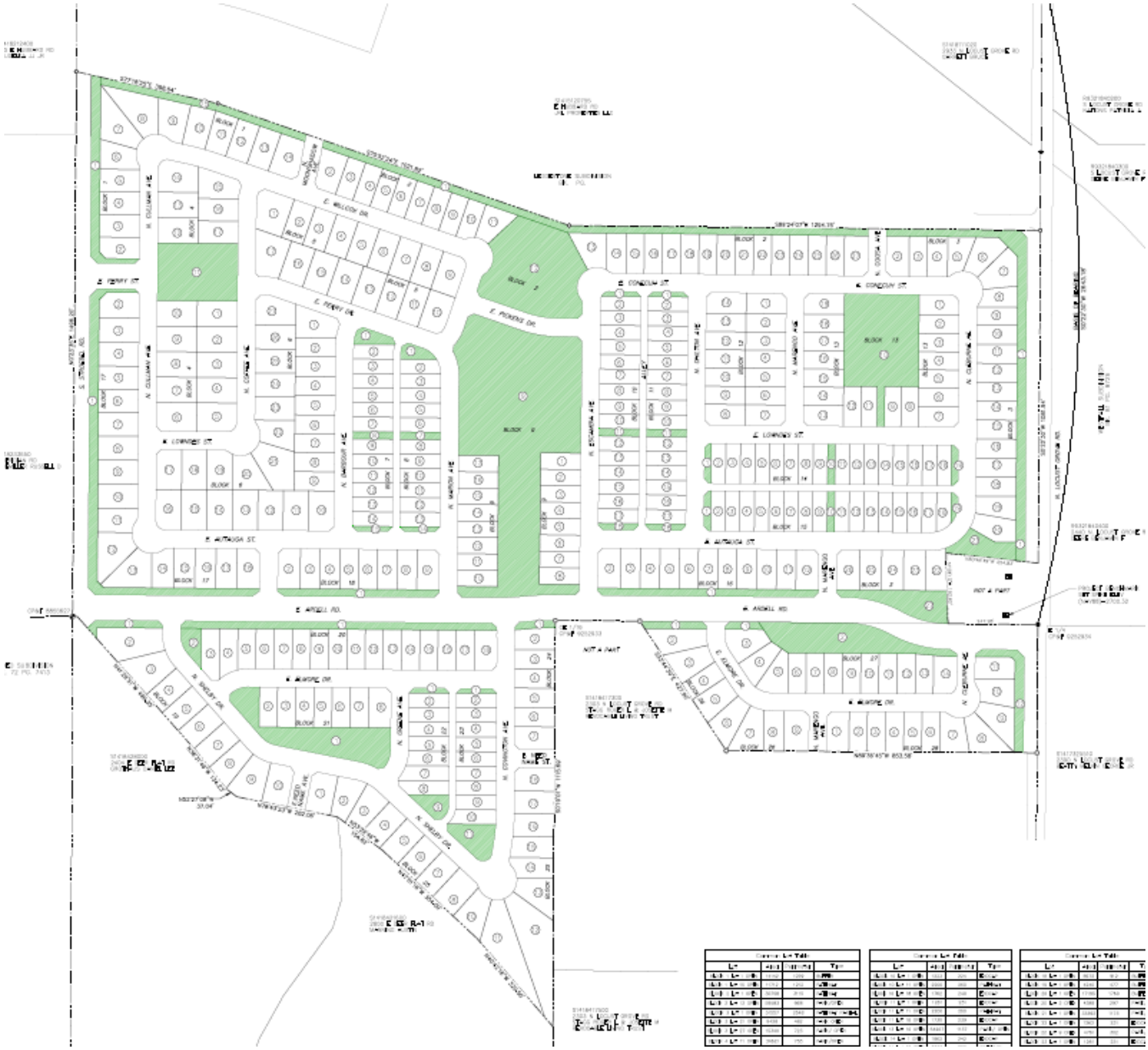
G. Attachments

1. Vicinity Map
2. Site Plan
3. TIS Executive Summary
4. Utility Coordinating Council
5. Development Process Checklist
6. Request for Reconsideration Guidelines **OR** Appeal Guidelines

VICINITY MAP



SITE PLAN



TIS Executive Summary

October 23, 2019

EXECUTIVE SUMMARY

This study was prepared in accordance with the ADA County Highway District's (ACHD's) requirements for a Traffic Impact Study listed in Section 7106 of the current *ACHD Policy Manual*. It evaluates the traffic impacts associated with the Ledgestone South Subdivision in Kuna, ID. The study area, scope and specific analysis parameters and requirements are the result of an Area of Influence Review performed by the Community Planning Association of Southwest Idaho (COMPASS) and discussion with ACHD. The study's principal findings and recommendations are summarized below.

Proposed Development

1.0 Ledgestone Subdivision is a proposed development consisting of 431 single-family dwelling units on a 95.95 acre parcel located south of Hubbard Road, between Meridian Road (SH 69) and Locust Grove Road located in Ada County, Idaho.

2.0 The development is planned to be constructed over a period of approximately six years, or to the year 2025. Due to the short duration of buildout, an interim evaluation was not required by ACHD.

3.0 The proposed development is expected to generate 4,069 daily trips, 319 AM peak hour trips and 427 PM peak hour trips.

4.0 The primary roadway network serving this proposed subdivision includes the following roadway segments and intersections:

Intersections:

- Hubbard Road and SH69 (Meridian Road)
- Locust Grove Road and Deer Flat Road
- Locust Grove Road and Hubbard Road
- Locust Grove Road and Columbia Road
- Locust Grove Road and Lake Hazel Road
- All site access points

Segments:

- Hubbard Rd between SH69 and Locust Grove Rd
- Hubbard Rd between Locust Grove Rd and Eagle Rd
- Locust Grove Rd between Deer Flat Rd and Hubbard Rd
- Locust Grove Rd between Hubbard Rd and Columbia Rd
- Locust Grove Rd between Columbia Rd and Lake Hazel Rd
- Locust Grove Rd between Lake Hazel Rd and Amity Rd
- All internal collectors

Primary access to the site will be provided via S. Stroebel Road, constructed along the ½ mile alignment, between Meridian Road and Locust Grove Road and an easterly access on Locust Grove Road.

Proposed Mitigation for Existing Traffic

5.0 For the existing traffic conditions analyzed with the existing roadway lane configuration, all study area roadways meet ACHD's minimum operational thresholds. No roadway improvements are needed to mitigate existing traffic.

6.0 For the existing traffic conditions analyzed with the existing intersection control and lane configuration, all study area intersections meet ACHD's minimum operational thresholds. No intersection improvements are needed to mitigate the existing traffic.

2025 Background Conditions

1.6 REVISIONS

Per ACHD Policy, the target LOS threshold for roadway segments is LOS E for Principal and Minor Arterial. Five of the six roadway segments do not meet this desired operational threshold under 2025 background conditions. Table 6R2 summarizes the LOS for the roadway segments. The recommended improvements are as follows:

- Hubbard Road, SH69 to Locust Grove Road
  - Continuous LT lane, two through lanes each direction.
- Hubbard Road, Locust Grove Road to Eagle Road
  - Continuous LT lane.
- Locust Grove Road, Deer Flat Road to Hubbard Road
  - Continuous LT lane.
- Locust Grove Road, Hubbard Road to Columbia Road
  - Continuous LT lane.
- Locust Grove Road, Lake Hazel Road to Amity Road
  - Continuous LT lane, two through lanes each direction.

These modifications will be assumed under subsequent roadway segment analyses.

Table 6R2 – Roadway Segment LOS – 2025 Background Traffic (replaces original Table 6/6R)

Roadway Segment	Functional Class	No. of Thru Lanes	Left-Turn Treatment	Threshold Volume		AM Peak Hour Major Direction		PM Peak Hour Major Direction	
				LOS D	LOS E	Vol (vph)	LOS	Vol (vph)	LOS
Hubbard Rd, SH69 to Locust Grove Rd	Minor Arterial	1	No LT Lane	540	575	1093	> E	468	< D
Hubbard Rd, SH69 to Locust Grove Rd	***Minor Arterial***	***2***	***Continuous LT Lane***	***1395***	***1540***	***1093***	***< D***	***468***	***< D***
Hubbard Rd, Locust Grove to Eagle	Minor Arterial	1	No LT Lane	540	575	537	< D	625	> E
Hubbard Rd, Locust Grove to Eagle	***Minor Arterial***	***1***	***Continuous LT Lane***	***675***	***720***	***537***	***< D***	***625***	***< D***
Locust Grove Rd, Deer Flat to Hubbard	Minor Arterial	1	No LT Lane	540	575	193	< D	591	> E
Locust Grove Rd, Deer Flat to Hubbard	***Minor Arterial***	***1***	***Continuous LT Lane***	***675***	***720***	***193***	***< D***	***591***	***< D***
Locust Grove Rd, Hubbard to Columbia	Minor Arterial	1	No LT Lane	540	575	627	> E	243	< D

Locust Grove Rd, Hubbard to Columbia	***Minor Arterial***	***1***	***Continuous LT Lane***	***675***	***720***	***627***	***< D***	***243***	***< D***
Locust Grove Rd, Columbia to Lake Hazel	Minor Arterial	1	No LT Lane	540	575	330	< D	484	< D
Locust Grove Rd, Lake Hazel to Amity	Minor Arterial	1	No LT Lane	540	575	403	< D	721	> E
Locust Grove Rd, Lake Hazel to Amity	***Minor Arterial***	***2***	***Continuous LT Lane***	***1395***	***1540***	***403***	***<D***	***721***	***<D***

Each intersection in the study area was evaluated under the 2025 background traffic volumes, existing traffic controls and lane configurations. Per ACHD Policy, the target LOS threshold for intersections are a maximum overall volume to capacity (v/c) ratio of 0.90 and 1.0 per lane group. Table 7R2 summarized the LOS results. The recommended improvements are as follows:

- Hubbard Road and Locust Grove Road
  - Traffic Signal
- Columbia Road and Locust Grove Road
  - Traffic Signal
- Lake Hazel and Locust Grove Road
  - Traffic Signal, all approach right-turn lanes

These modifications will be assumed under subsequent roadway segment analyses.

Table 7R2 – Intersection Traffic Operations – 2025 Background Traffic (replaces original Table 7)

Intersection	Traffic Control Lane Group	AM LOS/Delay/v/c	PM LOS/Delay/v/c
Hubbard Rd/ SH69	Traffic Signal	C/25.1	C/27.5
	Eastbound	C/30.1/0.614	D/46.8/0.293
	Westbound	C/33.0/0.385	E/78.7/0.724
	Northbound	C/28.4/0.890	C/27.6/0.344
	Southbound	B/14.6/0.378	C/34.8/0.948
Deer Flat/ Locust Grove	TWSC	NR	NR
	Eastbound	A/7.7/0.06	A/8.9/0.07
	Westbound	A/8.2/0.00	A/7.5/0.00
	Northbound	C/18.7/0.19	C/22.2/0.12
	Southbound	C/13.8/0.14	E/43.0/0.81
Hubbard/ Locust Grove	TWSC	NR	NR
	Eastbound	B/10.2/0.41	A/8.3/0.06
	Westbound	A/9.3/0.04	A/9.2/0.24
	Northbound	Out of range	Out of range
	Southbound	Out of range	F/1062.3/3.12
Hubbard/Locust Grove	***Traffic Signal***	***B/14.1***	***C/33.5***
	Eastbound	***A/9.2/0.322***	***D/39.7/0.793***
	Westbound	***A/9.8/0.53***	***D/35.3/0.931***
	Northbound	***D/37.8/0.784***	***C/32.5/0.241***
	Southbound	***C/34.6/0.376***	***D/39.0/0.864***
Columbia Rd/ Locust Grove	AWSC	F/60.8	F/116.3
	Eastbound	F/101.3/1.13	C/20.1/0.58
	Westbound	B/13.5/0.40	F/208.0/1.39
	Northbound	B/13.8/0.37	B/12.8/0.16
	Southbound	B/13.4/0.35	F/53.1/0.95
Columbia Rd/Locust Grove	***Traffic Signal***	***B/19.1***	***C/28.2***
	Eastbound	***B/11.1/0.218***	***C/32.3/0.765***
	Westbound	***B/17.7/0.205***	***C/22.1/0.802***
	Northbound	***D/37.1/0.822***	***C/23.9/0.131***
	Southbound	***C/33.9/0.543***	***C/33.6/0.922***
	AWSC	F/86.4	F/254.2

2025 Total Conditions

Two of six roadway segments do not meet desired operational thresholds under 2025 site plus background conditions. Table 9R2 summarizes the LOS for the roadway segments. The recommended improvements are as follows:

- Locust Grove Road, Hubbard Road to Columbia Road
  - Two through lanes each direction.
- Locust Grove Road, Columbia Road to Lake Hazel Road
  - Continuous LT lane.

Table 9R2 - Roadway Segment LOS – 2025 Site Plus Background Traffic (replaces original Table 9/9R)

Roadway Segment	Functional Class	No. of Thru Lanes	Left-Turn Treatment	Threshold Volume		AM Peak Hour Major Direction		PM Peak Hour Major Direction	
				LOS D	LOS E	Vol (vph)	LOS	Vol (vph)	LOS
Hubbard Rd, SH69 to Locust Grove Rd	Minor Arterial	2	Continuous LT Lane	1395	1540	1125	< D	575	< D
Hubbard Rd, Locust Grove to Eagle	Minor Arterial	1	Continuous LT Lane	675	720	573	< D	666	< D
Locust Grove Rd, Deer Flat to Hubbard	Minor Arterial	1	Continuous LT Lane	675	720	242	< D	712	< D
Locust Grove Rd, Hubbard to Columbia	Minor Arterial	1	Continuous LT Lane	675	720	723	> E	250	< D
Locust Grove Rd, Hubbard to Columbia	***Minor Arterial***	***2***	***Continuous LT Lane***	***1395***	***1540***	***723***	***< D***	***250***	***< D***
Locust Grove Rd, Columbia to Lake Hazel	Minor Arterial	1	No LT Lane	540	575	426	< D	591	< E
Locust Grove Rd, Columbia to Lake Hazel	***Minor Arterial***	***1***	***Continuous LT Lane***	***675***	***720***	***426***	***< D***	***591***	***< D***
Locust Grove Rd, Lake Hazel to Amity	Minor Arterial	2	Continuous LT Lane	1395	1540	466	<D	828	<D

Each intersection in the study area was evaluated under the 2025 Site Plus Background traffic conditions with existing traffic controls and lane configurations, or with the proposed improvements to mitigate 2025 background traffic. Table 10R2 summarizes these LOS results. The northbound approach at Hubbard Road and Stroebel performs at LOS F for AM peak conditions. This can be typical for minor street stop-controlled approaches to heavily traveled roadways. As the v/c ratio at this location is below 1.0, further mitigation at this location is not recommended. All other intersections perform at an acceptable LOS and v/c ratios.

Table 10R2 – Intersection Traffic Operations – 2025 Site Plus Background Traffic (replaces original Table 10/10R)

Intersection	Traffic Control Lane Group	AM LOS/Delay/v/c	PM LOS/Delay/v/c
Hubbard Rd/ SH69	Traffic Signal	C/33.5	C/32.9
	Eastbound	C/26.1/0.423	D/54.5/0.215
	Westbound	D/38.2/0.406	E/76.4/0.685
	Northbound	D/37.6/0.919	D/37.6/0.419
	Southbound	C/31.1/0.518	D/39.2/0.947
Deer Flat/ Locust Grove	TWSC	NR	NR
	Eastbound	A/7.7/0.06	A/8.9/0.07
	Westbound	A/8.2/0.00	A/7.5/0.00
	Northbound	C/18.7/0.20	C/21.8/0.17
	Southbound	B/14.9/0.18	E/42.7/0.81
Hubbard/Locust Grove	Traffic Signal	C/24.6	D/39.5
	Eastbound	C/22.6/0.492	D/39.2/0.617
	Westbound	C/24.2/0.050	E/65.5/0.969
	Northbound	C/34.3/0.847	C/34.6/0.354
	Southbound	C/29.2/0.321	D/44.0/0.912
Columbia/Locust Grove	Traffic Signal	C/28.5	D/38.1
	Eastbound	C/31.1/0.728	D/43.3/0.903
	Westbound	C/25.8/0.245	D/35.3/0.788
	Northbound	C/33.6/0.849	C/26.7/0.056
	Southbound	C/28.8/0.468	D/42.5/0.949
Lake Hazel/ Locust Grove	Traffic Signal	C/34.3	D/39.5
	Eastbound	D/39.4/0.855	C/34.3/0.597
	Westbound	C/29.2/0.258	D/44.8/0.860
	Northbound	D/39.3/0.904	C/32.8/0.516
	Southbound	C/31.1/0.664	D/52.2/0.950
Stroebel/ Hubbard	TWSC	NR	NR
	Eastbound	NR	NR
	Westbound	B/11.5/0.02	A/8.9/0.03
	Northbound	F/112.9/0.85	D/25.2/0.28
Locust Grove/ East Access (South of Rio Vallegas)	TWSC	NR	NR
	Eastbound	B/12.1/0.20	C/18./0.25
	Northbound	A/7.7/0.00	A/9.4/0.02
	Southbound	NR	NR

Ada County Utility Coordinating Council

Developer/Local Improvement District
Right of Way Improvements Guideline Request

Purpose: To develop the necessary avenue for proper notification to utilities of local highway and road improvements, to help the utilities in budgeting and to clarify the already existing process.

1) **Notification:** Within five (5) working days upon notification of required right of way improvements by Highway entities, developers shall provide written notification to the affected utility owners and the Ada County Utility Coordinating Council (UCC). Notification shall include but not be limited to, project limits, scope of roadway improvements/project, anticipated construction dates, and any portions critical to the right of way improvements and coordination of utilities.

2) **Plan Review:** The developer shall provide the highway entities and all utility owners with preliminary project plans and schedule a plan review conference. Depending on the scale of utility improvements, a plan review conference may not be necessary, as determined by the utility owners. Conference notification shall also be sent to the UCC. During the review meeting the developer shall notify utilities of the status of right of way/easement acquisition necessary for their project. At the plan review conference each company shall have the right to appeal, adjust and/or negotiate with the developer on its own behalf. Each utility shall provide the developer with a letter of review indicating the costs and time required for relocation of its facilities. Said letter of review is to be provided within thirty calendar days after the date of the plan review conference.

3) **Revisions:** The developer is responsible to provide utilities with any revisions to preliminary plans. Utilities may request an updated plan review meeting if revisions are made in the preliminary plans which affect the utility relocation requirements. Utilities shall have thirty days after receiving the revisions to review and comment thereon.

4) **Final Notification:** The developer will provide highway entities, utility owners and the UCC with final notification of its intent to proceed with right of way improvements and include the anticipated date work will commence. This notification shall indicate that the work to be performed shall be pursuant to final approved plans by the highway entity. The developer shall schedule a preconstruction meeting prior to right of way improvements. Utility relocation activity shall be completed within the times established during the preconstruction meeting, unless otherwise agreed upon.

Notification to the Ada County UCC can be sent to: 50 S. Cole Rd. Boise 83707, or Visit iducc.com for e-mail notification information.

Development Process Checklist

Items Completed to Date:

☒Submit a development application to a City or to Ada County

☒The City or the County will transmit the development application to ACHD

☒The ACHD **Planning Review Section** will receive the development application to review

☒The **Planning Review Section** will do one of the following:

☐Send a **"No Review"** letter to the applicant stating that there are no site specific conditions of approval at this time.

☒Write a **Staff Level** report analyzing the impacts of the development on the transportation system and evaluating the proposal for its conformance to District Policy.

☐Write a **Commission Level** report analyzing the impacts of the development on the transportation system and evaluating the proposal for its conformance to District Policy.

Items to be completed by Applicant:

☐For **ALL** development applications, including those receiving a **"No Review"** letter:

- The applicant should submit one set of engineered plans directly to ACHD for review by the **Development Review Section** for plan review and assessment of impact fees. (Note: if there are no site improvements required by ACHD, then architectural plans may be submitted for purposes of impact fee assessment.)
- The applicant is required to get a permit from Construction Services (ACHD) for ANY work in the right-of-way, including, but not limited to, driveway approaches, street improvements and utility cuts.

☐Pay Impact Fees prior to issuance of building permit. Impact fees cannot be paid prior to plan review approval.

DID YOU REMEMBER:
Construction (Non-Subdivisions)

☐ **Driveway or Property Approach(s)**

- Submit a "Driveway Approach Request" form to ACHD Construction (for approval by Development Services & Traffic Services). There is a one week turnaround for this approval.

☐ **Working in the ACHD Right-of-Way**

- Four business days prior to starting work have a bonded contractor submit a "Temporary Highway Use Permit Application" to ACHD Construction – Permits along with:
  a) Traffic Control Plan
  b) An Erosion & Sediment Control Narrative & Plat, done by a Certified Plan Designer, if trench is >50' or you are placing >600 sf of concrete or asphalt.

Construction (Subdivisions)

☐ **Sediment & Erosion Submittal**

- At least one week prior to setting up a Pre-Construction Meeting an Erosion & Sediment Control Narrative & Plan, done by a Certified Plan Designer, must be turned into ACHD Construction to be reviewed and approved by the ACHD Stormwater Section.

☐ **Idaho Power Company**

- Vic Steelman at Idaho Power must have his IPCO approved set of subdivision utility plans prior to Pre-Con being scheduled.

☐ **Final Approval from Development Services is required** prior to scheduling a Pre-Con.

Communities in Motion 2040 2.0 Development Review

The Community Planning Association of Southwest Idaho (COMPASS) is the metropolitan planning organization (MPO) for Ada and Canyon Counties. COMPASS has developed this review as a tool for local governments to evaluate whether land developments are consistent with the goals of *Communities in Motion 2040 2.0* (CIM 2040), the regional long-range transportation plan for Ada and Canyon Counties. This checklist is not intended to be prescriptive, but rather a guidance document based on CIM 2040 2.0 goals.

Development Name: Ledgestone South **Agency: Kuna**

CIM Vision Category: Future Neighborhoods

New households: 393 **New jobs: 0** **Exceeds CIM forecast: Yes**



CIM Corridor: **Locust Grove Rd** Pedestrian level of stress: **R** Bicycle level of stress: **R**	Level of Stress considers facility type, number of vehicle lanes, and speed. Roads with **G or PG** ratings better support bicyclists and pedestrians of all ages and comfort levels.
Housing within 1 mile: **310** Jobs within 1 mile: **24** Jobs/Housing Ratio: **0.08**	A good jobs/housing balance – a ratio between **1 and 1.5** – reduces traffic congestion. Higher numbers indicate the need for more housing and lower numbers indicate an employment need.
Nearest police station: **4 miles** Nearest fire station: **3.2 miles**	Developments within **1.5 miles** of police and fire stations ensure that emergency services are more efficient and reduce the cost of these important public services.
Farmland consumed: **Yes** Farmland within 1 mile: **1,531 acres**	Farmland contributes to the local economy, creates additional jobs, and provides food security to the region. Development in farm areas decreases the productivity and sustainability of farmland.
Nearest bus stop: **>4 miles** Nearest public school: **2.4 miles** Nearest public park: **1.4 miles** Nearest grocery store: **1.1 miles**	Residents who live or work less than **½ mile** from critical services have more transportation choices. Walking and biking reduces congestion by taking cars off the road, while supporting a healthy and active lifestyle.

Recommendations

This proposal exceeds growth forecasted for this area. Transportation infrastructure may not be able to support the new transportation demands. It is on the fringe of urban development in an area predominately farmland area, far from employment centers and public transportation. The closest bus service is more than four miles away and ValleyConnect 2.0 does not plan to serve this area.

More information about COMPASS and *Communities in Motion 2040 2.0*:
Web: www.compassidaho.org
Email info@compassidaho.org
More information about the development review process:
http://www.compassidaho.org/dashboard/devreview.htm

COMPASS
COMMUNITY PLANNING ASSOCIATION
of Southwest Idaho

Request for Appeal of Staff Decision

1. **Appeal of Staff Decision:** The Commission shall hear and decide appeals by an applicant of the final decision made by the Development Services Manager when it is alleged that the Development Services Manager did not properly apply this section 7101.6, did not consider all of the relevant facts presented, made an error of fact or law, abused discretion or acted arbitrarily and capriciously in the interpretation or enforcement of the ACHD Policy Manual.

    a. Filing Fee: The Commission may, from time to time, set reasonable fees to be charged the applicant for the processing of appeals, to cover administrative costs.

    b. Initiation: An appeal is initiated by the filing of a written notice of appeal with the Secretary and Clerk of the District, which must be filed within ten (10) working days from the date of the decision that is the subject of the appeal. The notice of appeal shall refer to the decision being appealed, identify the appellant by name, address and telephone number and state the grounds for the appeal. The grounds shall include a written summary of the provisions of the policy relevant to the appeal and/or the facts and law relied upon and shall include a written argument in support of the appeal. The Commission shall not consider a notice of appeal that does not comply with the provisions of this subsection.

    c. Time to Reply: The Development Services Manager shall have ten (10) working days from the date of the filing of the notice of appeal to reply to the notice of the appeal, and may during such time meet with the appellant to discuss the matter, and may also consider and/or modify the decision that is being appealed. A copy of the reply and any modifications to the decision being appealed will be provided to the appellant prior to the Commission hearing on the appeal.

    d. Notice of Hearing: Unless otherwise agreed to by the appellant, the hearing of the appeal will be noticed and scheduled on the Commission agenda at a regular meeting to be held within thirty (30) days following the delivery to the appellant of the Development Services Manager's reply to the notice of appeal. A copy of the decision being appealed, the notice of appeal and the reply shall be delivered to the Commission at least one (1) week prior to the hearing.

    e. Action by Commission: Following the hearing, the Commission shall either affirm or reverse, in whole or part, or otherwise modify, amend or supplement the decision being appealed, as such action is adequately supported by the law and evidence presented at the hearing.

Request for Reconsideration of Commission Action

1. **Request for Reconsideration of Commission Action:** A Commissioner, a member of ACHD staff or any other person objecting to any final action taken by the Commission may request reconsideration of that action, provided the request is not for a reconsideration of an action previously requested to be reconsidered, an action whose provisions have been partly and materially carried out, or an action that has created a contractual relationship with third parties.

    a. Only a Commission member who voted with the prevailing side can move for reconsideration, but the motion may be seconded by any Commissioner and is voted on by all Commissioners present.

       If a motion to reconsider is made and seconded it is subject to a motion to postpone to a certain time.

    b. The request must be in writing and delivered to the Secretary of the Highway District no later than 11:00 a.m. 2 days prior to the Commission's next scheduled regular meeting following the meeting at which the action to be reconsidered was taken. Upon receipt of the request, the Secretary shall cause the same to be placed on the agenda for that next scheduled regular Commission meeting.

    c. The request for reconsideration must be supported by written documentation setting forth new facts and information not presented at the earlier meeting, or a changed situation that has developed since the taking of the earlier vote, or information establishing an error of fact or law in the earlier action. The request may also be supported by oral testimony at the meeting.

    d. If a motion to reconsider passes, the effect is the original matter is in the exact position it occupied the moment before it was voted on originally. It will normally be returned to ACHD staff for further review. The Commission may set the date of the meeting at which the matter is to be returned. The Commission shall only take action on the original matter at a meeting where the agenda notice so provides.

    e. At the meeting where the original matter is again on the agenda for Commission action, interested persons and ACHD staff may present such written and oral testimony as the President of the Commission determines to be appropriate, and the Commission may take any action the majority of the Commission deems advisable.

    f. If a motion to reconsider passes, the applicant may be charged a reasonable fee, to cover administrative costs, as established by the Commission.

751 West 4th Street
P.O. Box 13
Kuna, ID 83634
Phone: 208-922-5274
Fax: 208-922-5989
www.kunacity.id.gov

CITY OF KUNA

PLANNING & ZONING DEPARTMENT

CERTIFICATE OF MAILING

Date: 7/8/2020

To: ☒ 450' Property Owners ☐ Other _____

Planner: Jace Hellman, Planner II

Case Name: 20-03-S & 20-01-AN – Ledgestone South Subdivision

I HEREBY CERTIFY that on this 8th day of July, 2020, I caused a true and correct copy of the foregoing instrument to be deposited in the United States mail, with prepaid postage.

_____
Signature

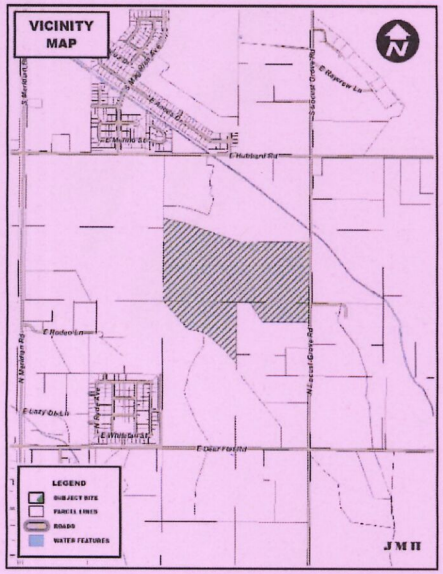
_____
Attest

Exhibit
D2

CITY OF KUNA
PLANNING & ZONING DEPARTMENT
PO Box 13 • 751 W. 4th St • Kuna, Idaho • 83634
Phone (208) 922-5274 • Fax: (208) 922-5989
www.kunacity.id.gov

Dear Property Owner:

NOTICE IS HEREBY GIVEN that the City of Kuna **Planning and Zoning Commission** is scheduled to hold a public hearing on **July 28, 2020,** beginning **at 6:00 pm** on the following case:



A request from Trilogy Development, Inc and Gem State Planning to annex four parcels consisting of approximately 97 acres into Kuna City Limits with an R-6 (Medium Density Residential) and R-8 (Medium Density Residential) zoning district classification and to subdivide the 97 acres into 437 total lots (393 buildable lots and 44 common lots). The subject sites are located along North Locust Grove Road and future extensions of Ardell Road and Stroebel Road, within Section 18, Township 2 North, Range 1 East; (APNs: S1418123460, S1418123485, S1418427800 and S1418417200).

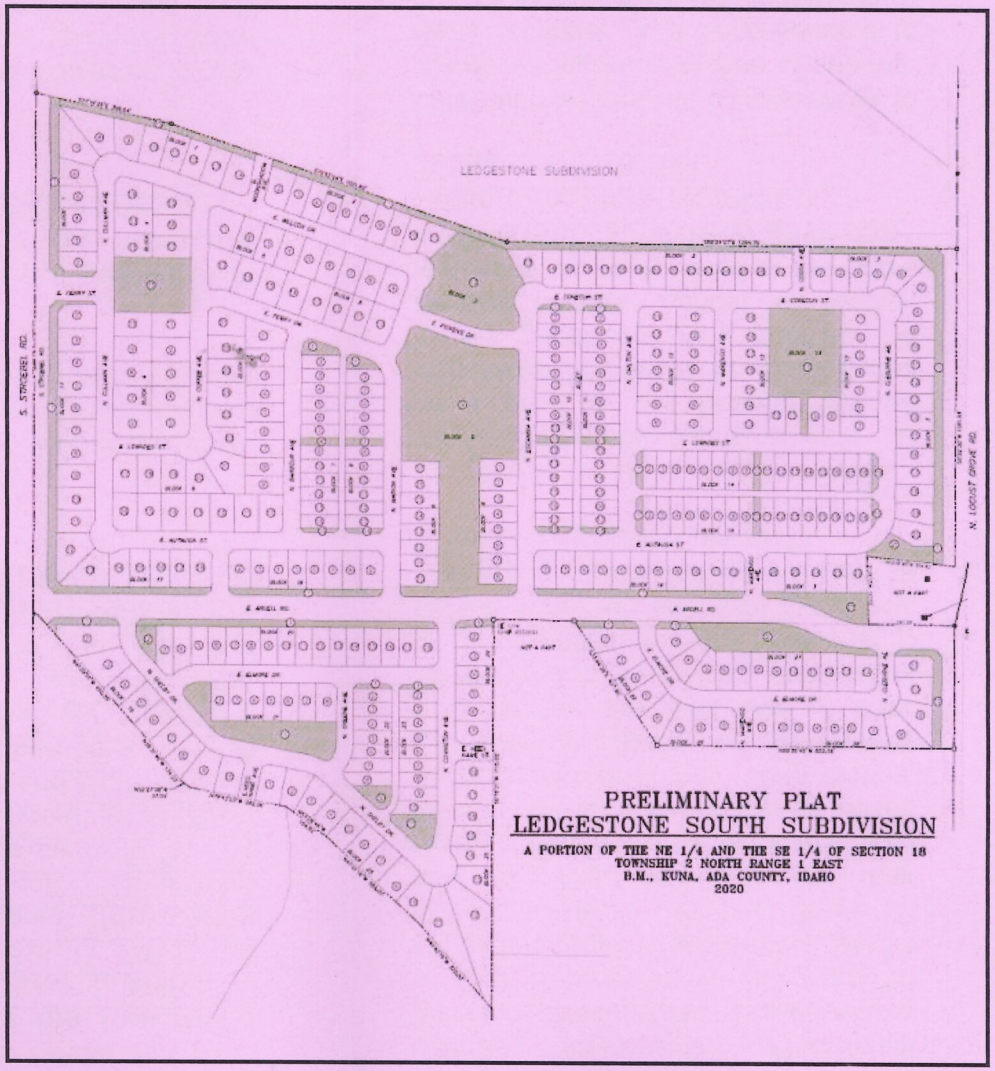
The hearing will be held **at 6:00 PM in the Council Chambers at City Hall located at 751 W. 4th Street, Kuna, Idaho.**

Under the authority of the Governor's partial Open Meeting Law Suspension Proclamation dated March 13, 2020, and due to required social distancing protocol, **the Council Chambers Audience Occupancy Capacity is 15**. The first 15 persons who appear, in addition to the Planning and Zoning Commission and staff, will be allowed in Council Chambers. Virtual participation/testimony via Zoom and the submittal of written testimony are available as alternative forms of public testimony (please see attached instructions for more details). Written testimony received by the close of business on ***July 22, 2020*** will be included in the packet that is distributed to the governing body prior to the hearing. Please submit written testimony via mail, email or the City's website (http://kunacity.id.gov/FormCenter/City-Clerk-13/Public-Testimony-Form-121). Late submissions will be presented to the governing body at time of the hearing.

All other persons may access the meeting via live streaming on the City of Kuna's Facebook page.

Mail written comments to PO Box 13, Kuna, ID 83634 or hand deliver them to City Hall.

If you have questions or need special assistance, please contact the Planning and Zoning Division at (208) 922-5274, or email jhellman@kunaid.gov.



MAILED 7/8/2020

FIRST-CLASS MAIL
$000.00
NEOPOST
07/08/2020
US POSTAGE
ZIP 83634
041M11460992

City of Kuna
Planning and Zoning
PO Box 13
Kuna, ID 83634

LEGAL NOTICE

Suggestions For Testifying at the Public Hearing:

Social distancing due to Covid-19…

Under the authority of the Governor's partial Open Meeting Law Suspension Proclamation dated March 13, 2020, and due to required social distancing protocol, the Council Chambers Audience Occupancy Capacity is 15. The first 15 persons who appear, in addition to the Governing Body and Staff, will be allowed in Council Chambers. Virtual participation/ testimony via zoom is available (please see attached instructions for more details). All other persons may access the meeting via live streaming on the City of Kuna's Facebook page.

Be informed . . .

Review the proposal, staff report, applicable provisions of the ordinance, comprehensive plan and Idaho State Code (Title 67, Chapter 65).

All items pertaining to the application can be found the Friday prior to the hearing at http://kunacity.id.gov/240/Agendas-and-Meeting-Minutes.

Be on time . . .

Although the item you are interested in may not be first on the agenda, you never know when it will be heard. The governing body has authority to adjust the schedule according to its discretion. Thus, anticipate attending from the beginning.

Speak to the point . . .

The governing body appreciates pertinent, well organized, factual and concise comments. Redundant testimony is prohibited. The developer or their representative is given 10 minutes to present their project. Others wishing to testify are given three (3) minutes. The developer (or their representative) is given additional time for rebuttal to address issues raised during public testimony. Long stories, abstract complaints, or generalities may not be the best use of time. Neighborhood groups are encouraged to organize testimony and have one (1) person speak on behalf of the group. The group representative will receive 10 minutes to make comments.

If you don't wish to speak, write . . .

Written testimony submitted one (1) week prior to the hearing will be included in the packet that is distributed to the governing body prior to the hearing. Please submit all written testimony via mail, email or the City's website(http://kunacity.id.gov/FormCenter/City-Clerk-13/Public-Testimony-Form-121)

Late submissions will be presented to the governing body at time of hearing. As a reminder, it is unreasonable to submit extensive written comments or information at the hearing and expect them to be reviewed prior to a decision.

KUNA
Planning & Zoning

Under the authority of the Governor's partial Open Meeting Law Suspension Proclamation dated March 13, 2020, and due to required social distancing protocol, the Council Chambers Audience Occupancy Capacity is 15. The first 15 persons who appear, in addition to the Governing Body and Staff, will be allowed in Council Chambers. Listed Below are alternative options and instructions that are available for public testimony:

APPLICANT AND PUBLIC WRITTEN AND ORAL HEARING TESTIMONY PROCESS:

Written - In Advance to be included in the Agenda Packet that is distributed to the Decision-Making body.

1. Submit any option prior to 5:00 pm the Thursday before Public Hearing meeting. *Late submissions will not be included in the packet but will be provided at the meeting.*
2. Submit testimony via our website on the Public Testimony Form. This form will email directly to the City for inclusion in the Agenda Packet.
3. Submit testimony via email to PublicHearingTestimony@KunaID.gov
4. Submit via mail to:
   City of Kuna
   Attention: Planning and Zoning
   PO Box 13
   Kuna ID 83634

Written – Up to noon the day of the Public Hearing

1. Submit any option prior to noon the day of the Public Hearing meeting. *Late submissions will not be included.*
2. Submit testimony via our website on the Public Testimony Form
3. Submit testimony via email to PublicHearingTestimony@KunaID.gov
4. Submit via mail to:
   City of Kuna
   Attention: Planning and Zoning
   PO Box 13
   Kuna ID 83634

Oral – Via electronic call during the Public Hearing

1. Submit request no later than noon the day of the Public Hearing meeting.
2. Email PublicHearingTestimony@KunaID.gov
   - ✓ Your name
   - ✓ Address
   - ✓ Phone Number you will be calling from to give testimony
   - ✓ Email Address
   - ✓ Date of Public Hearing
   - ✓ Case number or Identification of Public Hearing
3. Watch your email for a reply email with the information to join the meeting electronically. (Check your spam/junk folder as a precaution)
4. Follow the dial in information.
5. Call into the virtual lobby a minimum of 5 minutes prior to the meeting.

Oral – In Person Testimony during the Public Hearing. Due to social distancing protocol, the Council Chambers Audience Occupancy Capacity is 15. Social Distancing will be required. The first 15 persons who appear, in addition to the Governing Body and staff, will be allowed in Council Chambers. All other persons may access the meeting via Live Streaming on the City of Kuna Facebook page, https://www.facebook.com/CityofKunaIdaho/. All persons wishing to testify must, state their name and residential address. No person shall speak until recognized by the Chairman of the Planning and Zoning Commission. A three (3) minute time limit will be placed on all testimonies.

Information Continued on Back

751 W. 4th St., Kuna, ID 83634 | Phone: 208-922-5274
PO Box 13, Kuna, ID 83634 | Fax: 208-922-5989
www.kunacity.id.gov

If you have any questions or require special accommodation(s), please contact the Kuna Planning and Zoning Office before the meeting at (208) 922-5274.

Jace Hellman
Planner II
751 W 4th St.
Kuna, ID 83634

This Notice can be provided in a format accessible to persons with disabilities and/or persons with limited English proficiency upon request.

Se le puede proveer esta notificación en un formato accesible para las personas discapacidades y/o personas con conocimientos limitados del inglés a pedido.

207 LLC
6750 W Lazy Diamond C LN
Meridian, ID 83646

George & Marie Beatty
2390 N Locust Grove Road
Kuna, ID 83634

Challenger Development Inc
1977 E Overland Road
Meridian, ID 83642

Benjamin & Kenda Deere
2440 N Locust Grove Rd
Kuna, ID 83634

Bruce Garrett
Robyn Johnson-Garrett
2933 N Locust Grove Rd
Kuna, ID 83634

Daniel & Shirly Grothaus
2404 E Deer Flat Rd
Kuna, ID 83634

Heartland Townhomes Property Management LLC
JRL Properties LP
9839 W Cable Car St STE 101
Boise, ID 83709

Russell & Karen Hunemiller
16130 N Elder St
Nampa, ID 83687

TJ & Elaine Johnson
4357 E Vacheron St
Meridian, ID 83642

Grant Kirkham Trust
Roberta Kirkham Trust
1857 N Locust Grove Road
Kuna, ID 83634

JJ & Madge Koudelka
PO Box 1564
Nampa, ID 83687

Austin & Rosie Manning
2800 E Deer Flat Road
Kuna, ID 83634

Patricia Nations
18549 Emerald Lake Avenue
Nampa, ID 83687

Select Development & Contracting LLC
PO Box 1030
Meridian, ID 83680

Roger & Josette Stagg Revocable Living Trust
Roger Stagg Trustee
2303 N Locust Grove Rd
Kuna, ID 83634

Ron & Peggy Stenquist Revocable Trust
Ronald Stenquist Trustee
2100 N Locust Grove Road
Kuna, ID 83634

Michael & Heidi Williams-Black
2930 E Deer Flat Road
Kuna, ID 83634

Jace Hellman

From: Jace Hellman
Sent: Tuesday, June 30, 2020 9:12 AM
To: 'IDAHO PRESS-TRIBUNE'
Subject: CIty of Kuna, Request for Legal Publication - Ledgestone South Subdivision
Attachments: Ledgestone South Legal Publication KMN.docx

Greetings,

We would like to request that you publish the attached legal notification in the July 8, 2020 cycle of the Kuna Melba News on behalf of the City of Kuna, Planning and Zoning Department. This notification needs to be published in one cycle.

The Kuna P.O. for this request is #10244 (if you need it).
Thank you!

Jace Hellman
Planner II
751 W 4th St
Kuna, ID 83634
jhellman@kunaid.gov

KUNA
Planning & Zoning

Exhibit

CITY OF KUNA
PO Box 13 - Kuna, ID 83634
Phone: 208.922.5274 - Fax: 208.922.5989

File #'s 20-03-S & 20-01-AN, Ledgestone South Subdivision

NOTICE IS HEREBY GIVEN, that the Kuna Planning and Zoning Commission will hold a public hearing, **Tuesday, July 28, 2020 at 6:00 pm**, or as soon as can be heard at Kuna City Hall, 751 W. 4th St, Kuna, ID; in connection with an **Annexation (AN)** and **Preliminary Plat (S)** request for Ledgestone South Subdivision. Trilogy Development, Inc and Gem State Planning request to annex four parcels consisting of approximately 97 acres into Kuna City Limits with R-6 (Medium Density Residential) and R-8 (Medium Density Residential) zoning district classifications and to subdivide the 97 acres into 437 total lots (393 buildable lots and 44 common lots). The subject sites are located along North Locust Grove Road and future extensions of Ardell Road and Stroebel Road, within Section 18, Township 2 North, Range 1 East; (APNs: S1418123460, S1418123485, S1418427800 and S1418417200).

Under the authority of the Governor's partial Open Meeting Law Suspension Proclamation dated March 13, 2020, and due to required social distancing protocol, **the Council Chambers Audience Occupancy Capacity is 15**. The first 15 persons who appear, in addition to the Planning and Zoning Commission and staff, will be allowed in Council Chambers. Virtual participation/testimony via Zoom and the submittal of written testimony are available as alternative forms of public testimony (please see attached instructions for more details). Written testimony received by the close of business on ***July 22, 2020*** will be included in the packet that is distributed to the governing body prior to the hearing. Please submit written testimony via mail, email or the City's website (**http://kunacity.id.gov/FormCenter/City-Clerk-13/Public-Testimony-Form-121**). Late submissions will be presented to the governing body at time of the hearing. Mail written comments to PO Box 13, Kuna, ID 83634 or hand deliver them to City Hall. All other persons may access the meeting via live streaming on the City of Kuna's Facebook page.

Please do not contact anyone who would be involved in this decision-making process, which would include the Planning & Zoning Commissioners, City Council Members, or the Mayor; as such private conversations would be considered ex parte (one sided) and could jeopardize the public hearing process.

If you have any questions or require special accommodations, please contact the Kuna Planning & Zoning Department prior to the meeting at (208) 922-5274.

Kuna Planning & Zoning Department

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*(No need to print this portion) Please publish one time on **July 8, 2020**.*

(Sent 6/30/2020)

Kuna P.O. #10244

IDAHO PRESS-TRIBUNE
EMMETT MERIDIAN KUNA BOISE WKLY
C/O ISJ PAYMENT PROCESSING CENTER
PO BOX 1570
POCATELLO ID 83204
(208)467-9251
Fax (208)475-2321

ORDER CONFIRMATION

Salesperson: LEGALS — Printed at 07/02/20 10:07 by sje14

Acct #: 345222 — Ad #: 2024035 — Status: New

1 KUNA, CITY OF
P.O. BOX 13
KUNA ID 83634

Start: 07/08/2020 — Stop: 07/08/2020
Times Ord: 1 — Times Run: ***
LEG 2.00 X 58.00 — Words: 395
Total LEG 116.00
Class: 0006 GOVERNMENT NOTICES
Rate: L2 — Cost: 107.61
Affidavits: 1

Contact: CHRIS ENGLES
Phone: (208)387-7727
Fax#:
Email: awelker@kunaid.gov; gsmith@k
Agency:

Ad Descrpt: 20-03-S,- LEDGESTONE
Given by: JACE HELLMAN
P.O. #: 10244
Created: sje14 07/01/20 11:51
Last Changed: rmcmu 07/01/20 20:42

PUB	ZONE	EDT	TP	RUN DATES
KMN	A		96 S	07/08

AUTHORIZATION

Under this agreement rates are subject to change with 30 days notice. In the event of a cancellation before schedule completion, I understand that the rate charged will be based upon the rate for the number of insertions used.

Jace Hellman
Name (print or type)

Name (signature)

(CONTINUED ON NEXT PAGE)

IDAHO PRESS-TRIBUNE
EMMETT MERIDIAN KUNA BOISE WKLY
C/O ISJ PAYMENT PROCESSING CENTER
PO BOX 1570
POCATELLO ID 83204
(208)467-9251
Fax (208)475-2321

ORDER CONFIRMATION (CONTINUED)

Salesperson: LEGALS Printed at 07/02/20 10:07 by sje14

Acct #: 345222 Ad #: 2024035 Status: New

LEGAL NOTICE

File #'s 20-03-S & 20-01-AN,
Ledgestone South Subdivision

NOTICE IS HEREBY GIVEN, that the Kuna Planning and Zoning Commission will hold a public hearing, **Tuesday, July 28, 2020 at 6:00 pm**, or as soon as can be heard at Kuna City Hall, 751 W. 4th St, Kuna, ID; in connection with an **Annexation (AN) and Preliminary Plat (S)** request for Ledgestone South Subdivision. Trilogy Development, Inc and Gem State Planning request to annex four parcels consisting of approximately 97 acres into Kuna City Limits with R-6 (Medium Density Residential) and R-8 (Medium Density Residential) zoning district classifications and to subdivide the 97 acres into 437 total lots (393 buildable lots and 44 common lots). The subject sites are located along North Locust Grove Road and future extensions of Ardell Road and Stroebel Road, within Section 18, Township 2 North, Range 1 East; (APNs: S1418123460, S1418123485, S1418427800 and S1418417200).

Under the authority of the Governor's partial Open Meeting Law Suspension Proclamation dated March 13, 2020, and due to required social distancing protocol, **the Council Chambers Audience Occupancy Capacity is 15.** The first 15 persons who appear, in addition to the Planning and Zoning Commission and staff, will be allowed in Council Chambers. Virtual participation/testimony via Zoom and the submittal of written testimony are available as alternative forms of public testimony (please see attached instructions for more details). Written testimony received by the close of business on July 22, 2020 will be included in the packet that is distributed to the governing body prior to the hearing. Please submit written testimony via mail, email or the City's website **(http://kunacity.id.gov/FormCenter/City-Clerk-13/Public-Testimony-Form-121).** Late submissions will be presented to the governing body at time of the hearing. Mail written comments to PO Box 13, Kuna, ID 83634 or hand deliver them to City Hall. All other persons may access the meeting via live streaming on the City of Kuna's Facebook page.

Please do not contact anyone who would be involved in this decision-making process, which would include the Planning & Zoning Commissioners, City Council Members, or the Mayor; as such private conversations would be considered ex parte (one sided) and could jeopardize the public hearing process.

If you have any questions or require special accommodations, please contact the Kuna Planning & Zoning Department prior to the meeting at (208) 922-5274.

Kuna Planning & Zoning Department

July 8, 2020 2024035

Looks great!

345222 2024035

1 KUNA, CITY OF

P.O. BOX 13
KUNA ID 83634

AFFIDAVIT OF PUBLICATION

STATE OF IDAHO)
)SS.
County of Ada)

Sharon Jessen
of Nampa, Canyon County, Idaho, being first duly sworn, deposes and says:

1. That I am a citizen of the United States, and at all times hereinafter mentioned was over the age of eighteen years, and not a party to the above entitled action.
2. That I am the Principle Clerk of the Kuna Melba News, a weekly newspaper published in the City of Kuna, in the County of Ada, State of Idaho; that the said newspaper is in general circulation in the said County of Ada, and in the vicinity of Kuna and Melba, and has been uninterruptedly published in said County during a period of seventy-eight consecutive weeks prior to the first publication of this notice, a copy of which is hereto attached.
3. That the notice, of which the annexed is a printed copy, was published in said newspaper 1 time(s) in the regular and entire issue of said paper, and was printed in the newspaper proper, and not in a supplement.

That said notice was published the following:
07/08/2020

Sharon Jessen

STATE OF IDAHO)
County of Canyon)
On this 9th day of July in the year of 2020 before me a Notary Public, personally appeared. Sharon Jessen, known or identified to me to be the person whose name is subscribed to the within instrument, and being by me first duly sworn, declared that the statements therein are true, and acknowledge to me that he/she executed the same.

Colleen R. Nielsen

Notary Public for Idaho
Residing at Canyon County
My Commission expires 06/28/2023

COLLEEN R. NIELSEN NOTARY PUBLIC Comm No. 70215 STATE OF IDAHO

LEGAL NOTICE

File #'s 20-03-S & 20-01-AN, Ledgestone South Subdivision

NOTICE IS HEREBY GIVEN, that the Kuna Planning and Zoning Commission will hold a public hearing, **Tuesday, July 28, 2020 at 6:00 pm**, or as soon as can be heard at Kuna City Hall, 751 W. 4th St, Kuna, ID; in connection with an **Annexation (AN) and Preliminary Plat (S)** request for Ledgestone South Subdivision. Trilogy Development, Inc and Gem State Planning request to annex four parcels consisting of approximately 97 acres into Kuna City Limits with R-6 (Medium Density Residential) and R-8 (Medium Density Residential) zoning district classifications and to subdivide the 97 acres into 437 total lots (393 buildable lots and 44 common lots). The subject sites are located along North Locust Grove Road and future extensions of Ardell Road and Stroebel Road, within Section 18, Township 2 North, Range 1 East; (APNs: S1418123460, S1418123485, S1418427800 and S1418417200).

Under the authority of the Governor's partial Open Meeting Law Suspension Proclamation dated March 13, 2020, and due to required social distancing protocol, **the Council Chambers Audience Occupancy Capacity is 15.** The first 15 persons who appear, in addition to the Planning and Zoning Commission and staff, will be allowed in Council Chambers. Virtual participation/testimony via Zoom and the submittal of written testimony are available as alternative forms of public testimony (please see attached instructions for more details). Written testimony received by the close of business on July 22, 2020 will be included in the packet that is distributed to the governing body prior to the hearing. Please submit written testimony via mail, email or the City's website **(http://kunacity.id.gov/FormCenter/City-Clerk-13/Public-Testimony-Form-121)**. Late submissions will be presented to the governing body at time of the hearing. Mail written comments to PO Box 13, Kuna, ID 83634 or hand deliver them to City Hall. All other persons may access the meeting via live streaming on the City of Kuna's Facebook page.

Please do not contact anyone who would be involved in this decision-making process, which would include the Planning & Zoning Commissioners, City Council Members, or the Mayor; as such private conversations would be considered ex parte (one sided) and could jeopardize the public hearing process.

If you have any questions or require special accommodations, please contact the Kuna Planning & Zoning Department prior to the meeting at (208) 922-5274.

Kuna Planning & Zoning Department

July 8, 2020 2024035

LEGAL NOTICES

LEGALS

LEGAL NOTICE

**File # 20-01-ZC (Rezone)
20-02-S (Pre Plat),
Sera Sol Subdivision**

NOTICE IS HEREBY GIVEN, that the Planning and Zoning Commission will hold a public hearing, **Tuesday, August 11, 2020 at 6:00 pm**, or as soon as can be heard at Kuna City Hall, 751 W. 4th St, Kuna, ID; in connection with a **Rezone (ZC)** and a **Preliminary Plat (S)** request for Sera Sol Subdivision. Riley Planning Services, LLC, requests a rezone for approx. 19.22 acres from Agriculture TO R-6 (Med. Density Resid.) and a preliminary plat approval in order to subdivide the same lands into 89 total lots. The proposed densities are approx. 4.06 DUA (gross), and 5.62 (net) DUA respectively with 2.83 ac. of open space. The site is near the NWC of Swan Falls Rd. and Sunbeam, Kuna, Idaho, 83634. APN's are S1326141870 & S1326142025.

The public is invited to present written or oral comments. Written testimony received by the close of business on **August 6, 2020** will be included in the packets distributed to the governing body. Late submissions (must include eight (8) copies) will be presented to the governing body at the time of the hearing. Please mail written comments to PO Box 13, Kuna, ID 83634, or drop them off at City Hall: 751 West 4th Street, Kuna, ID.

Please do not contact anyone who would be involved in this decision making process, which would include the P&Z Commissioners, City Council Members, or the Mayor; as such private conversations would be considered ex parte (one sided) and could jeopardize the public hearing process.

If you have any questions or require special accommodations, please contact the Kuna Planning & Zoning Department prior to the meeting at (208) 922-5274.

Kuna Planning & Zoning Department

July 8, 2020 2023293

TO ADVERTISE
HERE CALL
208-465-8129
Monday-Friday
8AM - NOON

LEGAL NOTICE

NOTICE TO CREDITORS
Case No. CV01-20-09591

IN THE DISTRICT COURT OF THE FOURTH JUDICIAL DISTRICT OF THE STATE OF IDAHO, IN AND FOR THE COUNTY OF ADA

In the matter of the Estate of
PAMELA JEAN PIERSON,
Deceased.

NOTICE IS HEREBY GIVEN that RANDI J. GRANADOS has been appointed Personal Representative of the above-named estate. All persons having claims against the decedent's estate are required to present their claims within four (4) months after the date of the first publication of this Notice or said claims will be forever barred.

Claims must be presented to the undersigned Personal Representative of the estate's attorney, Kristen R. Thompson of Thompson Law Firm at 78 SW 5th Avenue, Suite 2, Meridian, Idaho, 83642 and they must be filed with the Clerk of the Court.

Dated this 29th day of June 2020.

Kristen R. Thompson
78 SW 5th Avenue, Suite 2
Meridian, Idaho 83642
Telephone: 208-888-7278

July 8, 15, 22, 2020 2024028

LEGAL NOTICE

File # 20-01-OA - City of Kuna, Zoning Ordinance Amendment

NOTICE IS HEREBY GIVEN that Kuna City Council will hold a public hearing on **Tuesday, July 21, 2020 at 6:00 pm**, or as soon as can be heard at Kuna City Hall, 751 W. 4th St, Kuna, ID. The public hearing is for the purpose of gaining input on the following ordinance amendment:

- MAKING CERTAIN FINDINGS; AND
- AMENDING SUBSECTION 2 OF SECTION 6, CHAPTER 1, TITLE 5 ADDING DEFINITIONS ASSOCIATED WITH SIGNAGE; AND
- REPEALING CHAPTER 10 OF TITLE 5; AND
- AMENDING TITLE 5 BY THE ADDITION OF A NEW CHAPTER 10; AND
- PROVIDING A SEVERABILITY CLAUSE; AND
- DIRECTING THE CITY CLERK; AND
- PROVIDING AN EFFECTIVE DATE.

Under the authority of the Governor's partial Open Meeting Law Suspension Proclamation dated March 13, 2020, and due to required social distancing protocol, the **Council Chambers Audience Occupancy Capacity is 15**. The first 15 persons who appear, in addition to the City Council and staff, will be allowed in Council Chambers. Virtual participation/testimony via Zoom and the submittal of written testimony are available as alternative forms of public testimony. Written testimony received by the close of business on **July 14, 2020** will be included in the packet that is distributed to the governing body prior to the hearing. Please submit written testimony via mail, email or the City's website (http://kunacity.id.gov/FormCenter/City-Clerk-13/Public-Testimony-Form-121). Late submissions will be presented to the governing body at time of the hearing. Mail written comments to PO Box 13, Kuna, ID 83634 or hand deliver them to City Hall. All other persons may access the meeting via live streaming on the City of Kuna's Facebook page.

If you have questions or require special accommodations, contact the Planning & Zoning Department prior to the meeting at (208) 922-5274.

Kuna Planning & Zoning Department

July 1, 8, 2020 2022798

To place an ad in our
Legal Section
Call 465-8129

LEGAL NOTICE

**File #'s 20-03-S & 20-01-AN,
Ledgestone South Subdivision**

NOTICE IS HEREBY GIVEN, that the Kuna Planning and Zoning Commission will hold a public hearing, **Tuesday, July 28, 2020 at 6:00 pm**, or as soon as can be heard at Kuna City Hall, 751 W. 4th St, Kuna, ID; in connection with an **Annexation (AN) and Preliminary Plat (S)** request for Ledgestone South Subdivision. Trilogy Development, Inc and Gem State Planning request to annex four parcels consisting of approximately 97 acres into Kuna City Limits with R-6 (Medium Density Residential) and R-8 (Medium Density Residential) zoning district classifications and to subdivide the 97 acres into 437 total lots (393 buildable lots and 44 common lots). The subject sites are located along North Locust Grove Road and future extensions of Ardell Road and Stroebel Road, within Section 18, Township 2 North, Range 1 East; (APNs: S1418123460, S1418123485, S1418427800 and S1418417200).

Under the authority of the Governor's partial Open Meeting Law Suspension Proclamation dated March 13, 2020, and due to required social distancing protocol, **the Council Chambers Audience Occupancy Capacity is 15**. The first 15 persons who appear, in addition to the Planning and Zoning Commission and staff, will be allowed in Council Chambers. Virtual participation/testimony via Zoom and the submittal of written testimony are available as alternative forms of public testimony (please see attached instructions for more details). Written testimony received by the close of business on July 22, 2020 will be included in the packet that is distributed to the governing body prior to the hearing. Please submit written testimony via mail, email or the City's website **(http://kunacity.id.gov/FormCenter/City-Clerk-13/Public-Testimony-Form-121)**. Late submissions will be presented to the governing body at time of the hearing. Mail written comments to PO Box 13, Kuna, ID 83634 or hand deliver them to City Hall. All other persons may access the meeting via live streaming on the City of Kuna's Facebook page.

Please do not contact anyone who would be involved in this decision-making process, which would include the Planning & Zoning Commissioners, City Council Members, or the Mayor; as such private conversations would be considered ex parte (one sided) and could jeopardize the public hearing process.

If you have any questions or require special accommodations, please contact the Kuna Planning & Zoning Department prior to the meeting at (208) 922-5274.

Kuna Planning & Zoning Department

July 8, 2020 2024035

LEGAL NOTICE

**File #'s 19-11-AN & 19-08-S,
Ashton Estates East Subdivision**

NOTICE IS HEREBY GIVEN, that the Kuna Planning and Zoning Commission will hold a public hearing, **Tuesday, July 28, 2020 at 6:00 pm**, or as soon as can be heard at Kuna City Hall, 751 W. 4th St, Kuna, ID; in connection with an **Annexation (AN) and Preliminary Plat (S)** request for Ashton Estates East Subdivision. KM Engineering requests to annex one parcel consisting of approximately 38.47 acres into Kuna City Limits with an R-8 (Medium Density Residential) zone and to subdivide the 38.47 acres into 200 total lots (one hundred seventy-five (175) buildable lots, twenty-five (25) common lots). The subject site is located at 2320 E. Meadow View Road, Kuna, ID 83634, within Section 26, Township 2 North, Range 1 East; (APN: S1419241000).

Under the authority of the Governor's partial Open Meeting Law Suspension Proclamation dated March 13, 2020, and due to required social distancing protocol, **the Council Chambers Audience Occupancy Capacity is 15.** The first 15 persons who appear, in addition to the Planning and Zoning Commission and staff, will be allowed in Council Chambers. Virtual participation/testimony via Zoom and the submittal of written testimony are available as alternative forms of public testimony (please see attached instructions for more details). Written testimony received by the close of business on July 22, 2020 will be included in the packet that is distributed to the governing body prior to the hearing. Please submit written testimony via mail, email or the City's website (http:// kunacity.id.gov/FormCenter/City-Clerk-13/Public-Testimony-Form-121). Late submissions will be presented to the governing body at time of the hearing. Mail written comments to PO Box 13, Kuna, ID 83634 or hand deliver them to City Hall. All other persons may access the meeting via live streaming on the City of Kuna's Facebook page.

Please do not contact anyone who would be involved in this decision making process, which would include the Planning & Zoning Commissioners, City Council Members, or the Mayor; as such private conversations would be considered ex parte (one sided) and could jeopardize the public hearing process.

If you have any questions or require special accommodations, please contact the Kuna Planning & Zoning Department prior to the meeting at (208) 922-5274.

Kuna Planning & Zoning Department

July 8, 2020 2024025

LEGAL NOTICE

**City of Kuna
PUBLIC HEARING NOTICE**
A Public Hearing on the Status of Funded Grant Activities

The City of Kuna received an Idaho Community Development Block Grant (ICDBG) in the amount of $500,000 from the Idaho Department of Commerce. This funding is allocated to the State of Idaho from the U.S. Department of Housing and Urban Development. These funds are currently being used to construct streetscape improvements along Main Street, from Avenue C to Avenue A.

The hearing will include a review of project activities and accomplishments to date, a summary of all expenditures to date, a general description of remaining work and any changes made to the scope of work, budget, schedule, location or beneficiaries.

The hearing will be held **Tuesday, July 21, 2020 at 6:00 PM** or as soon as can be heard, in the Council Chambers, Kuna City Hall, 751 W. 4th Street, Kuna, ID 83634.

The public is invited to provide written or oral testimony. Due to current health precautions associated with the Coronavirus, the City of Kuna is providing alternative ways for the community to submit comments at public hearings.

APPLICANT AND PUBLIC WRITTEN AND ORAL HEARING TESTIMONY PROCESS:

Written - In Advance to be included in the Agenda Packet that is distributed to the Decision-Making body.

1. Submit any option prior to 5:00 pm the Thursday before Public Hearing meeting. Late submissions will not be included in the packet but will be provided at the meeting.
2. Submit testimony via our website on the Public Testimony Form. This form will email directly to the City for inclusion in the Agenda Packet.
3. Submit testimony via email to PublicHearingTestimony@KunaID.gov
4. Submit via mail to:
   City of Kuna
   Attention: City Clerk
   PO Box 13
   Kuna ID 83634

Written - Up to noon the day of the Public Hearing

1. Submit any option prior to noon the day of the Public Hearing meeting. Late submissions will not be included.
2. Submit testimony via our website on the Public Testimony Form
3. Submit testimony via email to PublicHearingTesti @KunaID.gov
4. Submit via mail to:
   City of Kuna
   Attention: City Clerk
   PO Box 13
   Kuna ID 83634

Oral - Via electronic call during the Public Hearing

1. Submit request no later than noon the day of the Public Hearing meeting.
2. Email PublicHearingTestimony@KunaID.gov
   - √ Your name
   - √ Address
   - √ Phone Number you will be calling from to give testimony
   - √ Email Address
   - √ Date of Public Hearing
   - √ Case number or Identification of Public Hearing
3. Watch your email for a reply email with the information to join the meeting electronically. (Check your spam/junk folder as a precaution)
4. Follow the dial in information.
5. Call into the virtual lobby a minimum of 5 minutes prior to the meeting.

Oral - In Person Testimony during the Public Hearing. Due to social distancing protocol, the Council Chambers Audience Occupancy Capacity is 15. Social Distancing will be required. The first 15 persons who appear, in addition to Mayor, City Council, and staff, will be allowed in Council Chambers. All other persons may access the meeting via Live Streaming on the City of Kuna Facebook page, https://www.facebook.com/CityofKunaIdaho/. All persons wishing to testify must, state their name and residential address. No person shall speak until recognized by the Mayor. A three (3) minute time limit will be placed on all testimonies.

Information provided at the public hearing will be available, upon request, five (5) days prior to the hearing. The hearing will be held in a facility that is accessible to persons with disabilities. Special accommodations will be available, upon request, five (5) days prior to the hearing in a format that is usable to persons with disabilities.

If you have any questions or require special accommodation(s), please contact the Kuna City Clerk's Office before the meeting at (208) 387-7726.

Chris Engels, City Clerk
751 W 4th St.
Kuna, ID 83634

This Notice can be provided in a format accessible to persons with disabilities and/or persons with limited English proficiency upon request.

Se le puede proveer esta notificación en un formato accesible para las personas discapacidades y/o personas con conocimientos limitados del inglés a pedido.

July 8, 2020 2024232

City of Kuna
PROOF OF PROPERTY POSTING

City of Kuna
P.O. Box 13
Kuna, Idaho 83634

Phone: (208) 922-5274
Fax: (208) 922-5989
Web: www.kunacity.id.gov

This notice shall confirm that the Public Hearing Notice for Ledgestone South (**NAME OF SUBDIVISION OR ADDRESS**) was posted as required per Kuna City Ordinance 5-1A-8. Sign posted 7/17/20 (**DAY OF THE WEEK, MONTH, DATE AND YEAR**). *This form is required to be returned three (3) calendar days subsequent to posting and signs are to be removed from the site three (3) calendar days after the hearing.*

DATED *this* 17th *day of* July, 2020.

Signature,

Jane B Sayer
Owner/Developer/Agent

STATE OF IDAHO)
): ss
County of Ada)

On this 17th *day of* July, 2020 *before me the undersigned, a Notary Public in and for said State, personally appeared before me (Owner, Developer).*

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

Hannah Cherezi
Notary Public
Residing at Nampa ID
Commission Expires 8-30-2025

HANNAH CHEREZI
Comm. No. 20191774
NOTARY PUBLIC
Expires: 08/30/2025
STATE OF IDAHO

Exhibit D4


CITY OF KUNA
PUBLIC HEARING NOTICE
Kuna Planning & Zoning Commission
THE CITY OF KUNA will hold a public hearing on July 28, 2020 at 6:00 PM at Kuna City Hall 751 W. 4th St., Kuna, ID 83634
PURPOSE: Annexation, Zoning, Preliminary Plat - Ledgestone South Subdivision - Zones R-6, R-8, 97 acres, 393 single family home lots, open space, playground, pool.
PROPERTY LOCATION:
Locust Grove Road, Between Hubbard and Deer Flat
APPLICATION BY: Gem State Planning
CONTACT: Jace Hellman, (208) 922.5274
jhellman@kunaID.gov, with any questions
HANDY WHOLESALE PRODUCTS
PAUL, IDAHO
208-438-5071
NET WT 70 LBS.


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received
7-20-20

2404 E Deer Flat Rd
Kuna ID 83634
July 20, 2020

City of Kuna
Planning & Zoning
751 W 4th St
Kuna, ID 83634

SUBJECT: Concerns related to proposed Trilogy Development and Gem State Planning subdivision, Ledgestone South, directly north of our property located at 2404 E Deer Flat Rd, Kuna

Our property located at 2404 E Deer Flat Rd lies immediately south of the proposed subdivision. We own approximately 33 acres of property which includes our home and pastures for our livestock and have been here 35 years. While a new 437 lot subdivision brings prosperity to the city of Kuna, it will also bring significant change to our rural lifestyle. We ask that you consider the following requests to lesson the impact of this development on us.

> We request the irrigation ditch which runs between our respective properties, our north boundary and your south boundary, be tiled.
>
> We request a solid fence be built between our respective properties to further separate our privacy and provide some security for our livestock and pastures.

Thank you for allowing us the opportunity to express our concerns about the proposed subdivision. We ask that you seriously consider our requests to minimize the impact this new subdivision will have on our home and property.

Sincerely,

Daniel Grothaus Shirley Grothaus

Daniel Grothaus Shirley Grothaus

Exhibit C-1

City of Kuna

P.O. Box 13
Phone: (208) 922-5274
Fax: (208) 922-5989
Kunacity.id.gov

Planning & Zoning Staff Report

To: Planning and Zoning Commission

Case Numbers: 19-14-AN (Annex), 19-11-S (Subdivision), & 19-32-DR (Design Review) for the *Patagonia East, Lakes, Ridge Subdivisions.*

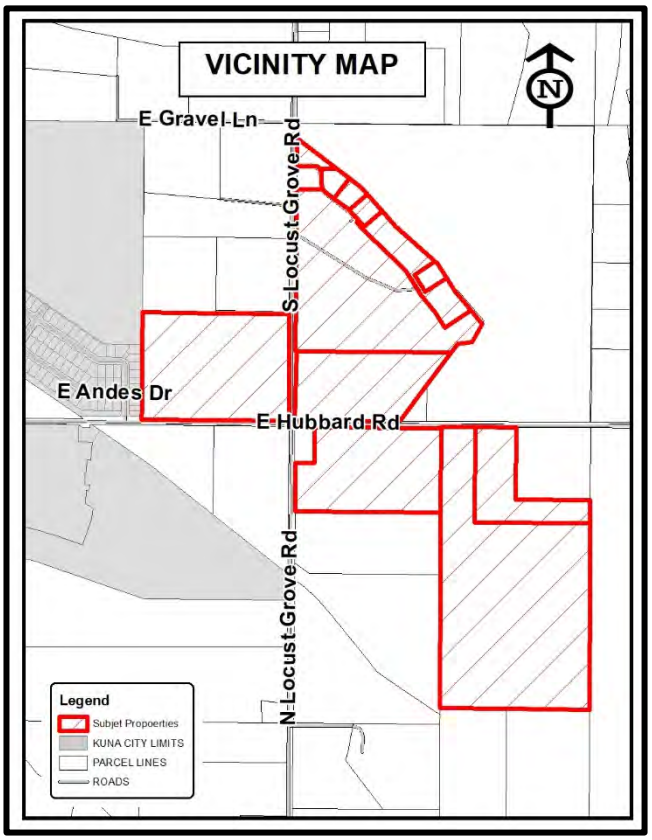
Location: Northwest, Northeast, Southeast Corners of Hubbard and Locust Grove Roads Kuna, Idaho 83634

Planner: Troy Behunin, Planner III

Hearing Date: *July 28, 2020*

Applicant(s): ***Westpark Companies***
Greg Johnson
2463 E. Gala St., Ste. 120
Meridian, ID 83642
208.888.9946
greg@wwstparkco.com

Engineer: ***WHPacific - NV5***
Bonnie Layton
2141 W. Airport Way Ste. 104
Boise, ID 83705
208.342.5400
blayton@whpacific.com



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A. Process and Noticing
B. Applicants Request
C. Site History
D. General Project Facts
E. Staff Analysis
F. Applicable Standards
G. Proposed Comprehensive Plan Analysis
H. Proposed Kuna City Code Analysis
I. Commission's Recommendation

A. Process and Noticing:

1. Kuna City Code (KCC), Title 1, Chapter 14, Section 3, states that design reviews are designated as *public meetings*, with the Planning and Zoning Commission (acting as the Design Review Board) as the decision-making body; and that annexations, and subdivision applications are designated as *public hearings*, with the Planning and Zoning Commission as the recommending body, and the City Council as the decision-making body. These land use applications were given proper public notice and have followed the requirements set forth in Idaho Code, Chapter 65, Local Land Use Planning Act (LLUPA).

a. Notifications

i.	Neighborhood Meeting	September 17, 2019 (13 persons attended) June , 2020
ii.	Agencies	February 24, 2020
iii.	450' Property Owners	July 2, 2019
iv.	Kuna, Melba Newspaper	June 17, 2020
v.	Site Posted	July 2, 2020

B. Applicant Request:

1. The applicant, WHPacific–NV5 requests approval for Annexation, Preliminary Plat and Design Review. Applicant requests to annex approximately 173.80 ac into Kuna City limits, with three (3) zones throughout the project; the R-8 (Medium Density Residential [MDR]), R-6 and R-4 (MDR), zones. Applicant proposes a multi-phased master-planned development to be known as Patagonia East, Lakes and Ridge Subdivisions (Patagonia East). Applicant requests Preliminary Plat approval in order to subdivide approx 173.80 ac into 561 Single family buildable lots, 54 common lots and one 10-acre school lot for Kuna School District. Applicant also seeks Design Review approval for the common space landscaping. The project site is in Sections 7, 8 & 17, all in Township 2 North, Range 1 East (T2N,R1E), all three projects are at the intersection of Locust Grove and Hubbard Roads.

C. Site History: The subject site is comprised of multiple parcels; totaling approximately 173.80 acres. All parcels are currently in Ada County and zoned Rural Residential (RR), however, they are contiguous to Kuna City limits on the west side of parcel S1407449560. These lands have historically been used for Agricultural purposes. There is a single family residence one of the parcels and several outbuildings/shops.

D. General Projects Facts:

1. **Comprehensive Plan Designation:** The Future Land Use Map (Comp Plan Map) is intended to serve as a *guide* for the decision-making body of the City. The Comp Plan map indicates land use designations *generally* speaking, it is not the actual zone. The Future Land Use Map identifies the site with three different designations; Low Density Residential (LDR) and Medium Density Residential (MDR) which is 4-8 DUA (**D**welling **U**nits an **A**cre) and Mixed-Use.

2. **Kuna Recreation and Pathways Master Plan Map:**
   The Kuna Recreation and Master Pathways Plan map identifies a pathway/trail along the Mason Creek Feeder in the southwest part of the project and on the south side of the project. See the Exhibit behind this report.

3. **Surrounding Existing Land Uses and Zoning Designations:**

North	RR	Rural Residential – Ada County
South	RR	Rural Residential – Ada County
East	RR	Rural Preservation – Ada County
West	R-6 & RR	Medium Density Residential – Kuna City, & Rural Residential – Ada County

4. **Parcel Sizes, Current Zoning, Parcel Numbers:**

Property Owner	Parcel Size – Approx.	Current Zone	Parcel Number
Wood Properties, LLC	.98 acres	RR - Rural Residential	S1407449560
Roeder Holdings, LLC	17.00 acres	RR - Rural Residential	S1408336300
Roeder Holdings, LLC	31.86 acres	RR - Rural Residential	R9237170650
Roeder Holdings, LLC	.98 acre	RR - Rural Residential	R9237170100
Roeder Holdings, LLC	.99 acre	RR - Rural Residential	R9237170300

Roeder Holdings, LLC	.95 acre	RR - Rural Residential	R9237170400
Roeder Holdings, LLC	.95 acre	RR - Rural Residential	R9237170500
Jill S. Ray	5.69 acres	RR - Rural Residential	R9237170610
Jill S. Ray	.92 acre	RR - Rural Residential	R9237170700
Roeder Holdings, LLC	20.82 acres	RR - Rural Residential	R9321840100
Wood Properties, LLC	55.89 acres	RR - Rural Residential	S1417212700
EE-DA-HOW, Farms, LLC	10 acres	RR - Rural Residential	S1417212650

5. **Services:**

Sanitary Sewer– City of Kuna
Potable Water – Suez Water Company
Pressurized Irrigation– On Site Wells - HOA
Fire Protection – Kuna Rural Fire District
Police Protection – Kuna City Police (A.C.S.O.)
Sanitation Services – J & M Sanitation

6. **Existing Structures, Vegetation and Natural Features:** Currently there is one residence on one of the properties. All parcels have been used for agricultural uses and accompanying out-building. There is some topographical variation that appears to run east-west. The vast majority of the site appears to be relatively flat and suitable for development.

Transportation / Connectivity: The site has significant frontage along Hubbard and Locust Grove Road. The overall project is split into three separate sections as this project sits at the northwest, northeast and southeast corners of Hubbard and Locust Grove. Applicant shall connect to existing stub streets within Patagonia Sub No. 2 as required in Kuna City Code (KCC) and provide stubs for future connections to serve the connection/traffic needs of the site and future adjacent developments. Applicant shall satisfy Kuna City and ACHD's requirements for roadway improvements, including but not limited to, road widening and vertical/rolled curb, gutter and sidewalks appropriately..

7. **Environmental Issues:** Staff is not aware of any environmental issues, health or safety conflicts. Idaho Department of Environmental Quality (DEQ) has provided recommendations for surface and groundwater protection practices and requirements for development of the site.

8. **Agency Responses:** The following responding agency comments are included as exhibits with this case file:
   - City Engineer ……. Exhibit B 1
   - Ada County Highway District (ACHD) …… Exhibit B 2
   - COMPASS (Community Planning Association) …… Exhibit B 3
   - Department of Environmental Quality (DEQ) …… Exhibit B 4
   - Idaho Transportation Department (ITD) …… Exhibit B 5
   - Kuna Rural Fire District (KRFD) …….. Exhibit B 6

E. Staff Analysis:

The subject site straddles the intersection of Hubbard and Locust Grove Roads and involves 12 parcels, seven (7) of these parcels are lots within the Wasatch Subdivision. This application proposes a multi-phased master planned community and generally speaking the project as a whole is in line with the Comprehensive Plan (Comp Plan) and the Comprehensive Plan Map (CPM) designation of LDR, MDR and *Mixed-Use* by proposing three residential zones throughout the subject site with an accompanying public school site. This request will complement the two developments to the west and will provide project wide continuity as a multi-phased master planned community, consisting of approximately (Approx.) 163.56 ac.

The applicant requests annexation into Kuna City limits applying the Category "A" process for the approx. 163.56 ac. The lands in this application touch City limits on the west side of the site with contiguous land touches moving east and are therefore eligible for annexation. Applicant has submitted an application for annexation for 163.56 ac approx and is seeking three (3) different zoning designations for these proposed annexing parcels as follows:

- Approx 59.75 ac are proposed to be annexed with a zone change from Rural Residential (RR) ***TO*** R-4 MDR,
- Approx 86.92 ac are proposed to be annexed with a zone change from RR ***TO*** R-6 MDR,
- Approx 7.54 ac from RR, ***TO*** R-8, MDR,
- Approx 10.2 ac will become a elementary school site.

Kuna's Comp Plan, encourages a variety of housing types for all income levels numerous times throughout the document. Additionally, the City attempts to balance all housing types within the City. Pertinent sections of the Comp Plan that address housing types are included in Section G (Comp Plan Analysis) of this report.

The applicant seeks approval for a mix of various uses throughout the project to include; multiple zones for residential uses, (MDR all single family), a public school site, open spaces including a possible City park, multiple private parks, with a considerable pathway network (*21.93 acres of open space, or 16.59%*). The applicant proposes a master-planned community for all ages. The applicant is proposing all public streets that will be built to Kuna and ACHD standards (curb, gutters & sidewalks) and must meet Kuna Fire Department requirements. Proposing a large network of biking and walking pathways, will help reduce vehicle trips for the residents. Since the applicant has proposed multiple residential zones, a school site, and a possible City public park, staff views the overall project to conform to the FLUM designations and Comp Plan document.

Staff has reviewed the preliminary plat application and it appears to follow KCC standards and requirements. All roads will be public and will be built to Kuna City and ACHD standards. Staff highlights that along all classified roads, KCC calls for full roadway improvements, including curb/gutter, road widening, and sidewalks at appropriate widths. The City does not allow for borrow ditches for any roads, unless a classified road does not meet the ACHD standards/policies for vertical curb. If the need arises for borrow ditches on classified roads *and* if ACHD does not specifically allow vertical curb, the applicant shall be conditioned to obtain a license agreement from ACHD to provide grass and watering source in the borrow ditches as allowed. Gravel and bare ground is not an allowed Kuna City ground cover. Staff notes that the subject property will need to be connected to the City's public sewer facilities, potable water and the Kuna Municipal Irrigation System (KMIS). According to the City Engineer, "sewer flows from this development will add a considerable burden to Patagonia Lift Station. The developer will be requested to participate in an engineered evaluation of Patagonia Lift Station and proposed improvements to expand the lift station & force main capacity" – See City Engineer Memo:" 4. *Sanitary Sewer*. Staff has confirmed with the City Engineer that the applicant has agreed to work with the City Engineer for a solution with the Danskin Lift Station upgrade needs.

A design review application for common area landscaping and open space was included as a part of the overall application. Staff finds the proposed landscaping, buffers and open space generally to be in compliance with Kuna City Code. Staff notes that if this project is approved, at the time of civil plan development, landscaping cannot be placed within ten (10) feet of any meter pits, pressurized irrigation valves, and/or ACHD underground facilities and must honor all vision triangles. Applicant shall be conditioned to follow all landscape codes and planting requirements to insure field conditions do not change after approval is given. Staff notes that a monument sign for the subdivision was not included with the design review application noting that all monument signs are required to go through design review. This process can be accomplished at a later date without any delay to the project. Staff also notes that the planting details should be changed to reflect KCC; which are requested in the proposed conditions of approval (Condition #13).

Staff has determined the preliminary plat and design review generally complies with the goals and policies for Kuna City, Title 5 and Title 6 of the Kuna City Code; Idaho Statute § 67-6511; and the Comprehensive Plan.

Staff recommends that if the Planning and Zoning Commission recommends approval of Case No's 19-14-AN (Annexation) and 19-11-S (Preliminary Plat) and approves Case No. 19-32-DR (Design Review), the applicant be subject to the conditions of approval listed in section I of this report, as well as any additional conditions by the Planning and Zoning Commission.

F. Applicable Standards:

1. City of Kuna Zoning Ordinance Title 5.
2. City of Kuna Subdivision Ordinance Title 6.
3. City of Kuna Comprehensive Plan.
4. Idaho Code, Title 67, Chapter 65- the Local Land Use Planning Act.

G. Proposed Comprehensive Plan Analysis:

Kuna Planning and Zoning Commission may **accept or reject** the Comprehensive Plan components, and shall determine if the proposed annexation, and preliminary plat requests for the site ***are/are not*** consistent with the following Comprehensive Plan components as described below:

Goal Area 3: Kuna's land uses will support a desirable, distinctive and well-designed community.

- Goal 3.D: Encourage development of housing options and strong neighborhoods.
  - Objective 3.D.1: Encourage development of housing options for all citizens.
    - Policy 3.D.1.a: Encourage preservation and development of housing that meets demand for household sizes, lifestyles and settings.
- Goal 3.G: Respect and protect private property rights.
  - Objective 3.G.1: Ensure land use policies, restrictions, and fees do not violate private property rights.
    - Policy 3.G.1.b: Ensure City land use actions, decisions and regulations will not cause an unconstitutional regulatory taking of private property; and do not effectively eliminate all economic value of the subject property.
    - Policy 3.G.1.c: Ensure City land use actions, decisions and regulations do not prevent a private property owner from taking advantage of a fundamental property right. Ensure city actions do not impose a substantial and significant limitation on the use of the property.

Goal Area 4: Kuna will be a connected community through strong transportation and infrastructure systems.

- Goal 4.D: Promote a connected street network that incorporates mid-mile collectors and crossing for improved neighborhood connectivity.
  - Objective 4.D.2: Ensure the continued expansion/development of mid-mile collector system throughout the community.
    - Policy 4.D.2.a: Extend and expand mid-mile roads as growth occurs.
    - Policy 4.D.1.b: Preserve adequate right-of-way along all mid-mile roads or other approved alternative locations to align roads.

H. Proposed Kuna City Code Analysis:

1. This request **appears/doesn't appear** to be consistent **and/or** in compliance with Kuna City Code (KCC).
   Comment: *The proposed project meets the land use and area standards in Chapter 3, Title 5 of KCC. Staff also finds that the proposed project meets all applicable requirements of Title 6 of KCC.*

2. The site **is/is not** physically suitable for a subdivision.
   Comment: *The approx. 173.80 acre subdivision has sufficient size to include a mix of lot sizes, community landscape buffer(s).*

3. The annexation and subdivision uses **are/are not** likely to cause substantial environmental damage or avoidable injury to wildlife or their habitat.

Comment: *The land to be annexed is not used as wildlife habitat. Roads, homes and open spaces are planned for construction according the City requirements and best practices. Staff is not aware of any environmental damage or loss of habitat associated with the proposed development.*

4. The annexation and subdivision application **is/is not** likely to cause adverse public health problems.
   Comment: *The annexation of the property requires a zoning designation per Kuna Code 5-13-9. The Medium Density zone requires connection to public sewer and water, therefore eliminating the occurrence of adverse public health problems. Through correspondence with public service providers and application evaluation, this project appears to avoid detriment to surrounding uses.*

5. The application **does/does not** appear to avoid detriment to the present and potential surrounding uses; to the health, safety, and general welfare of the public taking into account the physical features of the site, public facilities and existing adjacent uses.
   Comment: *The annexation and subdivision design did consider the location of the property, classified roadways and the system. The subject property can be connected to the City's public sewer facilities, and will connect to Suez Water Systems for potable water and use existing on-site wells for a private pressure irrigation system. The adjacent uses are complimentary uses (Kuna) as proposed in the Kuna Comprehensive Plan Future Land Use Map.*

6. The existing and proposed streets and utility services in proximity to the site **are/are not** suitable and adequate for residential purposes predicated on approved designs to extend and/or improve each accordingly.

I. Recommendation of the Commission to Council:

*Note: These motions are for a recommendation of **approval / conditional approval / denial** of the annexation and preliminary plat applications to the City Council, and for **approval / conditional approval / denial** of the design review application However, if the planning and Zoning Commission wishes to approve or deny specific parts of these requests as detailed in the report, those changes must be specified.*

Based upon the record contained in Case No's 19-14-AN, 19-11-S and 19-32-DR including the Comprehensive Plan, Kuna City Code, Staff's Memorandums, including the exhibits, and the testimony during the public hearing, the Kuna Commission hereby recommends ***approval/ conditional approval/denial*** *of* the Findings of Fact and Conclusions of Law, and conditions of approval for Case No's 19-14-AN and 19-11-S a request for annexation and preliminary plat approval by WHPacific NV5:

Based upon the record contained in Case No. 19-32-DR including the Comprehensive Plan, Kuna City Code, Staff's Memorandums, including the exhibits, and the testimony during the public hearing, the Kuna Commission hereby ***approves/ conditionally approves/denies*** the conditions of approval for Case No. 19-32-DR a request for Design Review approval by WHPacific NV5:

1. The applicant and/or owner shall obtain written approval on letterhead or may be written/stamped on the approved plans of the construction plans from the agencies noted below. All submittals are required to include the lighting, landscaping, drainage, and development plans. All site improvements are prohibited prior to approval of the following agencies:
   a. The City Engineer shall approve the sewer hook-ups.
   b. The City Engineer shall approve drainage and grading plans.
   c. Central District Health Department recommends the plan be designed and constructed in conformance with standards contained in, "Catalog for Best Management Practices for Idaho Cities and Counties".
   d. No construction, grading, filling, clearing or excavation of any kind shall be initiated until the applicant has received approval of the drainage plan.

e. The Kuna Fire District shall approve fire flow requirements and/or building plans. Installation of fire protection facilities as required by Kuna Fire District is required.
f. The *Boise Project and Board of Control* shall approval any modifications to the existing irrigation system.
g. Approval from Ada County Highway District shall be obtained and Impact Fees must be paid prior to issuance of any building permit.
h. Idaho Transportation Department. No public street construction may be commenced without the approval and permit from Ada County Highway District and Idaho Transportation Department.
i. All public rights-of-way shall be dedicated and constructed to standards of the City and Ada County Highway District,

2. Installation of utility service facilities shall comply with requirements of the public utility or irrigation district providing services. All utilities shall be installed underground, see KCC 6-4-2-W.
3. Compliance with Idaho Code, Section §31-3805 pertaining to irrigation waters is required. Irrigation/drainage waters shall not be impeded by any construction on site.
4. Street lighting shall use LED lights, with spacing and wattages meeting KCC 5-4-6; applicant shall coordinate a street light plan for P & Z approval in concert with the prepared construction drawings for the project.
5. Parking within the site shall comply with KCC 5-9-3.
6. Fencing within and around the site shall comply with Kuna City standards – KCC 5-5-5- A-J and KCC 6-4-2-E.
7. A sign permit is required prior to subdivision entrance sign construction and shall comply with KCC 5-10-4. *Monument signs will require a separate design review.*
8. All required landscaping shall be permanently maintained in a healthy growing condition. The property owner shall remove and replace unhealthy or dead plant material within three days or as the planting season permits as required to meet KCC 5-17-7 standards. Maintenance and planting within public rights-of-way shall be approved from the public entities owning the property.
9. The land owner/applicant/developer and any future assigns having an interest in the subject property, shall fully comply with all conditions of development as approved by the Commission and/or Council, or seek amending them through public hearing processes.
10. The applicant's proposed preliminary plat (dated May 2019) shall be considered a binding site plan, *or as modified and approved* through the public hearing process.
11. The applicant's proposed Landscape Plan (dated 07.01.2019) shall be considered a binding site plan, *or as modified and approved* through the public hearing process.
12. Applicant shall follow staff, city engineer and other agency recommended requirements as applicable.
13. Applicant shall add the following notes to the landscape plans and resubmit a PDF for Planning and Zoning approved plans, bearing the changes.
    13.1 – Landscape contractor shall remove all twine/ropes and burlap from root balls.
    13.2 – Landscape contractor shall remove the wire basket from the top 1/2 of the root ball.
    13.3 – Grass and a water source shall be placed in any ACHD required borrow ditches and a license agreement obtained from ACHD.
    13.4 - Landscaping cannot be placed within ten (10) feet of any and all meter pits, pressurized irrigation valves, and/or ACHD underground facilities and must honor all vision triangles
14. Applicant shall work with the City Engineer to find a solution for the Sewer lift station concerns.
15. Compliance with all local, state and federal laws is required.

P.O. Box 13
Phone: (208) 922-5274
Fax: (208) 922-5989
www.Kunacity.id.gov

Based upon the record contained in Case No's 19-14-AN, 19-11-S and 19-32-DR, including the Comprehensive Plan, Kuna City Code, Staff's Memorandums, including the exhibits, and the testimony during the public hearing, the Kuna Commission hereby recommends ***approval/conditional approval/denial*** of the Findings of Fact and Conclusions of Law, and conditions of approval for Case No's 19-14-AN, 19-11-S and 19-32-DR, a request for annexation, preliminary plat and Design Review from WHPacific NV5:

1. *The Kuna Commission approves the facts as outlined in the staff report, the public testimony and the supporting evidence list presented.*

   Comment: *The Kuna Commission held a public hearing on the subject applications on July 28, 2020, to hear from City staff, the applicant and to accept public testimony. The decision by the Commission is based on the application, staff report and public testimony, both oral and written.*

2. *Based on the evidence contained in Case* No's 19-14-AN, 19-11-S and 19-32-DR *this proposal generally complies with the Comprehensive Plan and City Code.*

   Comment: *The Comp Plan has listed numerous goals for promoting and supporting a diverse and sustainable economy that will allow more Kuna residents to work in their community and encouraging a balance of land uses to ensure that Kuna remains desirable, stable and a self-sufficient community.*

3. *Based on the evidence contained in Case No's 19-14-AN, 19-11-S and 19-32-DR, this proposal generally complies with the Kuna City Code.*

   Comment: *The applicant has submitted a complete application, and following staff review the application appears to be in general compliance with the design requirements, public improvement requirements, objectives and considerations listed in Kuna City Code Title 5 and Title 6.*

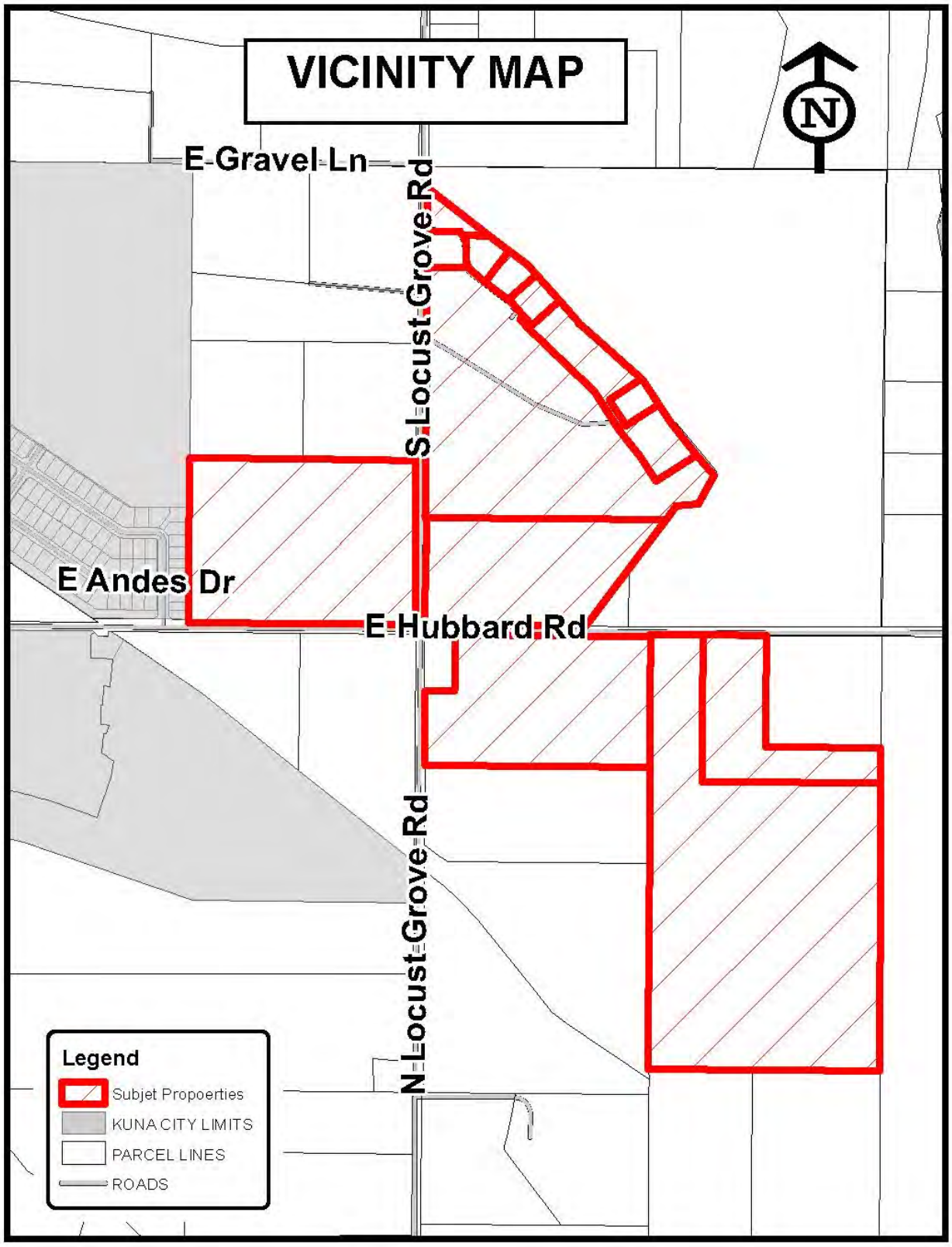
4. *The Commission has the authority* to recommend ***approval/conditional approval*** for *Case No's 19-14-AN, 19-11-S and 19-32-DR*

   Comment: *On Aug. 11, 2020, the Kuna Commission* ***may*** *vote* to recommend ***approval/conditional approval/denial*** *for Case No's 19-14-AN, 19-11-S and 19-32-DR*.

5. The public notice requirements have been met and the neighborhood meeting was conducted within the guidelines of applicable Idaho Code and City Ordinances.

   Comment: *Neighborhood Notices were mailed out to residents within 450-FT of the proposed project site on July 2,2019, and a legal notice was published in the Kuna Melba Newspaper on June 17, 2020. The applicant placed a sign on the property on July 2, 2020.*

DATED: this _____ day of _____, 2020.


VICINITY MAP
N
E Gravel Ln
S Locust Grove Rd
E Andes Dr
E Hubbard Rd
N Locust Grove Rd
Legend
Subjet Propoerties
KUNA CITY LIMITS
PARCEL LINES
ROADS

WHPacific

December 20, 2019

Ms. Wendy Howell, Director
Kuna Planning and Zoning Department
751 W. 4th Street
Kuna, Idaho 83634

RE: Patagonia East, Ridge, Lakes Subdivision – At the intersection of Locust Grove Road and Hubbard Road - Applications for Annexation with Zoning and Preliminary Plat

Dear Ms. Howell:

On behalf my client, Westpark Company Inc., please accept the attached applications to annex the subject property into the City of Kuna and to subdivide the property into 537 residential lots, 36 common lots and 1 school site. The subdivision property totals 163.59 acres and is currently located in Ada County with a zoning designation of RR.

Commonly referred to as Patagonia East, this project is a continuation of my client's Patagonia Subdivision and has been master planned to create one cohesive development with interconnected pathways and amenities. This project is located at the intersection of Hubbard Road and Locust Grove Road in the northwest, northeast, and southeast corners. Due to this fact, and in an effort to address Ada County's naming requirements, we have further identified each area of our project as Patagonia East (northwest corner), Patagonia Ridge (northeast corner) and Patagonia Lakes (southeast corner).

We are requesting annexation with zoning designations of R-4, R-6, and R-8. These residential zones along with the 9.8 future school site meet the Kuna Comprehensive Planning designation for this area as Residential and Mixed Use. These areas will be made up of a mix of single-family lot sizes and one 9.8 acre school site.

The property is currently used as farmland with a couple of shops and one residence. To the north of Patagonia East is Roark Subdivision, to the south is agricultural land across Hubbard Road, to the west is the original Patagonia Subdivision, and to the east across Locust Grove Road is agricultural land (which is part of this application known as the Patagonia Ridge area of our project). To the north and east of Patagonia Ridge is agricultural land, to the south across Hubbard Road is also agricultural land.

100% POST CONSUMER

To the west across Locust Grove Road is Roark Subdivision and agricultural land that will be developed as part of this project and identified as the Patagonia East area of our plan. The Patagonia Lakes area of our project is surrounded by agricultural land with Hubbard Road along a portion of the north end of the property and Locust Grove Road along a portion of the western edge of the site.

Preliminary Plat & Phasing

Our project has been designed to provide a blend of densities and a variety of lot sizes generally ranging in width from 50' up to 100' and 100' to 150' deep. We are also including 52 alley loaded lots. These single family detached homes will face the street; however, the garages will be accessed via an ACHD maintained, public alley. This design provides a charming streetscape and a home product that is popular with a variety of homebuyers. From young professionals to active seniors, those looking for low maintenance homeownership appreciate this type of plan.

We have included legal descriptions and exhibits for the overall project, each of the three areas within the project site, as well as for each of the zoning designations we are requesting. Overall our project achieves a gross residential density of 3.28 dwelling units per acre.

Phasing of this project will start in the Patagonia East area of the project. Once Phases 1 and 2 are complete we intend to continue into the Patagonia Ridge area with Phases 3 to 5. We will finish out the project with Phases 6 to 12 in the Patagonia Lakes portion of our project. Currently the school district is working with ACHD and others to develop the school site.

Buffers and Open Space

As previously mentioned, our project has been master planned to create one cohesive development with interconnected pathways and amenities. We have included an overall site plan, including the original Patagonia Subdivision, to illustrated how these amenities tie together from one area to another along with their relationship to the buffer areas along Hubbard Road and Locust Grove Road. Overall our project includes 24.64 acres of open space, and qualified open space (per Kuna city code) of 20.29 acres, or 12.4% open space on site. We intend for the maintenance of the common open spaces to be taken care of in similar fashion as the original Patagonia Subdivision and therefore have included a copy of that portion of Patagonia's HOA and CC&R's document for your review.

Streets

We will take access to the Patagonia East area of our project will be from Hubbard Road and Locust Grove Road, as well as from two stub streets in the adjacent Patagonia Subdivision. Access to the Patagonia Ridge portion of our project will be taken from two points along Locust Grove Road and on along Hubbard Road. On the

south side of Hubbard Road one access to the Patagonia Lakes part of our site will be lined up with the access into Patagonia Ridge, and the other will occur farther to the east along Hubbard Road.

We have worked with ACHD to provide for the development of N. Eagle Road along the eastern boundary of the Patagonia Lakes area of our project, ultimately separating our project from properties to the east. Additionally, stub streets have been provided to allow for future connection to adjacent parcels not part of this application; a Traffic Impact Study has been completed and is also attached for your review.

We are pleased to submit the applications and supporting documents for our request to Annex, Rezone and Preliminary Plat this project in the City of Kuna. If you have any questions please do not hesitate to contact me at 208-724-2624. Thank you for your time and I look forward to working with you and your staff.

Regards,

Bonnie Layton

cc: Greg Johnson – Westpark Companies

June 5, 2020

Mr. Troy Behunin
Kuna Planning and Zoning Department
751 W. 4th Street
Kuna, Idaho 83634

sent via email

RE: Patagonia East, Ridge, Lakes Subdivision – At the intersection of Locust Grove Road and Hubbard Road - Applications for Annexation with Zoning and Preliminary Plat ----- Project Update

Dear Mr. Behunin:

On behalf my client, Westpark Company Inc., please accept the attached updated applications to annex the subject property into the City of Kuna and to subdivide the property into 561 residential lots, 53 common lots, and 1 school site.

This update to our project accounts for the rights to acquire an additional 10 acres my client obtained during the COVID-19 shutdown. This additional 10 acres is an "L"-shaped parcel located south of Hubbard Road in the northeast corner of the Lakes portion of our project; it also helps to address a couple of comments we received from ACHD in their preliminary review of our site plan.

We are pleased to submit these updated applications and supporting documents for our request to Annex, Rezone and Preliminary Plat this project in the City of Kuna. If you have any questions please do not hesitate to contact me at 208-724-2624. Thank you for your time and I look forward to working with you and your staff.

Regards,

Bonnie L. Layton

Bonnie Layton
Enclosures

cc: Greg Johnson – Westpark Companies

CityofKuna
Planning& Zoning
Department
P.O. Box 13
Kuna, Idaho 83634
208.922.5274
Fax: 208.922.5989
Website: www.kunacity.id.gov

Commission & Council Review Application

Note: Engineering fees shall be paid by the applicant if required.

*Please submit the appropriate checklist (s) with application

For Office Use Only	
File Number (s)	
Project name	
Date Received	
Date Accepted/ Complete	
Cross Reference Files	
Commission Hearing Date	
City Council Hearing Date	

Type of Review (check all that apply):

- [x] Annexation
- [ ] Appeal
- [ ] Comprehensive Plan Amendment
- [ ] Design Review
- [ ] Development Agreement
- [ ] Final Planned Unit Development
- [ ] Final Plat
- [ ] Lot Line Adjustment
- [ ] Lot Split
- [ ] Planned Unit Development
- [x] Preliminary Plat
- [x] Rezone
- [ ] Special Use
- [ ] Temporary Business
- [ ] Vacation
- [ ] Variance

Contact/Applicant Information

Owners of Record:	See attached affidavits	Phone Number:	208.888.9946
Address:		E-Mail:	greg@westparkco.com
City, State, Zip:		Fax #:	208.888.9947 Attn: Greg Johnson
Applicant (Developer):	Westpark Companies	Phone Number:	208.888.9946
Address:	2463 E. Gala St., Suite 120	E-Mail:	greg@westparkco.com
City, State, Zip:	Meridian, ID 83642	Fax #:	208.888.9947 Attn: Greg Johnson
Engineer/Representative:	WHPacific - NV5	Phone Number:	208.342.5400
Address:	2141 W. Airport Way #104	E-Mail:	blayton@whpacific.com
City, State, Zip:	Boise, ID 83705	Fax #:	Attn: Bonnie Layton

Subject Property Information

Site Address:	See attached legal descriptions		
Site Location (Cross Streets):	NW, NE, and SE corners of Locust Grove Rd & Hubbard Rd		
Parcel Number (s):	See attached list of parcel numbers		
Section, Township, Range:	A portion of SE 1/4 of Section 7, SW 1/4 of Section 8 & NW 1/4 Section 17, T2, R1E, B.M., Ada County, Idaho		
Property size :	Approx. 173.80acres		
Current land use:	Agricultural / Residential	Proposed land use:	Residential
Current zoning district:	RR - Rural Residential	Proposed zoning district:	R4, R6, R8

Project Description

Project / subdivision name: Patagonia East (NW corner); Patagonia Ridge (NE corner); Patagonia Lakes (SE corner)

General description of proposed project / request: The applicant is proposing to develop the subject properties as a residential subdivision with a mix of lot sizes, various open spaces and a school site

Type of use proposed (check all that apply):

- [X] Residential Mix of R4, R6, and R8 lot sizes, along with open spaces, parks and trails
- [ ] Commercial
- [ ] Office
- [ ] Industrial
- [X] Other 10 acre school site

Amenities provided with this development (if applicable): Parks, pathways, playground equipment, and community buildings

Residential Project Summary (if applicable)

Are there existing buildings? [X] Yes [ ] No

Please describe the existing buildings: Workshops and sheds

Any existing buildings to remain? [ ] Yes [X] No

Number of residential units: 561 residential lots Number of building lots:

Number of common and/or other lots: 54 (53 common lots & 1 school lot)

Type of dwellings proposed:

- [X] Single-Family 1,500 sq. ft. - 3,500 sq. ft.
- [ ] Townhouses
- [ ] Duplexes
- [ ] Multi-Family
- [ ] Other

Minimum Square footage of structure (s): 1,500 sq. ft.

Gross density (DU/acre-total property): 3.23 Net density (DU/acre-excluding roads): 4.23

Percentage of open space provided: 16.59% Acreage of open space: 21.93 acres

Type of open space provided (i.e. landscaping, public, common, etc.): landscaping, parks, and pathways

Non-Residential Project Summary (if applicable)

Number of building lots: 1 school lot Other lots:

Gross floor area square footage: Existing (if applicable):

Hours of operation (days & hours): Building height:

Total number of employees: Max. number of employees at one time:

Number and ages of students/children: Seating capacity:

Fencing type, size & location (proposed or existing to remain):

Proposed Parking:

a. Handicapped spaces: Dimensions:
b. Total Parking spaces: Dimensions:
c. Width of driveway aisle:

Proposed Lighting:

Proposed Landscaping (berms, buffers, entrances, parking areas, common areas, etc.):

Applicant's Signature: Date:

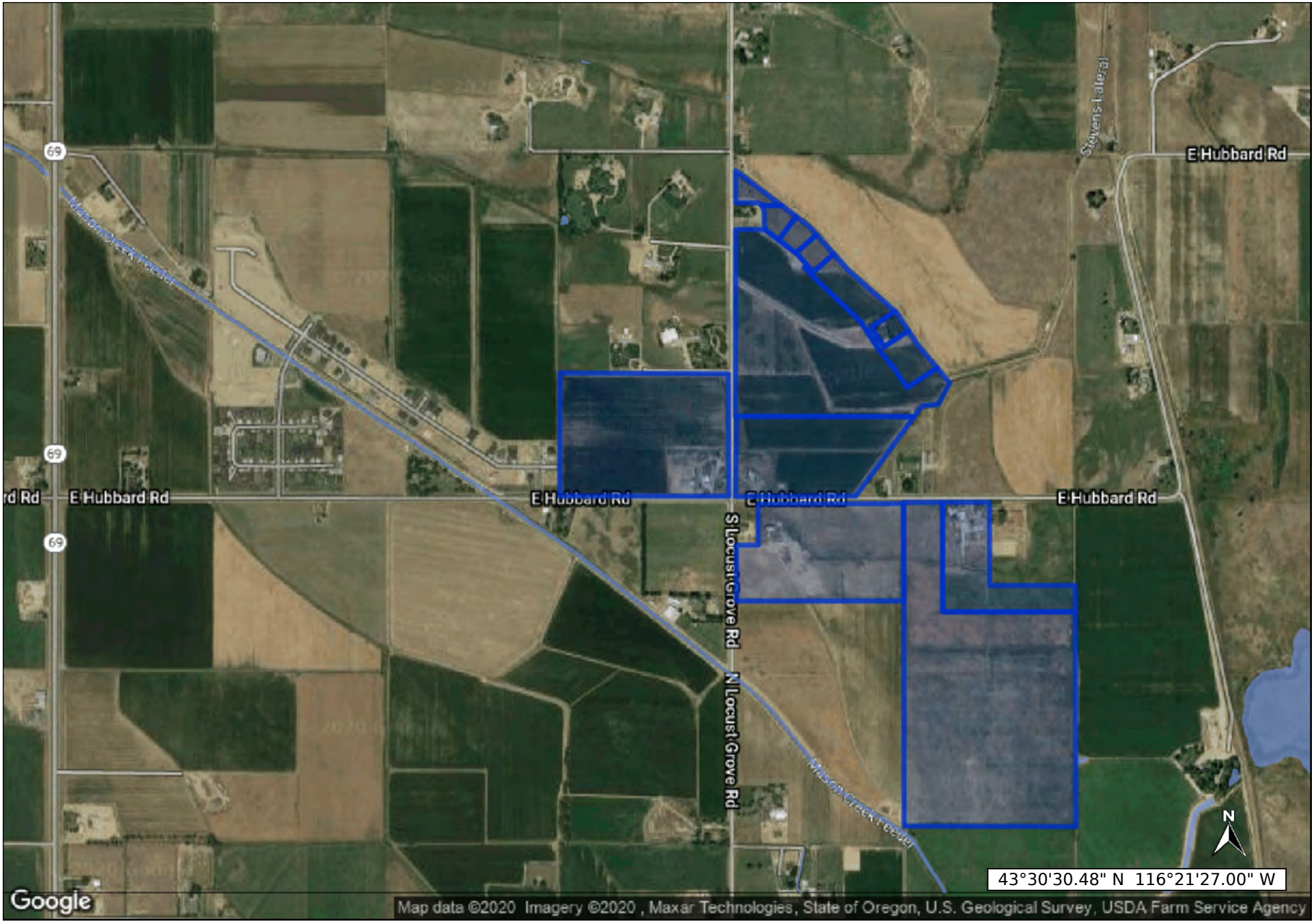
landproDATA

Patagonia East, Lakes, Ridge

Vicinity Map (updated June 2020)

No Custom Logo Available

Contact us at landproDATA
to add your custom logo here



Jun 08, 2020 - landproDATA.com
Scale: 1 inch approx 1000 feet

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PATAGONIA EAST, RIDGE, LAKES SUBDIVISION
1670 E. HUBBARD ROAD
KUNA, IDAHO 83634

SCALE: 1"=150'-0"

BRECKON landdesign
• Civil Engineering
• Landscape Architecture
• Erosion & Sediment Control
• Graphic Communication
• Irrigation Design
• Land Planning
www.breckonlanddesign.com
Fax: 208-376-6528
Phone: 208-376-5153
6661 North Glenwood Street
Garden City, Idaho 83714

PATAGONIA EAST, RIDGE AND LAKES SUBDIVISION - PRELIMINARY PLAT

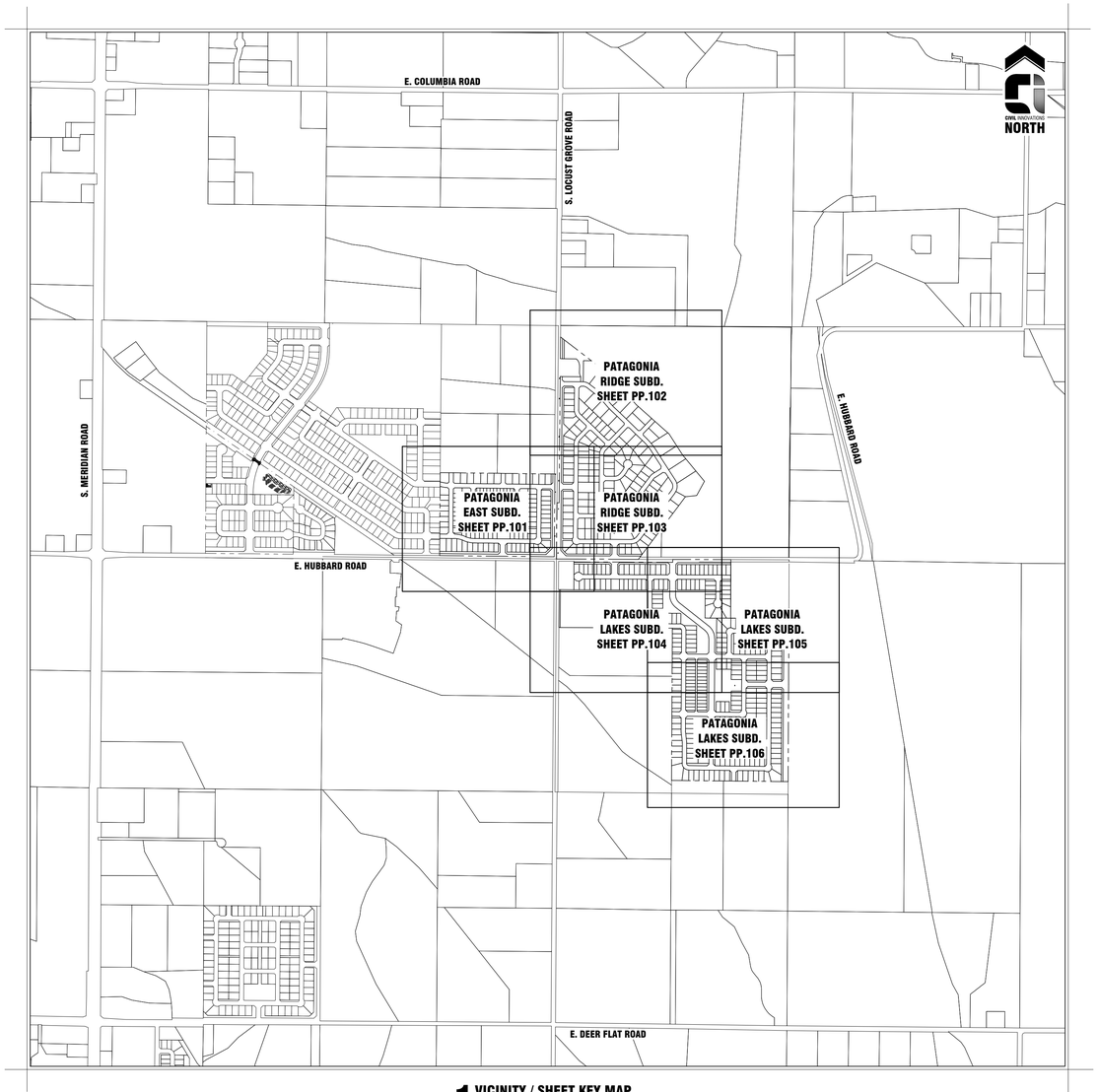
KUNA, IDAHO - 2020

PROPOSED LEGEND

- BOUNDARY LINE
- RIGHT-OF-WAY LINE
- CENTERLINE
- PROPERTY LOT LINE
- PHASE BOUNDARY
- PROPOSED VERTICAL CURB
- PROPOSED ROLLED CURB
- PROPOSED VERTICAL TO ROLLED CURB TRANISITION SECTION
- PROPOSED STREET LIGHT
- DIRECTION OF SURFACE FLOW
- PROPOSED SEEPAGE BED WITH MONITORING WELLS
- PROPOSED DROP INLET
- SD — PROPOSED STORM DRAIN LINE AND MANHOLE
- GIRR — PROPOSED GRAVITY IRRIGATION LINE AND BOX
- PIRR — PROPOSED PRESSURE IRRIGATION LINE AND VALVE
- W — PROPOSED WATER LINE AND VALVE
- PROPOSED FIRE HYDRANT
- SS — PROPOSED SANITARY SEWER LINE AND MANHOLE

EXISTING LEGEND

- EXISTING PROPERTY LOT LINE
- EG — EXISTING EDGE OF GRAVEL
- TOB — EXISTING TOP OF BANK
- TOE — EXISTING TOE OF BANK
- EXISTING DITCH FLOW LINE
- OHP — EXISTING OVERHEAD POWER W/ POLE
- GAS — EXISTING UNDERGROUND GAS
- UGT — EXISTING UNDERGROUND TELEPHONE
- EXISTING FENCE
- EXISTING VERTICAL CURB
- EXISTING ROLLED CURB
- 2750 — EXISTING 5' CONTOUR
- 2749 — EXISTING 1' CONTOUR
- EXISTING DROP INLET
- SD — EXISTING STORM DRAIN LINE AND MANHOLE
- GIRR — EXISTING GRAVITY IRRIGATION LINE
- PIRR — EXISTING PRESSURE IRRIGATION LINE AND VALVE
- W — EXISTING WATER LINE AND VALVE
- EXISTING FIRE HYDRANT
- SS — EXISTING SEWER LINE AND MANHOLE
- EXISTING STREET LIGHT
- EXISTING ROAD SIGN
- EXISTING SPRINKLER BOX
- EXISTING POWER JUNCTION BOX
- EXISTING TELEPHONE RISER
- EXISTING DECIDUOUS TREE
- EXISTING EVERGREEN TREE
- EXISTING GAS MARKER
- EXISTING GAS VALVE



1 VICINITY / SHEET KEY MAP

NOT TO SCALE

2 SHEET INDEX

1 OF 9	PP.100	PRELIMINARY PLAT - TITLE SHEET
2 OF 9	PP.101	PRELIMINARY PLAT - PATAGONIA EAST SUBDIVISION - PLAN VIEW
3 OF 9	PP.102	PRELIMINARY PLAT - PATAGONIA RIDGE SUBDIVISION - PLAN VIEW
4 OF 9	PP.103	PRELIMINARY PLAT - PATAGONIA RIDGE SUBDIVISION - PLAN VIEW
5 OF 9	PP.104	PRELIMINARY PLAT - PATAGONIA LAKES SUBDIVISION - PLAN VIEW
6 OF 9	PP.105	PRELIMINARY PLAT - PATAGONIA LAKES SUBDIVISION - PLAN VIEW
7 OF 9	PP.106	PRELIMINARY PLAT - PATAGONIA LAKES SUBDIVISION - PLAN VIEW
8 OF 9	PP.107	PRELIMINARY PLAT - TYPICAL STREET SECTIONS
9 OF 9	PP.108	PRELIMINARY PLAT - PHASING PLAN

3 CONSTRUCTION CONTACT INFORMATION

ENGINEER
CIVIL INNOVATIONS, PLLC
CONTACT: BEN THOMAS
1043 E. PARK BLVD. STE 101
BOISE, IDAHO 83712
PHONE: (208) 884-8181

DEVELOPER
THE WESTPARK COMPANY, INC.
CONTACT: TAYLOR MERRILL
2463 E. GALA ST, STE 120
MERIDIAN, ID 83642
PHONE:(208) 888-9946

SURVEYOR
LAND SOLUTIONS, PC
CONTACT: CLINT HANSEN
231 E. 5TH AVE. STE A
MERIDIAN, ID 83642
PHONE: (208) 288-2040

4 BENCH MARK AND DATUM DATA

DATUM DATA
HORIZONTAL: NAD 83 (ADJUSTED TO THE ADA COUNTY H.A.R.N SURVEY)
VERTICAL: NAVD 88

5 PRELIMINARY PLAT NOTES

1. UNLESS OTHERWISE DESIGNATED OR DIMENSIONED, THERE SHALL BE A PERMANENT EASEMENT FOR PUBLIC UTILITIES, LOT DRAINAGE, AND PRESSURE IRRIGATION OVER THE TEN (10) FEET ADJACENT TO ANY PUBLIC STREET. THIS EASEMENT SHALL NOT PRECLUDE THE CONSTRUCTION OF HARD-SURFACED DRIVEWAYS AND WALKWAYS TO EACH LOT.
2. UNLESS OTHERWISE DESIGNATED OR DIMENSIONED, THERE SHALL BE A PERMANENT EASEMENT FOR PUBLIC UTILITIES, PRESSURE IRRIGATION, AND LOT DRAINAGE ON FIVE (5) FEET ADJACENT TO SIDE LOT LINES AND ON TEN (10) FEET ADJACENT TO REAR LOT LINES AND EXTERIOR SUBDIVISION BOUNDARIES.
3. NO LOTS WITHIN THIS SUBDIVISION SHALL BE ALLOWED TO TAKE DIRECT ACCESS FROM E. HUBBARD RD., S. LOCUST GROVE RD. OR N. EAGLE RD.
4. ANY RE-SUBDIVISION OF THIS PLAT SHALL COMPLY WITH THE APPLICABLE REGULATIONS IN EFFECT AT THE TIME OF THE RE-SUBDIVISION.
5. MAINTENANCE OF ANY IRRIGATION, DRAINAGE PIPE OR DITCH CROSSING A LOT IS THE RESPONSIBILITY OF THE LOT OWNER UNLESS SUCH RESPONSIBILITY IS ASSUMED BY AN IRRIGATION/DRAINAGE DISTRICT.
6. THIS DEVELOPMENT RECOGNIZES IDAHO CODE 22-4503, RIGHT TO FARM ACT, WHICH STATES: NO AGRICULTURAL OPERATION, AGRICULTURAL FACILITY OR EXPANSION THEREOF SHALL BE OR BECOME A NUISANCE, PRIVATE OR PUBLIC, BY ANY CHANGED CONDITION IN OR ABOUT THE SURROUNDING NONAGRICULTURAL ACTIVITIES AFTER IT HAS BEEN IN OPERATION FOR MORE THAN ONE (1) YEAR, WHEN THE OPERATION, FACILITY OR EXPANSION WAS NOT A NUISANCE AT THE TIME IT WAS BEGUN OR CONSTRUCTED. THE PROVISIONS OF THIS SECTION SHALL NOT APPLY WHEN A NUISANCE RESULTS FROM THE IMPROPER OR NEGLIGENT OPERATION OF AN AGRICULTURAL OPERATION, AGRICULTURAL FACILITY OR EXPANSION THEREOF.
7. LOT 8, BLOCK 3, LOT 9 AND LOT 11, BLOCK 5, LOTS 1 AND 13, BLOCK 6, LOTS 1 AND 13, BLOCK 7, LOT 12, BLOCK 8, LOT 10, BLOCK 9, LOT 8, BLOCK 10, LOT 1, BLOCK 11, LOTS 1 AND 3, BLOCK 13, LOT 9, BLOCK 17, LOT 6, BLOCK 18, LOT 9, BLOCK 19, LOT 1, BLOCK 20, LOT 1, BLOCK 21, LOT 1, BLOCK 22, LOTS 1, 9 AND 16, BLOCK 23, LOTS 4, 10, AND 17, BLOCK 24, LOTS 1 AND 7, BLOCK 25, LOTS 1, 15, 22 AND 36, BLOCK 26, LOTS 1 AND 8, BLOCK 27, LOTS 1 AND 2, BLOCK 28, LOTS 1 AND 6, BLOCK 29, LOTS 4 AND 9, BLOCK 30, LOT 1, BLOCK 31, LOTS 1 AND 17, BLOCK 32, LOTS 1 AND 10, BLOCK 33, LOTS 1, 10 AND 20, BLOCK 34, LOTS 1 AND 11, BLOCK 35, LOTS 10 AND 17, BLOCK 36, LOTS 1 AND 12, BLOCK 37, AND LOTS 1 AND 25, BLOCK 38, ARE DESIGNATED AS COMMON AREA LOTS TO BE OWNED AND MAINTAINED BY THE PATAGONIA EAST SUBDIVISION HOMEOWNERS ASSOCIATION, OR IT'S ASSIGNS. ALL OTHER LOTS IN THIS SUBDIVISION ARE FOR SINGLE FAMILY DWELLINGS. THIS OWNERSHIP AND MAINTENANCE COMMITMENT MAY NOT BE DISSOLVED WITHOUT THE EXPRESS CONSENT OF THE CITY OF KUNA. THE PATAGONIA SUBDIVISION HOMEOWNERS ASSOCIATION IS RESPONSIBLE FOR PAYMENT OF IRRIGATION ASSESSMENTS. IN THE EVENT PATAGONIA EAST SUBDIVISION HOMEOWNERS ASSOCIATION FAILS TO PAY ASSESSMENTS, EACH RESIDENTIAL LOT IS RESPONSIBLE FOR A FRACTIONAL SHARE OF THE ASSESSMENT.
8. MINIMUM BUILDING SETBACK LINES SHALL BE IN ACCORDANCE WITH KUNA CITY ZONING ORDINANCE AT THE TIME OF ISSUANCE OF A BUILDING PERMIT.
9. PRESSURE IRRIGATION WATER WILL BE PROVIDED BY THE CITY OF KUNA IN COMPLIANCE WITH IDAHO CODE SECTION 31-3805(1)(b). ALL LOTS WITHIN THE SUBDIVISION WILL BE ENTITLED TO IRRIGATION WATER RIGHTS AND WILL BE OBLIGATED FOR ASSESSMENTS FROM CITY OF KUNA.
10. BUILDING SETBACKS AND DIMENSIONAL STANDARDS IN THIS SUBDIVISION SHALL BE IN COMPLIANCE WITH THE APPLICABLE ZONING REGULATIONS OF THE CITY OF KUNA AND CONDITIONS OF THE STAFF REPORT FOR PATAGONIA EAST SUBDIVISION.

6 PRELIMINARY PLAT DATA

TOTAL ACRES	**173.80 AC**
PUBLIC RIGHT-OF-WAY	41.09 AC
SINGLE-FAMILY RESIDENTIAL AREA	103.88 AC
OPEN SPACE/COMMON LOT AREA	19.03 AC
FUTURE SCHOOL SITE	9.80 AC
TOTAL LOTS	**616**
SINGLE-FAMILY RESIDENTIAL LOTS	561
OPEN SPACE/COMMON LOTS	54
SCHOOL LOT	1
TOTAL OPEN SPACE	**28.83 AC**
SCHOOL LOT	9.80 AC
COMMON AREAS	19.03 AC
OPEN SPACE PERCENTAGE	16.59%
QUALIFIED OPEN SPACE	**21.93 AC**
SCHOOL LOT	9.80 AC
USABLE LANDSCAPING	12.13 AC
QUALIFIED OPEN SPACE PERCENTAGE	12.62%

ZONING	
EXISTING: RR	PROPOSED: R-4, R-6 AND R-8
MINIMUM LOT SIZE (SF)	4,163 SF
SINGLE FAMILY	
AVERAGE LOT SIZE	8,066 SF
SINGLE FAMILY	
RESIDENTIAL DENSITY (Du/Ac)	
RESIDENTIAL GROSS DENSITY	3.23

GENERAL INFORMATION
IRRIGATION DISTRICT: BOISE KUNA IRRIGATION DISTRICT, NEW YORK IRRIGATION DISTRICT
SCHOOL DISTRICT: KUNA
FIRE DISTRICT: KUNA
SEWER PROVIDER: CITY OF KUNA
WATER PROVIDER: CITY OF KUNA

CIVIL INNOVATIONS, PLLC
1043 E. PARK BLVD. STE 101
BOISE, ID 83712
PHONE: (208) 884-8181
www.civil-innovations.com

PROFESSIONAL ENGINEER REGISTERED 10062 STATE OF IDAHO BENJAMIN P. THOMAS 05/19/20

THESE DRAWINGS, OR ANY PORTION OR EXTENSION THEREOF, SHALL NOT BE USED OR REPRODUCED ON ANY PROJECT WITHOUT WRITTEN CONSENT FROM CIVIL INNOVATIONS, PLLC

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

PATAGONIA EAST, RIDGE AND LAKES SUBDIVISION
KUNA, IDAHO

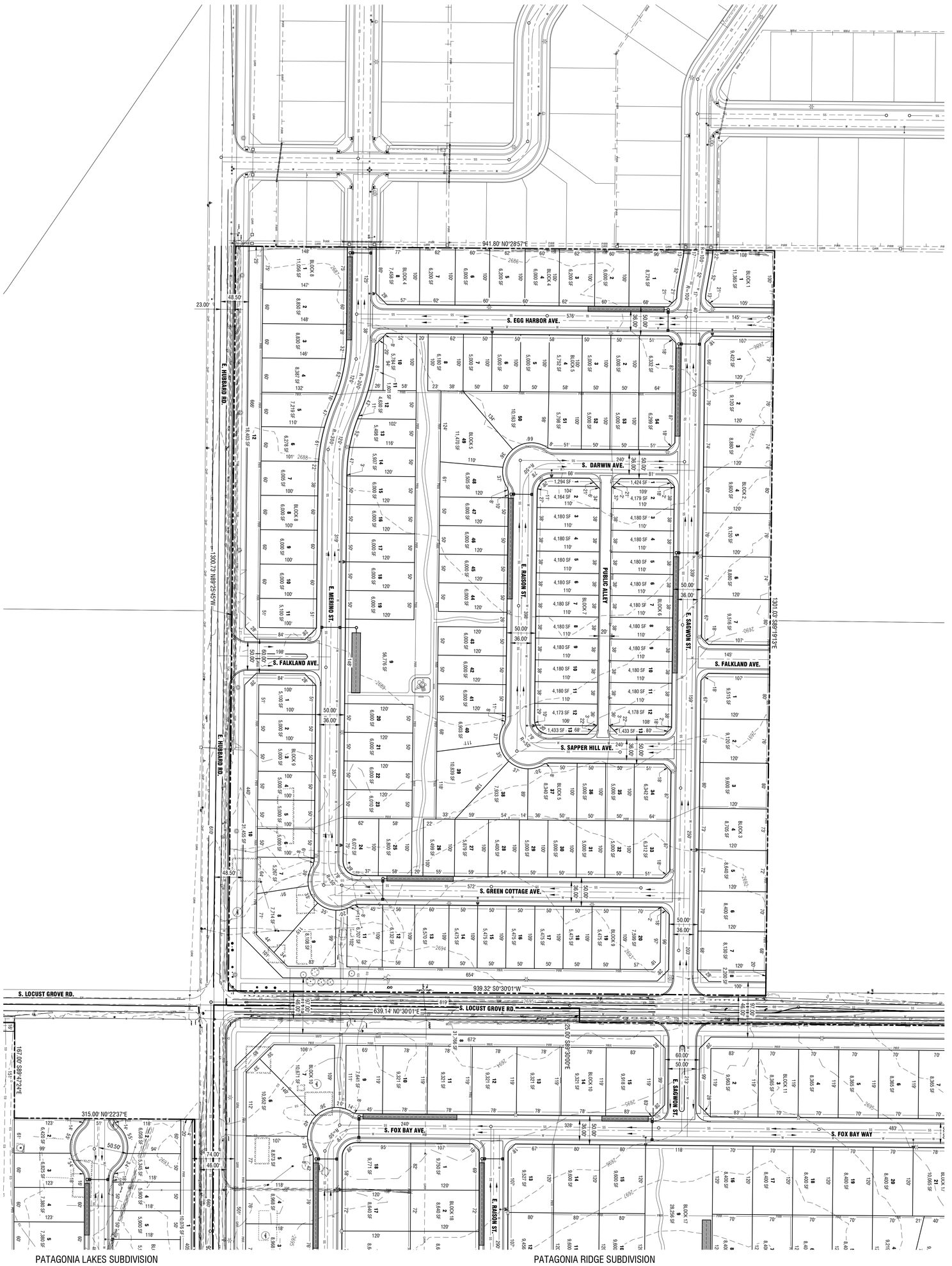
PRELIMINARY PLAT - TITLE SHEET

PROJECT NO.	19-1202-PE-
DWG FILE	PP.100
DESIGNED BY	BT
DRAWN BY	JTA
CHECKED BY	BT
ISSUE DATE	05/19/20
HORIZ. SCALE	AS SHOWN
VERT. SCALE	AS SHOWN

PP.100

SHEET 1 OF 9

D:\Civil Innovations Projects\2019\19-1202-PE PATAGONIA EAST\200 - Construction Drawings\204 - Preliminary Plat\19-1202-PE-PREPLAT.dwg



PATAGONIA LAKES SUBDIVISION
SEE SHEETS PP.104 THRU PP.106

PATAGONIA RIDGE SUBDIVISION
SEE SHEETS PP.102 AND PP.103

HORIZONTAL SCALE IN FEET
80 40 0 80 160
NORTH

PATAGONIA EAST, RIDGE AND LAKES SUBDIVISION

KUNA, IDAHO

PRELIMINARY PLAT - PATAGONIA EAST SUBDIVISION - PLAN VIEW

THESE DRAWINGS, OR ANY PORTION OR EXTENSION THEREOF, SHALL NOT BE USED OR REPRODUCED ON ANY PROJECT WITHOUT WRITTEN CONSENT FROM CIVIL INNOVATIONS, PLLC

REVISIONS			
NO.	DESCRIPTION	BY	DATE

CIVIL INNOVATIONS, PLLC
1043 E. PARK BLVD. STE 101
BOISE, ID 83712
PHONE: (208) 884-8181
www.civil-innovations.com

PROJECT NO.	19-1202-PE-
DWG FILE	PP.101
DESIGNED BY	BT
DRAWN BY	JTA
CHECKED BY	BT
ISSUE DATE	05/19/20
HORIZ. SCALE	AS SHOWN
VERT. SCALE	AS SHOWN

PP.101
SHEET 2 OF 9

D:\Civil Innovations Projects\2019-19-1202-PE PATAGONIA EAST\200 - Construction Drawings\204 - Preliminary Plat\19-1202-PE-PREPLAT.dwg

NORTH

80 40 0 80 160
HORIZONTAL SCALE IN FEET

CURVE TABLE					
CURVE #	LENGTH	RADIUS	DELTA	BEARING	CHORD
C1	48.51'	85.00'	32°41'56"	S15°51'04"E	48.51'
C2	95.65'	115.00'	47°39'27"	N23°19'50"W	95.65'

MATCH LINE - SEE SHEET PP.103

CIVIL INNOVATIONS, PLLC
1043 E. PARK BLVD, STE 101
BOISE, ID 83712
PHONE: (208) 884-8181
www.civil-innovations.com

PROFESSIONAL ENGINEER
REGISTERED
10062
05/19/2020
STATE OF IDAHO
BENJAMIN P. THOMAS

THESE DRAWINGS, OR ANY PORTION OR EXTENSION THEREOF, SHALL NOT BE USED OR REPRODUCED ON ANY PROJECT WITHOUT WRITTEN CONSENT FROM CIVIL INNOVATIONS, PLLC

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

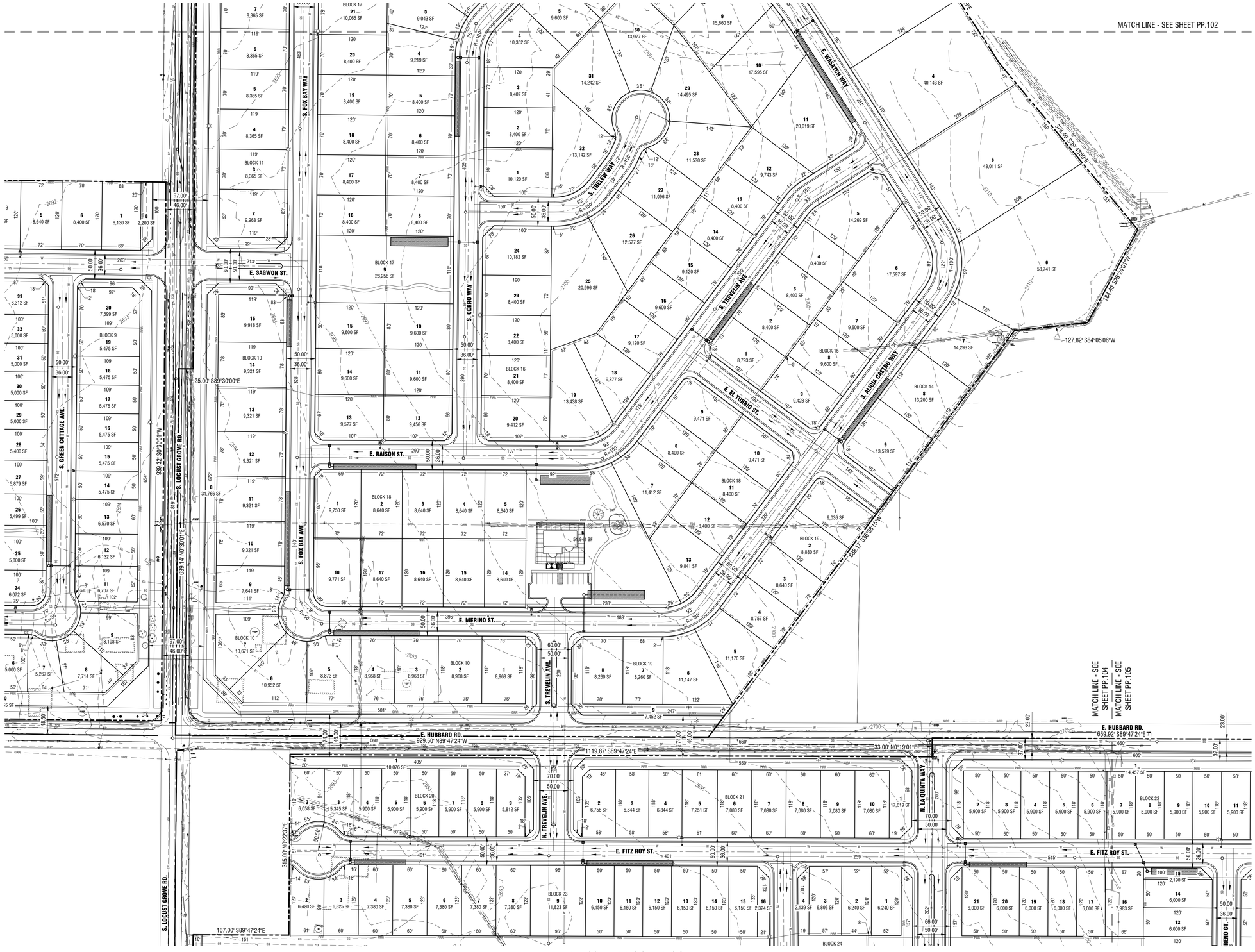
PATAGONIA EAST, RIDGE AND LAKES SUBDIVISION
KUNA, IDAHO

PRELIMINARY PLAT - PATAGONIA RIDGE SUBDIVISION - PLAN VIEW

PROJECT NO.	19-1202-PE-
DWG FILE	PP.102
DESIGNED BY	BT
DRAWN BY	JTA
CHECKED BY	BT
ISSUE DATE	05/19/20
HORIZ. SCALE	AS SHOWN
VERT. SCALE	AS SHOWN

PP.102
SHEET 3 OF 9

D:\Civil Innovations Projects\2019\19-1202-PE PATAGONIA EAST\200 - Construction Drawings\204 - Preliminary Plat\19-1202-PE-PREPLAT.dwg



CIVIL INNOVATIONS, PLLC
1043 E. PARK BLVD, STE 101
BOISE, ID 83712
PHONE: (208) 884-8181
www.civil-innovations.com

PROFESSIONAL ENGINEER
REGISTERED
10062
05/19/2020
STATE OF IDAHO
BENJAMIN P. THOMAS

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NO.	DESCRIPTION	BY	DATE
	REVISIONS		

PATAGONIA EAST, RIDGE AND LAKES SUBDIVISION

KUNA, IDAHO

PRELIMINARY PLAT - PATAGONIA RIDGE SUBDIVISION - PLAN VIEW

PROJECT NO.	19-1202-PE-
DWG FILE	PP.103
DESIGNED BY	BT
DRAWN BY	JTA
CHECKED BY	BT
ISSUE DATE	05/19/20
HORIZ. SCALE	AS SHOWN
VERT. SCALE	AS SHOWN

PP.103
SHEET 4 OF 9

D:\Civil Innovations Projects\2019\19-1202-PE PATAGONIA EAST\200 - Construction Drawings\204 - Preliminary Plat\19-1202-PE-PREPLAT.dwg

PATAGONIA RIDGE SUBDIVISION
SEE SHEETS PP.102 AND PP.103

PATAGONIA EAST SUBDIVISION
SEE SHEET PP.101

MATCH LINE - SEE SHEET PP.105

MATCH LINE - SEE SHEET PP.106

E. HUBBARD RD.
929.50' N89°47'24"W

1119.87' S89°47'24"E

E. HUBBARD RD.
659.92' S89°47'24"E

33.00' N0°19'01"E

315.00' N0°22'37"E

167.00' S89°47'24"E

428.51' N0°22'37"E

1287.65' N89°35'57"W

S. LOQUIST GROVE RD.

N. TREVELIN AVE.

S. TREVELIN AVE.

N. LA QUINTA WAY

E. FITZ ROY ST.

N. LAKE MORENO CT.

N. LIMPET CREEK AVE.

E. LANIN ST.

N. EL FOYEL WAY

E. LOS LAKES ST.

PUBLIC ALLEY

BLOCK 10
BLOCK 19
BLOCK 20
BLOCK 21
BLOCK 22
BLOCK 23
BLOCK 24
BLOCK 25
BLOCK 26
BLOCK 31
BLOCK 32
BLOCK 33

NORTH

80 40 0 80 160
HORIZONTAL SCALE IN FEET

CIVIL INNOVATIONS, PLLC
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BOISE, ID 83712
PHONE: (208) 884-8181
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PROFESSIONAL ENGINEER
REGISTERED
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05/19/20
STATE OF IDAHO
BENJAMIN P. THOMAS

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NO.	DESCRIPTION	BY	DATE
REVISIONS			

PATAGONIA EAST, RIDGE AND LAKES SUBDIVISION
KUNA, IDAHO

PRELIMINARY PLAT - PATAGONIA LAKES SUBDIVISION - PLAN VIEW

PROJECT NO.	19-1202-PE-
DWG FILE	PP.104
DESIGNED BY	BT
DRAWN BY	JTA
CHECKED BY	BT
ISSUE DATE	05/19/20
HORIZ. SCALE	AS SHOWN
VERT. SCALE	AS SHOWN

PP.104
SHEET 5 OF 9

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PHONE: (208) 884-8181
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10062
05/19/2020
STATE OF IDAHO
BENJAMIN P. THOMAS

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NO.	DESCRIPTION	BY	DATE
	REVISIONS		

PATAGONIA EAST, RIDGE AND LAKES SUBDIVISION

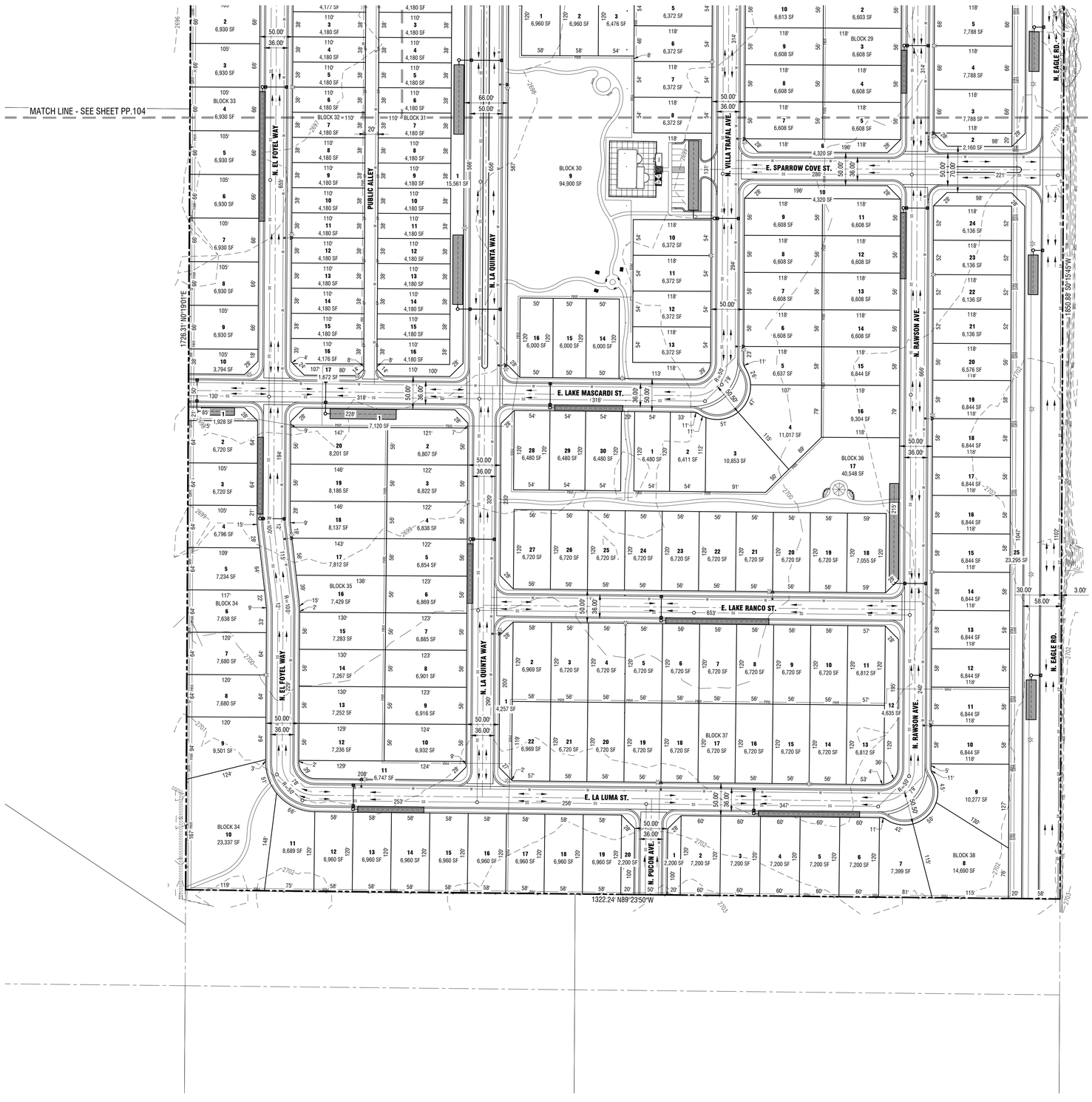
KUNA, IDAHO

PRELIMINARY PLAT - PATAGONIA LAKES SUBDIVISION - PLAN VIEW

PROJECT NO.	19-1202-PE-
DWG FILE	PP.105
DESIGNED BY	BT
DRAWN BY	JTA
CHECKED BY	BT
ISSUE DATE	05/19/20
HORIZ. SCALE	AS SHOWN
VERT. SCALE	AS SHOWN

PP.105

SHEET 6 OF 9



NORTH

80 40 0 80 160

HORIZONTAL SCALE IN FEET

CIVIL INNOVATIONS, PLLC
1043 E. PARK BLVD, STE 101
BOISE, ID 83712
PHONE: (208) 884-8181
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PROFESSIONAL ENGINEER REGISTERED 10062 STATE OF IDAHO BENJAMIN P THOMAS
05/19/20

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NO.	DESCRIPTION	DATE	BY
	REVISIONS		

PATAGONIA EAST, RIDGE AND LAKES SUBDIVISION

KUNA, IDAHO

PRELIMINARY PLAT - PATAGONIA LAKES SUBDIVISION - PLAN VIEW

PROJECT NO.	19-1202-PE-
DWG FILE	PP.106
DESIGNED BY	BT
DRAWN BY	JTA
CHECKED BY	BT
ISSUE DATE	05/19/20
HORIZ. SCALE	AS SHOWN
VERT. SCALE	AS SHOWN

PP.106

SHEET 7 OF 9

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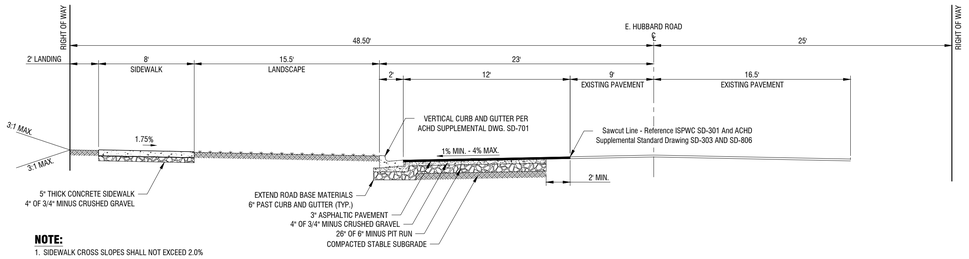
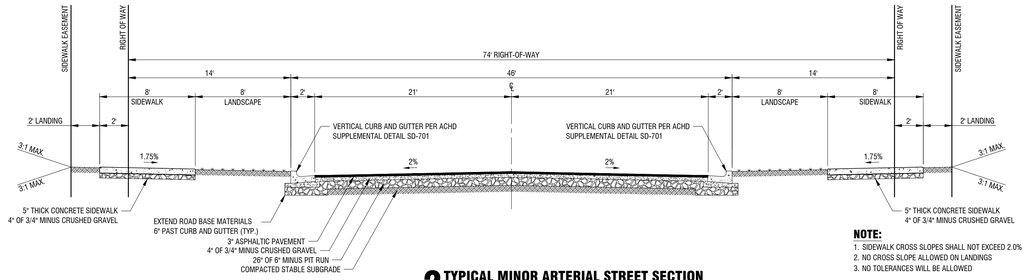


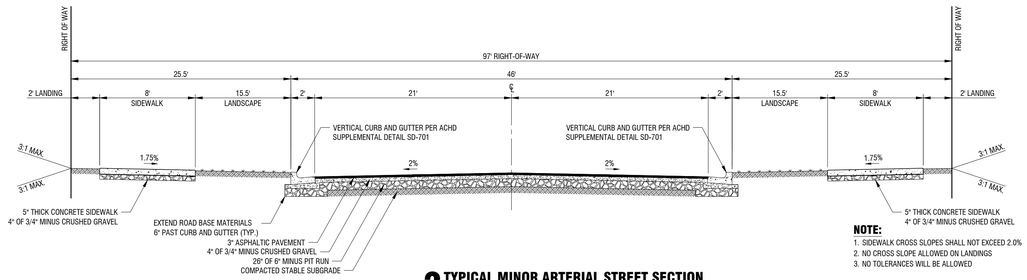
NOTE:
1. SIDEWALK CROSS SLOPES SHALL NOT EXCEED 2.0%
2. NO CROSS SLOPE ALLOWED ON LANDINGS
3. NO TOLERANCES WILL BE ALLOWED

1 TYPICAL MINOR ARTERIAL STREET SECTION
NOT TO SCALE - E. HUBBARD ROAD (WEST OF S. LOCUST GROVE)



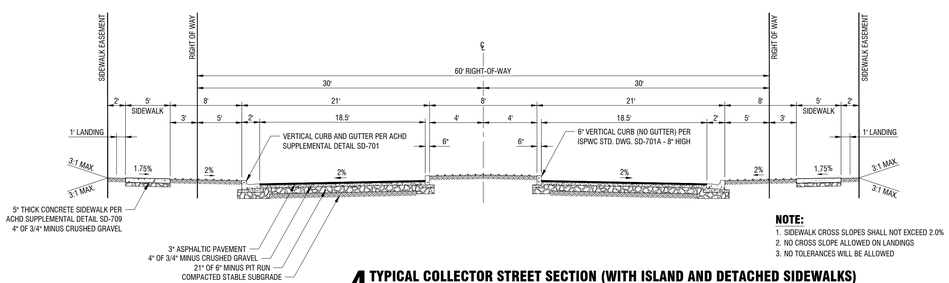
NOTE:
1. SIDEWALK CROSS SLOPES SHALL NOT EXCEED 2.0%
2. NO CROSS SLOPE ALLOWED ON LANDINGS
3. NO TOLERANCES WILL BE ALLOWED

2 TYPICAL MINOR ARTERIAL STREET SECTION
NOT TO SCALE - E. HUBBARD ROAD (EAST OF S. LOCUST GROVE)



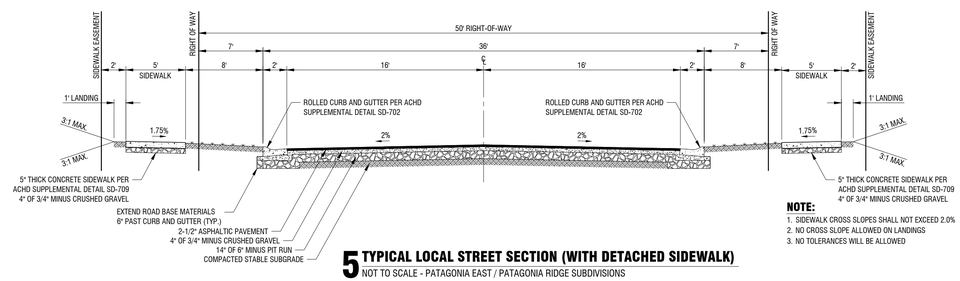
NOTE:
1. SIDEWALK CROSS SLOPES SHALL NOT EXCEED 2.0%
2. NO CROSS SLOPE ALLOWED ON LANDINGS
3. NO TOLERANCES WILL BE ALLOWED

3 TYPICAL MINOR ARTERIAL STREET SECTION
NOT TO SCALE - S. LOCUST GROVE



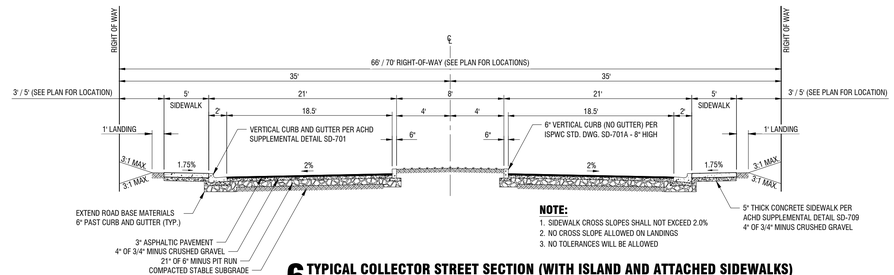
NOTE:
1. SIDEWALK CROSS SLOPES SHALL NOT EXCEED 2.0%
2. NO CROSS SLOPE ALLOWED ON LANDINGS
3. NO TOLERANCES WILL BE ALLOWED

4 TYPICAL COLLECTOR STREET SECTION (WITH ISLAND AND DETACHED SIDEWALKS)
NOT TO SCALE - PATAGONIA EAST / PATAGONIA RIDGE SUBDIVISIONS



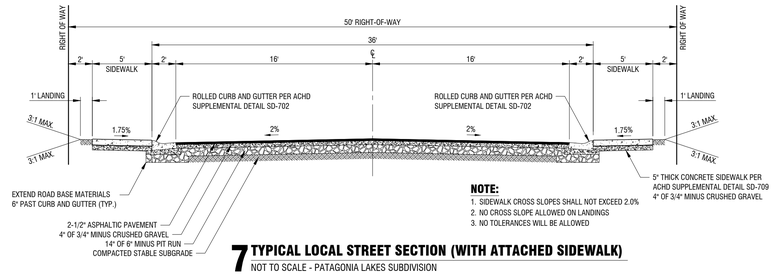
NOTE:
1. SIDEWALK CROSS SLOPES SHALL NOT EXCEED 2.0%
2. NO CROSS SLOPE ALLOWED ON LANDINGS
3. NO TOLERANCES WILL BE ALLOWED

5 TYPICAL LOCAL STREET SECTION (WITH DETACHED SIDEWALK)
NOT TO SCALE - PATAGONIA EAST / PATAGONIA RIDGE SUBDIVISIONS



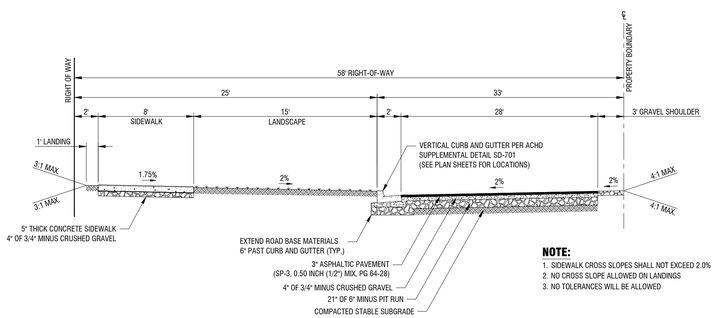
NOTE:
1. SIDEWALK CROSS SLOPES SHALL NOT EXCEED 2.0%
2. NO CROSS SLOPE ALLOWED ON LANDINGS
3. NO TOLERANCES WILL BE ALLOWED

6 TYPICAL COLLECTOR STREET SECTION (WITH ISLAND AND ATTACHED SIDEWALKS)
NOT TO SCALE - PATAGONIA LAKES SUBDIVISION



NOTE:
1. SIDEWALK CROSS SLOPES SHALL NOT EXCEED 2.0%
2. NO CROSS SLOPE ALLOWED ON LANDINGS
3. NO TOLERANCES WILL BE ALLOWED

7 TYPICAL LOCAL STREET SECTION (WITH ATTACHED SIDEWALK)
NOT TO SCALE - PATAGONIA LAKES SUBDIVISION



NOTE:
1. SIDEWALK CROSS SLOPES SHALL NOT EXCEED 2.0%
2. NO CROSS SLOPE ALLOWED ON LANDINGS
3. NO TOLERANCES WILL BE ALLOWED

8 TYPICAL COLLECTOR HALF-STREET SECTION
NOT TO SCALE - N. EAGLE ROAD

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05/19/20

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NO.	DESCRIPTION	BY	DATE
REVISIONS			

PATAGONIA EAST, RIDGE AND LAKES SUBDIVISION
KUNA, IDAHO

PRELIMINARY PLAT - TYPICAL STREET SECTIONS

PROJECT NO.	19-1202-PE-
DWG FILE	PP.107
DESIGNED BY	BT
DRAWN BY	JTA
CHECKED BY	BT
ISSUE DATE	05/19/20
HORIZ. SCALE	AS SHOWN
VERT. SCALE	AS SHOWN

PP.107
SHEET 8 OF 9

D:\Civil Innovations Projects\2019\19-1202-PE PATAGONIA EAST\200 - Construction Drawings\204 - Preliminary Plat\19-1202-PE-PREPLAT.dwg

NORTH

200 100 0 200 400

HORIZONTAL SCALE IN FEET

PHASE 9

PHASE 13

PHASE 12

PHASE 8

E. HUBBARD RD.

PHASE 7

PHASE 10

PHASE 11

PATAGONIA LAKES SUBDIVISION

PATAGONIA RIDGE SUBDIVISION

PHASE 5

PHASE 3

PHASE 4

PHASE 6

S. LOCUST GROVE RD.

S. LOCUST GROVE RD.

PHASE 2

PATAGONIA EAST SUBDIVISION

E. HUBBARD RD.

PHASE 1

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05/19/20

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NO.	DESCRIPTION	BY	DATE
	REVISIONS		

PATAGONIA EAST, RIDGE AND LAKES SUBDIVISION
KUNA, IDAHO

PRELIMINARY PLAT - PHASING PLAN

PROJECT NO.	19-1202-PE-
DWG FILE	PP.108
DESIGNED BY	BT
DRAWN BY	JTA
CHECKED BY	BT
ISSUE DATE	05/19/20
HORIZ. SCALE	AS SHOWN
VERT. SCALE	AS SHOWN

PP.108

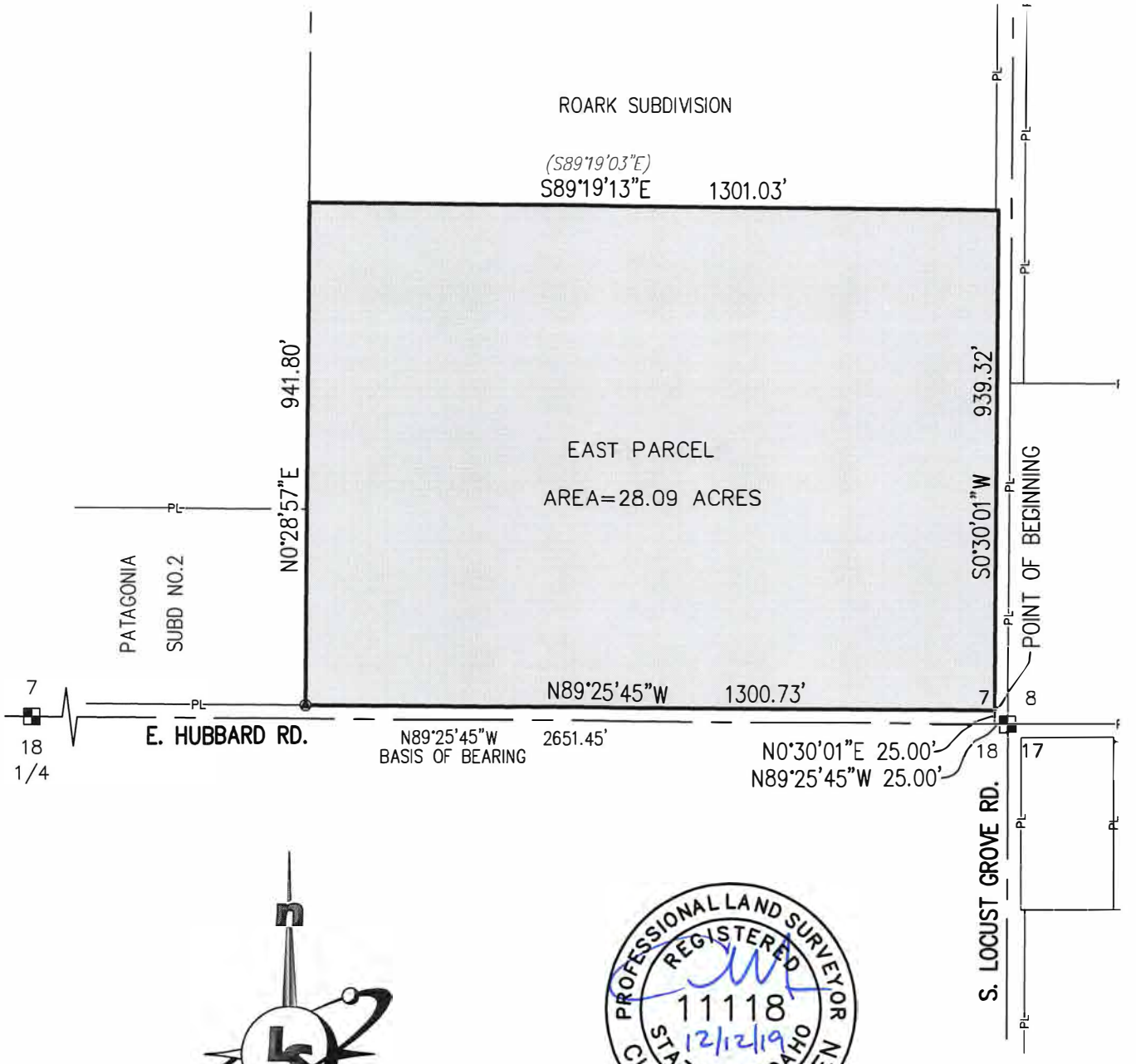
SHEET 9 OF 9

D:\Civil Innovations Projects\2019\19-1202-PE PATAGONIA EAST\200 - Construction Drawings\204 - Preliminary Plat\19-1202-PE-PREPLAT-PHASING PLAN.dwg

PATAGONIA

EAST PARCEL

LOCATED IN THE SE 1/4 OF THE SE 1/4 OF SECTION 7, T.2N., R.1E., B.M., ADA COUNTY, IDAHO



0 150 300 600

LandSolutions
Land Surveying and Consulting
231 E. 5TH ST., STE. A
MERIDIAN, ID 83642
(208) 288-2040 (208) 288-2557 fax
www.landsolutions.biz

JOB NO. 16-93

Legal Description
Patagonia East Parcel

A parcel located in the SE ¼ of the SE ¼ of Section 7, Township 2 North, Range 1 East, Boise Meridian, Ada County, Idaho, and more particularly described as follows:

Commencing at an Aluminum Cap monument marking the southeast corner of said Section 7, from which an Aluminum Cap monument marking the southwest corner of the SE ¼ of said Section 7 bears N 89°25'45" W a distance of 2651.45 feet;

Thence N 89°25'45" W along the southerly boundary of said SE ¼ a distance of 25.00 feet to a point;

Thence leaving said southerly boundary N 0°30'01" E a distance of 25.00 feet to a point on the northerly right-of-way of E. Hubbard Road, the **POINT OF BEGINNING**;

Thence N 89°25'45" W along said northerly right-of-way a distance of 1300.73 feet to a 5/8 inch diameter iron pin on the westerly boundary of said SE ¼ of the SE ¼;

Thence N 0°28'57" E along said westerly boundary a distance of 941.80 feet to the southwesterly corner of Roark Subdivision, as shown in Book 76 of Plats on Pages 7884 and 7885, records of Ada County, Idaho;

Thence along the southerly boundary of said Roark Subdivision and the extension thereof S 89°19'13" E a distance of 1301.03 feet (formerly S 89°19'03" E, 1300.94 feet) to a point on the westerly right-of-way of S. Locust Grove Road;

Thence leaving said boundary and along said right-of-way S 0°30'01" W a distance of 939.32 feet to the **POINT OF BEGINNING.**

This parcel contains 28.09 acres.

Clinton W. Hansen, PLS
Land Solutions, PC
December 12, 2019



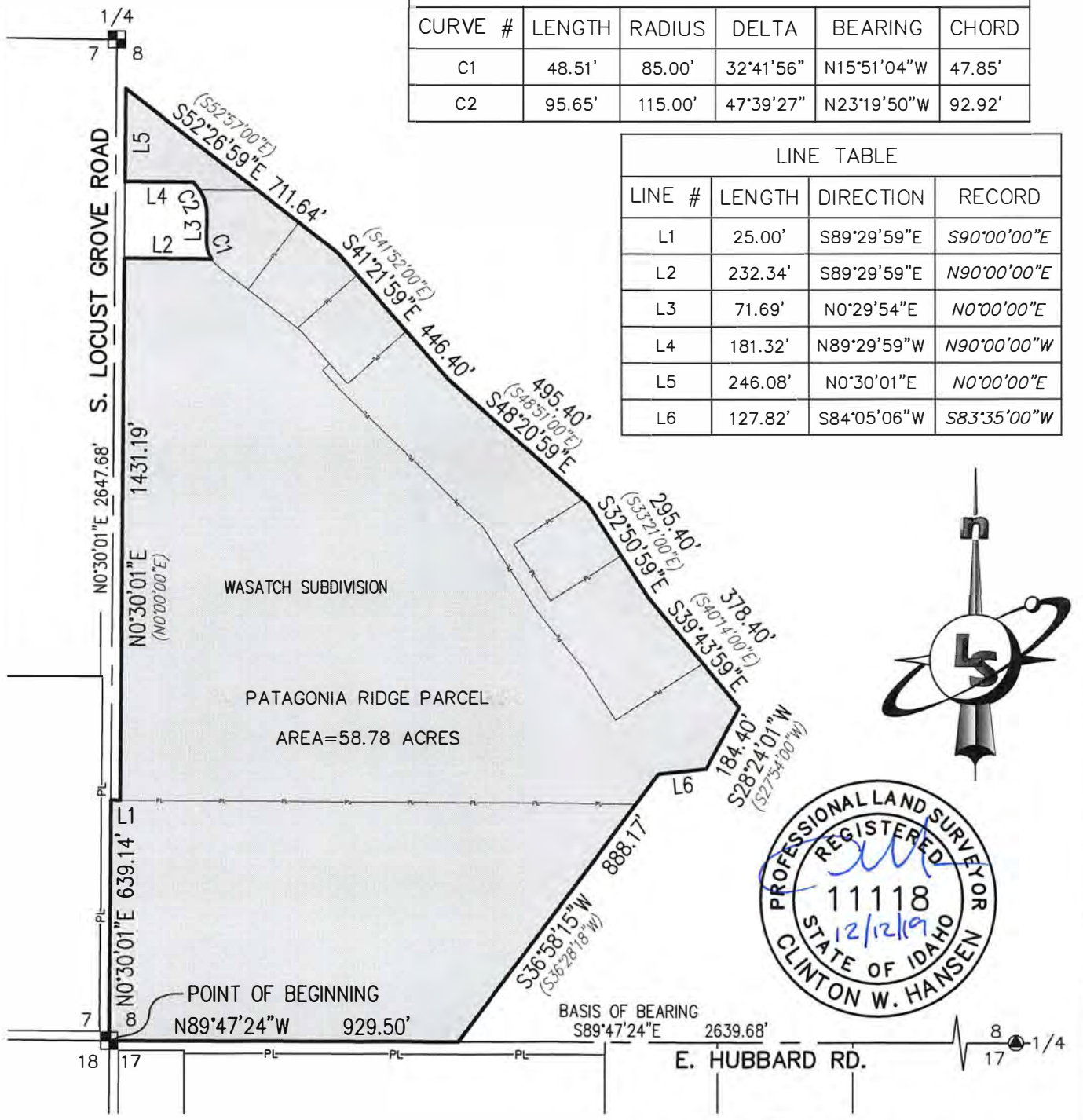
PATAGONIA

RIDGE PARCEL

LOCATED IN THE SW 1/4 OF SECTION 8, T.2N., R.1E., B.M., ADA COUNTY, IDAHO

CURVE TABLE					
CURVE #	LENGTH	RADIUS	DELTA	BEARING	CHORD
C1	48.51'	85.00'	32°41'56"	N15°51'04"W	47.85'
C2	95.65'	115.00'	47°39'27"	N23°19'50"W	92.92'

LINE TABLE			
LINE #	LENGTH	DIRECTION	RECORD
L1	25.00'	S89°29'59"E	*S90°00'00"E*
L2	232.34'	S89°29'59"E	*N90°00'00"E*
L3	71.69'	N0°29'54"E	*N0°00'00"E*
L4	181.32'	N89°29'59"W	*N90°00'00"W*
L5	246.08'	N0°30'01"E	*N0°00'00"E*
L6	127.82'	S84°05'06"W	*S83°35'00"W*



PROFESSIONAL LAND SURVEYOR
REGISTERED
11118
12/12/19
STATE OF IDAHO
CLINTON W. HANSEN

LandSolutions
Land Surveying and Consulting
231 E. 5TH ST., STE. A
MERIDIAN, ID 83642
(208) 288-2040 (208) 288-2557 fax
www.landsolutions.biz

JOB NO. 16-93

Legal Description
Patagonia Ridge Parcel

A parcel being a portion of Wasatch Subdivision, as shown in Book 104 of Plats on Pages 14111 through 14113, records of Ada County, Idaho and a portion of the SW ¼ of Section 8, Township 2 North, Range 1 East, Boise Meridian, Ada County, Idaho, and more particularly described as follows:

BEGINNING at an Aluminum Cap monument marking the southwest corner of said Section 8, from which a 5/8 inch diameter iron pin marking the southeast corner of the SW ¼ of said Section 8 bears S 89°47'24" E a distance of 2639.68 feet;

Thence N 0°30'01" E along the westerly boundary of said SW ¼ a distance of 639.14 feet to the southwesterly corner of Wasatch Subdivision, as shown in Book 104 of Plats on Pages 14111 through 14113, records of Ada County, Idaho;

Thence leaving said westerly boundary and along the southerly boundary of said Wasatch Subdivision S 89°29'59" E (formerly S 90°00'00" E) a distance of 25.00 feet to a point on the easterly right-of-way of S. Locust Grove Road;

Thence N 0°30'01" E along said right-of-way, and being partially along the westerly boundary of said Wasatch Subdivision (formerly shown as N0°00'00" E) a distance of 1431.19 feet to point to point marking the southwest corner of Lot 2, Block 1 of said Wasatch Subdivision;

Thence leaving said right-of-way and along the boundary of said Lot 2 the following courses and distances:

Thence S 89°29'59" E (formerly N 90°00'00" E) a distance of 232.34 feet to a point marking the southeast corner of said Lot 2;

Thence a distance of 48.51 feet (formerly 48.50 feet) along the arc of an 85.00 foot radius non-tangent curve right, said curve having a central angle of 32°41'56 (formerly 32°41'40") and a long chord bearing N 15°51'04" W a distance of 47.85 feet (formerly N 16°20'50" W, 47.84 feet) to a point of tangency;

Thence N 0°29'54" E (formerly N 0°00'00" E) a distance of 71.69 feet to a point of curvature;

Thence a distance of 95.65 feet along the arc of a 115.00 foot radius curve left, said curve having a central angle of 47°39'27 and a long chord bearing N 23°19'50" W (formerly N 23°49'43" W) a distance of 92.92 feet to a point marking the northeast corner of said Lot 2;

Thence N 89°29'59" W a distance of 181.32 feet (formerly N 90°00'00" W, 181.33 feet) to a point on the easterly right-of-way of S. Locust Grove Road;

Thence along the boundary of said Wasatch Subdivision the following courses and distances:

Thence along said right-of-way N 0°30'01" E (formerly N 0°00'00 E) a distance of 246.08 feet to the northwesterly corner of said Wasatch Subdivision;

Thence leaving said right-of-way S 52°26'59" E (formerly S 52°57'00" E) a distance of 711.64 feet to a point;

Thence S 41°21'59" E (formerly S 41°52'00" E) a distance of 446.40 feet to a point;

Thence S 48°20'59" E (formerly S 48°51'00" E) a distance of 495.40 feet to a point;

Thence S 32°50'59" E (formerly S 33°21'00" E) a distance of 295.40 feet to a point;

Thence S 39°43'59" E (formerly S 40°14'00" E) a distance of 378.40 feet to a point;

Thence S 28°24'01" W (formerly S 27°54'00" W) a distance of 184.40 feet to a point;

Thence S 84°05'06" W a distance of 127.82 feet (formerly S 83°35'00" W, 127.81 feet) to a point;

Thence S 36°58'15" W a distance of 888.17 feet, partially along the boundary of said Wasatch Subdivision (formerly shown as S 36°28'18" W thereon) and continuing beyond said subdivision to a point on the southerly boundary of the SW ¼ of said Section 8;

Thence along said southerly boundary N 89°47'24" W a distance of 929.50 feet to the **POINT OF BEGINNING.**

This parcel contains 58.78 acres.

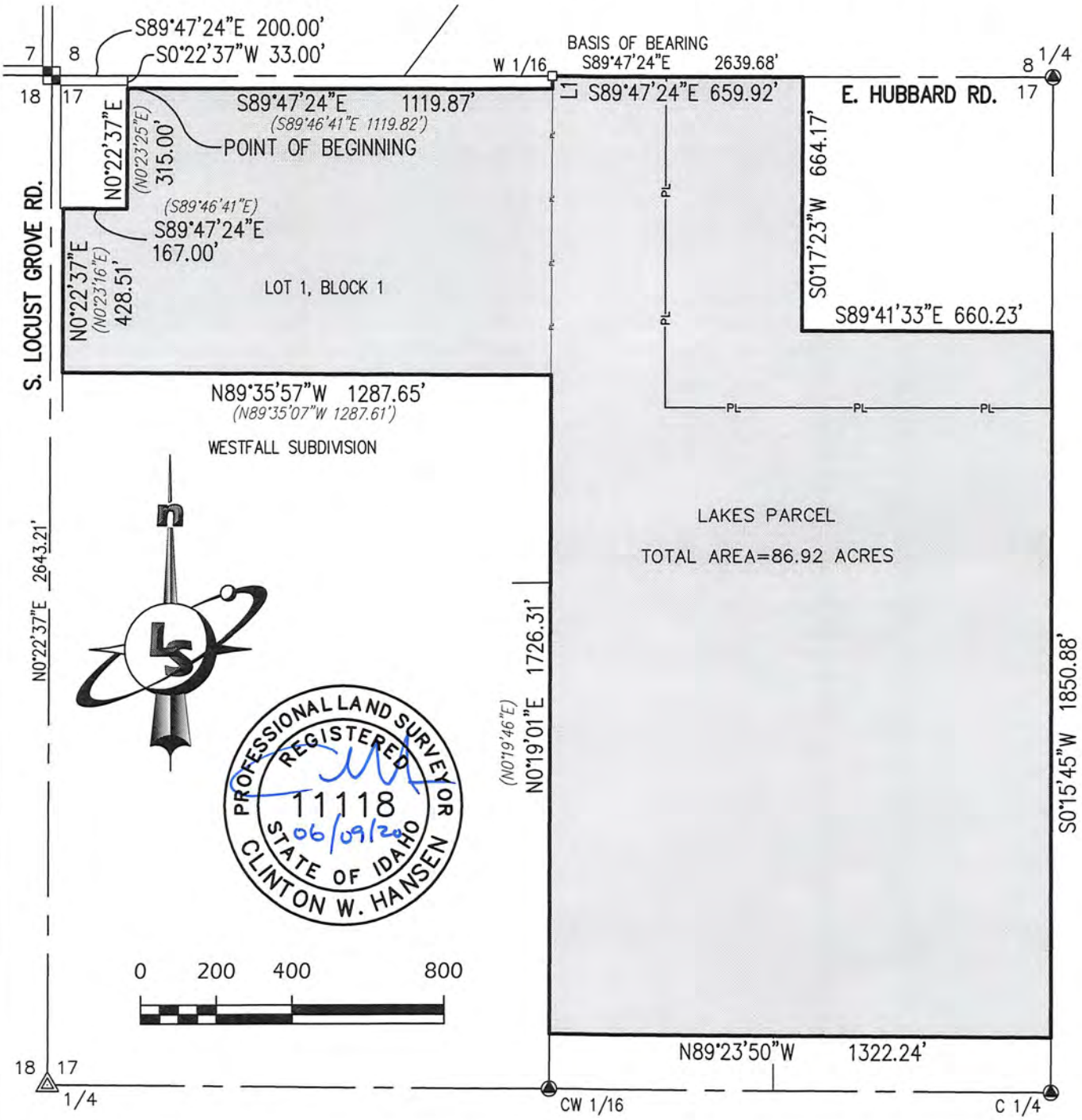
Clinton W. Hansen, PLS
Land Solutions, PC
December 12, 2019



PATAGONIA EAST

LAKES PARCEL

LOCATED IN THE NW 1/4 OF SECTION 17, T.2N., R.1E., B.M., ADA COUNTY, IDAHO



LINE TABLE		
LINE #	LENGTH	DIRECTION
L1	33.00'	N0°19'01"E

LandSolutions
Land Surveying and Consulting
231 E. 5TH ST., STE. A
MERIDIAN, ID 83642
(208) 288-2040 (208) 288-2557 fax
www.landsolutions.biz

JOB NO. 16-93

Legal Description
Patagonia East - Lakes Parcel

A parcel being Lot 1 of Block 1 of Westfall Subdivision, as shown in Book 81 of Plats on Pages 8726 and 8727, records of Ada County, Idaho, and a portion of the NW ¼ of Section 17, Township 2 North, Range 1 East, Boise Meridian, Ada County, Idaho, and more particularly described as follows:

Commencing at an Aluminum Cap monument marking the northwest corner of said Section 17, from which a 5/8 inch diameter iron pin marking the northeast corner of the NW ¼ of said Section 17 bears S 89°47'24" E a distance of 2639.68 feet;

Thence S 89°47'24" E along the northerly boundary of said NW ¼ a distance of 200.00 feet to a point;

Thence leaving said boundary S 0°22'37" W a distance of 33.00 feet to the northwesterly corner of said Lot 1, the **POINT OF BEGINNING**;

Thence along the northerly boundary of said Lot 1 S 89°47'24" E a distance of 1119.87 feet (formerly S 89°46'41" E, 1119.82 feet) to the northeasterly corner of said Lot 1;

Thence leaving the boundary of said Lot 1 N 0°19'01" E a distance of 33.00 feet to the northwest corner of the E ½ of the NW ¼ of said Section 17;

Thence along the northerly boundary of said E ½ of the NW ¼ S 89°47'24" E a distance of 659.92 feet to point;

Thence leaving said northerly boundary S 0°17'23" W a distance of 664.17 feet to a point;

Thence S 89°41'33" E a distance of 660.23 feet to a point on the easterly boundary of said E ½ of the NW ¼;

Thence along said easterly boundary S 0°15'45" W a distance of 1850.88 feet to a point;

Thence leaving said easterly boundary N 89°23'50" W a distance of 1322.24 feet to a point on the westerly boundary of said E ½ of the NW ¼, also being the easterly boundary of said Westfall Subdivision;

Thence along said boundary N 0°19'01" E (formerly N 0°19'46" E) a distance of 1726.31 feet to the southeasterly corner of Lot 1 of Block 1 of said Westfall Subdivision;

Thence along the southerly and westerly boundary of said Lot 1 the following courses and distances:

> Thence N 89°35'57" W a distance of 1287.65 feet (formerly N 89°35'07" W, 1287.61 feet) to the southwesterly corner of said Lot 1;
>
> Thence N 0°22'37" E (formerly N 0°23'16" E) a distance of 428.51 feet to a point;
>
> Thence S 89°47'24" E (formerly S 89°46'41" E) a distance of 167.00 feet to a point;

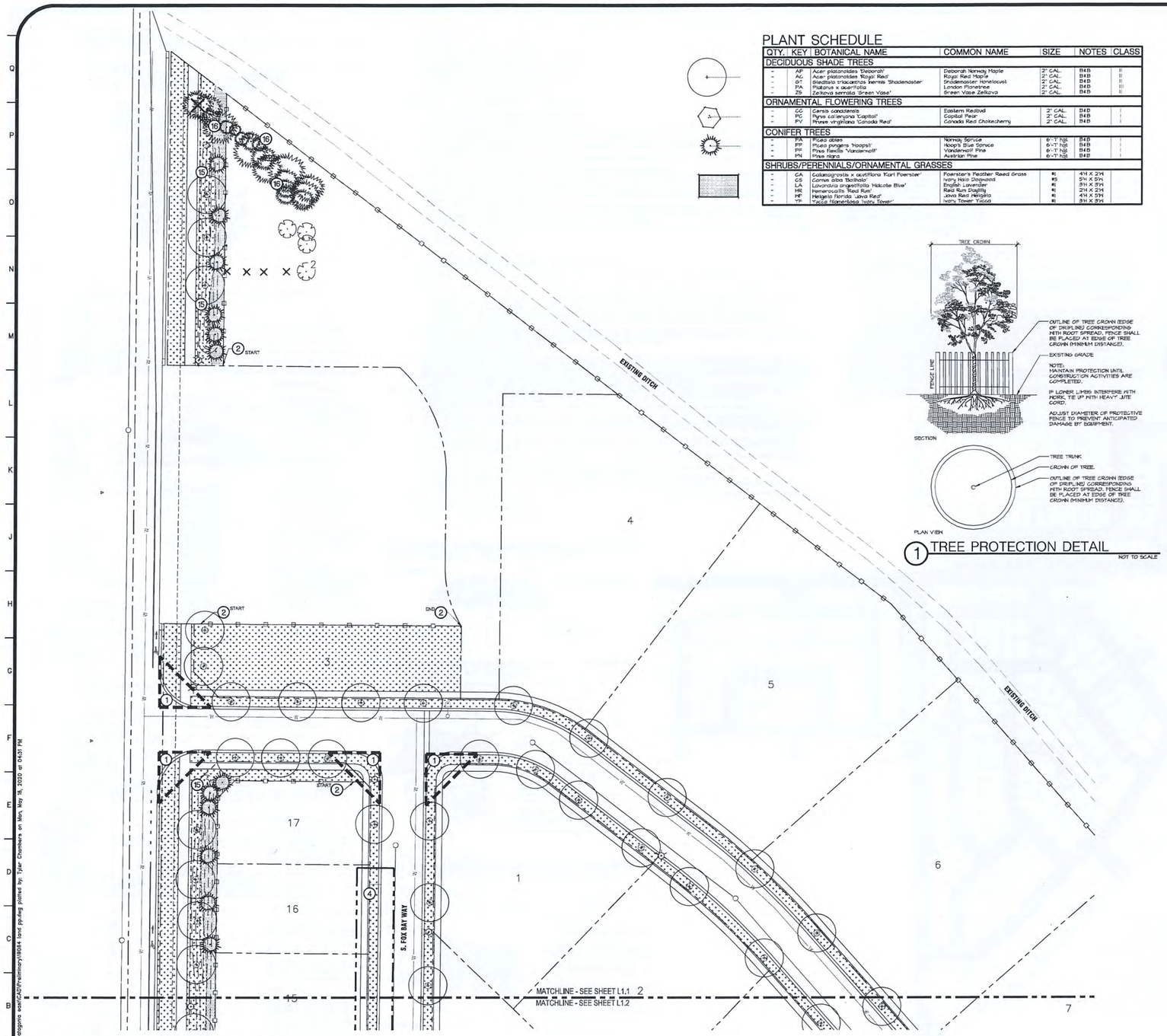
Thence along N 0°22'37" E (formerly N 0°23'25" E) a distance of 315.00 feet to the **POINT OF BEGINNING.**

This parcel contains 86.92 acres.

Clinton W. Hansen, PLS
Land Solutions, PC
Revised: June 9, 2020



ORIGINAL SURVEY ON FILE AT BAILEY ENGINEERING



LANDSCAPE PLAN - AREA ONE

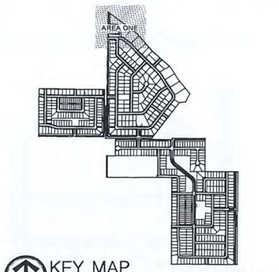
SCALE: 1"= 30'-0"

PLANT SCHEDULE

QTY.	KEY	BOTANICAL NAME	COMMON NAME	SIZE	NOTES	CLASS
DECIDUOUS SHADE TREES						
-	AP	Acer platanoides 'Deborah'	Deborah Norway Maple	2" CAL.	B&B	II
-	AC	Acer platanoides 'Royal Red'	Royal Red Maple	2" CAL.	B&B	II
-	GT	Gleditsia triacanthos inermis 'Shademaster'	Shademaster Honelocust	2" CAL.	B&B	II
-	PA	Platanus x acerifolia	London Planetree	2" CAL.	B&B	III
-	ZS	Zelkova serrata 'Green Vase'	Green Vase Zelkova	2" CAL.	B&B	II
ORNAMENTAL FLOWERING TREES						
-	CC	Cercis canadensis	Eastern Redbud	2" CAL.	B&B	I
-	PC	Pyrus calleryana 'Capitol'	Capitol Pear	2" CAL.	B&B	I
-	PV	Prunus virginiana 'Canada Red'	Canada Red Chokecherry	2" CAL.	B&B	I
CONIFER TREES						
-	PA	Picea abies	Norway Spruce	6'-7' hgt.	B&B	I
-	PP	Picea pungens 'Hoopsii'	Hoopsii Blue Spruce	6'-7' hgt.	B&B	I
-	PF	Pinus flexilis 'Vanderwolf'	Vanderwolf Pine	6'-7' hgt.	B&B	I
-	PN	Pinus nigra	Austrian Pine	6'-7' hgt.	B&B	I
SHRUBS/PERENNIALS/ORNAMENTAL GRASSES						
-	CA	Calamagrostis x acutiflora 'Karl Foerster'	Foerster's Feather Reed Grass	#1	4'H X 2'W	
-	CS	Cornus sibs 'Bailhalo'	Ivory Halo Dogwood	#5	5'H X 5'W	
-	LA	Lavandula angustifolia 'Hidcote Blue'	English Lavender	#1	3'H X 3'W	
-	HR	Hemerocallis 'Red Rum'	Red Rum Daylilly	#1	2'H X 2'W	
-	HF	Helgeia florida 'Java Red'	Java Red Helgeia	#1	4'H X 5'W	
-	YF	Yucca filamentosa 'Ivory Tower'	Ivory Tower Yucca	#1	3'H X 3'W	

1 TREE PROTECTION DETAIL

NOT TO SCALE



KEY MAP

1000 0 1000 2000 3000

SCALE: 1"= 1000'-0"

LANDSCAPE LEGEND

- PLANTS TO BE INSTALLED
- EXISTING PLANTS TO REMAIN
- EXISTING PLANTS TO BE REMOVED
- CUT EDGE AS DETAILED
- LANDSCAPE BERM
- 6' CLOSED PERIMETER FENCING
- 6' PARTIALLY OPEN FENCING
- 10' ACHD SEEPAGE BED EASEMENT
- VISION TRIANGLE
- PROPERTY LINE (VERIFY)
- BENCHES
- 'PICNIC' TABLE
- TURF SOD OVER APPROVED TOPSOIL
- MULCH OVER APPROVED TOPSOIL AS SPECIFIED OR APPROVED EQUAL TO MATCH PATAGONIA SUBDIVISION TO WEST.
- BOULDERS, 3'-4' DIAMETER TYPICAL, TO MATCH PATAGONIA SUBDIVISION TO WEST.

CALLOUT LEGEND

1. 40'-0" VISION TRIANGLE
2. 6'-0" CLOSED PERIMETER FENCING
3. 6'-0" PARTIALLY OPEN FENCING
4. SEEPAGE BED, SEE CIVIL PLANS
5. PROPOSED POOL AREA
6. PROPOSED TOT LOT
7. PROPOSED GAZEBO
8. PROPOSED SITTING AREA AT 'ROCKY ALCOVE'
9. PROPOSED SITTING AREA WITH BENCHES
10. PICNIC AREA (PICNIC TABLES)
11. PROPOSED TOT LOT (SWINGS ONLY)
12. POOL CHANGING AREA
13. PARKING LOT - TEN STALLS (ONE ADA STALL)
14. LARGE OPEN SPACE
15. BERM ALONG ARTERIAL ROAD
16. SAVE AND PROTECT EXISTING TREES

LANDSCAPE REQUIREMENTS

LANDSCAPE GENERAL

TOTAL TREES PROVIDED - 1145
TOTAL NUMBER OF TREE SPECIES PROVIDED - 12

DECIDUOUS SHADE TREES: 740, CONIFERS: 343, ORNAMENTAL TREES: 62

TOTAL NUMBER OF RESIDENTIAL LOTS: 562
TOTAL STREET TREES REQUIRED: 392 (ALL ARTERIAL ROADS)
*TOTAL STREET TREES PROVIDED: 384

COMMON AREA

TOTAL AREA OF SITE: 1,370,974.5 S.F. (173.80 AC)
QUALIFIED OPEN SPACE PROVIDED: 528,580 S.F. (12.13 AC)
*QUALIFIED OPEN SPACE PROVIDED FROM SCHOOL (100% OF PROPERTY): 426,838 S.F. (9.80 AC)
TOTAL QUALIFIED OPEN SPACE PROVIDED: 12.62% = 955,468 S.F. (21.93 AC)
TOTAL QUALIFIED OPEN SPACE REQUIRED: 12.5% (551+ LOTS).

1 DECIDUOUS SHADE TREE PER 800 S.F. OF OPEN SPACE REQUIRED (APPLIES TO OPEN SPACE WITHIN THE DEVELOPMENT EXCLUDING THE SCHOOL): 661
OPEN SPACE TREES PROVIDED: 586 (DECIDUOUS), 103 (CONIFEROUS), 62 ORNAMENTAL.

*NOTE: SCHOOL AREA AS OPEN SPACE HAS BEEN KUNA-APPROVED.

STREET BUFFER REQUIREMENTS

BUFFER REQUIREMENTS:
2 DECIDUOUS SHADE TREES, 3 EVERGREEN TREES, 12 SHRUBS PER 100 LINEAR FEET.

BUFFERED STREETS:
E. HUBBARD ROAD: 20 L.F. MIN. BUFFER WIDTH, 2,907 LINEAR FEET.
TREES REQUIRED: 58 DECIDUOUS, 87 EVERGREEN
TREES PROVIDED: 60 DECIDUOUS, 87 EVERGREEN

SHRUBS REQUIRED, 348
SHRUBS PROVIDED, 348

S. LOCUST GROVE ROAD: 20 L.F. MIN. BUFFER WIDTH, 3,019 LINEAR FEET.
TREES REQUIRED: 60 DECIDUOUS, 91 EVERGREEN
TREES PROVIDED: 60 DECIDUOUS, 91 EVERGREEN

SHRUBS REQUIRED, 362
SHRUBS PROVIDED: 362

N. EAGLE ROAD: 20 L.F. MIN. BUFFER WIDTH, 1,720 LINEAR FEET.
TREES REQUIRED: 34 DECIDUOUS, 52 EVERGREEN
TREES PROVIDED: 34 DECIDUOUS, 52 EVERGREEN

SHRUBS REQUIRED, 206
SHRUBS PROVIDED, 206

*LINEAR FEET OF BUFFER DOES NOT INCLUDE VISION TRIANGLES.

*LOCAL STREETS DO NOT HAVE TREE REQUIREMENTS AND ARE NOT INCLUDED.

PRELIMINARY NOT FOR CONSTRUCTION

landdesign
BRECKON

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PATAGONIA EAST, RIDGE, LAKES SUBDIVISION
1670 E. HUBBARD ROAD
KUNA, IDAHO 83634
LANDSCAPE PLAN - AREA ONE

PRELIMINARY PLAT

REVISIONS

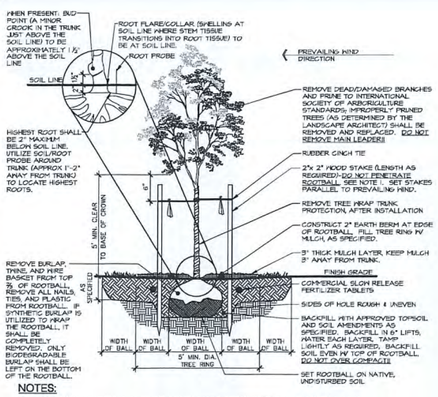
No.	Date	Description
1	01/13/2020	PLAT REVISIONS

PROJECT NO.: 19084
DRAWN BY: TC
CHECKED BY: JB
DATE: 12/20/2019

SHEET NUMBER: L1.1

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IDAHO, REGISTERED NUMBER 17885

S:\PROJECTS\19084\plotplans sheets\CAD\Preliminary\19084 land pp.dwg plotted by: Tyler Chambers on Mon, May 18, 2020 at 04:31 PM

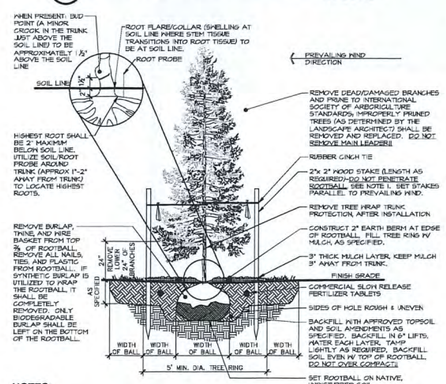


NOTES:

1. THE STAKING OF TREES IS TO BE THE CONTRACTOR'S OPTION; HOWEVER, THE CONTRACTOR IS RESPONSIBLE TO INSURE THAT ALL TREES ARE PLANTED STRAIGHT AND THAT THEY REMAIN STRAIGHT FOR LENGTH OF WARRANTY PERIOD OR 1 YEAR AFTER SUBSTANTIAL COMPLETION WHICHEVER IS GREATER. ALL STAKING SHALL BE REMOVED AT THE END OF THE WARRANTY PERIOD.
2. IN THE EVENT OF A QUESTION OR LACK OF CLARITY ON THE DRAWINGS, THE CONTRACTOR IS TO NOTIFY THE LANDSCAPE ARCHITECT BEFORE PROCEEDING.
3. LANDSCAPE CONTRACTOR IS TO NOTIFY THE LANDSCAPE ARCHITECT AND OWNER PRIOR TO INSTALLATION OF PLANT MATERIAL.
4. WRAP RUBBER CINCH TIES AROUND THE TREE TRUNKS AND STAKES USING EITHER THE STANDARD OR FIGURE EIGHT TYING METHOD. SECURE THE TIES TO THE STAKES WITH GALVANIZED NAILS TO PREVENT SLIPPAGE.
5. WATER TREE THOROUGHLY WITHIN THE FIRST 24 HOURS.
6. IN THE EVENT HARDPAN SOILS PREVENT TREE PLANTING AS DETAILED, NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY.

1 DECIDUOUS TREE PLANTING

NOT TO SCALE

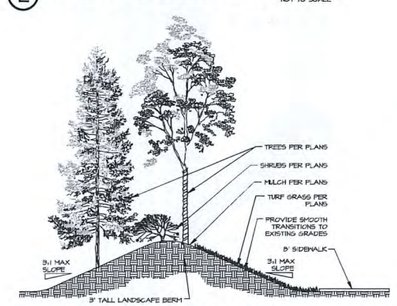


NOTES:

1. THE STAKING OF TREES IS TO BE THE CONTRACTOR'S OPTION; HOWEVER, THE CONTRACTOR IS RESPONSIBLE TO INSURE THAT ALL TREES ARE PLANTED STRAIGHT AND THAT THEY REMAIN STRAIGHT FOR LENGTH OF WARRANTY PERIOD OR 1 YEAR AFTER SUBSTANTIAL COMPLETION WHICH EVER IS GREATER. ALL STAKING SHALL BE REMOVED AT THE END OF THE WARRANTY PERIOD.
2. IN THE EVENT OF A QUESTION OR LACK OF CLARITY ON THE DRAWINGS, THE CONTRACTOR IS TO NOTIFY THE LANDSCAPE ARCHITECT BEFORE PROCEEDING.
3. LANDSCAPE CONTRACTOR IS TO NOTIFY THE LANDSCAPE ARCHITECT AND OWNER PRIOR TO INSTALLATION OF PLANT MATERIAL.
4. WRAP RUBBER CINCH TIES AROUND THE TREE TRUNKS AND STAKES USING EITHER THE STANDARD OR FIGURE EIGHT TYING METHOD. SECURE THE TIES TO THE STAKES WITH GALVANIZED NAILS TO PREVENT SLIPPAGE.
5. WATER TREE THOROUGHLY WITHIN THE FIRST 24 HOURS.
6. IN THE EVENT HARDPAN SOILS PREVENT TREE PLANTING AS DETAILED, NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY.

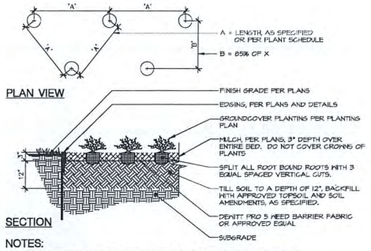
2 CONIFEROUS TREE PLANTING

NOT TO SCALE



3 BUFFER AREA WITH BERM SECTION A

Scale: NTS

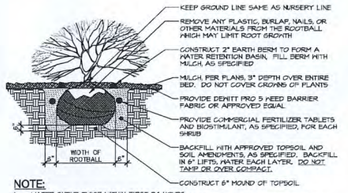


NOTES:

1. ALL GROUNDCOVER PLANTS TO BE PLANTED ON CENTER AND IN A TRIANGULAR PATTERN.
2. APPLY SPECIFIED PRE-EMERGENT PER MANUFACTURER'S RECOMMENDATIONS TO ALL GROUNDCOVER BEDS.

4 PERENNIAL & GROUNDCOVER PLANTING

NOT TO SCALE

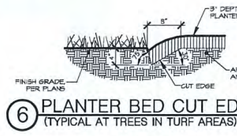


NOTE:

1. WATER SHRUB THOROUGHLY WITHIN FIRST 24 HOURS.
2. APPLY SPECIFIED PRE-EMERGENT PER MANUFACTURER'S RECOMMENDATIONS TO ALL GROUNDCOVER BEDS.

5 SHRUB PLANTING

NOT TO SCALE



6 PLANTER BED CUT EDGE (TYPICAL AT TREES IN TURF AREAS)

NOT TO SCALE

LANDSCAPE NOTES:

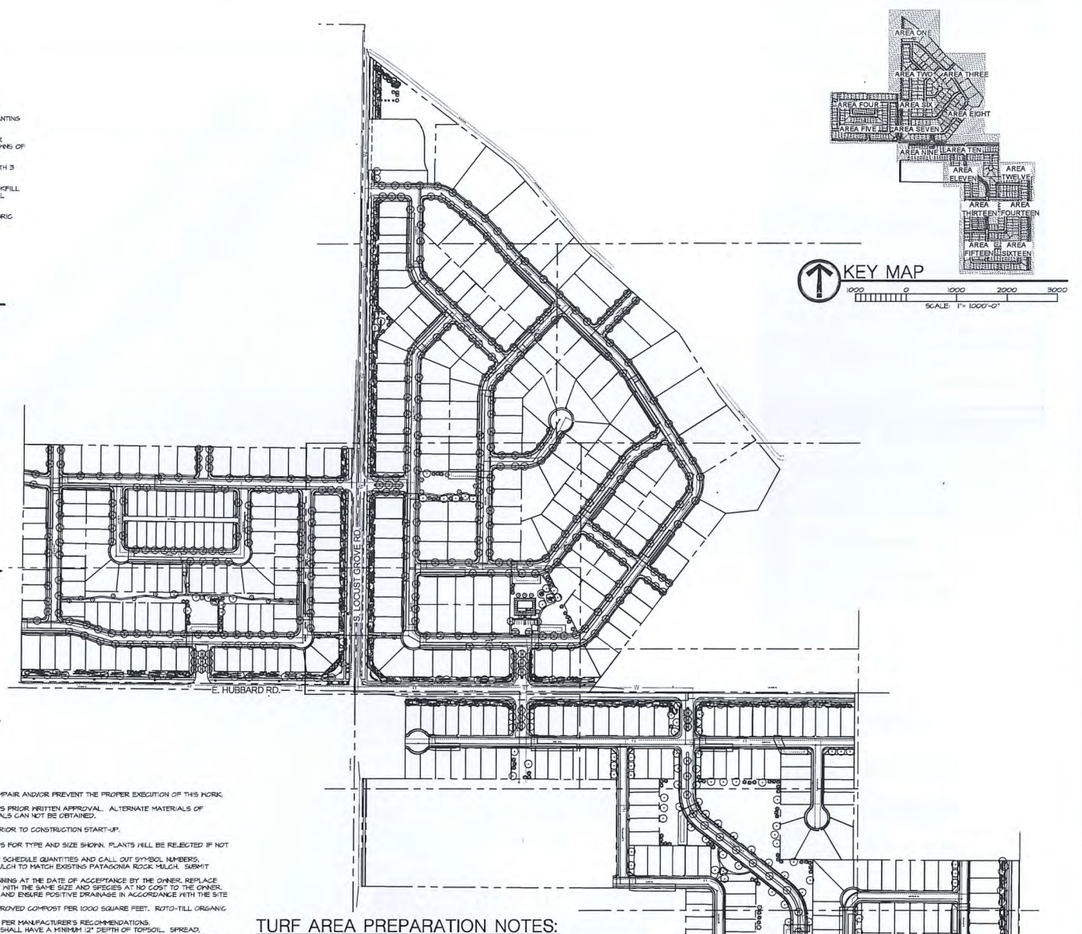
1. CONTRACTOR SHALL REPORT TO LANDSCAPE ARCHITECT ALL CONDITIONS WHICH IMPAIR AND/OR PREVENT THE PROPER EXECUTION OF THIS WORK, PRIOR TO BEGINNING WORK.
2. NO MATERIAL SUBSTITUTIONS SHALL BE MADE WITHOUT THE LANDSCAPE ARCHITECT'S PRIOR WRITTEN APPROVAL. ALTERNATE MATERIALS OF SIMILAR SIZE AND CHARACTER MAY BE CONSIDERED IF SPECIFIED PLANT MATERIALS CAN NOT BE OBTAINED.
3. COORDINATE ALL WORK WITH ALL OTHER SITE RELATED DEVELOPMENT DRAWINGS.
4. COORDINATE WORK SCHEDULE AND OBSERVATIONS WITH LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION START-UP.
5. ALL PLANT MATERIAL SHALL BE INSTALLED AS PER DETAILS.
6. ALL PLANT MATERIAL SHALL CONFORM TO THE AMERICAN NURSERYMAN STANDARDS FOR TYPE AND SIZE SHOWN. PLANTS WILL BE REJECTED IF NOT IN A SOUND AND HEALTHY CONDITION.
7. IN THE EVENT OF A PLANT COUNT DISCREPANCY, PLANT SYMBOLS SHALL OVERRIDE SCHEDULE QUANTITIES AND CALL OUT SYMBOL NUMBERS.
8. ALL PLANTING BEDS SHALL BE COVERED WITH A MINIMUM OF 3" DEPTH OF ROCK MULCH TO MATCH EXISTING PATAGONIA ROCK MULCH. SUBMIT SAMPLE FOR APPROVAL.
9. ALL PLANT MATERIAL SHALL BE GUARANTEED FOR A PERIOD OF ONE YEARS BEGINNING AT THE DATE OF ACCEPTANCE BY THE OWNER. REPLACE AND REINSTALL PLANT MATERIAL FOUND DEAD OR NOT IN A HEALTHY CONDITION IMMEDIATELY WITH THE SAME SIZE AND SPECIES AT NO COST TO THE OWNER.
10. FINISH GRADES SHALL PROVIDE A SMOOTH TRANSITION WITH ADJACENT SURFACES AND ENSURE POSITIVE DRAINAGE IN ACCORDANCE WITH THE SITE GRADING PLAN.
11. AMEND EXISTING APPROVED TOPSOIL AT A RATIO OF THREE CUBIC YARDS OF APPROVED COMPOST PER 1000 SQUARE FEET. ROTO-TILL ORGANIC MATTER A MINIMUM OF 6" INTO EXISTING TOPSOIL.
12. FERTILIZE ALL TREES AND SHRUBS WITH AGRIFORM PLANTING TABLETS. QUANTITY PER MANUFACTURER'S RECOMMENDATIONS.
13. ALL PLANTING BEDS SHALL HAVE A MINIMUM 18" DEPTH OF TOPSOIL. LAWN AREAS SHALL HAVE A MINIMUM 12" DEPTH OF TOPSOIL. SPREAD, COMPACT, AND FINE GRADE TOPSOIL TO A SMOOTH AND UNIFORM GRADE 3" BELOW ADJACENT SURFACES OF PLANTER BED AREAS, 1-1/2" BELOW ADJACENT SURFACES OF TURF SEED AREAS, AND 1" BELOW ADJACENT SURFACES OF SOD AREAS.
14. REUSE EXISTING TOPSOIL STOCKPILED ON THE SITE. SUPPLEMENT WITH IMPORTED TOPSOIL WHEN QUANTITIES ARE INSUFFICIENT. VERIFY SUITABILITY AND CONDITION OF TOPSOIL AS A GROWING MEDIUM. PERFORM SOIL TEST ANALYSIS AND PROVIDE ADDITIONAL AMENDMENT AS DETERMINED BY SOIL TESTS. TOPSOIL SHALL BE A LOOSE, FRIABLE, SANDY LOAM, CLEAN AND FREE OF TOXIC MATERIALS, NOXIOUS WEEDS, WEED SEEDS, ROCKS, GRASS OR OTHER FOREIGN MATERIALS, AND A HAVE A PH OF 5.5 TO 7.0. IF ONSITE TOPSOIL DOES NOT MEET THESE MINIMUM STANDARDS, CONTRACTOR IS RESPONSIBLE TO EITHER:
    A) PROVIDE APPROVED IMPORTED TOPSOIL, OR
    B) IMPROVE ON-SITE TOPSOIL WITH METHODS APPROVED BY THE LANDSCAPE ARCHITECT.
15. IF IMPORTED TOPSOIL FROM OFF-SITE SOURCES IS REQUIRED, ENSURE IT IS FRIABLE, NATURAL LOAM, SURFACE SOIL REASONABLY FREE OF SUBSOIL, CLAY LUMPS, BRUSH, WEEDS AND OTHER LITTER, AND FREE OF ROOTS, STUMPS, STONES LARGER THAN 2 INCHES IN ANY DIMENSION, AND OTHER EXTRANEOUS OR TOXIC MATTER HARMFUL TO PLANT GROWTH.
    A) OBTAIN TOPSOIL FROM LOCAL SOURCES OR FROM AREAS HAVING SIMILAR SOIL CHARACTERISTICS TO THOSE FOUND ON THE PROJECT SITE. OBTAIN TOPSOIL ONLY FROM NATURALLY WELL DRAINED SITES WHERE TOPSOIL OCCURS AT A DEPTH OF NOT LESS THAN 4 INCHES.
    B) REPRESENTATIVE SAMPLES SHALL BE TESTED FOR ACIDITY, FERTILITY, TOXICITY, AND GENERAL TEXTURE BY A RECOGNIZED COMMERCIAL OR GOVERNMENT AGENCY AND COPIES OF THE TESTING AGENCY'S FINDINGS AND RECOMMENDATIONS SHALL BE FURNISHED TO THE OWNER'S REPRESENTATIVE BY THE CONTRACTOR. NO TOPSOIL SHALL BE DELIVERED IN A FROZEN OR MUDDY CONDITION. ACIDITY/ALKALINITY RANGE - PH 5.5 TO 7.8.
16. IMMEDIATELY CLEAN UP ANY TOPSOIL OR OTHER DEBRIS ON THE SITE CREATED FROM LANDSCAPE OPERATIONS AND DISPOSE OF PROPERLY OFF SITE.
17. TREES SHALL NOT BE PLANTED WITHIN THE 10'-0" CLEAR ZONE OF ALL AC/HD, STORM DRAIN PIPE, STRUCTURES, OR FACILITIES. TREES SHALL NOT BE PLANTED WITHIN 5'-0" OF AN AC/HD, SIDEWALK.
18. SEEPAGE BEDS AND OTHER STORM DRAINAGE FACILITIES MUST BE PROTECTED FROM ANY AND ALL CONTAMINATION DURING THE CONSTRUCTION AND INSTALLATION OF THE LANDSCAPE IRRIGATION SYSTEMS.
19. IN THE EVENT OF A DISCREPANCY, NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY.

TOPSOIL NOTES

1. TOPSOIL REQUIREMENTS: ASTM D 5268, PH RANGE OF 5.5 TO 7, FOUR PERCENT ORGANIC MATERIAL MINIMUM, FREE OF STONES 1/2 INCH OR LARGER IN ANY DIMENSION AND OTHER EXTRANEOUS MATERIALS HARMFUL TO PLANT GROWTH.
2. TOPSOIL SOURCE: STRIP EXISTING TOPSOIL FROM ALL AREAS OF THE SITE TO BE DISTURBED. TOPSOIL SHALL BE FERTILE, FRIABLE, NATURAL LOAM SURFACE SOILS, REASONABLY FREE OF SUBSOIL, CLAY LUMPS, BRUSH, WEEDS AND OTHER LITTER, AND FREE OF ROOTS, STUMPS, ORGANIC MATTER, AND STONES LARGER THAN 2 INCHES IN ANY DIMENSION AND OTHER EXTRANEOUS OR TOXIC MATTER HARMFUL TO PLANT GROWTH. TOPSOIL SHALL BE SCREENED TO ACHIEVE THIS REQUIREMENT.
3. TOPSOIL ANALYSIS: SAMPLES SHALL BE TESTED FOR ACIDITY, FERTILITY, AND GENERAL TEXTURE BY RECOGNIZED COMMERCIAL OR GOVERNMENT AGENCY AND COPIES OF THE TESTING AGENCY'S FINDINGS AND RECOMMENDATIONS SHALL BE FURNISHED TO THE ARCHITECT'S REPRESENTATIVE BY THE CONTRACTOR. NO TOPSOIL SHALL BE DELIVERED IN A FROZEN OR MUDDY CONDITION. RE-TEST TOPSOIL PRIOR TO FINAL COMPLETION TO ENSURE REQUIREMENTS HAVE BEEN MET. NO TOPSOIL SHALL BE PLACED WHILE IN A FROZEN OR MUDDY CONDITION.
4. PLACE TOPSOIL IN AREAS WHERE REQUIRED TO OBTAIN THICKNESS AS SCHEDULED. PLACE TOPSOIL DURING DRY WEATHER. PROVIDE ADDITIONAL IMPORTED TOPSOIL NECESSARY TO BRING SURFACE TO PROPOSED FINISH GRADE, AS REQUIRED.
5. COMPACTED TOPSOIL THICKNESS AT THE FOLLOWING AREAS:
    A. LAWN AREAS: 12 INCHES MINIMUM OR AS NECESSARY TO ACHIEVE EVEN GRADES WITH SURROUNDING LAWN AREAS.
    B. PLANTER BEDS: 18 INCHES MINIMUM
6. FINE GRADE TOPSOIL TO A SMOOTH, UNIFORM SURFACE WITH LOOSE, UNIFORMLY FINE TEXTURE. REMOVE RIDGES AND FILL DEPRESSIONS, AS REQUIRED TO MEET FINISH GRADES. FINISH GRADE OF TOPSOIL SHALL BE 2" BELOW FINISH GRADE OF PAVEMENTS AREAS FOR SOD AND 1" FOR SEED.
7. TOPSOIL STOCKPILE LOCATIONS TO BE COVERED COORDINATE WITH EROSION AND SEDIMENT CONTROL PLAN.
8. ALL GRAVEL, SUBBASE AND OTHER IMPORTED FILL MATERIALS OTHER THAN TOPSOIL SHALL ONLY BE STOCKPILED IN PREVIOUSLY DISTURBED AREAS WITH NO GRAVEL OR DECOMPOSABLE MATERIALS. NO TOPSOIL SHALL BE STOCKPILED OR PLACED IN PROPOSED LANDSCAPE AREAS TO PREVENT LANDSCAPE AREAS FROM BEING CONTAMINATED WITH ROCK MATERIALS. CONTRACTOR SHALL SUBMIT A DETAILED STOCKPILE PLAN TO LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO ANY EARTHWORK OPERATIONS.

WEED ABATEMENT NOTES:

1. ALL AREAS TO BE PLANTED OR HYDROSEEDED SHALL HAVE WEED ABATEMENT OPERATIONS PERFORMED ON THEM PRIOR TO PLANTING OR HYDROSEEDING.
2. CONTRACTOR SHALL SPRAY ALL EXPOSED WEEDS WITH GROUND-UP® (CONTACT HERBICIDE) OR APPROVED EQUAL.
3. DO NOT WATER FOR AT LEAST SEVEN (7) DAYS. REMOVE EXPOSED WEEDS FROM THE SITE.
4. CONTRACTOR SHALL OPERATE THE AUTOMATIC IRRIGATION SYSTEM FOR A PERIOD OF FOURTEEN (14) DAYS. AT CONCLUSION OF THIS WATERING PERIOD, DISCONTINUE WATERING FOR THREE TO FIVE (3-5) DAYS.
5. APPLY SECOND APPLICATION OF GROUND-UP® TO ALL EXPOSED WEEDS. APPLY IN STRICT CONFORMANCE WITH MANUFACTURER'S SPECIFICATIONS AND INSTRUCTIONS. DO NOT WATER FOR AT LEAST SEVEN (7) DAYS. REMOVE WEEDS FROM THE SITE.
6. IF ANY EVIDENCE OF WEED GERMINATION EXISTS AFTER TWO (2) APPLICATIONS, CONTRACTOR SHALL BE DIRECTED TO PERFORM A THIRD APPLICATION.
7. AT THE TIME OF PLANTING AND HYDROSEEDING, ALL PLANTING AREAS SHALL BE WEED CAPS.



KEY MAP

1000 0 1000 2000 3000

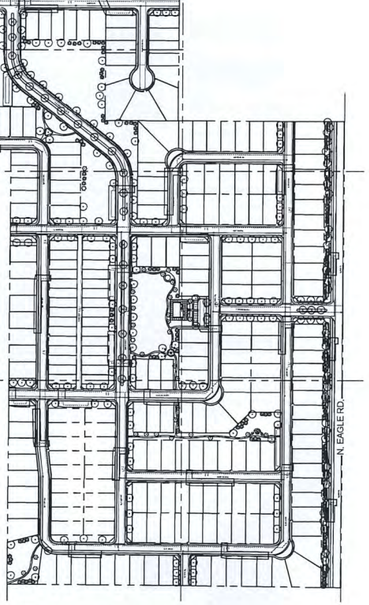
SCALE: 1" = 1000'-0"

TURF AREA PREPARATION NOTES:

1. LIMIT TURF SUBGRADE PREPARATION TO AREAS TO BE PLANTED.
2. NEWLY GRADED SUBGRADES: LOOSEN SUBGRADE TO A MINIMUM DEPTH OF 4 INCHES. REMOVE STONES LARGER THAN 1 INCH IN ANY DIMENSION AND STICKS, ROOTS, RUBBISH, AND OTHER EXTRANEOUS MATTER AND LEGALLY DISPOSE OF THEM OFF OWNERS PROPERTY.
3. SPREAD PLANTING SOIL OVER LOOSENED SUBGRADE.
4. REDUCE ELEVATION OF PLANTING SOIL TO ALLOW FOR SOIL THICKNESS OF SOD.
5. UNCHANGED SUBGRADES: IF TURF IS TO BE PLANTED IN AREAS UNALTERED OR UNDISTURBED BY EXCAVATING, GRADING, OR SURFACE-SOIL STRIPPING OPERATIONS, PREPARE SURFACE SOIL AS FOLLOWS:
    A. REMOVE EXISTING GRASS, VEGETATION, AND TURF. DO NOT MIX INTO SURFACE SOIL.
    B. LOOSEN SURFACE SOIL TO A DEPTH OF AT LEAST 6 INCHES. APPLY SOIL AMENDMENTS AND FERTILIZERS ACCORDING TO PLANTING SOIL MIX PROPORTIONS AND MIX THOROUGHLY INTO TOP 6 INCHES OF SOIL. TILL SOIL TO A HOMOGENEOUS MIXTURE OF FINE TEXTURE.
6. APPLY SOIL AMENDMENTS DIRECTLY TO SURFACE SOIL BEFORE LOOSENING.
    A. REMOVE STONES LARGER THAN 1 INCH IN ANY DIMENSION AND STICKS, ROOTS, TRASH, AND OTHER EXTRANEOUS MATTER.
    B. LEGALLY DISPOSE OF WASTE MATERIAL, INCLUDING GRASS, VEGETATION, AND TURF, OFF OWNER'S PROPERTY.
7. FINISH GRADING: GRADE PLANTING AREAS TO A SMOOTH, UNIFORM SURFACE PLANE WITH LOOSE, UNIFORMLY FINE TEXTURE. GRADE TO WITHIN PLUS OR MINUS 1/2 INCH OF FINISH ELEVATION. ROLL AND RAKE, REMOVE RIDGES, AND FILL DEPRESSIONS TO MEET FINISH GRADES. LIMIT FINISH GRADING TO AREAS THAT CAN BE PLANTED IN THE IMMEDIATE FUTURE.
8. MOISTEN PREPARED AREA BEFORE PLANTING IF SOIL IS DRY. WATER THOROUGHLY AND ALLOW SURFACE TO DRY BEFORE PLANTING. DO NOT CREATE MUDDY SOIL.
9. BEFORE PLANTING, OBTAIN LANDSCAPE ARCHITECT'S ACCEPTANCE OF FINISH GRADING; RESTORE PLANTING AREAS IF ERODED OR OTHERWISE DISTURBED AFTER FINISH GRADING.

LANDSCAPE AREA PREPARATION NOTES:

1. LIMIT TURF SUBGRADE PREPARATION TO AREAS TO BE PLANTED.
2. NEWLY GRADED SUBGRADES: LOOSEN SUBGRADE TO A MINIMUM DEPTH OF 4 INCHES. REMOVE STONES LARGER THAN 1 INCH IN ANY DIMENSION AND STICKS, ROOTS, RUBBISH, AND OTHER EXTRANEOUS MATTER AND LEGALLY DISPOSE OF THEM OFF OWNER'S PROPERTY.
    A. SPREAD PLANTING SOIL TO A DEPTH OF 12 INCHES IN TURF AREAS AND 18 INCHES AT SHRUB BED AREAS BUT NOT LESS THAN REQUIRED TO MEET FINISH GRADES AFTER LIGHT ROLLING AND NATURAL SETTLEMENT. DO NOT SPREAD IF PLANTING SOIL OR SUBGRADE IS FROZEN, MUDDY, OR EXCESSIVELY WET.
    B. SPREAD PLANTING SOIL OVER LOOSENED SUBGRADE.
    C. REDUCE ELEVATION OF PLANTING SOIL TO ALLOW FOR SOIL THICKNESS OF SOD OR SEED.
3. UNCHANGED SUBGRADES: IF TURF IS TO BE PLANTED IN AREAS UNALTERED OR UNDISTURBED BY EXCAVATING, GRADING, OR SURFACE-SOIL STRIPPING OPERATIONS, PREPARE SURFACE SOIL AS FOLLOWS:
    A. REMOVE EXISTING GRASS, VEGETATION, AND TURF. DO NOT MIX INTO SOIL.
    B. LOOSEN SURFACE SOIL TO A DEPTH OF AT LEAST 6 INCHES. PROVIDE NEED ABATEMENT PROCEDURE. APPLY SOIL AMENDMENTS AND FERTILIZERS ACCORDING TO PLANTING SOIL MIX PROPORTIONS AND MIX THOROUGHLY INTO TOP 6 INCHES OF SOIL. TILL SOIL TO A HOMOGENEOUS MIXTURE OF FINE TEXTURE.
    C. APPLY SOIL AMENDMENTS DIRECTLY TO SURFACE SOIL BEFORE LOOSENING.
    D. REMOVE STONES LARGER THAN 1 INCH IN ANY DIMENSION AND STICKS, ROOTS, TRASH, AND OTHER EXTRANEOUS MATTER.
    E. LEGALLY DISPOSE OF WASTE MATERIAL, INCLUDING GRASS, VEGETATION, AND TURF, OFF OWNER'S PROPERTY.
4. FINISH GRADING: GRADE PLANTING AREAS TO A SMOOTH, UNIFORM SURFACE PLANE WITH LOOSE, UNIFORMLY FINE TEXTURE. GRADE TO WITHIN PLUS OR MINUS 1/2 INCH OF FINISH ELEVATION. ROLL AND RAKE, REMOVE RIDGES, AND FILL DEPRESSIONS TO MEET FINISH GRADES. LIMIT FINISH GRADING TO AREAS THAT CAN BE PLANTED IN THE IMMEDIATE FUTURE.
5. MOISTEN PREPARED AREA BEFORE PLANTING IF SOIL IS DRY. WATER THOROUGHLY AND ALLOW SURFACE TO DRY BEFORE PLANTING. DO NOT CREATE MUDDY SOIL.
6. BEFORE PLANTING, OBTAIN LANDSCAPE ARCHITECT'S ACCEPTANCE OF FINISH GRADING; RESTORE PLANTING AREAS IF ERODED OR OTHERWISE DISTURBED AFTER FINISH GRADING.
7. DO NOT SOW IMMEDIATELY FOLLOWING RAIN, OR WHEN GROUND IS TOO DRY. TEMPERATURE SHALL BE BETWEEN 55 F AND 85 F FOR A 24 HOUR PERIOD. WIND SHALL BE LESS THAN 5 MPH.



OVERALL LANDSCAPE PLAN

200 0 200 400 600

SCALE: 1" = 200'-0"

PRELIMINARY NOT FOR CONSTRUCTION

ubiappuel BRECKON
Civil Engineering
Landscape Architecture
Land Development Consulting
Water Conservation
Irrigation
Planning
1419 Tyrell Lane, Boise, Idaho 83706
Ph: (208) 345-4674 FAX: (208) 345-8729
8827 North Government Way, Suite 120
Hayden, Idaho 83835
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PATAGONIA EAST, RIDGE, LAKES SUBDIVISION
1670 E. HUBBARD ROAD
KUNA, IDAHO 83634
OVERALL LANDSCAPE PLAN

PRELIMINARY PLAT

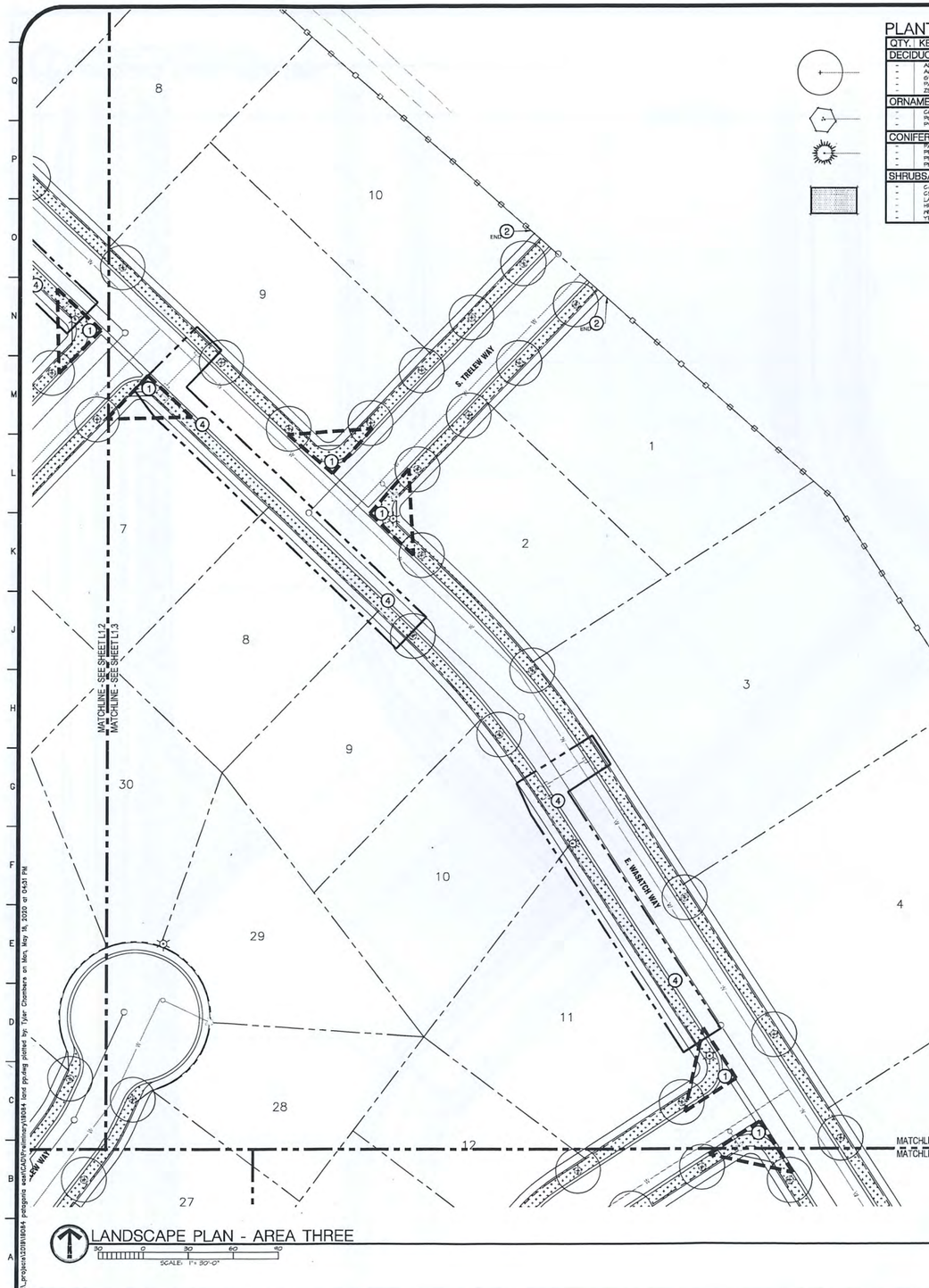
Know what's below. Call before you dig. Idaho One Call 811 or 1-800-342-1585 811 IDAHO LAW REQUIRES YOU TO NOTIFY ALL UNDERGROUND FACILITY OWNERS BEFORE YOU DIG, DRILL OR BLAST

REVISIONS		
No.	Date	Description
1	01/03/20	PLAT REVIEW

PROJECT NO.: 19084
DRAWN BY: TC
CHECKED BY: JB
DATE: 12/20/2019
SHEET NUMBER: L1.0

G:\projects\2019\19084 patagonia east\CAD\Preliminary\19084 land dp.dwg plotted by: Tyler Chambers on May 14, 2020 at 04:39 PM

ORIGINAL SURVEY ON FILE AT BAILEY ENGINEERING



LANDSCAPE PLAN - AREA THREE

SCALE: 1" = 30'-0"

PLANT SCHEDULE

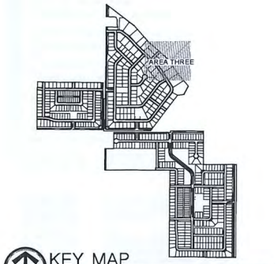
QTY.	KEY	BOTANICAL NAME	COMMON NAME	SIZE	NOTES	CLASS
DECIDUOUS SHADE TREES						
-	AP	Acer platanoides 'Deborah'	Deborah Norway Maple	2" CAL.	B&B	II
-	AC	Acer platanoides 'Royal Red'	Royal Red Maple	2" CAL.	B&B	II
-	GT	Gleditsia triacanthos inermis 'Shademaster'	Shademaster Honeylocust	2" CAL.	B&B	III
-	PA	Platanus x acerifolia	London Planetree	2" CAL.	B&B	III
-	ZS	Zelkova serrata 'Green Vase'	Green Vase Zelkova	2" CAL.	B&B	II
ORNAMENTAL FLOWERING TREES						
-	CC	Cercis canadensis	Eastern Redbud	2" CAL.	B&B	I
-	PC	Pyrus calleryana 'Capital'	Capital Pear	2" CAL.	B&B	I
-	PV	Prunus virginiana 'Canada Red'	Canada Red Chokecherry	2" CAL.	B&B	I
CONIFER TREES						
-	PA	Picea abies	Norway Spruce	6'-7' hgt.	B&B	I
-	PP	Picea pungens 'Hoopsii'	Hoop's Blue Spruce	6'-7' hgt.	B&B	I
-	PF	Pinus flexilis 'Vanderwolf'	Vanderwolf Pine	6'-7' hgt.	B&B	I
-	PN	Pinus nigra	Austrian Pine	6'-7' hgt.	B&B	I
SHRUBS/PERENNIALS/ORNAMENTAL GRASSES						
-	CA	Calamagrostis x acutiflora 'Karl Foerster'	Foerster's Feather Reed Grass	#1	4'H X 2'W	
-	CS	Cornus alba 'Bailhalo'	Ivory Halo Dogwood	#5	5'H X 5'W	
-	LA	Lavandula angustifolia 'Hidcote Blue'	English Lavender	#1	3'H X 3'W	
-	HR	Hemerocallis 'Red Rum'	Red Rum Daylily	#1	2'H X 2'W	
-	PF	Pennisetum florida 'Java Red'	Java Red Pennisetum	#1	4'H X 3'W	
-	YT	Yucca filamentosa 'Ivory Tower'	Ivory Tower Yucca	#1	3'H X 3'W	

LANDSCAPE LEGEND

- PLANTS TO BE INSTALLED
- EXISTING PLANTS TO REMAIN
- EXISTING PLANTS TO BE REMOVED
- CUT EDGE AS DETAILED
- LANDSCAPE BERM
- 6' CLOSED PERIMETER FENCING
- 6' PARTIALLY OPEN FENCING
- 10' ACHD SEEPAGE BED EASEMENT
- VISION TRIANGLE
- PROPERTY LINE (VERIFY)
- BENCHES
- PICNIC TABLE
- TURF SOD OVER APPROVED TOPSOIL
- MULCH OVER APPROVED TOPSOIL, AS SPECIFIED OR APPROVED EQUAL, TO MATCH PATAGONIA SUBDIVISION TO WEST.
- BOULDERS, 3'-4' DIAMETER TYPICAL, TO MATCH PATAGONIA SUBDIVISION TO WEST.

CALLOUT LEGEND

1. 40'-0" VISION TRIANGLE
2. 6'-0" CLOSED PERIMETER FENCING
3. 6'-0" PARTIALLY OPEN FENCING
4. SEEPAGE BED, SEE CIVIL PLANS
5. PROPOSED POOL AREA
6. PROPOSED TOT LOT
7. PROPOSED GAZEBO
8. PROPOSED SITTING AREA AT 'ROCKY ALCOVE'
9. PROPOSED SITTING AREA WITH BENCHES
10. PICNIC AREA (PICNIC TABLES)
11. PROPOSED TOT LOT (SWINGS ONLY)
12. POOL CHANGING AREA
13. PARKING LOT - TEN STALLS (ONE ADA STALL)
14. LARGE OPEN SPACE
15. BERM ALONG ARTERIAL ROAD
16. SAVE AND PROTECT EXISTING TREES



KEY MAP

SCALE: 1" = 1000'-0"

PRELIMINARY NOT FOR CONSTRUCTION

landdesign
BRECKON
Boise, Idaho 83702
Phone: 208-簡-7772
Fax: 208-簡-7775
Contact: Clay Barker

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PATAGONIA EAST, RIDGE, LAKES SUBDIVISION
1670 E. HUBBARD ROAD
KUNA, IDAHO 83634
LANDSCAPE PLAN - AREA THREE

Preparer Name
Preparer Address
Preparer Phone
I DO A WARRANTY AS TO THE ACCURACY OF THE SURVEY FOUND ON THIS SHEET AND ASSUME NO RESPONSIBILITY FOR ANYONE ELSE'S USE OF THIS SURVEY

No.	Date	Description
1	5/18/2020	PLAT REVISIONS

PROJECT NO.: 19084
DRAWN BY: TC
CHECKED BY: JB
DATE: 12/20/2019

SHEET NUMBER
L1.3

PRELIMINARY PLAT

S:_Projects\2019\19084 patagonia east\CAD\Preliminary\19084 land pp.dwg plotted by Tyler Chambers on Mon, May 18, 2020 at 04:31 PM

ORIGINAL SURVEY ON FILE AT BAILEY ENGINEERING

MATCHLINE - SEE SHEET L1.2

S. LOCUST GROVE RD.

E. MARATCH WAY

E. CERRO CATEDRAL DR.

S. TOLHUIN WAY

S. FOX BAY WAY

MATCHLINE - SEE SHEET L1.2
MATCHLINE - SEE SHEET L1.3

MATCHLINE - SEE SHEET L1.2
MATCHLINE - SEE SHEET L1.1

PLANT SCHEDULE

QTY.	KEY	BOTANICAL NAME	COMMON NAME	SIZE	NOTES	CLASS
DECIDUOUS SHADE TREES						
-	AP	Acer platanoides 'Deborah'	Deborah Norway Maple	2" CAL.	B+B	II
-	AC	Acer platanoides 'Royal Red'	Royal Red Maple	2" CAL.	B+B	II
-	GT	Gleditsia triacanthos inermis 'Shademaster'	Shademaster Honeylocust	2" CAL.	B+B	II
-	PA	Platanus x acerifolia	London Planetree	2" CAL.	B+B	II
-	ZS	Zelkova serrata 'Green Vase'	Green Vase Zelkova	2" CAL.	B+B	II
ORNAMENTAL FLOWERING TREES						
-	CC	Cercis canadensis	Eastern Redbud	2" CAL.	B+B	I
-	PC	Pyrus calleryana 'Capital'	Capital Pear	2" CAL.	B+B	I
-	PV	Prunus virginiana 'Canada Red'	Canada Red Chokecherry	2" CAL.	B+B	I
CONIFER TREES						
-	PA	Picea abies	Norway Spruce	6'-7' hgt	B+B	I
-	PP	Picea pungens 'Hoopsii'	Hoopsi Blue Spruce	6'-7' hgt	B+B	I
-	PF	Pinus flexilis 'Vanderwolf'	Vanderwolf Pine	6'-7' hgt	B+B	I
-	PN	Pinus nigra	Austrian Pine	6'-7' hgt	B+B	I
SHRUBS/PERENNIALS/ORNAMENTAL GRASSES						
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-	CS	Cornus alba 'Bailhalo'	Ivory Halo Dogwood	#5	5'H X 5'H	
-	LA	Lavandula angustifolia 'Hidcote Blue'	English Lavender	#1	3'H X 3'H	
-	HR	Hemerocallis 'Red Rum'	Red Rum Daylily	#1	2'H X 2'H	
-	HF	Helgia x Florida 'Java Red'	Java Red Helgelia	#1	4'H X 5'H	
-	YF	Yucca filamentosa 'Ivory Tower'	Ivory Tower Yucca	#1	3'H X 3'H	

LANDSCAPE LEGEND

- PLANTS TO BE INSTALLED
- EXISTING PLANTS TO REMAIN
- EXISTING PLANTS TO BE REMOVED
- CUT EDGE AS DETAILED
- LANDSCAPE BERM
- 6' CLOSED PERIMETER FENCING
- 6' PARTIALLY OPEN FENCING
- 10' ACHD SEEPAGE BED EASEMENT
- VISION TRIANGLE
- PROPERTY LINE (VERIFY)
- BENCHES
- PICNIC TABLE
- TURF SOD OVER APPROVED TOPSOIL
- MULCH OVER APPROVED TOPSOIL AS SPECIFIED OR APPROVED EQUAL TO MATCH PATAGONIA SUBDIVISION TO WEST.
- BOULDERS, 3'-4' DIAMETER TYPICAL, TO MATCH PATAGONIA SUBDIVISION TO WEST.

CALLOUT LEGEND

1. 40'-0" VISION TRIANGLE
2. 6'-0" CLOSED PERIMETER FENCING
3. 6'-0" PARTIALLY OPEN FENCING
4. SEEPAGE BED, SEE CIVIL PLANS
5. PROPOSED POOL AREA
6. PROPOSED TOT LOT
7. PROPOSED GAZEBO
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9. PROPOSED SITTING AREA WITH BENCHES
10. PICNIC AREA (PICNIC TABLES)
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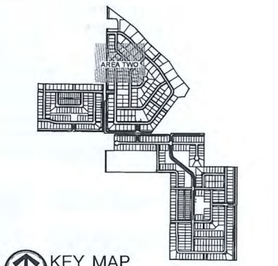
13. PARKING LOT - TEN STALLS (ONE ADA STALL)
14. LARGE OPEN SPACE
15. BERM ALONG ARTERIAL ROAD
16. SAVE AND PROTECT EXISTING TREES



KEY MAP

1000 0 1000 2000 3000
SCALE: 1" = 1000'-0"

LANDSCAPE PLAN - AREA TWO

50 0 30 60 90
SCALE: 1" = 30'-0"

S:\Projects\19084 patagonia east\CAD\Preliminary\19084 land grading plotted by: Tyler Chambers on Mon, May 18, 2020 @ 04:31 PM

PRELIMINARY NOT FOR CONSTRUCTION

ubisappuel
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PATAGONIA EAST, RIDGE, LAKES SUBDIVISION
1670 E. HUBBARD ROAD
KUNA, IDAHO 83634
LANDSCAPE PLAN - AREA TWO

811 Dig Line
Please Call Before You Dig
Call Before You Dig
TWO WORKING DAYS BEFORE YOU DIG
IDAHO LAW REQUIRES YOU TO NOTIFY ALL MEMBERS OF THE UNDERGROUND SERVICES

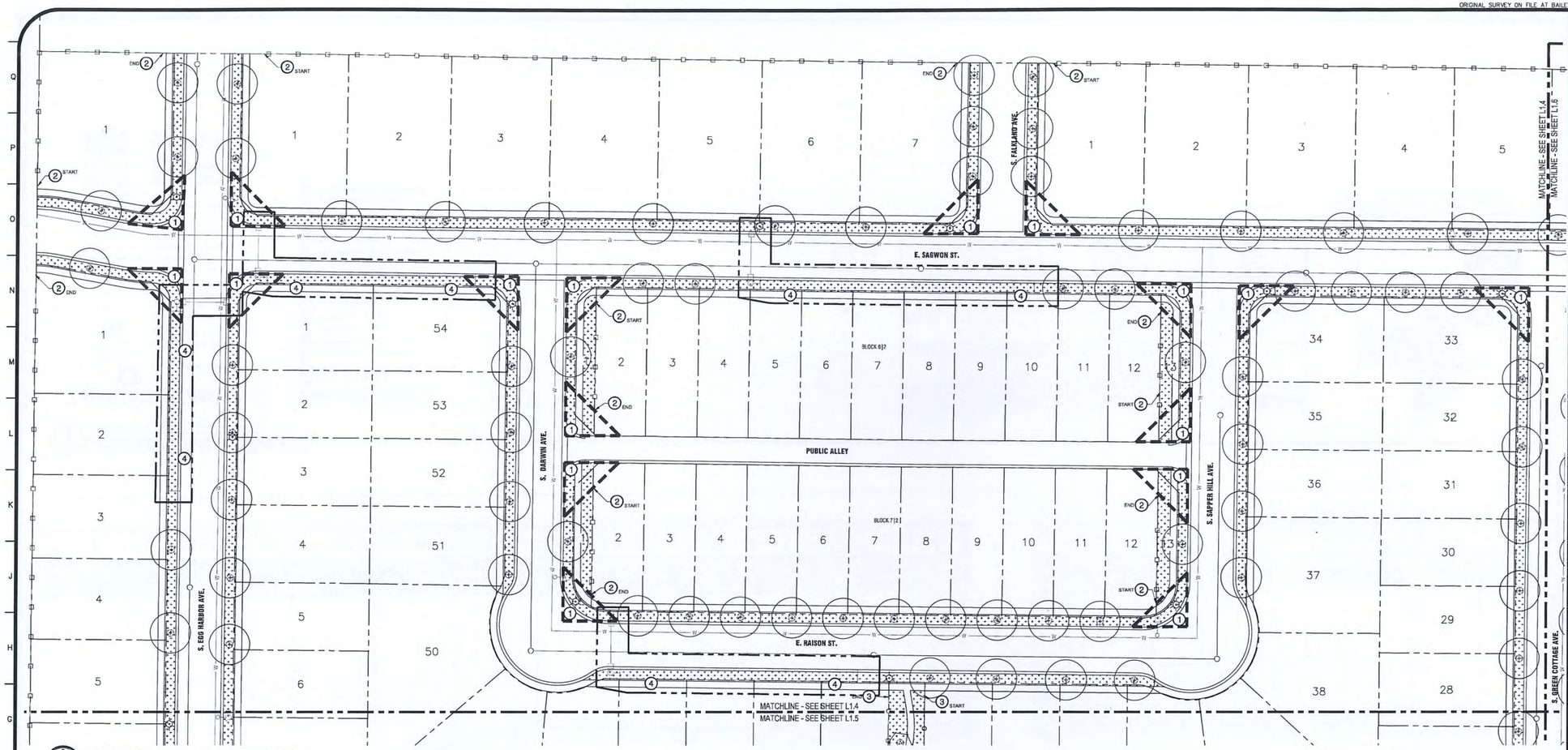
REVISIONS		
No.	Date	Description
1	5/18/2020	PLAT REVISIONS

PROJECT NO.: 19084
DRAWN BY: TC
CHECKED BY: JB
DATE: 12/20/2019

SHEET NUMBER
L1.2

PRELIMINARY PLAT

ORIGINAL SURVEY ON FILE AT BAILEY ENGINEERING



LANDSCAPE PLAN - AREA FOUR

SCALE: 1"= 30'-0"

LANDSCAPE LEGEND

- PLANTS TO BE INSTALLED
- EXISTING PLANTS TO REMAIN
- EXISTING PLANTS TO BE REMOVED
- CUT EDGE AS DETAILED
- LANDSCAPE BERM
- 6' CLOSED PERIMETER FENCING
- 6' PARTIALLY OPEN FENCING
- 10' ACHD SEEPAGE BED EASEMENT
- VISION TRIANGLE
- PROPERTY LINE (VERIFY)
- BENCHES
- PICNIC TABLE
- TURF SOD OVER APPROVED TOPSOIL
- MULCH OVER APPROVED TOPSOIL, AS SPECIFIED OR APPROVED EQUAL, TO MATCH PATAGONIA SUBDIVISION TO WEST.
- BOULDERS, 3'-4' DIAMETER, TYPICAL, TO MATCH PATAGONIA SUBDIVISION TO WEST.

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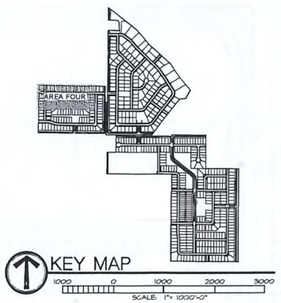
12. POOL CHANGING AREA
13. PARKING LOT - TEN STALLS (ONE ADA STALL)
14. LARGE OPEN SPACE
15. BERM ALONG ARTERIAL ROAD
16. SAVE AND PROTECT EXISTING TREES

PLANT SCHEDULE

QTY.	KEY	BOTANICAL NAME	COMMON NAME	SIZE	NOTES	CLASS
DECIDUOUS SHADE TREES						
-	AP	Acer platanoides 'Deborah'	Deborah Norway Maple	2" CAL.	B&B	II
-	AC	Acer platanoides 'Royal Red'	Royal Red Maple	2" CAL.	B&B	II
-	GT	Gleditsia triacanthos henrris 'Shademaster'	Shademaster Honelocust	2" CAL.	B&B	II
-	PA	Platanus x acerifolia	London Planetree	2" CAL.	B&B	III
-	ZS	Zelkova serrata 'Green Vase'	Green Vase Zelkova	2" CAL.	B&B	II
ORNAMENTAL FLOWERING TREES						
-	CC	Cersis canadensis	Eastern Redbud	2" CAL.	B&B	I
-	PC	Pyrus calleryana 'Capital'	Capital Pear	2" CAL.	B&B	I
-	PV	Prunus virginiana 'Canada Red'	Canada Red Chokecherry	2" CAL.	B&B	I
CONIFER TREES						
-	PA	Picea abies	Norway Spruce	6'-7" hgt.	B&B	I
-	PP	Picea pungens 'Hoopsii'	Hoop's Blue Spruce	6'-7" hgt.	B&B	I
-	PF	Pinus flexilis 'Vanderwolf'	Vanderwolf Pine	6'-7" hgt.	B&B	I
-	PN	Pinus nigra	Austrian Pine	6'-7" hgt.	B&B	I
SHRUBS/PERENNIALS/ORNAMENTAL GRASSES						
-	CA	Calamagrostis x acutiflora 'Karl Foerster'	Foerster's Feather Reed Grass	#1	4'H X 2'H	
-	CS	Cornus sibo 'Bailhalo'	Ivory Halo Dogwood	#5	5'H X 5'H	
-	LA	Lavandula angustifolia 'Hidcote Blue'	English Lavender	#1	3'H X 3'H	
-	HR	Hemerocallis 'Red Rum'	Redd Rum Daylily	#1	2'H X 2'H	
-	HP	Pennisetum 'Java Red'	Java Red Pennisetum	#1	4'H X 3'H	
-	YF	Yucca filamentosa 'Ivory Tower'	Ivory Tower Yucca	#1	3'H X 3'H	



KEY MAP

SCALE: 1"= 1000'-0"

PRELIMINARY NOT FOR CONSTRUCTION

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BRECKON

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PATAGONIA EAST, RIDGE, LAKES SUBDIVISION
1670 E. HUBBARD ROAD
KUNA, IDAHO 83634
LANDSCAPE PLAN - AREA FOUR

PRELIMINARY PLAT

REVISIONS

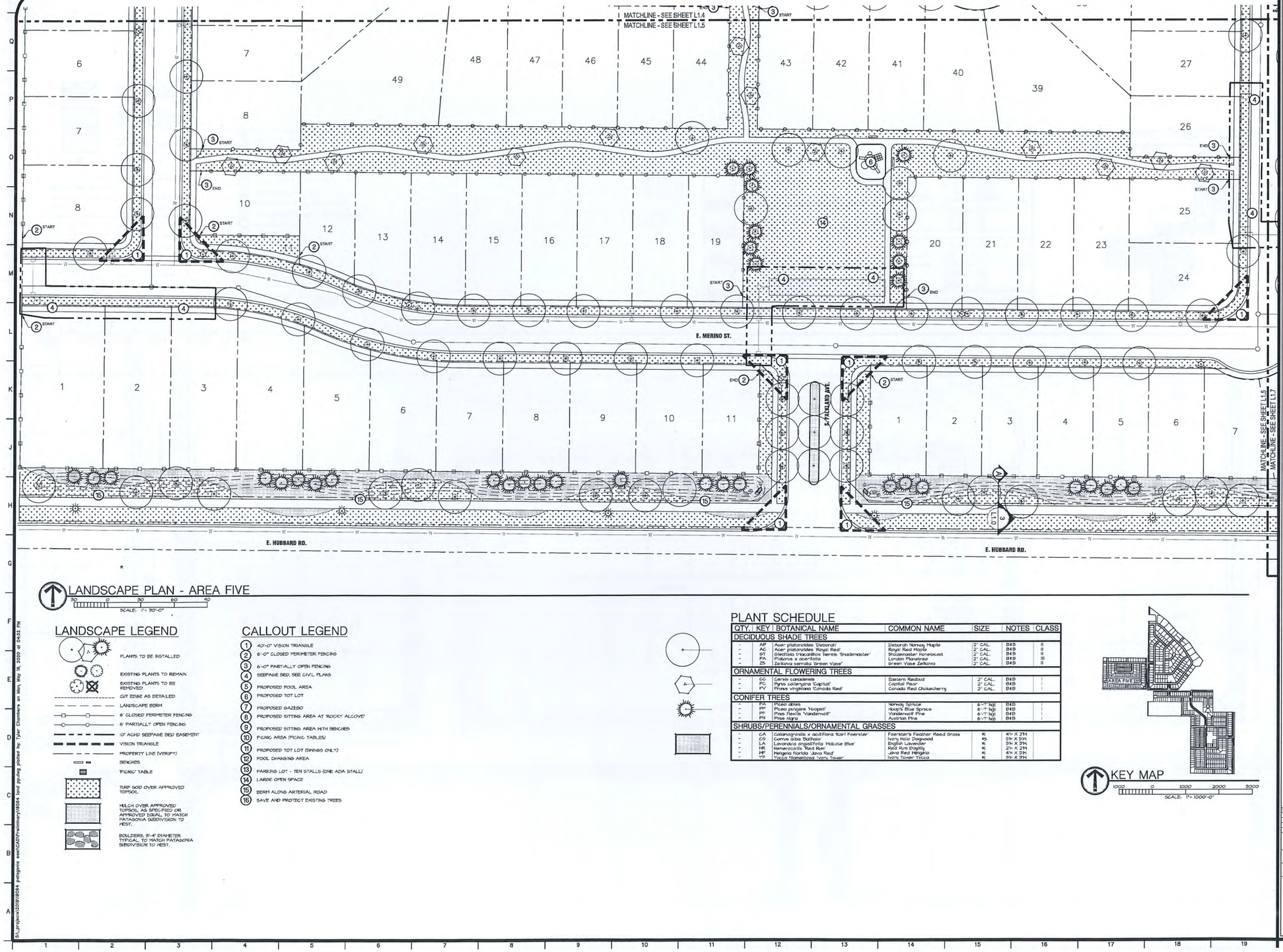
No.	Date	Description
1	5/18/2020	PLAT REVISIONS

PROJECT NO.: 19084
DRAWN BY: TC
CHECKED BY: JB
DATE: 12/20/2019

SHEET NUMBER
L1.4

S:_Projects\19084 patagonia east\CAD\Preliminary\19084 land pp.dwg plotted by: Tyler Chambers on Mon, May 18, 2020 at 04:53 PM

ORIGINAL SURVEY ON FILE AT BAILEY ENGINEERING



LANDSCAPE PLAN - AREA FIVE

SCALE: 1"= 80'-0"

LANDSCAPE LEGEND

- PLANTS TO BE INSTALLED
- EXISTING PLANTS TO REMAIN
- EXISTING PLANTS TO BE REMOVED
- CUT EDGE AS DETAILED
- LANDSCAPE BERM
- 6' CLOSED PERIMETER FENCING
- 6' PARTIALLY OPEN FENCING
- 12' ACHD SEEPAGE BED EASEMENT
- VISION TRIANGLE
- PROPERTY LINE (VERIFY)
- BENCHES
- 'PICNIC' TABLE
- TURF SOD OVER APPROVED TOPSOIL
- MULCH OVER APPROVED TOPSOIL AS SPECIFIED OR APPROVED EQUAL TO MATCH PATAGONIA SUBDIVISION TO WEST.
- BOULDERS, 3'-4' DIAMETER TYPICAL TO MATCH PATAGONIA SUBDIVISION TO WEST.

CALLOUT LEGEND

1. 40'-0" VISION TRIANGLE
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9. PROPOSED SITTING AREA WITH BENCHES
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13. PARKING LOT - TEN STALLS (ONE ADA STALL)
14. LARGE OPEN SPACE
15. BERM ALONG ARTERIAL ROAD
16. SAVE AND PROTECT EXISTING TREES

PLANT SCHEDULE

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-	AC	Acer platanoides 'Royal Red'	Royal Red Maple	2" CAL.	B&B	II
-	GT	Gleditsia triacanthos inermis 'Shademaster'	Shademaster Honeylocust	2" CAL.	B&B	II
-	PA	Platanus x acerifolia	London Planetree	2" CAL.	B&B	III
-	ZS	Zelkova serrata 'Green Vase'	Green Vase Zelkova	2" CAL.	B&B	II
ORNAMENTAL FLOWERING TREES						
-	CC	Cercis canadensis	Eastern Redbud	2" CAL.	B&B	I
-	PC	Pyrus calleryana 'Capital'	Capital Pear	2" CAL.	B&B	I
-	PV	Prunus virginiana 'Canada Red'	Canada Red Chokecherry	2" CAL.	B&B	I
CONIFER TREES						
-	PA	Picea abies	Norway Spruce	6'-7' hgt.	B&B	I
-	PP	Picea pungens 'Hoopsii'	Hoopsi Blue Spruce	6'-7' hgt.	B&B	I
-	PF	Pinus flexilis 'Vanderwolf'	Vanderwolf Pine	6'-7' hgt.	B&B	I
-	PN	Pinus nigra	Austrian Pine	6'-7' hgt.	B&B	I
SHRUBS/PERENNIALS/ORNAMENTAL GRASSES						
-	CA	Calamagrostis x acutiflora 'Karl Foerster'	Foerster's Feather Reed Grass	#1	4'H X 2'H	
-	CS	Cornus sibs 'Bailhalo'	Ivory Halo Dogwood	#5	5'H X 5'H	
-	LA	Lavandula angustifolia 'Hidcote Blue'	English Lavender	#1	3'H X 3'H	
-	HR	Hemerocallis 'Red Rum'	Red Rum Daylily	#1	2'H X 2'H	
-	HP	Perigaia floriata 'Java Red'	Java Red Pelgaia	#1	4'H X 5'H	
-	YF	Yucca filamentosa 'Ivory Tower'	Ivory Tower Yucca	#1	3'H X 3'H	

KEY MAP

SCALE: 1"= 1000'-0"

PRELIMINARY NOT FOR CONSTRUCTION

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PATAGONIA EAST, RIDGE, LAKES SUBDIVISION
1670 E. HUBBARD ROAD
KUNA, IDAHO 83634
LANDSCAPE PLAN - AREA FIVE

811 Call 2 Business Days Before You Dig, Grade or Excavate For the Marking of Underground Member Utilities

REVISIONS		
No.	Date	Description
1	5/18/2020	PLAT REVISIONS

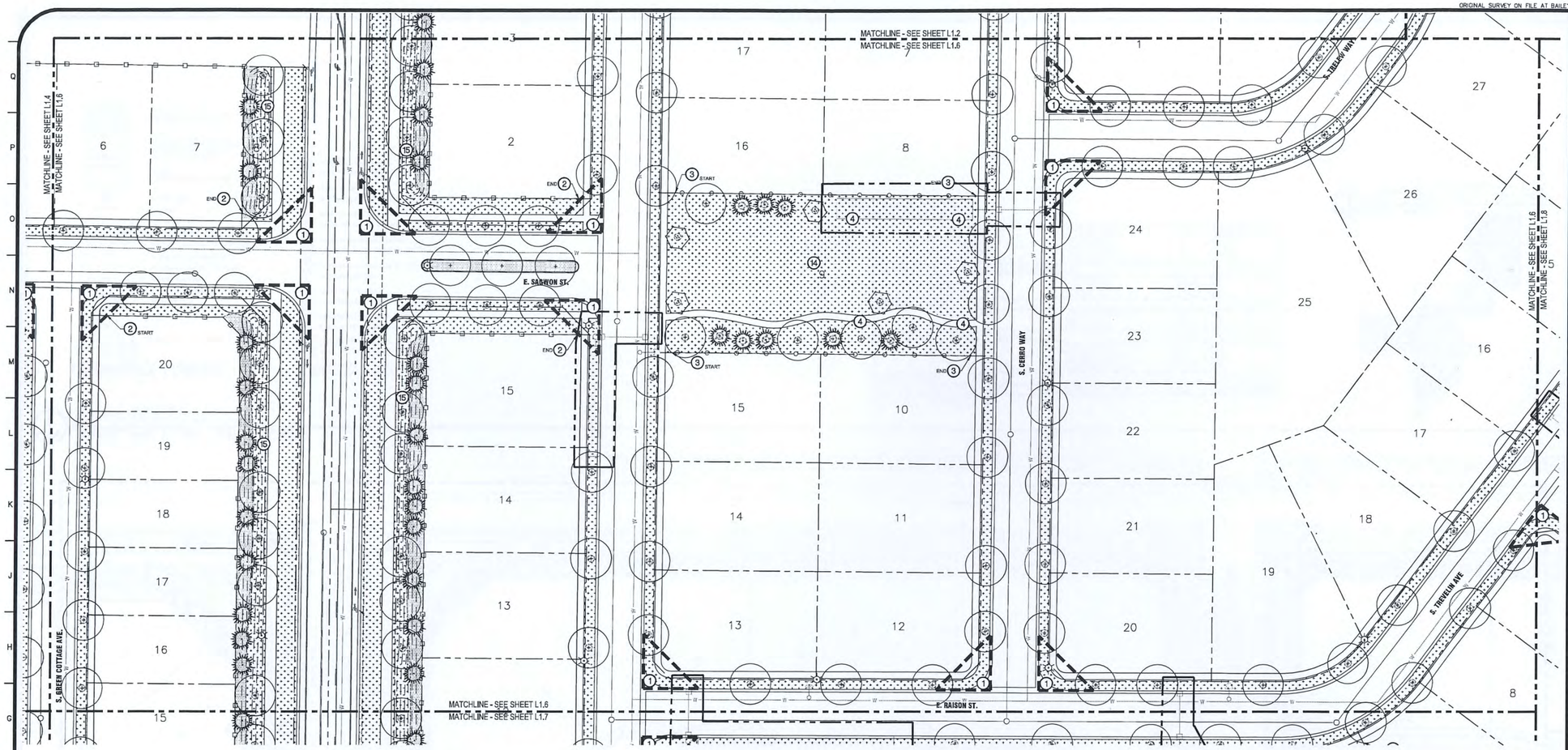
PROJECT NO.: 19084
DRAWN BY: TC
CHECKED BY: JB
DATE: 12/20/2019

SHEET NUMBER
L1.5

PRELIMINARY PLAT

S:\projects\2019\19084 patagonia east\CAD\Preliminary\19084 land planning plotted by: Tyler Chambers on Mon, May 18, 2020 at 04:33 PM

ORIGINAL SURVEY ON FILE AT BAILEY ENGINEERING



LANDSCAPE PLAN - AREA SIX

SCALE: 1" = 30'-0"

LANDSCAPE LEGEND

- PLANTS TO BE INSTALLED
- EXISTING PLANTS TO REMAIN
- EXISTING PLANTS TO BE REMOVED
- CUT EDGE AS DETAILED
- LANDSCAPE BERM
- 6' CLOSED PERIMETER FENCING
- 6' PARTIALLY OPEN FENCING
- 10' ACHD SEEPAGE BED EASEMENT
- VISION TRIANGLE
- PROPERTY LINE (VERIFY)
- BENCHES
- 'PICNIC' TABLE
- TURF SOD OVER APPROVED TOPSOIL.
- MULCH OVER APPROVED TOPSOIL AS SPECIFIED OR APPROVED EQUAL, TO MATCH PATAGONIA SUBDIVISION TO WEST.
- BOULDERS, 3'-4' DIAMETER, TYPICAL, TO MATCH PATAGONIA SUBDIVISION TO WEST.

CALLOUT LEGEND

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9. PROPOSED SITTING AREA WITH BENCHES
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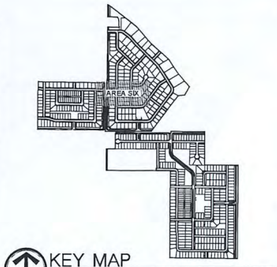
12. POOL CHANGING AREA
13. PARKING LOT - TEN STALLS (ONE ADA STALL)
14. LARGE OPEN SPACE
15. BERM ALONG ARTERIAL ROAD
16. SAVE AND PROTECT EXISTING TREES

PLANT SCHEDULE

QTY.	KEY	BOTANICAL NAME	COMMON NAME	SIZE	NOTES	CLASS
DECIDUOUS SHADE TREES						
-	AP	Acer platanoides 'Deborah'	Deborah Norway Maple	2" CAL.	B&B	II
-	AC	Acer platanoides 'Royal Red'	Royal Red Maple	2" CAL.	B&B	II
-	GT	Gleditsia triacanthos inermis 'Shademaster'	Shademaster Honeylocust	2" CAL.	B&B	II
-	PA	Platanus x acerifolia	London Planetree	2" CAL.	B&B	III
-	ZS	Zelkova serrata 'Green Vase'	Green Vase Zelkova	2" CAL.	B&B	II
ORNAMENTAL FLOWERING TREES						
-	CC	Cercis canadensis	Eastern Redbud	2" CAL.	B&B	I
-	PC	Pyrus calleryana 'Capital'	Capital Pear	2" CAL.	B&B	I
-	PV	Prunus virginiana 'Canada Red'	Canada Red Chokecherry	2" CAL.	B&B	I
CONIFER TREES						
-	PA	Picea abies	Norway Spruce	6'-7' hgt.	B&B	I
-	PP	Picea pungens 'Hoopsii'	Hoopsi Blue Spruce	6'-7' hgt.	B&B	I
-	PF	Pinus flexilis 'Vanderwolf'	Vanderwolf Pine	6'-7' hgt.	B&B	I
-	PN	Pinus nigra	Austrian Pine	6'-7' hgt.	B&B	I
SHRUBS/PERENNIALS/ORNAMENTAL GRASSES						
-	CA	Calamagrostis x acutiflora 'Karl Foerster'	Foerster's Feather Reed Grass	#1	4'H X 2'H	
-	CS	Cornus sibia 'Bailhalo'	Ivory Halo Dogwood	#5	5'H X 5'W	
-	LA	Lavandula angustifolia 'Hidcote Blue'	English Lavender	#1	3'H X 3'H	
-	HR	Hemerocallis 'Red Rum'	Red Rum Daylilly	#1	2'H X 2'H	
-	PJ	Perovskia 'Florida Java Red'	Java Red Perovskia	#1	4'H X 5'H	
-	YF	Yucca filamentosa 'Ivory Tower'	Ivory Tower Yucca	#1	3'H X 3'H	



KEY MAP

SCALE: 1" = 1000'-0"

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PRELIMINARY PLAT

PATAGONIA EAST, RIDGE, LAKES SUBDIVISION
1670 E. HUBBARD ROAD
KUNA, IDAHO 83634
LANDSCAPE PLAN - AREA SIX

REVISIONS		
No.	Date	Description
1	01/13/2020	PLAT REVISIONS

PROJECT NO.: 19084
DRAWN BY: TC
CHECKED BY: JB
DATE: 12/20/2019
SHEET NUMBER: L1.6

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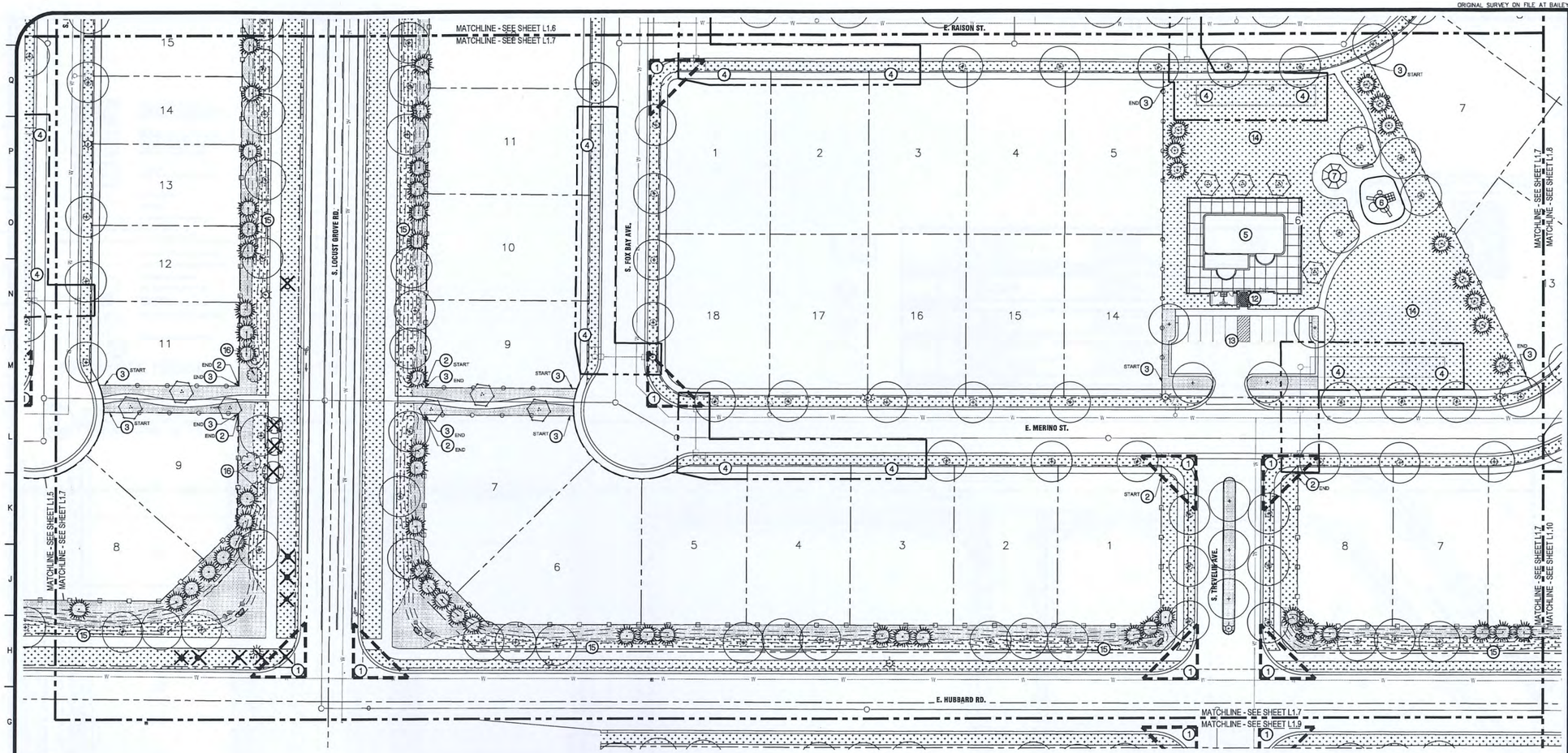
ORIGINAL SURVEY ON FILE AT BAILEY ENGINEERING



LANDSCAPE PLAN - AREA SEVEN

SCALE: 1"= 30'-0"

LANDSCAPE LEGEND

- PLANTS TO BE INSTALLED
- EXISTING PLANTS TO REMAIN
- EXISTING PLANTS TO BE REMOVED
- CAT EDGE AS DETAILED
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- 6' CLOSED PERIMETER FENCING
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CALLOUT LEGEND

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14. LARGE OPEN SPACE
15. BERM ALONG ARTERIAL ROAD
16. SAVE AND PROTECT EXISTING TREES

PLANT SCHEDULE

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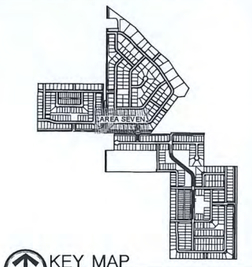
DECIDUOUS SHADE TREES						
-	AP	Acer platanoides 'Deborah'	Deborah Norway Maple	2" CAL.	B&B	II
-	AC	Acer platanoides 'Royal Red'	Royal Red Maple	2" CAL.	B&B	II
-	GT	Gleditsia triacanthos inermis 'Shademaster'	Shademaster Honeylocust	2" CAL.	B&B	II
-	PA	Platanus x acerifolia	London Planetree	2" CAL.	B&B	II
-	ZS	Zelkova serrata 'Green Vase'	Green Vase Zelkova	2" CAL.	B&B	II
ORNAMENTAL FLOWERING TREES						
-	CC	Cercis canadensis	Eastern Redbud	2" CAL.	B&B	
-	PC	Pyrus calleryana 'Capital'	Capital Pear	2" CAL.	B&B	
-	PV	Prunus virginiana 'Canada Red'	Canada Red Chokecherry	2" CAL.	B&B	
CONIFER TREES						
-	PA	Picea abies	Norway Spruce	6'-7" hgt.	B&B	
-	PP	Picea pungens 'Hoopsii'	Hoopsi's Blue Spruce	6'-7" hgt.	B&B	
-	PF	Pinus flexilis 'Vanderwolf'	Vanderwolf Pine	6'-7" hgt.	B&B	
-	PN	Pinus nigra	Austrian Pine	6'-7" hgt.	B&B	
SHRUBS/PERENNIALS/ORNAMENTAL GRASSES						
-	CA	Calamagrostis x acutiflora 'Karl Foerster'	Foerster's Feather Reed Grass	#1	4'H X 2'W	
-	CS	Cornus alba 'Bailhalo'	Ivory Halo Dogwood	#5	5'H X 5'W	
-	LA	Lavandula angustifolia 'Hidcote Blue'	English Lavender	#1	3'H X 3'W	
-	HR	Hemerocallis 'Red Rum'	Red Rum Daylily	#1	2'H X 2'W	
-	HF	Helgeria florida 'Lava Red'	Lava Red Helgeria	#1	4'H X 5'W	
-	YF	Yucca filamentosa 'Ivory Tower'	Ivory Tower Yucca	#1	3'H X 3'W	

KEY MAP



SCALE: 1"= 1000'-0"

PRELIMINARY NOT FOR CONSTRUCTION

CJ Chalmers
• Landscape Architecture
• Land Planning • Site Design
• Graphic Communication
• Project Management
• Land Planning
City of Meridian
33 East Broadway Avenue
Meridian, Idaho 83642
Phone: (208) 888-4433
FAX: (208) 888-4744
www.cjchalmers.com
Gowen Civil 208.922.5274

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PATAGONIA EAST, RIDGE, LAKES SUBDIVISION
1670 E. HUBBARD ROAD
KUNA, IDAHO 83634
LANDSCAPE PLAN - AREA SEVEN

PRELIMINARY PLAT

Registered Landscape Architect
Cathy Holmes
DBA A BUSINESS NAME
I DESIGNED THIS PLAN AND THE DRAWINGS AND I AM RESPONSIBLE FOR ITS ACCURACY

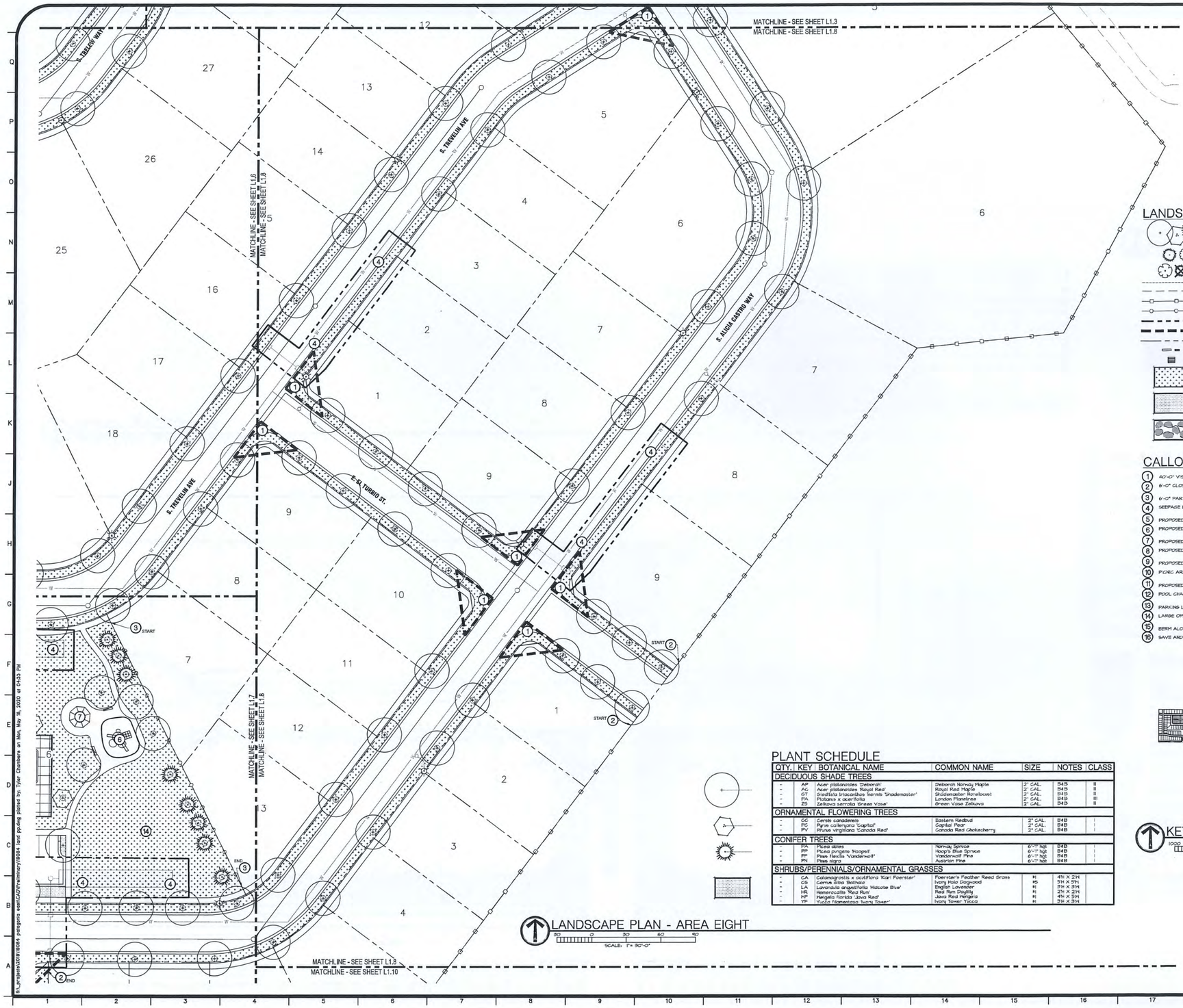
REVISIONS		
No.	Date	Description
1	5/19/2020	PLAT REVISIONS

PROJECT NO.: 19084
DRAWN BY: TC
CHECKED BY: JB
DATE: 12/20/2019

SHEET NUMBER
L1.7

S:\Projects\2019\19084 patagonia east\CAD\Preliminary\19084 land pp-dwg plotted by: Tyler Chambers on Mon, May 18, 2020 at 04:33 PM

ORIGINAL SURVEY ON FILE AT BAILEY ENGINEERING



LANDSCAPE LEGEND

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-	ZS	Zelkova serrata 'Green Vase'	Green Vase Zelkova	2" CAL.	B&B	II
ORNAMENTAL FLOWERING TREES						
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-	PC	Pyrus calleryana 'Capital'	Capital Pear	2" CAL.	B&B	I
-	PV	Prunus virginiana 'Canada Red'	Canada Red Chokecherry	2" CAL.	B&B	I
CONIFER TREES						
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-	PP	Picea pungens 'Hoopsii'	Hoop's Blue Spruce	6'-7' hgt	B&B	I
-	PT	Pinus flexilis 'Vanderwolf'	Vanderwolf Pine	6'-7' hgt	B&B	I
-	PN	Pinus nigra	Austrian Pine	6'-7' hgt	B&B	I
SHRUBS/PERENNIALS/ORNAMENTAL GRASSES						
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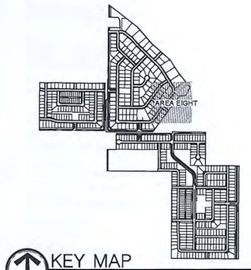

KEY MAP

LANDSCAPE PLAN - AREA EIGHT
SCALE: 1"= 30'-0"

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PATAGONIA EAST, RIDGE, LAKES SUBDIVISION
1670 E. HUBBARD ROAD
KUNA, IDAHO 83634
LANDSCAPE PLAN - AREA EIGHT

REVISIONS		
No.	Date	Description
1	01/21/2020	PLAN REVIEWS

PROJECT NO.: 19084
DRAWN BY: TC
CHECKED BY: JB
DATE: 12/20/2019
SHEET NUMBER: L1.8

PRELIMINARY PLAT

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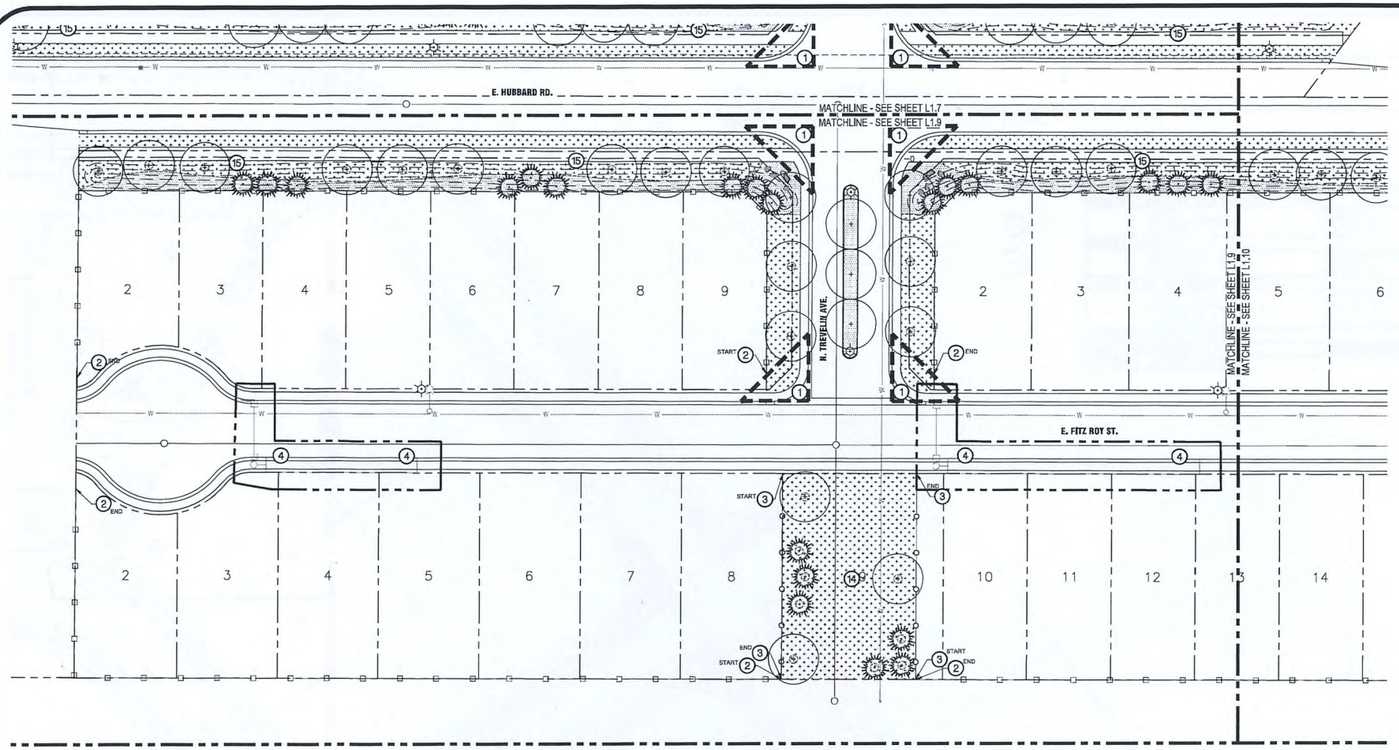
R:_projects\19084\plans\19084 patagonia east\CAD\Preliminary\19084 land planting planset.dwg, Plotted by: Tyler Chambers on Mon, May 18, 2020 at 04:53 PM

ORIGINAL SURVEY ON FILE AT BAILEY ENGINEERING



LANDSCAPE PLAN - AREA NINE

SCALE: 1"= 30'-0"

LANDSCAPE LEGEND

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- EXISTING PLANTS TO REMAIN
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- 6' CLOSED PERIMETER FENCING
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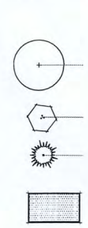

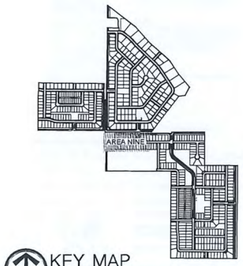

KEY MAP

SCALE: 1"= 1000'-0"

PRELIMINARY NOT FOR CONSTRUCTION

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Land Planning
Civil Engineering
Landscape Architecture
Graphic Communication
Land Development Consulting
Water Resources
Irrigation Design
Land Planning
Contact: Ian Cackovic
Email: ian@breckonland.com
Phone: 208-938-0866
Fax: 208-938-0874
Garden City, Idaho 83714

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Call 2 Business Days Before You Dig, Grade or Excavate For the Marking of Underground Member Utilities

REVISIONS		
No.	Date	Description
1	11/12/2020	PLAT REVISIONS

PROJECT NO.: 19084
DRAWN BY: TC
CHECKED BY: JB
DATE: 12/20/2019

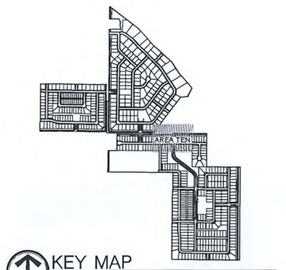
SHEET NUMBER
L1.9

S:_projects\19084\19084 patagonia east\CAD\Preliminary\19084 land pp.dwg plotted by Tyler Chambers on Mon, May 18, 2020 at 04:34 PM

ORIGINAL SURVEY ON FILE AT BAILEY ENGINEERING

PLANT SCHEDULE

QTY.	KEY	BOTANICAL NAME	COMMON NAME	SIZE	NOTES	CLASS
DECIDUOUS SHADE TREES						
-	AP	Acer platanoides 'Deborah'	Deborah Norway Maple	2" CAL.	B&B	II
-	AC	Acer platanoides 'Royal Red'	Royal Red Maple	2" CAL.	B&B	II
-	GT	Gleditsia triacanthos inermis 'Shademaster'	Shademaster Honeylocust	2" CAL.	B&B	III
-	PA	Platanus x acerifolia	London Planetree	2" CAL.	B&B	III
-	ZS	Zelkova serrata 'Green Vase'	Green Vase Zelkova	2" CAL.	B&B	II
ORNAMENTAL FLOWERING TREES						
-	CC	Cercis canadensis	Eastern Redbud	2" CAL.	B&B	I
-	PC	Pyrus calleryana 'Capital'	Capital Pear	2" CAL.	B&B	I
-	PV	Prunus virginiana 'Canada Red'	Canada Red Chokecherry	2" CAL.	B&B	I
CONIFER TREES						
-	PA	Picea abies	Norway Spruce	6'-7' hgt.	B&B	I
-	PP	Picea pungens 'Hoopsii'	Hoopi's Blue Spruce	6'-7' hgt.	B&B	I
-	PF	Pinus flexilis 'Vanderwolf'	Vanderwolf Pine	6'-7' hgt.	B&B	I
-	PN	Pinus nigra	Austrian Pine	6'-7' hgt.	B&B	I
SHRUBS/PERENNIALS/ORNAMENTAL GRASSES						
-	CA	Calamagrostis x acutiflora 'Karl Foerster'	Foerster's Feather Reed Grass	#1		4'H X 2'W
-	CS	Cornus sibo 'Ballhalo'	Ivory Halo Dogwood	#5		5'H X 5'W
-	LA	Lavandula angustifolia 'Hidcote Blue'	English Lavender	#1		3'H X 3'W
-	HR	Hemerocallis 'Red Rum'	Red Rum Daylily	#1		2'H X 2'W
-	RF	Weigela florida 'Java Red'	Java Red Weigela	#5		4'H X 5'W
-	YF	Yucca filamentosa 'Ivory Tower'	Ivory Tower Yucca	#1		3'H X 3'W



LANDSCAPE PLAN - AREA TEN
SCALE: 1"= 30'-0"

LANDSCAPE LEGEND

- PLANTS TO BE INSTALLED
- EXISTING PLANTS TO REMAIN
- EXISTING PLANTS TO BE REMOVED
- CUT EDGE AS DETAILED
- LANDSCAPE BERM
- 6' CLOSED PERIMETER FENCING
- 6' PARTIALLY OPEN FENCING
- 10' ACHD SEEPAGE BED EASEMENT
- VISION TRIANGLE
- PROPERTY LINE (VERIFY)
- BENCHES
- PICNIC TABLE
- TURF SOD OVER APPROVED TOPSOIL.
- MULCH OVER APPROVED TOPSOIL AS SPECIFIED OR APPROVED EQUAL, TO MATCH PATAGONIA SUBDIVISION TO WEST.
- BOULDERS, 3'-4' DIAMETER TYPICAL, TO MATCH PATAGONIA SUBDIVISION TO WEST.

CALLOUT LEGEND

1. 40'-0" VISION TRIANGLE
2. 6'-0" CLOSED PERIMETER FENCING
3. 6'-0" PARTIALLY OPEN FENCING
4. SEEPAGE BED, SEE CIVIL PLANS
5. PROPOSED POOL AREA
6. PROPOSED TOT LOT
7. PROPOSED GAZEBO
8. PROPOSED SITTING AREA AT 'ROCKY ALCOVE'
9. PROPOSED SITTING AREA WITH BENCHES
10. PICNIC AREA (PICNIC TABLES)
11. PROPOSED TOT LOT (SWINGS ONLY)
12. POOL CHANGING AREA
13. PARKING LOT - TEN STALLS (ONE ADA STALL)
14. LARGE OPEN SPACE
15. BERM ALONG ARTERIAL ROAD
16. SAVE AND PROTECT EXISTING TREES

PRELIMINARY NOT FOR CONSTRUCTION

landdesign
BRECKON
• Civil Engineering
• Landscape Architecture
• Land Development Consultation
• Water Resources
• Project Due Diligence
• Surveying
www.breckon.com
Fax: (208) 343-3232
Boise, Idaho 83702

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PATAGONIA EAST, RIDGE, LAKES SUBDIVISION
1670 E. HUBBARD ROAD
KUNA, IDAHO 83634
LANDSCAPE PLAN - AREA TEN

REVISIONS		
No.	Date	Description
1	11/12/2020	PLAT REVISIONS

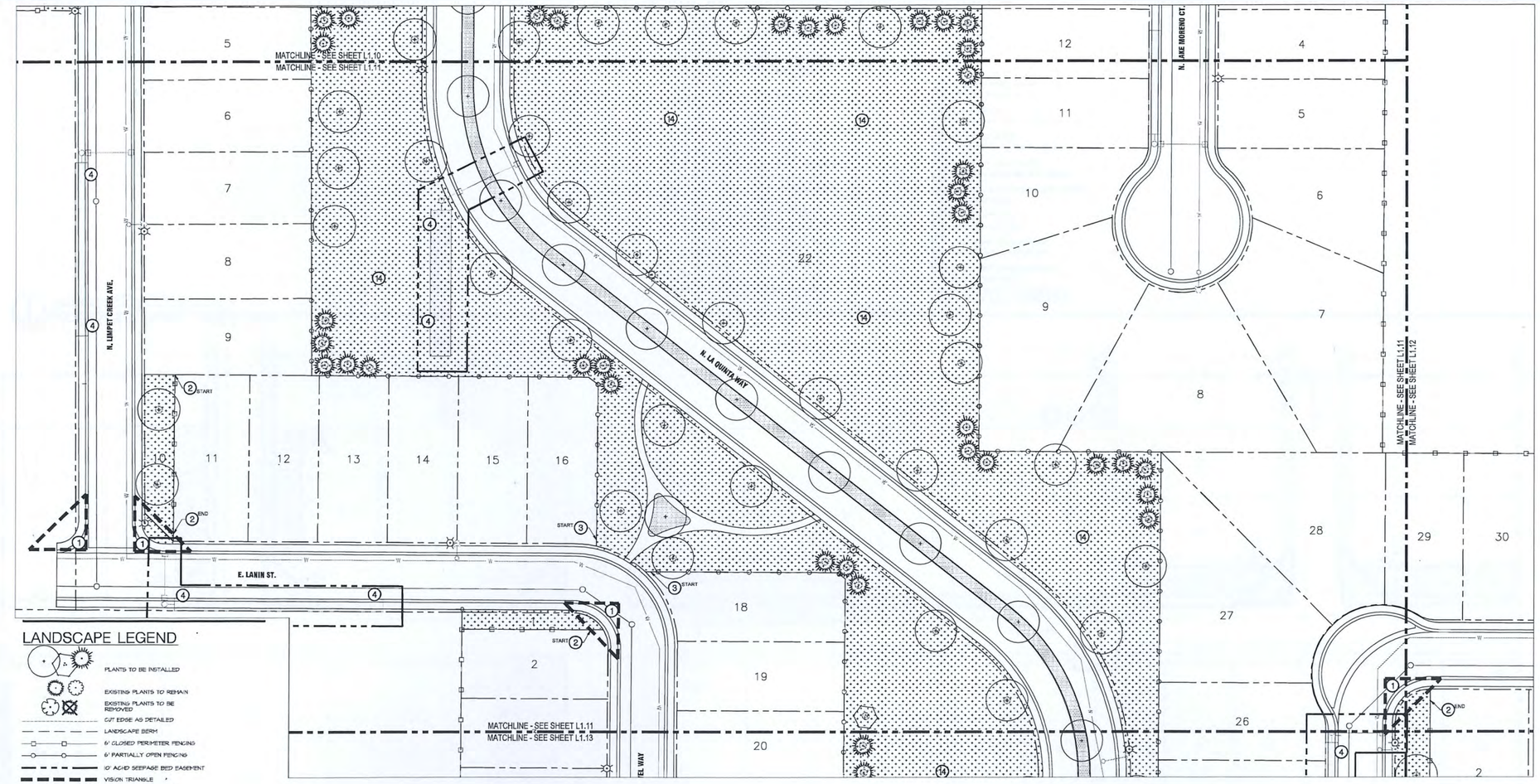
PROJECT NO.: 19084
DRAWN BY: TD
CHECKED BY: JB
DATE: 12/20/2019
SHEET NUMBER: L1.10

PRELIMINARY PLAT

Pursuant to Idaho Code, Section 54-1215, these plans are preliminary and are not to be used for construction purposes. They are to be signed, sealed and dated by the responsible professional.

S:_Projects\19084 patagonia east\CAD\Preliminary\19084 land pp.dwg plotted by: Tyler Chambers on Mon, May 18, 2020 at 04:54 PM

ORIGINAL SURVEY ON FILE AT BAILEY ENGINEERING



LANDSCAPE LEGEND

- PLANTS TO BE INSTALLED
- EXISTING PLANTS TO REMAIN
- EXISTING PLANTS TO BE REMOVED
- CUT EDGE AS DETAILED
- LANDSCAPE BERM
- 6' CLOSED PERIMETER FENCING
- 6' PARTIALLY OPEN FENCING
- 10' AGHD SEEPAGE BED EASEMENT
- VISION TRIANGLE
- PROPERTY LINE (VERIFY)
- BENCHES
- 'PICNIC' TABLE
- TURF SOD OVER APPROVED TOPSOIL
- MULCH OVER APPROVED TOPSOIL AS SPECIFIED OR APPROVED EQUAL, TO MATCH PATAGONIA SUBDIVISION TO WEST.
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CALLOUT LEGEND

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7. PROPOSED GAZEBO
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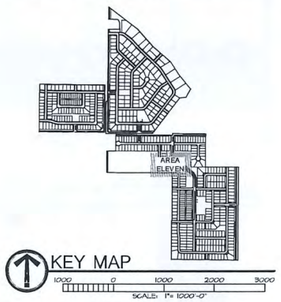
9. PROPOSED SITTING AREA WITH BENCHES
10. PICNIC AREA (PICNIC TABLES)
11. PROPOSED TOT LOT (SWINGS ONLY)
12. POOL CHANGING AREA
13. PARKING LOT - TEN STALLS (ONE ADA STALL)
14. LARGE OPEN SPACE
15. BERM ALONG ARTERIAL ROAD
16. SAVE AND PROTECT EXISTING TREES

LANDSCAPE PLAN - AREA ELEVEN

SCALE: 1" = 30'-0"

PLANT SCHEDULE

QTY.	KEY	BOTANICAL NAME	COMMON NAME	SIZE	NOTES	CLASS
DECIDUOUS SHADE TREES						
-	AP	Acer platanoides 'Deborah'	Deborah Norway Maple	2" CAL.	B&B	II
-	AC	Acer platanoides 'Royal Red'	Royal Red Maple	2" CAL.	B&B	II
-	GT	Gleditsia triacanthos inermis 'Shademaster'	Shademaster Honeylocust	2" CAL.	B&B	II
-	PA	Platanus x acerifolia	London Planetree	2" CAL.	B&B	III
-	ZS	Zelkova serrata 'Green Vase'	Green Vase Zelkova	2" CAL.	B&B	II
ORNAMENTAL FLOWERING TREES						
-	CC	Cercis canadensis	Eastern Redbud	2" CAL.	B&B	I
-	PC	Pyrus calleryana 'Capital'	Capital Pear	2" CAL.	B&B	I
-	PV	Prunus virginiana 'Canada Red'	Canada Red Chokecherry	2" CAL.	B&B	I
CONIFER TREES						
-	PA	Picea abies	Norway Spruce	6'-7' hgt.	B&B	I
-	PP	Picea pungens 'Hoopsii'	Hoopsii Blue Spruce	6'-7' hgt.	B&B	I
-	PF	Pinus flexilis 'Vanderwolf'	Vanderwolf Pine	6'-7' hgt.	B&B	I
-	PN	Pinus nigra	Austrian Pine	6'-7' hgt.	B&B	I
SHRUBS/PERENNIALS/ORNAMENTAL GRASSES						
-	CA	Calamagrostis x acutiflora 'Karl Foerster'	Foerster's Feather Reed Grass	#1	4'H X 2'W	
-	CS	Cornus sibo 'Bailhalo'	Ivory Halo Dogwood	#5	5'H X 5'W	
-	LA	Lavandula angustifolia 'Hidcote Blue'	English Lavender	#1	3'H X 3'W	
-	HR	Hemerocallis 'Red Rum'	Red Rum Daylily	#1	2'H X 2'W	
-	HP	Helgela florida 'Java Red'	Java Red Helgela	#1	4'H X 5'W	
-	YP	Yucca filamentosa 'Ivory Tower'	Ivory Tower Yucca	#1	3'H X 3'W	



KEY MAP

SCALE: 1" = 1000'-0"

PRELIMINARY NOT FOR CONSTRUCTION

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PATAGONIA EAST, RIDGE, LAKES SUBDIVISION
1670 E. HUBBARD ROAD
KUNA, IDAHO 83634
LANDSCAPE PLAN - AREA ELEVEN

811 — Call Before You Dig — Idaho Underground Facility Notification — CALL 2 BUSINESS DAYS BEFORE YOU DIG, GRADE OR EXCAVATE FOR THE MARKING OF MEMBER FACILITIES

No.	Date	Description
1	01/15/2020	PLAT REVISIONS

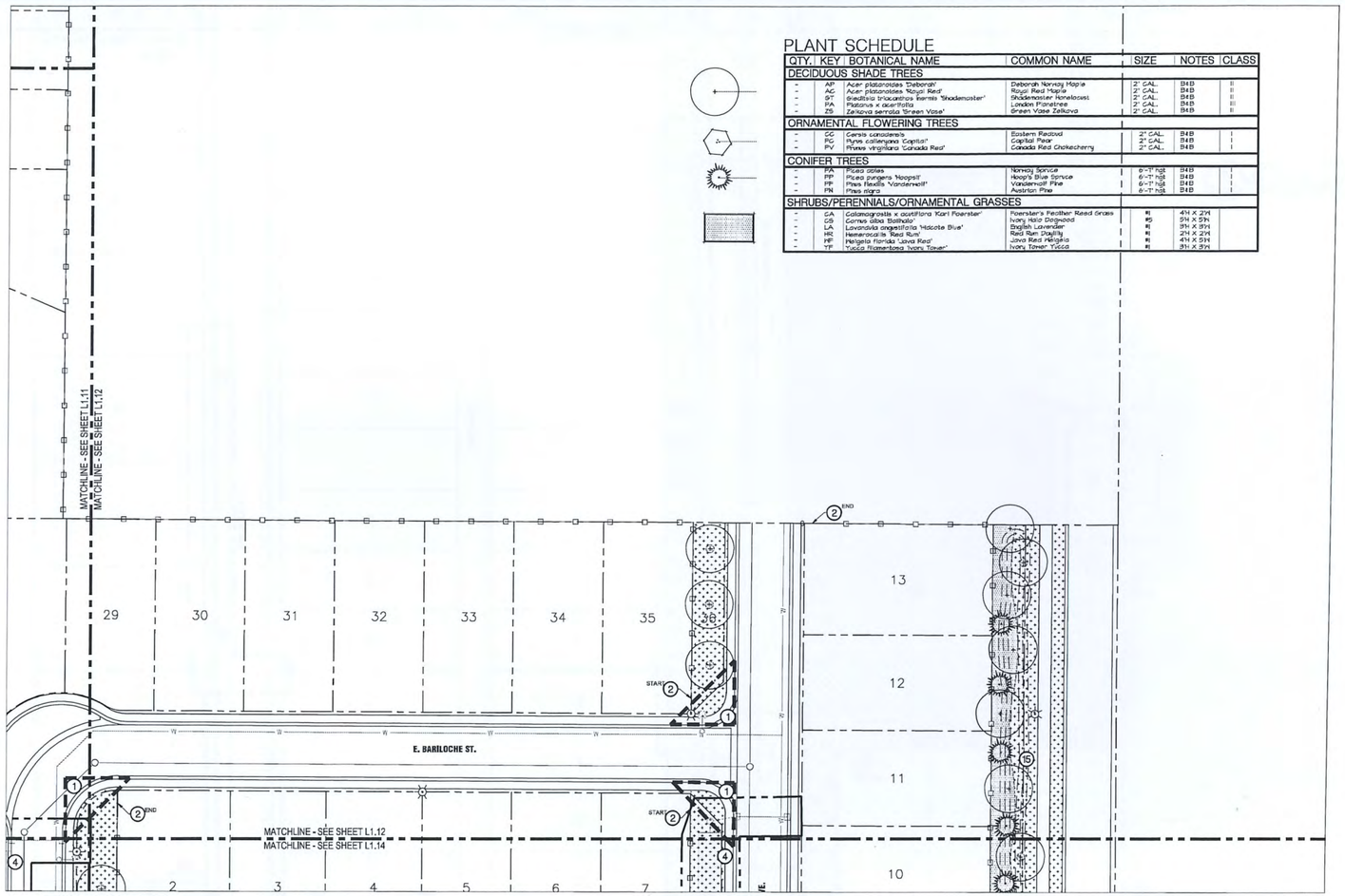
PROJECT NO.: 19084
DRAWN BY: TC
CHECKED BY: JB
DATE: 12/20/2019

SHEET NUMBER
L1.11

PRELIMINARY PLAT

S:_Projects\2019\19084 patagonia east\CAD\Preliminary\19084 land pp.dwg plotted by: Tyler Chambers on Mon, May 18, 2020 at 04:34 PM

ORIGINAL SURVEY ON FILE AT BAILEY ENGINEERING



LANDSCAPE PLAN - AREA TWELVE

SCALE: 1" = 30'-0"

PLANT SCHEDULE

QTY.	KEY	BOTANICAL NAME	COMMON NAME	SIZE	NOTES	CLASS
DECIDUOUS SHADE TREES						
-	AP	Acer platanoides 'Deborah'	Deborah Norway Maple	2" CAL.	B&B	II
-	AC	Acer platanoides 'Royal Red'	Royal Red Maple	2" CAL.	B&B	II
-	GT	Gleditsia triacanthos inermis 'Shademaster'	Shademaster Honeylocust	2" CAL.	B&B	III
-	PA	Platanus x acerifolia	London Planetree	2" CAL.	B&B	II
-	ZS	Zelkova serrata 'Green Vase'	Green Vase Zelkova	2" CAL.	B&B	II
ORNAMENTAL FLOWERING TREES						
-	CC	Cercis canadensis	Eastern Redbud	2" CAL.	B&B	I
-	PC	Pyrus calleryana 'Capitol'	Capitol Pear	2" CAL.	B&B	I
-	PV	Prunes virginiana 'Canada Red'	Canada Red Chokecherry	2" CAL.	B&B	I
CONIFER TREES						
-	PA	Picea abies	Norway Spruce	6'-7" hgt.	B&B	I
-	PP	Picea pungens 'Hoopsii'	Hoop's Blue Spruce	6'-7" hgt.	B&B	I
-	PF	Pinus flexilis 'Vanderwolf'	Vanderwolf Pine	6'-7" hgt.	B&B	I
-	PN	Pinus nigra	Austrian Pine	6'-7" hgt.	B&B	I
SHRUBS/PERENNIALS/ORNAMENTAL GRASSES						
-	CA	Calamagrostis x acutiflora 'Karl Foerster'	Foerster's Feather Reed Grass	#1	4'H X 2'W	
-	CS	Cornus alba 'Bailhalo'	Ivory Halo Dogwood	#5	5'H X 5'W	
-	LA	Lavandula angestifolia 'Hidcote Blue'	English Lavender	#1	3'H X 3'W	
-	HR	Hemerocallis 'Red Rum'	Red Rum Daylily	#1	2'H X 2'W	
-	HF	Helgela Florida 'Lava Red'	Lava Red Helgela	#1	4'H X 5'W	
-	YF	Yucca filamentosa 'Ivory Tower'	Ivory Tower Yucca	#1	3'H X 3'W	

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- BOULDERS, 3'-4' DIAMETER TYPICAL, TO MATCH PATAGONIA SUBDIVISION TO WEST.

CALLOUT LEGEND

1. 40'-0" VISION TRIANGLE
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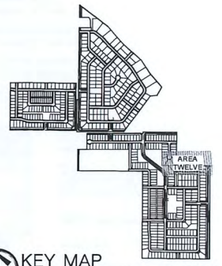

KEY MAP

SCALE: 1" = 1000'-0"

PRELIMINARY NOT FOR CONSTRUCTION

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BRECKON

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PATAGONIA EAST, RIDGE, LAKES SUBDIVISION
1670 E. HUBBARD ROAD
KUNA, IDAHO 83634
LANDSCAPE PLAN - AREA TWELVE

NO.	DATE	DESCRIPTION
1	12/19/2020	PLAT REVISIONS

PROJECT NO.: 19084
DRAWN BY: TC
CHECKED BY: JB
DATE: 12/20/2019

SHEET NUMBER
L1.12

PRELIMINARY PLAT

S:\Projects\2019\19084 patagonia east\CAD\Preliminary\19084 land pp.dwg plotted by Tyler Chambers on Mon, May 18, 2020 at 04:53 PM

ORIGINAL SURVEY ON FILE AT BAILEY ENGINEERING

MATCHLINE - SEE SHEET L1.11
MATCHLINE - SEE SHEET L1.13

N. EL FOYEL WAY
N. LA QUINTA WAY
N. TEMECULA AVE.
E. LOS LAKES ST.
PUBLIC ALLEY

MATCHLINE - SEE SHEET L1.13
MATCHLINE - SEE SHEET L1.15

PLANT SCHEDULE

QTY.	KEY	BOTANICAL NAME	COMMON NAME	SIZE	NOTES	CLASS
DECIDUOUS SHADE TREES						
-	AP	Acer platanoides 'Deborah'	Deborah Norway Maple	2" CAL.	B&B	II
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-	GT	Gleditsia triacanthos inermis 'Shademaster'	Shademaster Honelocust	2" CAL.	B&B	II
-	PA	Platanus x acerifolia	London Planetree	2" CAL.	B&B	II
-	ZS	Zelkova serrata 'Green Vase'	Green Vase Zelkova	2" CAL.	B&B	II
ORNAMENTAL FLOWERING TREES						
-	CC	Cercis canadensis	Eastern Redbud	2" CAL.	B&B	I
-	PC	Prunus cerasifera 'Capitol'	Capitol Pear	2" CAL.	B&B	I
-	PV	Prunes virginiana 'Canada Red'	Canada Red Chokecherry	2" CAL.	B&B	I
CONIFER TREES						
-	PA	Picea abies	Norway Spruce	6'-7' hgt.	B&B	
-	PP	Picea pungens 'Hoopsii'	Hoop's Blue Spruce	6'-7' hgt.	B&B	
-	PV	Pinus flexilis 'Vanderwolf'	Vanderwolf Pine	6'-7' hgt.	B&B	
-	PN	Pinus nigra	Austrian Pine	6'-7' hgt.	B&B	
SHRUBS/PERENNIALS/ORNAMENTAL GRASSES						
-	CA	Calamagrostis x acutiflora 'Karl Foerster'	Foerster's Feather Reed Grass	#1	4'H X 2'W	
-	CS	Cornus sibia 'Bolhalo'	Ivory Halo Dogwood	#5	5'H X 5'W	
-	LA	Lavandula angustifolia 'Hidcote Blue'	English Lavender	#1	3'H X 3'W	
-	HR	Hemerocallis 'Red Rum'	Red Rum Daylily	#1	2'H X 2'W	
-	HF	Helgelia florida 'Java Red'	Java Red Helgelia	#1	4'H X 5'W	
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LANDSCAPE LEGEND

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- LANDSCAPE BERM
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- 6' PARTIALLY OPEN FENCING
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- PROPERTY LINE (VERIFY)
- BENCHES
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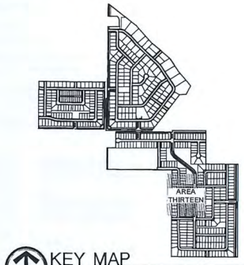

KEY MAP
1000 0 1000 2000 3000
SCALE: 1"= 1000'-0"

LANDSCAPE PLAN - AREA THIRTEEN
30 0 30 60 90
SCALE: 1"= 30'-0"

PRELIMINARY NOT FOR CONSTRUCTION

CIVIL ENGINEERING
• Subdivision Development
• Commercial Development
• Grading & Drainage
• Utility Coordination
• Land Planning
• Land Surveying

BRECKON LAND DESIGN
250 S. Beech Street, Suite 201
Boise, Idaho 83705
Phone: (208) 323-2288
Fax: (208) 323-2289
Contact: Chris Bernhardt, PE

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PATAGONIA EAST, RIDGE, LAKES SUBDIVISION
1670 E. HUBBARD ROAD
KUNA, IDAHO 83634
LANDSCAPE PLAN - AREA THIRTEEN

811 Idaho Digline, Inc. Call Before You Dig 1-800-342-1585 811 OR 1-800-342-1585 IT'S THE LAW! STAKE OUT YOUR EXCAVATION SITE BEFORE YOU DIG. WITHIN 2 WORKING DAYS AFTER YOU CALL, MEMBERS WILL MARK THEIR UNDERGROUND LINES.

REVISIONS		
No.	Date	Description
1	5/18/2020	PLAT REVISIONS

PROJECT NO.: 19084
DRAWN BY: TC
CHECKED BY: JB
DATE: 12/20/2019
SHEET NUMBER: L1.13

PRELIMINARY PLAT

S:\Projects\2019\19084 patagonia east\CAD\Preliminary\19084 land pp.dwg plotted by: Tyler Chambers on Mon, May 18, 2020 at 04:35 PM

ORIGINAL SURVEY ON FILE AT BAILEY ENGINEERING

MATCHLINE - SEE SHEET L1.12
MATCHLINE - SEE SHEET L1.14

N. TAFFRUGT AVE.
N. RAWSON AVE.
N. EAGLE RD.
E. LOS LAKES ST.
N. VILLA TRAFAL AVE.
E. SPARROW COVE ST.
MATCHLINE - SEE SHEET L1.13
MATCHLINE - SEE SHEET L1.14
MATCHLINE - SEE SHEET L1.14
MATCHLINE - SEE SHEET L1.16

PLANT SCHEDULE

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DECIDUOUS SHADE TREES						
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-	HR	Heterocallis 'Red Rum'	Red Rum Daylily	#1	2'H X 2'W	
-	HP	Perigela floridis 'Lava Red'	Java Red Perigela	#1	4'H X 5'W	
-	YF	Yucca filamentosa 'Ivory Tower'	Ivory Tower Yucca	#1	3'H X 3'W	

LANDSCAPE LEGEND

- PLANTS TO BE INSTALLED
- EXISTING PLANTS TO REMAIN
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- CUT EDGE AS DETAILED
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- 6' CLOSED PERIMETER FENCING
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- PROPERTY LINE (VERIFY)
- BENCHES
- 'PICNIC' TABLE
- TURF SOD OVER APPROVED TOPSOIL
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CALLOUT LEGEND

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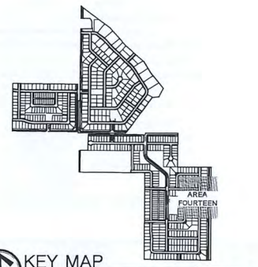

KEY MAP

1000 0 1000 2000 3000
SCALE: 1"= 1000'-0"

LANDSCAPE PLAN - AREA FOURTEEN

30 0 30 60 90
SCALE: 1"= 30'-0"

PRELIMINARY NOT FOR CONSTRUCTION

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PATAGONIA EAST, RIDGE, LAKES SUBDIVISION
1670 E. HUBBARD ROAD
KUNA, IDAHO 83634
LANDSCAPE PLAN - AREA FOURTEEN

811 Dig Line Idaho, Inc. — IT'S THE LAW! IDAHO CODE 55-2210 REQUIRES YOU TO NOTIFY IDAHO DIG LINE INC. AT LEAST TWO BUSINESS DAYS BEFORE YOU DIG, DRILL OR BLAST. CALL 2 BUSINESS DAYS BEFORE YOU DIG 1-800-342-1585

REVISIONS		
No.	Date	Description
1	5/18/2020	PLAT REVISIONS

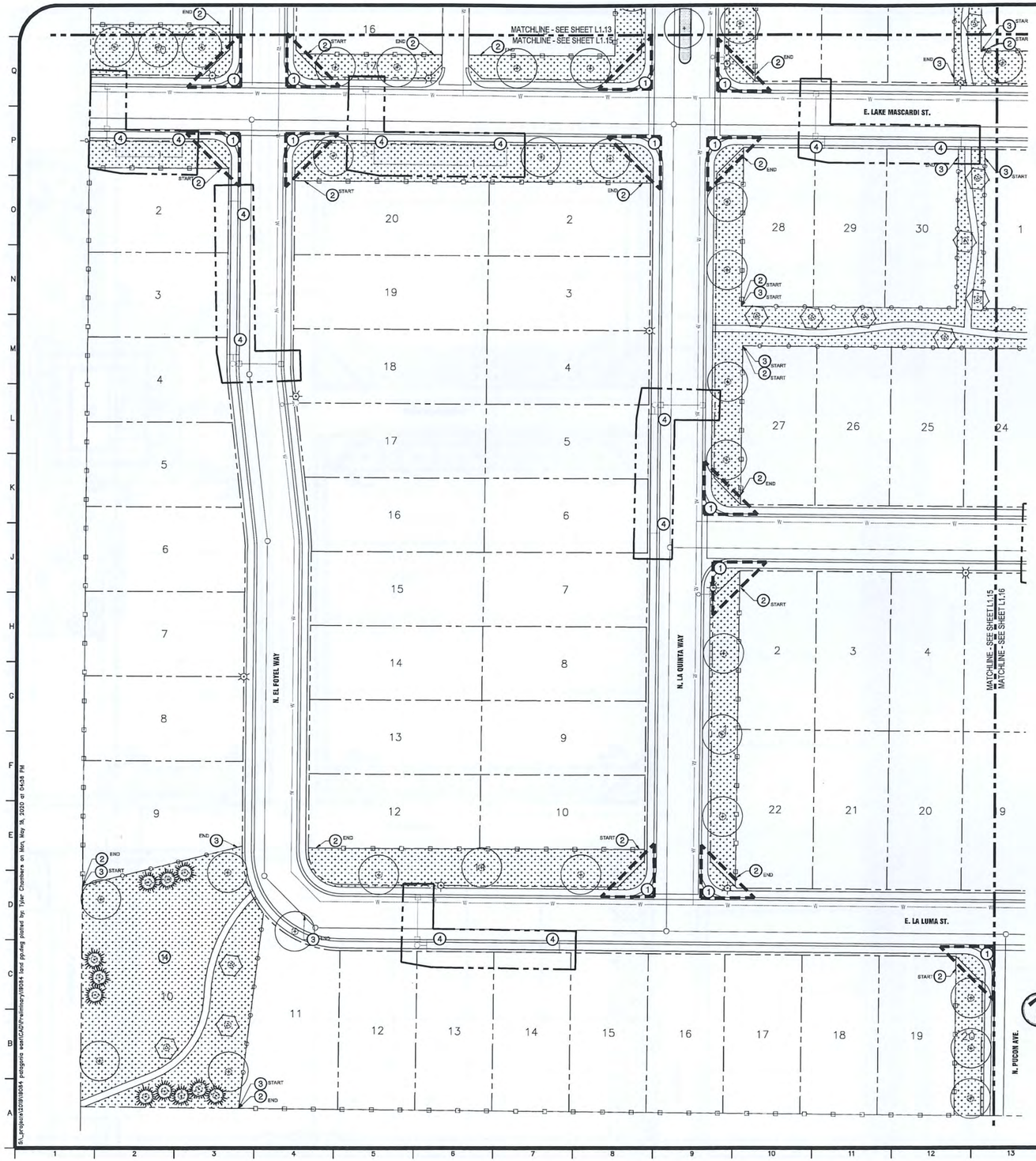
PROJECT NO.: 19084
DRAWN BY: TC
CHECKED BY: JB
DATE: 12/20/2019

SHEET NUMBER
L1.14

PRELIMINARY PLAT

R:\projects\19084\19084 patagonia east\CAD\Preliminary\19084 land pp.dwg plotted by: Tyler Chambers on Mon, May 18, 2020 at 04:55 PM

ORIGINAL SURVEY ON FILE AT BAILEY ENGINEERING



PLANT SCHEDULE

QTY.	KEY	BOTANICAL NAME	COMMON NAME	SIZE	NOTES	CLASS
DECIDUOUS SHADE TREES						
-	AP	Acer platanoides 'Deborah'	Deborah Norway Maple	2" CAL.	B&B	II
-	AC	Acer platanoides 'Royal Red'	Royal Red Maple	2" CAL.	B&B	II
-	GT	Gleditsia triacanthos inermis 'Shademaster'	Shademaster Honeylocust	2" CAL.	B&B	II
-	PA	Platanus x acerifolia	London Planetree	2" CAL.	B&B	III
-	ZS	Zelkova serrata 'Green Vase'	Green Vase Zelkova	2" CAL.	B&B	II
ORNAMENTAL FLOWERING TREES						
-	CC	Cercis canadensis	Eastern Redbud	2" CAL.	B&B	I
-	PC	Pyrus calleryana 'Capital'	Capital Pear	2" CAL.	B&B	I
-	PV	Prunus virginiana 'Canada Red'	Canada Red Chokecherry	2" CAL.	B&B	I
CONIFER TREES						
-	PA	Picea abies	Norway Spruce	6'-7' hgt.	B&B	I
-	PP	Picea pungens 'Hoopsii'	Hoopsi Blue Spruce	6'-7' hgt.	B&B	I
-	PR	Pinus flexilis 'Vanderwolf'	Vanderwolf Pine	6'-7' hgt.	B&B	I
-	PN	Pinus nigra	Austrian Pine	6'-7' hgt.	B&B	I
SHRUBS/PERENNIALS/ORNAMENTAL GRASSES						
-	CA	Calamagrostis x acutiflora 'Karl Foerster'	Foerster's Feather Reed Grass	#1	4'H X 2'H	
-	LA	Lonicera alba 'Baltholo'	Ivory Halo Dogwood	#5	5'H X 5'H	
-	LV	Lavandula angustifolia 'Hidcote Blue'	English Lavender	#1	3'H X 3'H	
-	MR	Rosmarinus 'Red Rain'	Red Rain Daylily	#1	2'H X 2'H	
-	NF	Pelgela Florida 'Java Red'	Java Red Pelgela	#1	4'H X 5'W	
-	YF	Yucca filamentosa 'Ivory Tower'	Ivory Tower Yucca	#1	3'H X 3'H	

LANDSCAPE LEGEND

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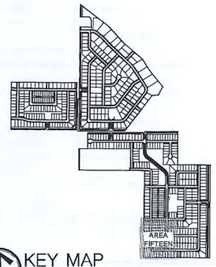

KEY MAP

1000 0 1000 2000 3000

SCALE: 1"= 1000'-0"

LANDSCAPE PLAN - AREA FIFTEEN

30 0 30 60 90

SCALE: 1"= 30'-0"

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PATAGONIA EAST, RIDGE, LAKES SUBDIVISION
1670 E. HUBBARD ROAD
KUNA, IDAHO 83634
LANDSCAPE PLAN - AREA FIFTEEN

No.	Date	Description
1	3/18/2020	PLAT REVISIONS

PROJECT NO.: 19084
DRAWN BY: TC
CHECKED BY: JB
DATE: 12/20/2019
SHEET NUMBER: L1.15

PRELIMINARY PLAT

S:_Projects\2019\19084 patagonia east\CAD\Preliminary\19084 land pp.dwg plotted by: Tyler Chambers on Mon, May 18, 2020 at 04:58 PM

ORIGINAL SURVEY ON FILE AT BAILEY ENGINEERING

MATCHLINE - SEE SHEET L1.14
MATCHLINE - SEE SHEET L1.16

E. LAKE RANCO ST.

MATCHLINE - SEE SHEET L1.15
MATCHLINE - SEE SHEET L1.16

N. PUCON AVE.

N. RAWSON AVE.

N. EAGLE RD.

PLANT SCHEDULE

QTY.	KEY	BOTANICAL NAME	COMMON NAME	SIZE	NOTES	CLASS
DECIDUOUS SHADE TREES						
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-	GT	Gleditsia triacanthos inermis 'Shademaster'	Shademaster Honeylocust	2" CAL.	B&B	II
-	PA	Platanus x acerifolia	London Planetree	2" CAL.	B&B	II
-	ZS	Zelkova serrata 'Green Vase'	Green Vase Zelkova	2" CAL.	B&B	II
ORNAMENTAL FLOWERING TREES						
-	CC	Cercis canadensis	Eastern Redbud	2" CAL.	B&B	I
-	PC	Pyrus calleryana 'Capital'	Capital Pear	2" CAL.	B&B	I
-	PV	Prunus virginiana 'Canada Red'	Canada Red Chokecherry	2" CAL.	B&B	I
CONIFER TREES						
-	PA	Picea abies	Norway Spruce	6'-7' hgt.	B&B	I
-	PP	Picea pungens 'Hoopsii'	Hoopsii Blue Spruce	6'-7' hgt.	B&B	I
-	PF	Pinus flexilis 'Vanderwolf'	Vanderwolf Pine	6'-7' hgt.	B&B	I
-	PN	Pinus nigra	Austrian Pine	6'-7' hgt.	B&B	I
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-	CA	Calamagrostis x acutiflora 'Karl Foerster'	Foerster's Feather Reed Grass	#1	4'H X 2'H	
-	CS	Cornus alba 'Bailhalo'	Ivory Halo Dogwood	#5	5'H X 5'H	
-	LA	Lavandula angustifolia 'Hidcote Blue'	English Lavender	#1	3'H X 3'H	
-	HR	Hemerocallis 'Red Rum'	Red Rum Daylily	#1	2'H X 2'H	
-	HP	Perigola florida 'Lava Red'	Java Red Perigola	#1	4'H X 5'H	
-	YF	Yucca filamentosa 'Ivory Tower'	Ivory Tower Yucca	#1	3'H X 3'H	

LANDSCAPE LEGEND

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KEY MAP

1000 0 1000 2000 3000
SCALE: 1"= 1000'-0"

LANDSCAPE PLAN - AREA SIXTEEN

30 0 30 60 90
SCALE: 1"= 30'-0"

PRELIMINARY NOT FOR CONSTRUCTION

landscape BRECKON
Breckon Land Design, Inc.
• Civil Engineering
• Landscape Architecture
• Land Planning
• Graphic Communication
• Land Surveying
• Irrigation Design
1485 North Liberty Drive, Suite 200
Boise, Idaho 83704
(208) 853-0949
Fax: (208) 853-0952
GBR Project: Patagonia East
Date of Last Revision: 12/20/2019

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PATAGONIA EAST, RIDGE, LAKES SUBDIVISION
1670 E. HUBBARD ROAD
KUNA, IDAHO 83634
LANDSCAPE PLAN - AREA SIXTEEN

811 Dig Line Idaho — Know what's below. Call before you dig. Call 811 at least two working days before you dig, plan or design to have underground utilities located and marked. Idaho Statute 55-1613, 55-1614, 55-2202

REVISIONS		
No.	Date	Description
1	12/20/2019	PLAT REVISIONS

PROJECT NO.: 19084
DRAWN BY: TC
CHECKED BY: JB
DATE: 12/20/2019

SHEET NUMBER: L1.16

PRELIMINARY PLAT

S:\Projects\19084\Work\Preliminary\19084 land pkg.dwg plotted by: Tyler Chambers on Mon, May 18, 2020 at 04:58 PM

Exhibit B-1

CITY OF KUNA
P.O. BOX 13
KUNA, ID 83634
www.kunacity.id.gov

Paul A. Stevens, P.E.
Kuna City Engineer

MEMORANDUM

Date: **23 January 2020**

From: **Paul A. Stevens, P.E.**

To: **Wendy Howell, Planning and Zoning Director**

RE: **Patagonia Ridge, Patagonia East, & Patagonia Lakes (Patagonia R.E.L.) 19-14-AN, 19-09-ZC, 19-11-S**

The Patagonia Ridge, Patagonia East, & Patagonia Lakes Subdivisions 19-14-AN, 19-09-ZC, 19-11-S dated 2 February 2020 has been reviewed. The application provides a narrative explaining the developers vision for the subdivisions, vicinity maps, legal descriptions with exhibits, and a preliminary lot layout. These comments apply to the preliminary plat, annexation request, and proposed zoning as they affect public works infrastructure. Landscaping, population density, parking requirements, emergency access, pedestrian and vehicular traffic and similar topics in the proposed zones are evaluated by the Planning and Zoning Department. Review and evaluation of civil design drawings is accomplished separately, when received.

These comments may be expanded or refined based on future land-use actions. The following comments apply considering current, effective requirements:

1. **General**
   a. The Patagonia R.E.L. site is approximately 163.60 acres and is currently zoned RR (ADA County Zone, Rural Residential).
   b. Rezone requests:
      a. R-4, R-6, & R-8 zones are requested. However, the locations of these zones are approximate.
   c. Equivalent Dwelling Units (EDU) are reckoned at approximately 3.18 people per household. Total lots are listed as 574. The resultant projected population increase for this subdivision group is approximately 1,825.
   d. A commensurate impact to traffic volumes and densities will follow.
   e. Access to Patagonia R.E.L. is from E. Hubbard Road and N. Locust Grove Road.
   f. Areas for outside activities shall be incorporated into the project. Connection to the City of Kuna pathways presents a long-term goal that should be incorporated into the project.
   g. Provide engineering certification on all final engineering drawings.

2. **Inspection Fees**
   a. An inspection fee will be levied for City inspection of water, sewer and irrigation facilities constructed in associated with this development. The current inspection fee is $1.00 per lineal foot of pressure irrigation,

sewer, and water mainline pipe. Payment is due and payable prior to City's approval of final construction plans. Site work shall not begin until all fees are paid.

b. The developer shall retain a qualified responsible, Idaho registered professional engineer to provide sufficient inspection to certify to DEQ that the project was completed in accordance with approved plans and specifications and to provide accurate as-built drawings to the City. IDAPA 10.01.02 lists the professional engineer's project responsibilities.
c. The developer's engineer and the City's inspector are encouraged to coordinate inspections.

3. Right-of-Way & Easements

a. The Kuna Fire Department shall review all road configurations to verify fire truck access and at least two entrances/exits.
b. Patagonia R.E.L. will impact travel on E. Hubbard and S. Locust Grove Roads.
a. All street construction must meet or exceed ACHD and City of Kuna development standards.
b. Sufficient right-of-way for existing and future classified streets shall be provided pursuant to City & ACHD standards.
c. Approaches onto classified streets must comply with ACHD and City of Kuna approach policies.
d. Sidewalk, curb and gutter, street widening and any related storm drainage facilities, consistent with city code and policies, shall be provided in connection with property development.
e. Easements shall be provided for all city mainlines crossing proposed lots, running along the back of lots and sides of lots, that allow the City of Kuna to access and maintain the utilities.
f. All mainlines owned by the development shall be placed in easements large enough to allow maintenance and repairs.

4. Sanitary Sewer

a. This application shall conform to the sewer master plan. The sewer master plan specifies minimum pipe sizes and supports the "to and through" utility policy.
b. Sewer improvements must meet or exceed the quality requirements of the City of Kuna.
c. The applicant's property is not connected to City services and is subject to connection fees for the ultimate connected sewer load as determined by the sewer flow model. City Code (6-4-2) requires connection to the City sewer system for all sanitary sewer needs.
d. Sewer connection fees apply to each lot containing a home or other facility.
e. A sewer flow model will be required to verify adequate sewage management.
f. The Patagonia R.E.L. is within the Patagonia Lift Station sewer basin. The maximum number of sewer connections in this basin was projected at 3.5 EDU per acre. The proposed zoning density of R-8 (up to eight dwelling units per acre) exceeds the projected zoning density.
g. Sewage produced from Patagonia, R.E.L. subdivisions will be conveyed to the Patagonia Lift Station. With the addition of 574 EDU from Patagonia R.E.L. Subdivisions to the Patagonia Lift Station the estimated maximum remaining capacity of Patagonia Lift Station is approximately -264 EDU. Providing service to this subdivision complex will overload Patagonia lift station. This analysis does not consider other subdivisions that are requesting service from this lift station.
h. Sewer flows from this development will add a considerable burden to Patagonia Lift Station. The developer will be requested to participate in an engineered evaluation of Patagonia Lift Station and proposed improvements to expand the lift station & force main capacity.
i. Alternatively, the Patagonia R.E.L. Subdivisions developer may be able to participate in the Mason Trunk Line project that will provide gravity sewer flow for this region.

j. All existing sewage treatment facilities (septic tank and drain field) must be decommissioned in accordance with Idaho Department of Environmental Quality requirements. Documentation shall be provided to the City of Kuna.

5. Irrigation

a. This application shall conform to the Pressure Irrigation Master Plan. The Pressurized Irrigation Master Plan specifies minimum pipe size and supports the "to and through" utility policy.
b. An additional irrigation storage pond and pumping station is needed in the vicinity of Patagonia R.E.L. Subdivisions.
c. Pressurized irrigation flow model will be required to verify adequate pressurized irrigation supply.
d. The applicant's property is not connected to the City's pressurized irrigation system. Relying on drinking water for irrigation purposes conflicts with City Code (6-4-2).
e. Pressurized irrigation fees shall apply to all lots in the subdivisions.
f. Patagonia R.E.L. shall obtain pressurized irrigation by connecting to the City of Kuna's pressurized irrigation system and extending pressurized irritation throughout the subdivision.
g. All pressurized irrigation infrastructure shall meet or exceed City of Kuna standards.
h. Irrigation of Patagonia R.E.L. shall be an extension of the City of Kuna pressurized irrigation system.
i. Existing irrigation ditches (supply & drain) must be relocated as needed and as approved by the irrigation ditch company/users.
j. A plan approval letter from local irrigation districts will be necessary if this project affects any local irrigation districts.

6. Potable Water.

a. This application shall conform to the water master plan. The water master plan specifies minimum pipe sizes and supports the "to and through" utility policy.
b. Potable water will be provided to Patagonia R.E.L. by connection to the City of Kuna's potable water system.
c. Improvements must meet or exceed the quality requirements of the City of Kuna
d. A water flow model will be required to verify adequate water supply and fire suppression.
e. Water connection fees apply to each lot containing a home or other facility.
f. Decommission wells as needed, in accordance with Idaho Department of Water Resources (IDWR) requirements. Provide documentation to the City of Kuna.

7. Grading and Storm Drainage

a. Verify that existing and proposed elevations match at property boundaries such that a slope burden is not imposed on adjacent properties. Slopes shall not be steeper than 3:1 on lots adjacent to a street or common lot and no steeper than 4:1 for lots with common rear lot lines.
b. Provide a grading and drainage plan which supports and maintains all upstream drainage rights and all downstream irrigation delivery rights as they presently exist for this property.
c. All positional information shall be from the state plane coordinate system, latest version.
d. Elevations shall be actual NAVD 88 datum elevations. A localized elevation system is not acceptable.
e. State the vertical datum used for elevations on the construction drawings.
f. Verify that existing and proposed elevations match at property boundaries such that a slope burden is not imposed on adjacent properties.
g. The final inspection shall verify that slopes are not steeper than 3:1 on lots adjacent to a street or common lot line and no steeper than 4:1 for lots with common rear lot lines.

h. Provide a storm water disposal & treatment plan which accounts for increased storm water runoff volumes. Provide detailed drawings of drainage & treatment facilities with supporting calculations for review and approval.
i. Runoff from public right-of-way is regulated by ACHD. On site storm water retention (if any) shall be reviewed by the City Engineer in conjunction with the Civil Engineering construction improvements review.
j. The City of Kuna relies on the ACHD Stormwater Policy Manual to establish the requirements for design of private storm water disposal systems.

8. As-Built Drawings

a. As-built drawings are required at the conclusion of any public facility construction project and are the responsibility of the developer's engineer. The city may help track changes but will not be responsible for the finished product. As-built drawings will be required before occupancy or final plat approval is granted.

9. Property Description

a. The applicant provided a legal description and representative figure of Patagonia R.E.L. with the application.

Exhibit B-2

Development Services Department

Project/File: **Patagonia East, Ridge and Lakes Subdivision / KPP18-0004 / 19-13-A & 19-11-S**
The applicant is requesting annexation, zoning, and preliminary plat approval to subdivide 174 acres into 561 single-family residential lots, 53 common lots and 1 school lot.

Lead Agency: City of Kuna

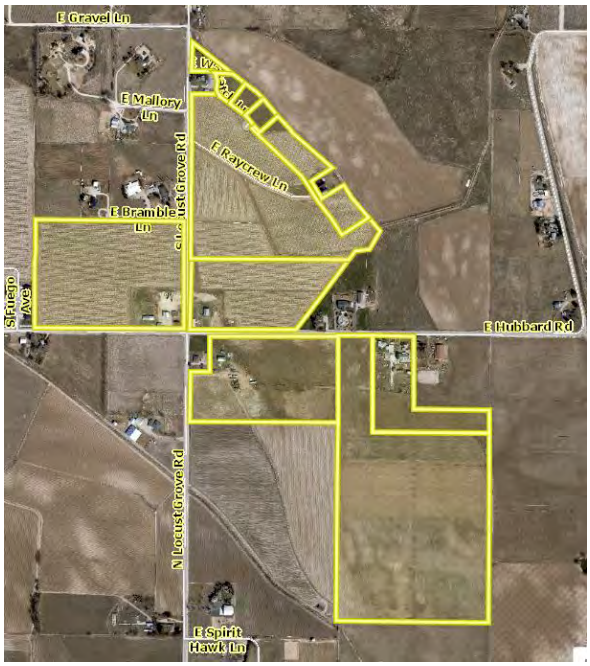
Site Address: Hubbard Road & Locust Grove Road

Staff Approval: August 7, 2020

Applicant: Greg Johnson
Westpark Companies
2463 E. Gala Street #120
Meridian, ID 83642

Representative: Bonnie Layton
WHPacific- NV5
2141 W. Airport Way #104
Boise, ID 83705

Staff Contact: Austin Miller
Phone: (208) 387-6335
E-mail: amiller@achdidaho.org



A. Findings of Fact

1. **Description of Application:** The applicant is requesting annexation, zoning (R-4, R-6 and R-8) and preliminary plat approval to subdivide 174 acres into 561 single-family residential lots, 53 common lots and 1 school lot. The proposed uses are consistent with the City of Kuna's comprehensive plan designations of medium density residential and mixed use.

2. **Description of Adjacent Surrounding Area:**

Direction	Land Use	Zoning
North	Rural Residential Zone	RR
South	Rural Residential Zone	RR
East	Rural Residential Zone	RR
West	Rural Residential Zone & Medium-Low Density Residential District (Patagonia Subdivision)	RR & R-6

3. **Site History:** ACHD has previously reviewed a portion of this site along the east side of Locust Grove Road north of Hubbard Road as Wasatch Subdivision in 2006. The requirements differ from those of the prior action to reflect the current site plan and MSM designation for Locust Grove Road

4. **Adjacent Development:** The following developments are pending or underway in the vicinity of the site:

- Patagonia Subdivision, consisting of 470 single-family residential lots, located immediately west of this site was approved by ACHD in October 2014 and is in various stages of development.
- Merino Cove Subdivision, consisting of 25 single-family residential lots, located in an out-parcel of the Patagonia Subdivision site west of this site, was approved by ACHD in November 2017 and is currently under construction.
- Ledgestone Subdivision, consisting of 253 single-family residential lots, located south of the site, was approved by ACHD in January 2019 and is currently in various stages of development.

5. **Transit:** Transit services are not available to serve this site.

6. **New Center Lane Miles:** The proposed development includes 5 centerline miles of new public road.

7. **Impact Fees:** There will be an impact fee that is assessed and due prior to issuance of any building permits. The assessed impact fee will be based on the impact fee ordinance that is in effect at that time. The impact fee assessment will not be released until the civil plans are approved by ACHD.

8. **Capital Improvements Plan (CIP) / Integrated Five Year Work Plan (IFYWP):**
   - The intersection of Locust Grove Road and Lake Hazel Road is listed in the CIP to be reconstructed as a single-lane roundabout with a westbound right-turn bypass lane between 2026 and 2030.

B. Traffic Findings for Consideration

1. **Trip Generation:** This development is estimated to generate 5,692 additional vehicle trips per day; 597 additional vehicle trips per hour in the PM peak hour, based on the traffic impact study.

2. **Traffic Impact Study**
   Thompson Engineers, Inc. prepared a traffic impact study for the proposed Patagonia East, Ridge and Lakes Subdivision. Below is an executive summary of the findings **as presented by Thompson Engineers** can be found as attachment 3. ACHD has reviewed the submitted traffic impact study for consistency with ACHD policies and practices and may have additional requirements beyond what is noted in the summary.

3. **Mitigation**

   a. **Policy:**

   Mitigation Proposals: Mitigation recommendations shall be provided within the report. At a minimum, for each roadway segment and intersection that does not meet the minimum acceptable level of service planning threshold or v/c ratio, the report must discuss feasible measures to avoid or reduce the impact to the system. To be considered adequate, measures should be specific and feasible. Mitigation may also include:

   - Revision to the Phasing Plan to coincide with the District's planning Capital Projects.
   - Reducing the scope and/or scale of the project.

   Alternative Mitigation Measures: 7106.7.3 states that if traditional mitigation measures such as roadway widening and intersection improvements are infeasible as determined by ACHD, the TIS may recommend alternative mitigation measures. Alternative mitigation measures shall demonstrate that impacts from the project will be offset.

- If the impacted roadway segments and/or intersections are programmed as funded in the Integrated Five Year Work Plan (IFYWP) or the Capital Improvements Plan (CIP); no alternative mitigation is required.
- If the impacted roadway segments and/or intersections are not programmed in either the IFYWP or the CIP; the applicant may (i) analyze the shoulder hour and (ii) provide a safety analysis to determine alternative mitigation requirements.
    - If the impacted roadway segments and intersections meet the minimum acceptable level of service planning thresholds in the shoulder hour the applicant may suggest feasible alternative mitigation such as: sidewalks, bike facilities, connectivity, safety improvements, etc. within 1.5 miles of the proposed development.
    - If the shoulder hour planning thresholds are exceeded the applicant may request to enter into a Development Agreement and pay into the Priority Corridor Fund an amount determined by the ACHD to offset impacts from the project.
- Alternative Mitigation may also include:
    - Revision to the Phasing Plan to coincide with the District's future Capital Projects.
    - Reducing the scope and/or scale of the project.

Level of Service Planning Thresholds: District Policy 7206.4.1 states that, Level of Service Planning Thresholds have been established for principal arterials and minor arterials within ACHD's Capital Improvement Plan and are also listed in section 7106. Unless otherwise required to provide a Traffic Impact Study under section 7106, a proposed development with site traffic less than 10% of the existing downstream roadway or intersection peak hour traffic shall not be required to provide mitigation for a roadway or intersection that currently exceeds the minimum acceptable level of service planning threshold or V/C ratio.

b. Staff Comments/Recommendations: The traffic impact study included an analysis of three different phases with the first phase including 201 single family building lots of the 537 total lots proposed. The traffic impact study notes that under 2018 existing background conditions all study area intersections and roadway segments are anticipated to operate at an acceptable level of service. Under phase 1, 2023 background and total traffic conditions one roadway segment, Columbia Road between SH-69 and Locust Grove Road is anticipated to operate at an unacceptable level of service planning threshold as a 2-lane minor arterial roadway.

The traffic impact study notes that phase 1 site traffic is approximately 2.6% of the total PM peak hour traffic Columbia Road between SH 69 and Locust Grove Road. Therefore, consistent with District policy 7205.3.1 Level of Service Planning Threshold, which states, a proposed development with site traffic less than 10% of the existing downstream roadway or intersection peak hour traffic shall not be required to provide mitigation; no improvements are required to this roadway segment for phase 1.

Under Phase 2, 2030 background and total traffic conditions the TIS notes that the following study area intersections anticipated to operate at an unacceptable level of service planning threshold.

Intersections:

- Columbia Road/SH-69
- Hubbard Road/SH-69
- Locust Grove Road/Columbia Road

- Eagle Road/Columbia Road

Roadway Segments:

- Columbia Road between SH-69 and Locust Grove Road as a 2-lane minor arterial
- Columbia Road between Locust Grove Road and Eagle Road as a 2-lane minor arterial

Under Phase 3, 2038 background and total traffic conditions the TIS notes that the following study area intersections and roadway segments are anticipated to operate at an unacceptable level of service planning threshold.

Intersections:

- Locust Grove/Lake Hazel
- Columbia Road/SH-69
- Hubbard Road/SH-69
- Locust Grove Road/Columbia Road
- Eagle Road/Columbia Road

Roadway Segments:

- Columbia Road between SH-69 and Locust Grove Road as a 2-lane minor arterial
- Columbia Road between SH-69 and Linder Road as a 2-lane minor arterial
- Columbia Road between Locust Grove Road and Eagle Road as a 3-lane minor arterial

The intersections and roadway segments anticipated to exceed ACHD's acceptable level of service thresholds are all located offsite and are not scheduled for improvements in ACHD's IFYWP or CIP, with the exception of the Locust Grove/Lake Hazel intersection.

To verify the assumptions of the traffic impact study and to ensure that improvements are made when warranted; prior to ACHD's signature on the final plat which contains the 202nd lot the applicant should be required to submit an updated traffic impact study to ACHD. At a minimum the updated traffic impact study should include an analysis of the intersections and roadway segments included in the original traffic impact study. The applicant should be required to coordinate the full scope of work for the updated traffic impact study with staff. ACHD may have additional requirements based on the findings at that time. Which may include installation of interim signals, pavement widening, construction of off-site pedestrian improvements, etc. A subsequent traffic impact study update will be required based on the findings and recommendations of the updated traffic impact study. The timing of the second traffic impact study update will be determined at that time.

If it is determined that the necessary improvements are infeasible, then the applicant will be required to recommend alternative mitigation measures for consideration, or as an alternative they may stop platting and wait for ACHD to make improvements.

Ledgestone Subdivision has been required to convert the Locust Grove Road/Hubbard Road intersection to an all-way stop control intersection prior to plan approval and ACHD's signature on the final plat that contains the 225th lot.

The applicant should be required to construct a dedicated southbound right-turn lane on Locust Grove Road at Sagwon Street, when Sagwon Street is constructed to intersect Locust Grove Road.

The applicant is proposing a school lot within the development. A separate traffic impact study, specifically regarding the school, will be required when it is developed in the future.

3. Condition of Area Roadways

Traffic Count is based on Vehicles per hour (VPH)

Roadway	Frontage	Functional Classification	PM Peak Hour Traffic Count	PM Peak Hour Level of Service
Columbia Rd (SH 69 to Locust Grove Rd)	None	Minor Arterial	377	Better than "E"
Columbia Rd (Locust Grove Rd to Eagle Rd)	None	Minor Arterial	273	Better than "E"
Hubbard Rd (SH 69 to Locust Grove Rd)	1,300-feet	Minor Arterial	53	Better than "E"
Hubbard Rd (Locust Grove Rd to Eagle Rd)	1,425-feet	Minor Arterial	38	Better than "E"
Locust Grove Rd (Lake Hazel Rd to Columbia Rd)	None	Minor Arterial	90	Better than "E"
Locust Grove Rd (Columbia Rd to Hubbard Rd)	2,290-feet	Minor Arterial	94	Better than "E"

* Acceptable level of service for a two-lane minor arterial is "E" (575 VPH).

4. Average Daily Traffic Count (VDT)

- The average daily traffic count for Columbia Road between SH 69 and Locust Grove Road was 4,100 on July 12, 2018.
- The average daily traffic count for Columbia Road between Locust Grove Road and Eagle Road was 3,842 on July 12, 2018.
- The average daily traffic count for Hubbard Road between SH 69 and Locust Grove Road was 770 on October 17, 2018.
- The average daily traffic count for Hubbard Road between Locust Grove Road and Eagle Road was 561 on October 17, 2018.
- The average daily traffic count for Locust Grove Road between Lake Hazel Road and Columbia Road was 1,756 on July 12, 2018.
- The average daily traffic count for Locust Grove Road between Columbia Road and Hubbard Road was 990 on October 17, 2018.

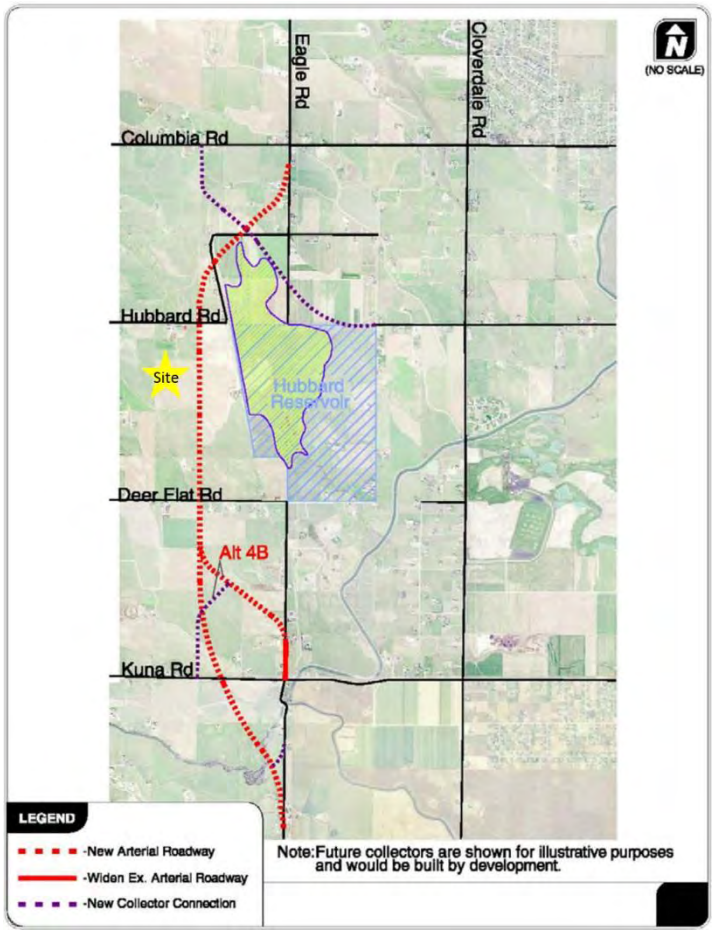
C. Findings for Consideration

1. Southwest Boise Transportation Study – Eagle-Cloverdale Alignment

a. The Southwest Boise Transportation Study (SWBS) is a regional study that identifies future roadway improvements, collector roadway connections, intersection and corridor need in Southwest Boise. The study helps ACHD plan for and accommodate future traffic demand in the Southwest Boise area. The study was created in collaboration with the City of Boise and was adopted by the ACHD Commission in May of 2009.

b. Staff Comments/Recommendations: The Southwest Boise Transportation Study included the Eagle/Cloverdale Alignment plan. The Master Street Map has been updated to include corridor preservation to accommodate the construction of Eagle Road south of Columbia Road as a future 3-lane roadway within 74-feet of right-of-way, consistent with the study.

Eagle/Cloverdale Recommended Alignment



2. Eagle Road

a. Existing Conditions: There are no public streets within the site.

The Eagle Road realignment route as established in the Southwest Boise Transportation Study runs along the east property line of this site.

b. Policy:

Arterial Roadway Policy: District Policy 7205.2.1 states that the developer is responsible for improving all street frontages adjacent to the site regardless of whether or not access is taken to all of the adjacent streets.

Master Street Map and Typology Policy: District Policy 7205.5 states that the design of improvements for arterials shall be in accordance with District standards, including the Master Street Map and Livable Streets Design Guide. The developer or engineer should contact the District before starting any design.

Street Section and Right-of Way Width Policy: District Policy 7205.2.1 & 7205.5.2 states that the standard 3-lane street section shall be 46-feet (back-of-curb to back-of-curb) within 70 feet of right-of-way. This width typically accommodates a single travel lane in each direction, a continuous center left-turn lane, and bike lanes.

Right-of-Way Dedication: District Policy 7205.2 states that The District will provide compensation for additional right-of-way dedicated beyond the existing right-of-way along arterials listed as impact fee eligible in the adopted Capital Improvements Plan using available impact fee revenue in the Impact Fee Service Area.

No compensation will be provided for right-of-way on an arterial that is not listed as impact fee eligible in the Capital Improvements Plan.

The District may acquire additional right-of-way beyond the site-related needs to preserve a corridor for future capacity improvements, as provided in Section 7300.

Frontage Improvements Policy: District Policy 7205.2.1 states that the developer shall widen the pavement to a minimum of 17-feet from centerline plus a 3-foot wide gravel shoulder adjacent to the entire site. Curb, gutter and additional pavement widening may be required (See Section 7205.5.5).

Curb Type and/or Roadside Borrow Ditch Policy: District Policy 7205.5.5 states that where curbs are required to be constructed on arterials, standard vertical curbs are required.

Where curbs are not required the design of the roadside borrow ditch shall be in accordance with the ISPWC standards.

Sidewalk Policy: District Policy 7205.5.7 requires a concrete sidewalk at least 5-feet wide to be constructed on both sides of all arterial streets. A parkway strip at least 6-feet wide between the back-of-curb and street edge of the sidewalk is required to provide increased safety and protection of pedestrians. Consult the District's planter width policy if trees are to be placed within the parkway strip. Sidewalks constructed next to the back-of-curb shall be a minimum of 7-feet wide.

Detached sidewalks are encouraged and should be parallel to the adjacent roadway. Meandering sidewalks are discouraged.

A permanent right-of-way easement shall be provided if public sidewalks are placed outside of the dedicated right-of-way. The easement shall encompass the entire area between the right-of-way line and 2-feet behind the back edge of the sidewalk. Sidewalks shall either be located wholly within the public right-of-way or wholly within an easement.

ACHD Master Street Map: ACHD Policy Section 3111.1 requires the Master Street Map (MSM) guide the right-of-way acquisition, arterial street requirements, and specific roadway features required through development. This segment of Eagle Road is designated in the MSM as a Residential Arterial with 3-lanes and on-street bike lanes, a 49-foot street section within 74-feet of right-of-way.

c. **Applicant Proposal:** The applicant is proposing to construct Eagle Road as a 33-foot wide street section with vertical curb, gutter and 5-foot wide detached concrete sidewalk on the west side and a 3-foot gravel shoulder on the east side, within 58-feet of right-of-way.

d. **Staff Comments/Recommendations:** The applicant's proposal to construct Eagle Road as a 33-foot wide street section does not meet District policy and should not be approved as proposed.

The applicant should be required to dedicate 58-feet of right-of-way for Eagle Road abutting the site as proposed. The applicant should be required to construct 5-foot wide detached concrete sidewalk for Eagle Road located 2-feet east of the right-of-way line.

Prior to signing the first final plat abutting Eagle Road, the applicant should coordinate with ACHD to determine what roadway improvements are required for Eagle Road abutting the site. Based on the development patterns in the area, ACHD staff will determine if frontage improvements are required or if a road trust should be provided.

The applicant will not be compensated for any improvements or right-of-way dedication along Eagle Road abutting the site, as this street segment is not scheduled for improvements in ACHD's IFYWP or CIP.

3. Hubbard Road

a. **Existing Conditions:** Hubbard Road is improved with 2 travel lanes (26-feet of pavement) and no curb, gutter or sidewalk abutting the site. There is 50-feet of right-of-way for Hubbard Road west of Locust Grove Road (25-feet from centerline). The right-of-way for Hubbard Road east of Locust Grove varies from 58-feet to 50-feet (33 to 25-feet from centerline).

b. **Policy:**

Arterial Roadway Policy: District Policy 7205.2.1 states that the developer is responsible for improving all street frontages adjacent to the site regardless of whether or not access is taken to all of the adjacent streets.

Master Street Map and Typology Policy: District Policy 7205.5 states that the design of improvements for arterials shall be in accordance with District standards, including the Master Street Map and Livable Streets Design Guide. The developer or engineer should contact the District before starting any design.

Street Section and Right-of Way Width Policy: District Policy 7205.2.1 & 7205.5.2 states that the standard 3-lane street section shall be 46-feet (back-of-curb to back-of-curb) within 70 feet of right-of-way. This width typically accommodates a single travel lane in each direction, a continuous center left-turn lane, and bike lanes.

Right-of-Way Dedication: District Policy 7205.2 states that The District will provide compensation for additional right-of-way dedicated beyond the existing right-of-way along arterials listed as impact fee eligible in the adopted Capital Improvements Plan using available impact fee revenue in the Impact Fee Service Area.

No compensation will be provided for right-of-way on an arterial that is not listed as impact fee eligible in the Capital Improvements Plan.

The District may acquire additional right-of-way beyond the site-related needs to preserve a corridor for future capacity improvements, as provided in Section 7300.

Sidewalk Policy: District Policy 7205.5.7 requires a concrete sidewalk at least 5-feet wide to be constructed on both sides of all arterial streets. A parkway strip at least 6-feet wide between the back-of-curb and street edge of the sidewalk is required to provide increased safety and protection of pedestrians. Consult the District's planter width policy if trees are to be placed within the parkway strip. Sidewalks constructed next to the back-of-curb shall be a minimum of 7-feet wide.

Detached sidewalks are encouraged and should be parallel to the adjacent roadway. Meandering sidewalks are discouraged.

A permanent right-of-way easement shall be provided if public sidewalks are placed outside of the dedicated right-of-way. The easement shall encompass the entire area between the right-of-way line and 2-feet behind the back edge of the sidewalk. Sidewalks shall either be located wholly within the public right-of-way or wholly within an easement.

Frontage Improvements Policy: District Policy 7205.2.1 states that the developer shall widen the pavement to a minimum of 17-feet from centerline plus a 3-foot wide gravel shoulder adjacent to the entire site. Curb, gutter and additional pavement widening may be required (See Section 7205.5.5).

ACHD Master Street Map: ACHD Policy Section 3111.1 requires the Master Street Map (MSM) guide the right-of-way acquisition, arterial street requirements, and specific roadway features required through development. These segments of Hubbard Road and Locust Grove Road are designated in the MSM as Residential Arterials with 3-lanes and on-street bike lanes, 46-foot street sections within 74-feet of right-of-way.

c. **Applicant Proposal:** The applicant is proposing to improve Hubbard Road west of Locust Grove Road as ½ of a 46-foot street section with vertical curb, gutter, a 15.5-foot wide planter strip and 8-foot wide concrete sidewalk. The applicant is proposing to dedicate right-of-way to total 48.5-feet from centerline for Hubbard Road abutting the site west of Locust Grove Road.

The applicant is proposing to improve Hubbard Road east of Locust Grove Road as ½ of a 46-foot street section with vertical curb, gutter, an 8-foot wide planter strip and 8-foot wide concrete sidewalk. The applicant is proposing to dedicate right-of-way to total 37-feet from centerline and provide a sidewalk easement extending 2-feet past the back edge of sidewalk for Hubbard Road east of Locust Grove Road abutting the site.

d. Staff Comments/Recommendations: Hubbard Road is not centered on the section line and varies between 1 to 2 feet. Consistent with the adjacent developments, frontage improvements and right-of-way dedication along Hubbard Road should be measured from section line abutting the site.

The applicant's proposal to improve Hubbard Road as a 46-foot wide street section with vertical curb, gutter and an 8-foot wide detached concrete sidewalk where the applicant controls both sides of the roadway and as ½ of a 46-foot street section with vertical curb, gutter and detached sidewalks exceed ACHD policy which requires right-of-way dedication, pavement widening and the construction of sidewalks on arterial roadways.

At a minimum, the applicant should be required to improve Hubbard Road west of Locust Grove Road with 17-feet of pavement from section line plus a 3-foot wide gravel shoulder and 5-foot wide concrete sidewalk located 31-feet from section line adjacent to the entire site. Dedicate right-of-way to total 37-feet from section line for Hubbard Road abutting the site west of Locust Grove Road.

If the applicant chooses to improve Hubbard Road west of Locust Grove Road abutting the site as proposed, then it should be improved as a 46-foot street section with vertical curb, gutter, 15.5-foot wide planter strips and 8-foot wide concrete sidewalk where the applicant controls both side of the roadway and as ½ of a 46-foot street section with vertical curb, gutter, a 15.5-foot wide planter strip and 8-foot wide concrete sidewalk where the applicant controls one side of the roadway. The applicant should dedicate right-of-way to total 48.5-feet from section line for Hubbard Road abutting the site west of Locust Grove Road.

At a minimum, the applicant should be required to improve Hubbard Road east of Locust Grove Road with 17-feet of pavement from centerline plus a 3-foot wide gravel shoulder, borrow ditch and 5-foot wide concrete sidewalk located of 31-feet from section line adjacent to the entire site. The applicant should dedicate right-of-way to total 37-feet from section line and provide a sidewalk easement extending 2-feet behind the back edge of sidewalk for all sidewalk located outside the dedicated right-of-way.

If the applicant chooses to improve Hubbard Road east of Locust Grove Road abutting the site as proposed, then it should be improved as ½ of a 46-foot street section with vertical curb, gutter, an 8-foot wide planter strip and 8-foot wide concrete sidewalk. The applicant should dedicate right-of-way to total 37-feet from section line and provide a sidewalk easement extending 2-feet behind the back edge of sidewalk for all sidewalk located outside the dedicated right-of-way.

The applicant will not be compensated for any improvements or right-of-way dedication along Hubbard Road abutting the site, as this roadway is not scheduled for improvements in ACHD's IFYWP or CIP.

4. Locust Grove Road

a. Existing Conditions: Locust Grove Road is improved with 2 travel lanes (26-feet of pavement) and no curb, gutter or sidewalk abutting the site. There is 58-feet of right-of-way for Locust Grove Road south of Hubbard Road (31-feet from centerline). The right-of-way for Locust Grove Road north of Hubbard Road varies from 54 to 63-feet (24 to 30-feet from centerline).

b. Policy:

Arterial Roadway Policy: District Policy 7205.2.1 states that the developer is responsible for improving all street frontages adjacent to the site regardless of whether or not access is taken to all of the adjacent streets.

Master Street Map and Typology Policy: District Policy 7205.5 states that the design of improvements for arterials shall be in accordance with District standards, including the Master

Street Map and Livable Streets Design Guide. The developer or engineer should contact the District before starting any design.

Street Section and Right-of Way Width Policy: District Policy 7205.2.1 & 7205.5.2 states that the standard 3-lane street section shall be 46-feet (back-of-curb to back-of-curb) within 70 feet of right-of-way. This width typically accommodates a single travel lane in each direction, a continuous center left-turn lane, and bike lanes.

Right-of-Way Dedication: District Policy 7205.2 states that The District will provide compensation for additional right-of-way dedicated beyond the existing right-of-way along arterials listed as impact fee eligible in the adopted Capital Improvements Plan using available impact fee revenue in the Impact Fee Service Area.

No compensation will be provided for right-of-way on an arterial that is not listed as impact fee eligible in the Capital Improvements Plan.

The District may acquire additional right-of-way beyond the site-related needs to preserve a corridor for future capacity improvements, as provided in Section 7300.

Sidewalk Policy: District Policy 7205.5.7 requires a concrete sidewalk at least 5-feet wide to be constructed on both sides of all arterial streets. A parkway strip at least 6-feet wide between the back-of-curb and street edge of the sidewalk is required to provide increased safety and protection of pedestrians. Consult the District's planter width policy if trees are to be placed within the parkway strip. Sidewalks constructed next to the back-of-curb shall be a minimum of 7-feet wide.

Detached sidewalks are encouraged and should be parallel to the adjacent roadway. Meandering sidewalks are discouraged.

A permanent right-of-way easement shall be provided if public sidewalks are placed outside of the dedicated right-of-way. The easement shall encompass the entire area between the right-of-way line and 2-feet behind the back edge of the sidewalk. Sidewalks shall either be located wholly within the public right-of-way or wholly within an easement.

Frontage Improvements Policy: District Policy 7205.2.1 states that the developer shall widen the pavement to a minimum of 17-feet from centerline plus a 3-foot wide gravel shoulder adjacent to the entire site. Curb, gutter and additional pavement widening may be required (See Section 7205.5.5).

ACHD Master Street Map: ACHD Policy Section 3111.1 requires the Master Street Map (MSM) guide the right-of-way acquisition, arterial street requirements, and specific roadway features required through development. These segments of Hubbard Road and Locust Grove Road are designated in the MSM as Residential Arterials with 3-lanes and on-street bike lanes, 49-foot street sections within 74-feet of right-of-way.

c. **Applicant Proposal:** The applicant is proposing to improve Locust Grove Road as ½ of a 46-foot street section with vertical curb, gutter, a 15-foot wide planter strip and 8-foot wide concrete sidewalk. The applicant is proposing to dedicate right-of-way to total 48.5-feet from centerline of Locust Grove Road abutting the site.

d. **Staff Comments/Recommendations:** Locust Grove Road is not centered on the section line and varies between 1 to 2 feet. Consistent with the adjacent developments, frontage improvements and right-of-way dedication along Locust Grove Road should be measured from section line.

The applicant's proposal to construct Locust Grove Road as ½ of a 46-foot wide street section with vertical curb gutter and an 8-foot wide detached concrete sidewalk abutting the site

exceeds ACHD policy which requires right-of-way dedication, pavement widening and the construction of sidewalks on arterial roadways.

At a minimum the applicant should be required to improve Locust Grove Road with 17-feet of pavement from section line plus a 3-foot wide gravel shoulder, borrow ditch and 5-foot wide concrete sidewalk located 31-feet from section line adjacent to the entire site. Dedicate right-of-way to total 37-feet from section line and provide a sidewalk easement extending 2-feet behind the back of sidewalk for all sidewalk located outside the dedicated right-of-way.

If the applicant chooses to fully improve Locust Grove Road abutting the site as proposed then it should be improved as a 46-foot street section with vertical curb, gutter, 15-foot wide planter strips and 8-foot wide concrete sidewalk where the applicant controls both sides of the roadway and as ½ of a 46-foot street section with vertical curb, gutter, a 15-foot wide planter strip and 8-foot wide concrete sidewalk where the applicant controls one side of the roadway, consistent with the MSM. The applicant should dedicate right-of-way to total 48.5-feet from section line of Locust Grove Road abutting the site.

The applicant should be required to construct a dedicated southbound right-turn lane on Locust Grove Road at Sagwon Street, when Sagwon Street is constructed to intersect Locust Grove Road.

The applicant will not be compensated for any improvements or right-of-way dedication along Locust Grove Road abutting the site, as this roadway is not scheduled for improvements in ACHD's IFYWP or CIP.

5. Hubbard Road/Locust Grove Road Intersection

a. Policy:

ACHD Master Street Map: ACHD Policy Section 3111.1 requires the Master Street Map (MSM) guide the right-of-way acquisition, collector street requirements, roundabout requirements, and specific roadway features required through development. A new roundabout was identified on the MSM. The new single lane roundabout is planned at the at the Hubbard Road/Locust Grove Road intersection.

b. Staff Comments/Recommendations: As noted above, the intersection of Hubbard Road and Locust Grove Road is shown as a single lane roundabout on the MSM. The traffic impact study included an analysis for this intersection and found that a roundabout is not warranted for the first phases of the development. Therefore, construction of a roundabout at the Hubbard Road/Locust Grove intersection is not required at this time. However, the applicant should be required to dedicate right-of-way at the Hubbard Road/Locust Grove intersection consistent with the template shown on attachment 5 to accommodate the future construction of the single lane roundabout at the intersection.

This intersection should be re-evaluated as part of the required traffic impact study update required to be submitted prior to ACHD's signature on the final plat which contains the 202nd building lot. If the roundabout is warranted as a result of the updated traffic impact study, then the applicant should be required to design and construct the roundabout at that time. If the roundabout is not warranted, then the intersection will be re-evaluated through future traffic impact studies as development in the vicinity of the site occurs.

6. La Quinta Way (between Hubbard Road and Lake Mascardi Street)

a. Existing Conditions: There are no public streets within the site.

b. Policy:

Collector Street Policy: District policy 7206.2.1 states that the developer is responsible for improving all collector frontages adjacent to the site or internal to the development as required below, regardless of whether access is taken to all of the adjacent streets.

Master Street Map and Typologies Policy: District policy 7206.5 states that if the collector street is designated with a typology on the Master Street Map, that typology shall be considered for the required street improvements. If there is no typology listed in the Master Street Map, then standard street sections shall serve as the default.

Street Section and Right-of-Way Policy: District policy 7206.5.2 states that the standard right-of-way width for collector streets shall typically be 50 to 70-feet, depending on the location and width of the sidewalk and the location and use of the roadway. The right-of-way width may be reduced, with District approval, if the sidewalk is located within an easement; in which case the District will require a minimum right-of-way width that extends 2-feet behind the back-of-curb on each side.

The standard street section shall be 46-feet (back-of-curb to back-of-curb). This width typically accommodates a single travel lane in each direction, a continuous center left-turn lane, and bike lanes.

Residential Collector Policy: District policy 7206.5.2 states that the standard street section for a collector in a residential area shall be 36-feet (back-of-curb to back-of-curb). The District will consider a 33-foot or 29-foot street section with written fire department approval and taking into consideration the needs of the adjacent land use, the projected volumes, the need for bicycle lanes, and on-street parking.

Sidewalk Policy: District policy 7206.5.6 requires a concrete sidewalk at least 5-feet wide to be constructed on both sides of all collector streets. A parkway strip at least 6-feet wide between the back-of-curb and street edge of the sidewalk is required to provide increased safety and protection of pedestrians. Consult the District's planter width policy if trees are to be placed within the parkway strip. Sidewalks constructed next to the back-of-curb shall be a minimum of 7-feet wide.

Detached sidewalks are encouraged and should be parallel to the adjacent roadway. Meandering sidewalks are discouraged.

A permanent right-of-way easement shall be provided if public sidewalks are placed outside of the dedicated right-of-way. The easement shall encompass the entire area between the right-of-way line and 2-feet behind the back edge of the sidewalk. Sidewalks shall either be located wholly within the public right-of-way or wholly within an easement.

Average Daily Traffic (ADT): District policy 7207.3.1 states that ADT on new and existing local streets should typically be less than 2,000. This ADT applies to both existing and new streets. For new streets that are stubbed to connect to adjacent land that is not fully developed, the allowable ADT for the new street will typically be no more than 1,000 ADT, to accommodate future additional traffic from the adjacent land, depending on the location and type of the stub street and the location and size of the adjacent undeveloped land. When stub streets are connected and properties fully developed, local streets should not exceed 2,000 ADT.

Maximum Traffic on One Access: District policy 7207.3.3 states that if a proposed development only has one access to a public street that is a local street, or if it proposes to extend public streets from existing development with only one local street access to the public street system, the maximum forecast ADT to be allowed at any point on the local street access is 1,000 and is subject to fire department requirements for the provision of a secondary access.

Landscape Medians Policy: District policy 7207.5.16 states that landscape medians are permissible where adequate pavement width is provided on each side of the median to accommodate the travel lanes and where the following is provided:

- The median is platted as right-of-way owned by ACHD.

- The width of an island near an intersection is 12-feet maximum for a minimum distance of 150-feet. Beyond the 150-feet, the island may increase to a maximum width of 30-feet.
- At an intersection that is signalized or is to be signalized in the future, the median width shall be reduced to accommodate the necessary turn lane storage and tapers.
- The Developer or Homeowners Association shall apply for a license agreement if landscaping is to be placed within these medians.
- The license agreement shall contain the District's requirements of the developer including, but not limited to, a "hold harmless" clause; requirements for maintenance by the developer; liability insurance requirements; and restrictions.
- Vertical curbs are required around the perimeter of any raised median. Gutters shall slope away from the curb to prevent ponding.

c. Applicant Proposal: The applicant is proposing to construct La Quinta Way as a collector roadway with an 8-foot wide center landscape island, two 21-foot wide travel lanes, vertical curb, gutter and 5-foot wide attached concrete sidewalk. The applicant is proposing to dedicate 66-feet of right-of-way for La Quinta Way south of Fitz Roy Street and 70-feet of right-of-way north of Fitz Roy Street.

d. Staff Comments/Recommendations: The applicant's proposal to construct La Quinta Way as a collector roadway between Hubbard Road and Lake Mascardi Street with an 8-foot wide center landscape island, two 21-foot wide travel lanes, vertical curb, gutter meets District policy and should be approved as proposed. However, a minimum of 7-foot wide sidewalk is required when attached to a collector road. The applicant should be required to construct a minimum of 7-foot wide attached concrete sidewalk or 5-foot wide detached concrete sidewalk on La Quinta Way.

The applicant's proposal to dedicate 66-feet of right-of-way for La Quinta Way south of Fitz Roy Street and 70-feet of right-of-way north of Fitz Roy Street does not meet District policy which requires right-of-way to extend 2-feet behind the back of sidewalk. The applicant should be required to dedicate additional right-of-way to extend 2-feet behind the back of sidewalk, OR for detached sidewalks to dedicate right-of-way to extend 2-feet behind the back of curb and to provide a sidewalk easement extending 2-feet behind the back of sidewalk for La Quinta Way.

The applicant should plat the center landscape island as right-of-way owned by ACHD. The applicant or the future homeowner's association should enter into a license agreement with ACHD if landscaping is desired within the island.

7. Internal Local Streets

a. Existing Conditions: There are no public streets within the site.

b. Policy:

Local Roadway Policy: District Policy 7207.2.1 states that the developer is responsible for improving all local street frontages adjacent to the site regardless of whether or not access is taken to all of the adjacent streets.

Street Section and Right-of-Way Policy: District Policy 7207.5 states that right-of-way widths for all local streets shall generally not be less than 47-feet wide and that the standard street section shall be 33-feet (back-of-curb to back-of-curb).

Standard Urban Local Street—33-foot Street Section and Right-of-way Policy: District Policy 7207.5.2 states that the standard street section shall be 33-feet (back-of-curb to back-of-curb) for developments with any buildable lot that is less than 1 acre in size. This street section shall include curb, gutter, and minimum 5-foot wide concrete sidewalks on both sides and shall typically be constructed within 47-feet of right-of-way.

For the City of Kuna and City of Star: Unless otherwise approved by Kuna or Star, the standard street section shall be 36-feet (back-of-curb to back-of-curb) for developments with any buildable lot that is less than 1 acre in size. This street section shall include curb, gutter, and minimum 5-foot wide concrete sidewalks on both sides and shall typically be constructed within 50-feet of right-of-way.

Continuation of Streets Policy: District Policy 7207.2.4 states that an existing street, or a street in an approved preliminary plat, which ends at a boundary of a proposed development shall be extended in that development. The extension shall include provisions for continuation of storm drainage facilities. Benefits of connectivity include but are not limited to the following:

- Reduces vehicle miles traveled.
- Increases pedestrian and bicycle connectivity.
- Increases access for emergency services.
- Reduces need for additional access points to the arterial street system.
- Promotes the efficient delivery of services including trash, mail and deliveries.
- Promotes appropriate intra-neighborhood traffic circulation to schools, parks, neighborhood commercial centers, transit stops, etc.
- Promotes orderly development.

Sidewalk Policy: District Policy 7207.5.7 states that five-foot wide concrete sidewalk is required on both sides of all local street, except those in rural developments with net densities of one dwelling unit per 1.0 acre or less, or in hillside conditions where there is no direct lot frontage, in which case a sidewalk shall be constructed along one side of the street. Some local jurisdictions may require wider sidewalks.

The sidewalk may be placed next to the back-of-curb. Where feasible, a parkway strip at least 8-feet wide between the back-of-curb and the street edge of the sidewalk is recommended to provide increased safety and protection of pedestrians and to allow for the planting of trees in accordance with the District's Tree Planting Policy. If no trees are to be planted in the parkway strip, the applicant may submit a request to the District, with justification, to reduce the width of the parkway strip.

Detached sidewalks are encouraged and should be parallel to the adjacent roadway. Meandering sidewalks are discouraged.

A permanent right-of-way easement shall be provided if public sidewalks are placed outside of the dedicated right-of-way. The easement shall encompass the entire area between the right-of-way line and 2-feet behind the back edge of the sidewalk. Sidewalks shall either be located wholly within the public right-of-way or wholly within an easement.

Cul-de-sac Streets Policy: District policy 7207.5.8 requires cul-de-sacs to be constructed to provide a minimum turning radius of 45-feet; in rural areas or for temporary cul-de-sacs the emergency service providers may require a greater radius. Landscape and parking islands may be constructed in turnarounds if a minimum 29-foot street section is constructed around the island. The pavement width shall be sufficient to allow the turning around of a standard AASHTO SU design vehicle without backing. The developer shall provide written approval from the appropriate fire department for this design element.

The District will consider alternatives to the standard cul-de-sac turnaround on a case-by-case basis. This will be based on turning area, drainage, maintenance considerations and the written approval of the agency providing emergency fire service for the area where the development is located.

Tangent Length Approaching Intersections Policy: District policy 7207.5.14 states that intersections located on horizontal curves should be avoided particularly if the radius of either street is close to the minimum allowed or if the intersection occurs on the inside of the horizontal curve. A permanent sight distance easement based on the sight distance of the design speed shall be provided where one street must intersect with another on a curve.

The minimum centerline tangent length approaching an intersection shall be 150-feet from the near edge of the travel way. If the street is planned for future widening, then the tangent shall be measured from the near edge of the future travel way.

Landscape Medians Policy: District policy 7207.5.16 states that landscape medians are permissible where adequate pavement width is provided on each side of the median to accommodate the travel lanes and where the following is provided:

- The median is platted as right-of-way owned by ACHD.
- The width of an island near an intersection is 12-feet maximum for a minimum distance of 150-feet. Beyond the 150-feet, the island may increase to a maximum width of 30-feet.
- At an intersection that is signalized or is to be signalized in the future, the median width shall be reduced to accommodate the necessary turn lane storage and tapers.
- The Developer or Homeowners Association shall apply for a license agreement if landscaping is to be placed within these medians.
- The license agreement shall contain the District's requirements of the developer including, but not limited to, a "hold harmless" clause; requirements for maintenance by the developer; liability insurance requirements; and restrictions.
- Vertical curbs are required around the perimeter of any raised median. Gutters shall slope away from the curb to prevent ponding.

c. **Applicant Proposal:** The applicant is proposing to construct the entry portions of Falkland Avenue, Sagwon Street (east of Locust Grove Road), Trevelin Avenue and Sparrow Cove Street with an 8-foot wide center landscape island , two 21-foot wide travel lanes, vertical curb, gutter, 8-foot wide planter strips and 5-foot wide detached concrete sidewalk. The applicant is proposing to dedicate 70-feet of right-of-way and provide sidewalk easements extending 2-feet behind the back edge of sidewalk.

The applicant is proposing to construct the remaining local streets as 36-foot street sections with rolled curb, gutter, 8-foot wide planter strips and 5-foot wide detached concrete sidewalk. The applicant is proposing to dedicate 50-feet of right-of-way and provide sidewalk easements extending 2-feet behind the back edge of sidewalk.

The applicant is proposing to terminate Fitz Roy Street, Lake Moreno Court and Trelew Way in a cul-de-sac.

The applicant is proposing to construct knuckles with a 50-foot radius at the following intersections:

- Darwin Avenue and Raison Street
- Sapper Hill Avenue and Raison Street
- Merino Street and Green Cottage Avenue
- Merino Street and Fox Bay Avenue
- Temuco Avenue and Bariloche Street
- Lake Mascardi Street and Villa Trafal Avenue

- La Luma Street and Rawson Way

d. Staff Comments/Recommendations: The applicant's proposal to construct the entry portion of Falkland Avenue, Sagwon Street (east of Locust Grove Road), Trevelin Avenue and Lake Moreno Street with an 8-foot wide center landscape island, two 21-foot wide travel lanes, vertical curb, gutter, 8-foot wide planter strips and 5-foot wide concrete sidewalk meets District policy and should be approved as proposed.

The applicant's proposal to dedicate 70-feet of right-of-way for Falkland Avenue, Sagwon Street (east of Locust Grove Road), Trevelin Avenue and Lake Moreno Street does not meet District policy which requires sidewalk to be located wholly within the right-of-way or wholly within an easement. The applicant should be required to dedicate additional right-of-way to extend 2-feet behind the back of sidewalk OR to dedicate right-of-way to extend 2-feet behind the back of curb, and to provide a sidewalk easement extending 2-feet behind the back of sidewalk.

The applicant should be required to plat the center landscape island as right-of-way owned by ACHD. The applicant or the future homeowner's association should enter into a license agreement with ACHD is if landscaping is desired within the island.

The applicant's proposal to construct the remaining local streets as 36-foot wide street sections with rolled curb, gutter, 8-foot wide planter strips and 5-foot wide detached concrete sidewalk meets District policy and should be approved as proposed. The applicant's proposal to dedicate 50-feet of right-of-way and provide sidewalk easements extending 2-feet behind the back of sidewalk meets District policy and should be approved as proposed.

The applicant's proposal to terminate Fitz Roy Court and Trelew Way in a cul-de-sac meets District policy and should be approved. The cul-de-sac should be required to have a minimum back of curb radius of 45-feet.

The applicant's proposal to construct 7 knuckles throughout the site, meets District policy and should be approved as proposed.

8. Alleys

a. Existing Conditions: There are no alleys within the site.

b. Policy:

New Alley Policy: District Policy 7210.3.1 requires the minimum right-of-way width for all new residential alleys shall be a minimum of 16-feet or a maximum of 20-feet. If the residential alley is 16-feet in width building setbacks required by the land use agency having jurisdiction shall provide sufficient space for the safe backing of vehicles into the alley (see Section 7210.3.3). The minimum right-of-way width for all new commercial or mixed-use alleys shall be 20-feet. All alleys shall be improved by paving the full width and length of the right-of-way.

Dedication of clear title to the right-of-way and the improvement of the alley, and acceptance of the improvement by the District as meeting its construction standards, are required for all alleys contained in a proposed development.

Alley Length Policy: District Policy 7210.3.2 states that alleys shall be no longer than 700-feet in length. If the lead land use agency having jurisdiction requires a shorter block length, the alley shall be no longer than the agency's required block length.

Alley Parking & Setbacks Policy: District Policy 7210.3.3 states that parking within the alley right-of-way is prohibited. "No Parking" signs are required to be installed by the developer. The signs should be located at the alley/street intersections. Parking which is entered from the alley shall be designed so the minimum clear distance from the back of the parking stall to the opposite side of the alley is 20-feet for all perpendicular parking.

Setbacks for structures taking access from the alley should be closely coordinated with the lead land use agency. The setbacks shall either discourage parking within the alley (where it may partially block or occur within the right-of-way) or allow adequate area for one perpendicular parking pad. In order to discourage parking, building setbacks shall be minimal from the alley right-of-way line, while still achieving the required 20-feet of back-up space from a garage or other parking structure to the opposite side of the alley (i.e. 4-foot setback + 16-foot alley= 20-feet for back-up space).

Alley Intersections and Offsets Policy: District policy 7210.3.7 states that alleys should intersect public streets at each end. In specific circumstances as outlined in the policies below, the District may consider allowing an alley to intersect a public street at only one end. A 90-degree angle of intersection shall be designed where practical. In no case shall the intersecting angle be less than 75-degrees, as measured from centerline of intersecting street. An access to an alley shall be located a minimum of 50-feet from the nearest street (measured centerline to centerline).

Alley/Local Street Intersections Policy: District Policy 7210.3.7.2 states that alleys may intersect all types of local streets including minor local streets. Alleys shall generally be designed with a curb cut type approach when intersecting a local street. Alleys shall generally intersect streets in the middle of the block equally offsetting the intersecting streets. Alleys shall either align with alley/street intersections or provide a minimum 100-foot offset (measured centerline to centerline) from other local street intersections. For alley intersections with local streets, the District may consider a reduced offset if the lead land use agency's required lot size allows for shorter buildable lots.

c. Applicant Proposal: The applicant is proposing to construct three 20-foot wide residential alleys in the following locations:

- An east/west alley located between Darwin Avenue and Sapper Hill Avenue.
- An east/west alley located between El Foyel Way and Rawson Way.
- A north/south alley located between Los Lakes Street and Lake Mascardi Street.

d. Staff Comments/Recommendations: The applicant's proposal meets District policy and should be approved as proposed.

9. Roadway Offsets

a. Existing Conditions: There are no public streets within the site.

b. Policy:

Local Street Intersection Spacing on Principal Arterials: District policy 7205.4.3 states that new local streets should not typically intersect arterials. Local streets should typically intersect collectors. If it is necessary, as determined by ACHD, for a local street to intersect an arterial, the minimum allowable offset shall be 1,320-feet as measured from all other existing roadways as identified in Table 1b (7205.4.7).

Local Street Intersection Spacing on Minor Arterials: District policy 7205.4.3 states that new local streets should not typically intersect arterials. Local streets should typically intersect collectors. If it is necessary, as determined by ACHD, for a local street to intersect an arterial, the minimum allowable offset shall be 660-feet as measured from all other existing roadways as identified in Table 1a (7205.4.6).

Collector Offset Policy: District policy 7205.4.2 states that the optimum spacing for new unsignalized collector roadways intersecting minor arterials is 1,320-feet.

District policy 7206.4.5, states that the preferred spacing for a new local street intersecting a collector roadway to align or offset a minimum of 330-feet from any other street (measured centerline to centerline).

Local Offset Policy: District policy 7207.4.2, requires local roadways to align or provide a minimum offset of 125-feet from any other street (measured centerline to centerline).

c. Applicant Proposal: The applicant has proposed the following roadways to intersect Hubbard Road:

- La Quinta Way located 1,315-feet east of Locust Grove Road (1,625-feet west of future Eagle Road).
- Falkland Avenue located 610-feet west of Locust Grove Road (760-feet east of Fuego Avenue).
- Trevelin Avenue located 660-feet east of Locust Grove Road (655-feet west of La Quinta Way).

The applicant has proposed the following roadways to intersect Locust Grove Road:

- Wasatch Way located 1,990-feet north of Hubbard Road (1,170-feet north of Sagwon Street).
- Sagwon Street located 819-feet north of Hubbard Road.

The applicant has proposed the following roadway to intersect Eagle Road:

- Sparrow Cove Street located 1,410-feet south of Hubbard Road.

The applicant has proposed to construct Fitz Roy Court to intersect La Quinta Way 200-feet south of Hubbard Road.

The applicant has proposed to construct Los Lakes to intersect La Quinta Way 655-feet north of Lake Mascardi Street.

d. Staff Comments/Recommendations: The applicant's proposal for Falkland Avenue to intersect Hubbard Road located 610-feet west of Locust Grove Road does not meet District spacing requirements of 660-feet. However, the proposed location of Falkland Avenue was at staff's request. Staff recommends a 6% modification of policy to provide for the future alignment of a public street on the south side of Hubbard Road. The modification of policy is approved at the discretion of the Development Services Manager.

Mason Creek, a future residential collector road listed in the MSM and included in Patagonia Subdivision to the west, is planned to intersect Locust Grove Road 670-feet north of the proposed Wasatch Way intersection. The applicant's proposal for Wasatch Way to intersect Locust Grove Road 670-feet south of Mason Creek meets District policy and should be approved as proposed.

The applicant's proposal for Sparrow Cove Street to intersect Eagle Road 1,410-feet south of Hubbard Road meets District policy and should be approved as proposed.

The applicant's proposal to construct Fitz Roy Court 200-feet south of Hubbard Road does not meet District policy, which requires a minimum 330-foot offset from all other public streets. However, staff recommends a 40% modification of policy to allow the roadway to be located as proposed. This is because relocating Fitz Roy Court a minimum of 330-feet south, as required by policy, would limit sight distance at the intersection due to a curve in the road.

10. Stub Streets

a. Existing Conditions: Two stub streets were approved stubbing to this site from Patagonia Subdivision west of the site. The stub streets are located 245-feet and 830-feet north of Hubbard Road (measured centerline-to-centerline).

b. Policy:

Continuation of Streets Policy: District Policy 7207.2.4 states that an existing street, or a street in an approved preliminary plat, which ends at a boundary of a proposed development shall be extended in that development. The extension shall include provisions for continuation of storm drainage facilities. Benefits of connectivity include but are not limited to the following:

- Reduces vehicle miles traveled.
- Increases pedestrian and bicycle connectivity.
- Increases access for emergency services.
- Reduces need for additional access points to the arterial street system.
- Promotes the efficient delivery of services including trash, mail and deliveries.
- Promotes appropriate intra-neighborhood traffic circulation to schools, parks, neighborhood commercial centers, transit stops, etc.
- Promotes orderly development.

Stub Street Policy: District policies 7205.2.3 (arterials) / 7207.2.4.3 (locals) state that stub streets will be required to provide circulation or to provide access to adjoining properties. Stub streets will conform with the requirements described in Sections 7205.2 (arterials) / 7207.2.4 (locals), except a temporary cul-de-sac will not be required if the stub street has a length no greater than 150-feet. A sign shall be installed at the terminus of the stub street stating that, *"THIS IS A DESIGNATED ARTERIAL STREET. THIS STREET WILL BE EXTENDED AND WIDENDED IN THE FUTURE."* or "THIS ROAD WILL BE EXTENDED IN THE FUTURE."

In addition, stub streets must meet the following conditions:

- A stub street shall be designed to slope towards the nearest street intersection within the proposed development and drain surface water towards that intersection; unless an alternative storm drain system is approved by the District.
- The District may require appropriate covenants guaranteeing that the stub street will remain free of obstructions.

Temporary Dead End Streets Policy: District policies 7205.2.4 (arterials) / 7207.2.4.4 (locals) require that the design and construction for cul-de-sac streets shall apply to temporary dead end streets. The temporary cul-de-sac shall be paved and shall be the dimensional requirements of a standard cul-de-sac. The developer shall grant a temporary turnaround easement to the District for those portions of the cul-de-sac which extend beyond the dedicated street right-of-way. In the instance where a temporary easement extends onto a buildable lot, the entire lot shall be encumbered by the easement and identified on the plat as a non-buildable lot until the street is extended.

c. Applicant Proposal: The applicant is proposing to extend both stub streets into the site as 36-foot street sections.

The applicant is proposing to construct 4 stub streets to the north as follows:

- Egg Harbor Avenue located 1,200-feet west of Locust Grove Road.
- Falkland Avenue located 610-feet west of Locust Grove Road.
- Trelew Way located 1,060-feet east of Locust Grove Road.

- Rawson Avenue located 210-feet west of Eagle Road.

The applicant is proposing to construct 2 stub streets to the south as follows:

- El Turbio Street located 1,235-feet east of Locust Grove Road.
- Pucon Avenue located 660-feet from the western property line.

The applicant is proposing to construct 4 stub streets to the west as follows:

- Fitz Roy Street located 200-feet south of Hubbard Road.
- Lanin Street located 755-feet south of Hubbard Road, to the future school site.
- Los Lakes Street located 655-feet north of Lake Mascardi Street.
- Lake Mascardi Street located 755-feet north of the southern property line.

The applicant is proposing to construct one stub street to the east Fitz Roy Street located 200-feet south of Hubbard Road.

d. Staff Comments/Recommendations: The previously approved stub street from Patagonia Subdivision located 830-feet north of Hubbard Road has not been constructed at this time. If Sagwon Street is constructed prior to the stub street from Patagonia Subdivision, the applicant should be required to install a sign at the terminus of the stub street stating, "THIS ROAD WILL BE EXTENDED IN THE FUTURE." A temporary turnaround is not required as the stub street is less than 150-feet in length.

The proposed stub streets to the north meet District policy and should be approved as proposed. The applicant should be required to install a sign at the terminus of the stub streets stating, "THIS ROAD WILL BE EXTENDED IN THE FUTURE." A temporary cul-de-sac turnaround should be installed at the terminus of Trele Way as it is greater than 150-feet in length.

The proposed stub streets to the south meet District policy and should be approved as proposed. The applicant should be required to install a sign at the terminus of the stub streets stating, "THIS ROAD WILL BE EXTENDED IN THE FUTURE." A temporary turnaround is not required as the stub streets are less than 150-feet in length.

The proposed stub street locations for Fitz Roy Street, Los Lakes Street and Lake Mascardi Street to the west meet District policy and should be approved. The proposed stub street of Lanin Street should not be approved as proposed, as referenced in finding number 13 below. The applicant should be required to construct a cul-de-sac at the terminus of Fitz Roy Street, extending the right-of-way to the western property line. The applicant should be required to install a sign at the terminus of the stub streets stating, "THIS ROAD WILL BE EXTENDED IN THE FUTURE."

The applicant's proposal to stub Fitz Roy Court to the east meets District policy and should be approved as proposed. The applicant should be required to install a sign at the terminus of the stub streets stating. "THIS ROAD WILL BE EXTENDED IN THE FUTURE." A temporary turnaround is not required as the stub streets are less than 150-feet in length.

11. Driveways

11.1 Locust Grove Road

a. Existing Conditions: Wasatch Lane, an existing private road intersects Locust Grove Road 227-feet south of the northern property line (along the southern property line of proposed Lot 2 Block 13).

b. **Policy:**
Access Points Policy: District Policy 7205.4.1 states that all access points associated with development applications shall be determined in accordance with the policies in this section and Section 7202. Access points shall be reviewed only for a development application that is being considered by the lead land use agency. Approved access points may be relocated and/or restricted in the future if the land use intensifies, changes, or the property redevelops.

Access Policy: District policy 7205.4.6 states that direct access to minor arterials is typically prohibited. If a property has frontage on more than one street, access shall be taken from the street having the lesser functional classification. If it is necessary to take access to the higher classified street due to a lack of frontage, the minimum allowable spacing shall be based on Table 1a under District policy 7205.4.6, unless a waiver for the access point has been approved by the District Commission.

c. **Applicant Proposal:** The applicant is proposing to remove Wasatch Lane.

d. **Staff Comments/Recommendations:** The existing Wasatch Lane intersection onto Locust Grove Road should be closed with a minimum of a 3-foot wide gravel shoulder, borrow ditch and 5-foot wide concrete sidewalk or vertical curb, gutter, an 8-foot wide planter strip and 8-foot wide concrete sidewalk, consistent with the adjacent improvements to Locust Grove Road.

11.2 Local Streets

a. **Policy:**
Driveway Location Policy: District policy 7207.4.1 requires driveways near intersections to be located a minimum of 75-feet (measured centerline-to-centerline) from the nearest local street intersection, and 150-feet from the nearest collector or arterial street intersection.

Successive Driveways: District Policy 7207.4.1 states that successive driveways away from an intersection shall have no minimum spacing requirements for access points along a local street, but the District does encourage shared access points where appropriate.

Driveway Paving Policy: Graveled driveways abutting public streets create maintenance problems due to gravel being tracked onto the roadway. In accordance with District policy, 7207.4.3, the applicant should be required to pave the driveway its full width and at least 30-feet into the site beyond the edge of pavement of the roadway.

b. **Applicant Proposal:** The applicant is proposing to construct two curb return type driveways to access the community pool parking lots located as follows:

- A 24-foot wide driveway Merino Street aligned with Trevelin Avenue.
- A 24-foot wide driveway onto Villa Trafal Avenue aligned with Sparrow Cove Street.

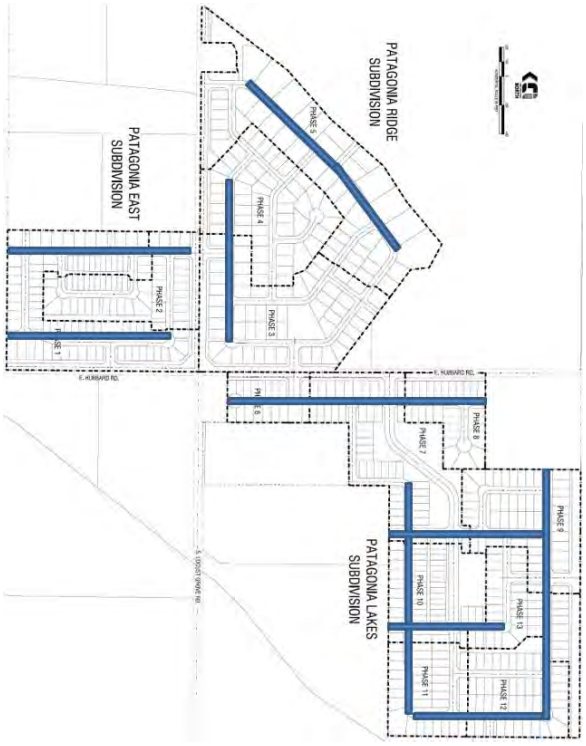
c. **Staff Comments/Recommendations:** The proposed driveway locations meet District policy and should be approved as proposed.

12. Traffic Calming

a. **Speed Control and Traffic Calming Policy:** District policy 7207.3.7 states that the design of local street systems should discourage excessive speeds by using passive design elements. If the design or layout of a development is anticipated to necessitate future traffic calming implementation by the District, then the District will require changes to the layout and/or the addition of passive design elements such as horizontal curves, bulb-outs, chokers, etc. The District will also consider texture changes to the roadway surface (i.e. stamped concrete) as a passive design element. These alternative methods may require maintenance and/or license agreement.

b. Applicant Proposal: The applicant is proposing the following street segments in excess of 750-feet in length (shown in blue):

- Sagwon Street (west of Locust Grove Road) (over 1,500-feet)
- Merino Street (west of Locust Grove Road) (over 1,500-feet)
- Fox Bay Avenue/Way (over 1,000-feet)
- Wasatch Way (over 1,500-feet)
- Fitz Roy Street (over 1,600-feet)
- Los Lakes Street (over 1,000-feet) (stub)
- Lake Mascardi Street (stub)
- El Foyel Way (over 1,500-feet)
- Rawson Avenue (over 1,600-feet) (stub)
- La Luma Street



c. Staff Comments/Recommendations: Prior to ACHD's signature on the first final plat the applicant should redesign the roadways listed above to limit street segments in excess of 750-feet in length or provide traffic calming on all segments 750-feet or greater.

Egg Harbor Street is not proposed to exceed 750-feet in length, however, is stubbed to the northern property line. When the stub street is extended it will exceed 750-feet in length. The applicant should redesign the roadway layout to limit street length or provide a traffic calming plan including the use of passive design elements approved by ACHD Traffic Services.

Stop signs, speed humps/bumps and valley gutter will not be accepted as traffic calming.

13. Future School Site

a. Applicant Proposal: The applicant is proposing a 9.8-acre lot, abutting Locust Grove Road located 350-feet south of Hubbard Road to be designated as a future school site.

Lanin Street is proposed to stub to the school site.

b. Staff Comments/Recommendations: ACHD staff has the following concerns with the proposed school site location and recommends the school be relocated internal to the site, not adjacent to an arterial street.

- The proposed school site has frontage on Locust Grove Road, a 50-MPH minor arterial roadway. Staff has concerns regarding pedestrian safety and access to the school site.
- Due to the proposed school site's proximity to the Locust Grove Road / Hubbard Road intersection the installation of school zones flashers and signalized pedestrian crossings on both Locust Grove and Hubbard Roads should be anticipated.
- Staff has concerns regarding the potential for stacking/parking on Locust Grove Road during school drop-off/pick-up, as parking is prohibited on Locust Grove Road. The school should be designed to provide adequate vehicle storage to prevent stacking on Locust Grove Road.
- Staff recommend that the school site be relocated within the subdivision to provide better access and safety for pedestrians.

- If the school site is not relocated, then additional requirement may be necessary to serve the site generated traffic, such as the construction of turn lanes and off-site pedestrian facilities.
- A traffic impact study will be required for the new school.

The Kuna School District has indicated that they have not made a final determination to purchase the school site proposed as part of this application. However, the School District did express that if they were to develop the proposed school site, they would not be in support of the proposed stub street (Lanin Street).

Staff recommends the right-of-way for Limpet Creek Avenue extend to the future school site and not provide a stub street to the designated future school site. By providing local street frontage, this maximizes the developable area for the school if the Kuna School District purchases the site, while also providing for local street connectivity should the site not be developed as a school site.

The sidewalk from the south side of Lanin Street should connect to the sidewalk on the west side of Limpet Creek Avenue.

14. Tree Planters

Tree Planter Policy: Tree Planter Policy: The District's Tree Planter Policy prohibits all trees in planters less than 8-feet in width without the installation of root barriers. Class II trees may be allowed in planters with a minimum width of 8-feet, and Class I and Class III trees may be allowed in planters with a minimum width of 10-feet.

15. Landscaping

Landscaping Policy: A license agreement is required for all landscaping proposed within ACHD right-of-way or easement areas. Trees shall be located no closer than 10-feet from all public storm drain facilities. Landscaping should be designed to eliminate site obstructions in the vision triangle at intersections. District Policy 5104.3.1 requires a 40-foot vision triangle and a 3-foot height restriction on all landscaping located at an uncontrolled intersection and a 50-foot offset from stop signs. Landscape plans are required with the submittal of civil plans and must meet all District requirements prior to signature of the final plat and/or approval of the civil plans.

16. Other Access

Eagle Road is classified as a principal arterial roadway, Hubbard Road and Locust Grove Road are classified as minor arterial roadways and La Quinta Way is classified as a collector roadway. Other than the access specifically approved with this application, direct lot access is prohibited to these roadways and should be noted on the final plat.

D. Site Specific Conditions of Approval

1. Prior to ACHD's signature on the final plat which contains the 202nd lot submit an updated traffic impact study to ACHD. At a minimum the updated traffic impact study should include an analysis of the intersections and roadway segments included in the original traffic impact study. Coordinate the full scope of work for the updated traffic impact study with staff.

2. Redesign the following roadways to reduce the length of the roadways or to include the use of passive design elements and submit a revised internal street layout plan showing the redesigned roadways for review and approval prior to ACHD's signature on the first final plat.

- Sagwon Street (west of Locust Grove Road) (over 1,500-feet)
- Merino Street (west of Locust Grove Road) (over 1,500-feet)
- Fox Bay Avenue/Way (over 1,000-feet)

- Wasatch Way (over 1,500-feet)
- Fitz Roy Street (over 1,600-feet)
- Los Lakes Street (over 1,000-feet) (stub)
- Lake Mascardi Street (stub)
- El Foyel Way (over 1,500-feet)
- Rawson Avenue (over 1,600-feet) (stub)
- La Luma Street
- Egg Harbor Stub street

Stop signs, speed humps/bumps and valley gutter will not be accepted as traffic calming.

3. Dedicate 58-feet of right-of-way along Eagle Road abutting the site and construct 5-foot wide detached concrete sidewalk for Eagle Road located 2-feet east of the right-of-way line. Compensation should not be provided for any improvements or right-of-way dedication for Eagle Road, as this street segment is not scheduled for improvements in ACHD's IFYWP or CIP.

4. Coordinate with ACHD to determine what roadway improvements are required for Eagle Road abutting the site, prior to signing the first final plat abutting Eagle Road.

5. Improve Hubbard Road west of Locust Grove Road as a 46-foot street section with vertical curb, gutter, 15.5-foot wide planter strips and 8-foot wide concrete sidewalk where the applicant controls both side of the roadway and as ½ of a 46-foot street section with vertical curb, gutter, a 15.5-foot wide planter strip and 8-foot wide concrete sidewalk where the applicant controls one side of the roadway. Dedicate right-of-way to total 48.5-feet from section line for Hubbard Road abutting the site west of Locust Grove Road.

OR

Improve Hubbard Road west of Locust Grove Road with a minimum of 17-feet of pavement from centerline plus a 3-foot wide gravel shoulder and 5-foot wide concrete sidewalk located a minimum of 31-feet from section line adjacent to the entire site. Dedicate right-of-way to total 37-feet from section line for Hubbard Road abutting the site west of Locust Grove Road.

6. Improve Hubbard Road east of Locust Grove Road ½ of a 46-foot street section with vertical curb, gutter, an 8-foot wide planter strip and 8-foot wide concrete sidewalk. Dedicate right-of-way to total 37-feet from section line and provide a sidewalk easement extending 2-feet behind the back edge of sidewalk for all sidewalk located outside the dedicated right-of-way.

OR

Improve Hubbard Road east of Locust Grove Road with a minimum of 17-feet of pavement from centerline plus a 3-foot wide gravel shoulder and 5-foot wide concrete sidewalk located a minimum of 31-feet from section line adjacent to the entire site. Dedicate right-of-way to total 37-feet from section line and provide a sidewalk easement extending 2-feet behind the back edge of sidewalk for all sidewalk located outside the dedicated right-of-way.

7. No compensation shall be provided for any improvements or right-of-way dedication along Hubbard Road abutting the site, as this roadway is not scheduled for improvements in ACHD's IFYWP or CIP

8. Dedicate right-of-way to accommodate the future construction of a single lane roundabout at the intersection of Hubbard Road and Locust Grove Road to match the template shown on Attachment 5.

9. Improve Locust Grove Road as a 46-foot street section with vertical curb, gutter, 15-foot wide planter strips and 8-foot wide concrete sidewalk where the applicant controls both sides of the roadway and as ½ of a 46-foot street section with vertical curb, gutter, a 15-foot wide planter strip and 8-foot wide concrete sidewalk where the applicant controls one side of the roadway, consistent with the MSM. The applicant should dedicate right-of-way to total 48.5-feet from section line of Locust Grove Road abutting the site.

OR

Improve Locust Grove Road with a minimum of 17-feet of pavement from centerline plus a 3-foot wide gravel shoulder and 5-foot wide concrete sidewalk located a minimum of 31-feet from section line adjacent to the entire site. Dedicate right-of-way to total 37-feet from section line and provide a sidewalk easement extending 2-feet behind the back edge of sidewalk for all sidewalk located outside the dedicated right-of-way.

10. No compensation shall be provided for any improvements or right-of-way dedication along Locust Grove Road abutting the site, as this roadway is not scheduled for improvements in ACHD's IFYWP or CIP.

11. Construct a dedicated southbound right-turn lane on Locust Grove Road at Sagwon Street, when Sagwon Street is constructed to intersect Locust Grove Road.

12. Construct La Quinta Way as a collector roadway with an 8-foot wide landscape median, two 21-foot wide travel lanes, vertical curb, gutter and a minimum of 7-foot wide attached concrete sidewalk (or 5-foot wide detached concrete sidewalk).

13. Plat center landscape islands as right-of-way owned by ACHD. Enter into a license agreement with ACHD if landscaping is desired within the islands.

14. Dedicate right-of-way for La Quinta Way to extend 2-feet behind the back edge of sidewalk OR to dedicate right-of-way to extend 2-feet behind the back edge of curb (only applicable with detached sidewalk) and to provide a sidewalk easement extending 2-feet behind back the back edge of sidewalk.

15. Construct the entry portions of Falkland Avenue, Sagwon Street (east of Locust Grove Road), Trevelin Avenue and Lake Moreno Street with an 8-foot wide landscape median, two 21-foot wide travel lanes, vertical curb, gutter, 8-foot wide center landscape islands and 5-foot wide detached concrete sidewalk as proposed. Dedicate right-of-way to extend 2-feet behind the back edge of sidewalk OR to dedicate right-of-way to extend 2-feet behind the back edge of curb (only applicable with detached sidewalk), and to provide a sidewalk easement extending 2-feet behind the back edge of sidewalk.

16. Construct the remaining local streets internal to the site as 36-foot wide street sections with rolled curb, gutter, 8-foot wide planter strips and 5-foot wide detached concrete sidewalk as proposed. Dedicate 50-feet of right-of-way and provide sidewalk easements extending 2-feet behind the back edge of sidewalk

17. Construct a cul-de-sac with a minimum 45-foot back of curb radius on Fitz Roy Street, Lake Moreno Court and Trelew Way.

18. Construct three 20-foot wide residential public alleys located as follows:

- Between Darwin Avenue and Sapper Hill Avenue.
- Between El Foyel Way and Rawson Way.
- Between Los Lakes Street and Lake Mascardi Street.

19. Construct La Quinta Way to intersect Hubbard Road 1,315-feet east of Locust Grove Road.

20. Construct Falkland Avenue to intersect Hubbard Road 610-feet west of Locust Grove Road.

21. Construct Trevelin Avenue to intersect Hubbard Road 660-feet east of Locust Grove Road.

22. Construct Wasatch Way to intersect Locust Grove Road located 1,990-feet north of Hubbard Road.

23. Construct Sagwon Street to intersect Locust Grove Road 819-feet north of Hubbard Road.

24. Construct Sparrow Cove Street to intersect Eagle Road 1,410-feet south of Hubbard Road.

25. Construct Fitz Roy Court to intersect La Quinta Way a minimum of 200-feet south of Hubbard Road (measured centerline-to-centerline).

26. Construct Los Lakes to intersect La Quinta Way a minimum of 330-feet north of Lake Mascardi Street.

27. Construct 4 stub streets to the north as follows:

- Egg Harbor Avenue located 1,200-feet west of Locust Grove Road, to parcel R7486740400.
- Falkland Avenue located 610-feet west of Locust Grove Road, to parcel R7486740500.
- Trelew Way located 1,060-feet east of Locust Grove Road, to parcel S1408336690.
- Rawson Avenue located 210-feet west of Eagle Road, to parcel S1417212400.

28. Construct 2 stub streets to the south as follows:

- El Turbio Street located 1,235-feet east of Locust Grove Road, to parcel S1408336690.
- Pucon Avenue located 660-feet from the western property line, to parcel S1417314800.

29. Construct 3 stub streets to the west as follows:

- Fitz Roy Street located 200-feet south of Hubbard Road, to parcel S1417223100.
- Los Lakes Street located 655-feet north of Lake Mascardi Street, to parcel R9321840200.
- Lake Mascardi Street located 755-feet north of the southern property line, to parcel R9321840300.

30. Construct one sub street to the east, Fitz Roy Street located 200-feet south of Hubbard Road, to parcel S1417212400.

31. Extend the 50-foot right-of-way from Fitz Roy Street to the western property line.

32. Install a sign at the terminus each stub street stating, "THIS ROAD WILL BE EXTENDED IN THE FUTURE." Construct a temporary cul-de-sac turnaround of all stub streets greater than 150-feet in length.

33. Close the existing Wasatch Lane intersection onto Locust Grove Road with curb, gutter and sidewalk consistent with the adjacent improvements.

34. Construct two curb return type driveways to access the community pool parking lots located as follows:

- A 24-foot wide driveway Merino Street aligned with Trevelin Avenue.
- A 32-foot wide driveway on El Foyel Way 24 feet south of Sparrow Cove Street.

35. Dedicate right-of-way on Limpet Creek Avenue to abut the future school site.

36. Note on the final plat that other than access specifically approved with this application, direct lot access to Eagle Road, Hubbard Road, Locust Grove Road and La Quinta Way is prohibited.

37. Submit civil plans to ACHD Development Services for review and approval. The impact fee assessment will not be released until the civil plans are approved by ACHD.

38. Payment of impact fees is due prior to issuance of a building permit.

39. Comply with all Standard Conditions of Approval.

E. Standard Conditions of Approval

1. All proposed irrigation facilities shall be located outside of the ACHD right-of-way (including all easements). Any existing irrigation facilities shall be relocated outside of the ACHD right-of-way (including all easements).

2. Private Utilities including sewer or water systems are prohibited from being located within the ACHD right-of-way.

3. In accordance with District policy, 7203.3, the applicant may be required to update any existing non-compliant pedestrian improvements abutting the site to meet current Americans with Disabilities Act (ADA) requirements. The applicant's engineer should provide documentation of ADA compliance to District Development Review staff for review.

4. Replace any existing damaged curb, gutter and sidewalk and any that may be damaged during the construction of the proposed development. Contact Construction Services at 387-6280 (with file number) for details.

5. A license agreement and compliance with the District's Tree Planter policy is required for all landscaping proposed within ACHD right-of-way or easement areas.

6. All utility relocation costs associated with improving street frontages abutting the site shall be borne by the developer.

7. It is the responsibility of the applicant to verify all existing utilities within the right-of-way. The applicant at no cost to ACHD shall repair existing utilities damaged by the applicant. The applicant shall be required to call DIGLINE (1-811-342-1585) at least two full business days prior to breaking ground within ACHD right-of-way. The applicant shall contact ACHD Traffic Operations 387-6190 in the event any ACHD conduits (spare or filled) are compromised during any phase of construction.

8. Utility street cuts in pavement less than five years old are not allowed unless approved in writing by the District. Contact the District's Utility Coordinator at 387-6258 (with file numbers) for details.

9. All design and construction shall be in accordance with the ACHD Policy Manual, ISPWC Standards and approved supplements, Construction Services procedures and all applicable ACHD Standards unless specifically waived herein. An engineer registered in the State of Idaho shall prepare and certify all improvement plans.

10. Construction use and property development shall be in conformance with all applicable requirements of ACHD prior to District approval for occupancy.

11. No change in the terms and conditions of this approval shall be valid unless they are in writing and signed by the applicant or the applicant's authorized representative and an authorized representative of ACHD. The burden shall be upon the applicant to obtain written confirmation of any change from ACHD.

12. If the site plan or use should change in the future, ACHD Planning Review will review the site plan and may require additional improvements to the transportation system at that time. Any change in the planned use of the property which is the subject of this application, shall require the applicant to comply with ACHD Policy and Standard Conditions of Approval in place at that time unless a waiver/variance of the requirements or other legal relief is granted by the ACHD Commission.

F. Conclusions of Law

1. The proposed site plan is approved, if all of the Site Specific and Standard Conditions of Approval are satisfied.

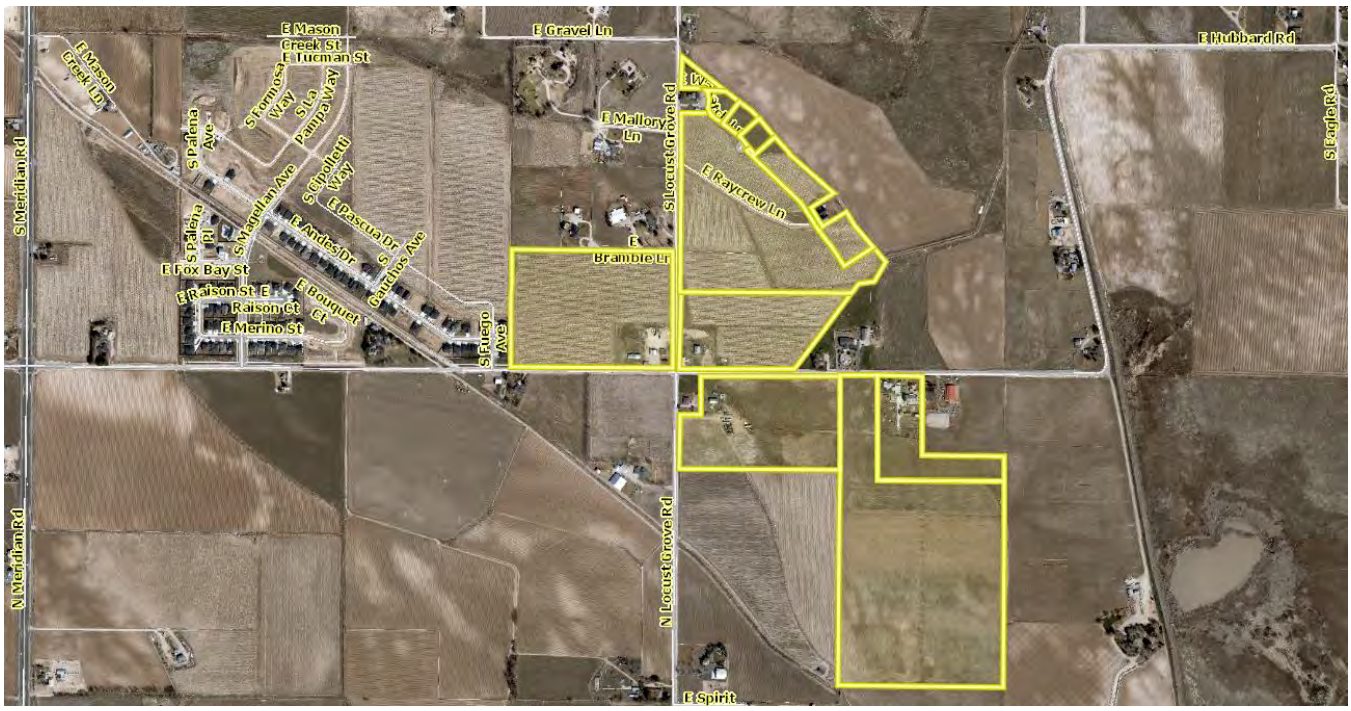
2. ACHD requirements are intended to assure that the proposed use/development will not place an undue burden on the existing vehicular transportation system within the vicinity impacted by the proposed development.

G. Attachments

1. Vicinity Map
2. Site Plan
3. Traffic Impact Study Excerpted Executive Summary
4. Compass Checklist
5. Single Lane Roundabout Template
6. Utility Coordinating Council
7. Development Process Checklist
8. Appeal Guidelines

Exhibit B-2

VICINITY MAP



SITE PLAN

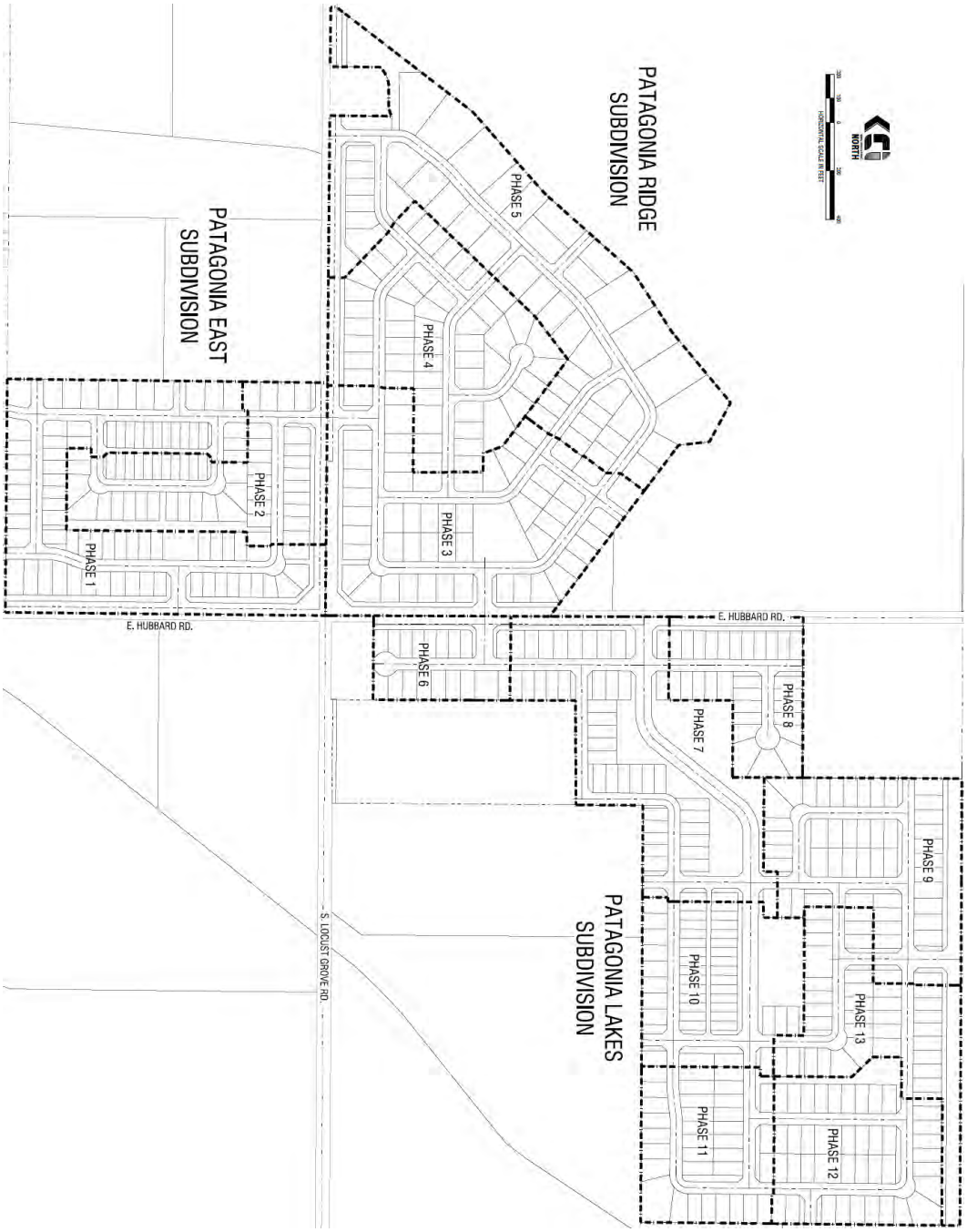

PATAGONIA RIDGE SUBDIVISION
PATAGONIA EAST SUBDIVISION
PATAGONIA LAKES SUBDIVISION
PHASE 1
PHASE 2
PHASE 3
PHASE 4
PHASE 5
PHASE 6
PHASE 7
PHASE 8
PHASE 9
PHASE 10
PHASE 11
PHASE 12
PHASE 13
E. HUBBARD RD.
E. HUBBARD RD.
S. LOCUST GROVE RD.
NORTH

Exhibit B-2

TRAFFIC IMPACT STUDY EXCERPTED EXECUTIVE SUMMARY

Improvements Needed to Mitigate 2018 Existing Traffic

The traffic impact study notes that under existing conditions (2018) all study roadway segments and intersections operate at an acceptable level of service.

Improvements Needed to Mitigate 2023 Phase 1 Background Traffic

Under 2023 background traffic conditions all study roadway intersections operate at an acceptable level of service, except for the following:

- SH 69 and Columbia Road intersection
    - Signal operation/timing adjustments

Under 2023 background traffic conditions all study roadway segments operate at an acceptable level of service, except for the following:

- Columbia Road between SH 69 and Locust Grove Road would need widened to three lanes to meet LOS E planning threshold.
    - According to ACHD's MSM, this segment of Columbia Road is planned for three lanes preservation.

Improvements Needed to Mitigate 2023 Phase 1 Total Traffic

Under 2023 total traffic conditions all study roadway segments and intersections operate at an acceptable level of service, with the exception of the SH 69 and Columbia Road intersection, and Columbia Road between SH 69 and Locust Grove Road (as noted above).

Improvements Needed to Mitigate 2030 Phase 2 Background Traffic

Under 2030 Phase 2 background traffic conditions all study roadway segments and intersections operate at an acceptable level of service, except for the following:

- Columbia Road and SH 69 intersection
    - Three through lanes on SH 69 approaches
        - The additional through lanes on SH 69 are auxiliary through lanes extending at least 2,000 feet beyond the intersection to allow proper merging operation and signage based on NCHRP Report 707.
    - Southbound right-turn lane
    - Dual left-turn lanes on Columbia Road approaches

  These intersection improvements are not programmed in ITD's or ACHD's current transportation plans.

- Hubbard Road and SH 69 intersection
    - Southbound right-turn lane

Two study area intersections are expected to meet vehicular volume thresholds for signals based on preliminary signal warrant analysis:

- Locust Grove Road and Columbia Road intersection
    - Although the intersection is expected to meet warrants for a signal, it is expected to meet ACHD's minimum operational thresholds as an all-way stop-controlled intersection.

    - A signal is not required to mitigate 2030 background traffic.
    - A detailed signal warrant analysis should be conducted with an updated TIS for Phase 2.
- Eagle Road and Columbia Road intersection
    - Although the intersection is expected to meet warrants for a signal, it is expected to meet ACHD's minimum operational thresholds as an all-way stop-controlled intersection.
    - A signal is not required to mitigate 2030 background traffic.
    - A detailed signal warrant analysis should be conducted with an updated TIS for Phase 2.

Improvements Needed to Mitigate 2030 Phase 2 Total Traffic

Under 2030 Phase 2 total traffic conditions with the preceding improvements identified in the prior phase, all study roadway segments and intersections operate at an acceptable level of service, except for the following:

- SH 69 and Columbia Road intersection
    - No improvements are proposed to mitigate 2030 total traffic impacts.
        - The intersection is expected to meet LOS D threshold with all lane group v/c ratios meeting 1.00 threshold.
        - The intersection is expected to only exceed the overall intersection v/c ratio threshold during the peak hours.
- Locust Grove Road and Columbia Road intersection (two options)
    - Single-lane roundabout
        - The intersection is identified in the current ACHD MSM as a single-lane roundabout.
    - Signal with left-turn lanes on all approaches
        - The intersection is expected to meet warrants for a signal with 2030 total traffic.

  These intersection improvement options are not programmed in the current ACHD's transportation plans. They are identified in this traffic impact study as anticipated improvement options needed to mitigate 2030 Phase 2 total traffic. These improvements may or may not be required if the background traffic growth is different from what is assumed in this study and/or Patagonia Subdivision is developed at a different rate. These improvement options should be verified with an updated TIS for future phase preliminary plat submittal.

- Columbia Road between Locust Grove Road and Eagle would need widened to three lanes to meet LOS E planning threshold.
    - According to ACHD's MSM, this segment of Columbia Road is planned for three lanes preservation.

Two study area intersections are expected to meet vehicular volume thresholds for signals based on preliminary signal warrant analysis:

- Lake Hazel Road and Locust Grove Road intersection
    - Although the intersection is expected to meet warrant for a signal, it is expected to meet ACHD's minimum operational thresholds as an all-way stop-controlled intersection.
    - As a result, a signal is not required to mitigate 2030 total traffic to meet ACHD's minimum operational thresholds.

  - A detailed signal warrant analysis should be conducted with an updated TIS for future phase preliminary plat submittal.
- Eagle Road and Columbia Road intersection
  - Although the intersection is expected to meet warrant for a signal, it is expected to meet ACHD's minimum operational thresholds as an all-way stop-controlled intersection.
  - As a result, a signal is not required to mitigate 2030 total traffic to meet ACHD's minimum operational thresholds.
  - A detailed signal warrant analysis should be conducted with an updated TIS for future phase preliminary plat submittal.

Improvements Needed to Mitigate 2038 Phase 3 (Build-Out) Background Traffic

Under 2038 background traffic conditions with the preceding improvements identified in the prior phase, all study roadway segments and intersections operate at an acceptable level of service, except for the following:

- Locust Grove Road and Lake Hazel Road intersection (two options)
  - Single-lane roundabout
    - The Locust Grove Road and Lake Hazel Road intersection is identified in the current ACHD CIP as a single-lane roundabout between 2026 and 2030 timeframe.
  - Signal with left-turn lanes on all approaches
    - The intersection is expected to meet warrants for a signal with 2038 background traffic.

  These improvement options should be verified with an updated TIS for future phase preliminary plat submittal.
- SH 69 and Columbia Road intersection
  - Two through lanes on Columbia Road approaches
    - Columbia Road is not programed in the current ACHD's transportation plans to be widened to accommodate two through lanes in either direction. These improvements are identified as anticipated improvements needed to mitigate 2038 background traffic, and should be verified with an update TIS for future phase preliminary plat submittal.
- Eagle Road and Columbia Road intersection (two options)
  - Single-lane roundabout
    - The intersection is identified in the current ACHD MSM as a single-lane roundabout.
  - Traffic signal with left-turn lanes on all approaches
    - The intersection is expected to meet warrants for a signal with 2038 background traffic.

  These intersection improvement options are not programmed in the current ACHD's transportation plans. They are identified in this TIS as anticipated improvement options needed to mitigate 2038 background traffic. These improvements may or may not be required if the background traffic growth is different from what is assumed in this study and/or Patagonia Subdivision is developed at a different rate. These improvement options should be verified with an updated TIS for future phase preliminary plat submittal.
- Hubbard Road and SH 69 intersection
  - Westbound right-turn lane

- Columbia Road
    - Widen to five lanes approximately ½ mile east and west of SH 69 intersection
        - These segments of Columbia Road are identified in ACHD MSM as a Transitional/Commercial arterial with preservation of up to three lanes.

Improvements Needed to Mitigate 2038 Phase 3 (Build-Out) Total Traffic

Under 2038 total traffic conditions with the preceding improvements identified in the prior phase, all study roadway segments and intersections operate at an acceptable level of service, except for the following:

- SH 69 and Columbia Road intersection
    - No improvements are proposed to mitigate 2038 total traffic impacts
        - The intersection is expected to meet LOS D threshold with all lane group v/c ratios meeting 1.00 threshold.
        - The intersection is expected to only exceed the overall intersection v/c ratio threshold during the peak hours.
- SH 69 and Hubbard Road intersection
    - No improvements are proposed to mitigate 2038 total traffic impacts
        - The intersection is expected to meet LOS D threshold with all lane group v/c ratios meeting 1.00 threshold.
        - The intersection is expected to only exceed the overall intersection v/c ratio threshold during the AM peak hour.
- Ray / Bridge Access on Locust Grove Road
    - Southbound right-turn lane
- Columbia Road between Locust Grove Road and Eagle Road is expected to exceed ACHD's LOS E planning threshold with 2038 total traffic as a three-lane minor arterial.

COMPASS CHECKLIST

Communities in Motion 2040 2.0 Development Review

The Community Planning Association of Southwest Idaho (COMPASS) is the metropolitan planning organization (MPO) for Ada and Canyon Counties. COMPASS has developed this review as a tool for local governments to evaluate whether land developments are consistent with the goals of ***Communities in Motion 2040 2.0*** (CIM 2040), the regional long-range transportation plan for Ada and Canyon Counties. This checklist is not intended to be prescriptive, but rather a guidance document based on CIM 2040 2.0 goals.

Development Name: Patagonia East **Agency: Kuna**

CIM Vision Category: Future Neighborhoods

New households: 537 **New jobs: 0** **Exceeds CIM forecast: Yes**

CIM Corridor: **Hubbard Road** Pedestrian level of stress: **R** Bicycle level of stress: **R**	Level of Stress considers facility type, number of vehicle lanes, and speed. Roads with **G or PG** ratings better support bicyclists and pedestrians of all ages and comfort levels.
Housing within 1 mile: **280** Jobs within 1 mile: **90** Jobs/Housing Ratio: **0.3**	A good jobs/housing balance – a ratio between **1 and 1.5** – reduces traffic congestion. Higher numbers indicate the need for more housing and lower numbers indicate an employment need.
Nearest police station: **>4 miles** Nearest fire station: **3.9 miles**	Developments within **1.5 miles** of police and fire stations ensure that emergency services are more efficient and reduce the cost of these important public services.
Farmland consumed: **Yes** Farmland within 1 mile: **1,545 acres**	Farmland contributes to the local economy, creates additional jobs, and provides food security to the region. Development in farm areas decreases the productivity and sustainability of farmland.
Nearest bus stop: **>4 miles** Nearest public school: **2.5 miles** Nearest public park: **2.1 miles** Nearest grocery store: **2 miles**	Residents who live or work less than **½ mile** from critical services have more transportation choices. Walking and biking reduces congestion by taking cars off the road, while supporting a healthy and active lifestyle.

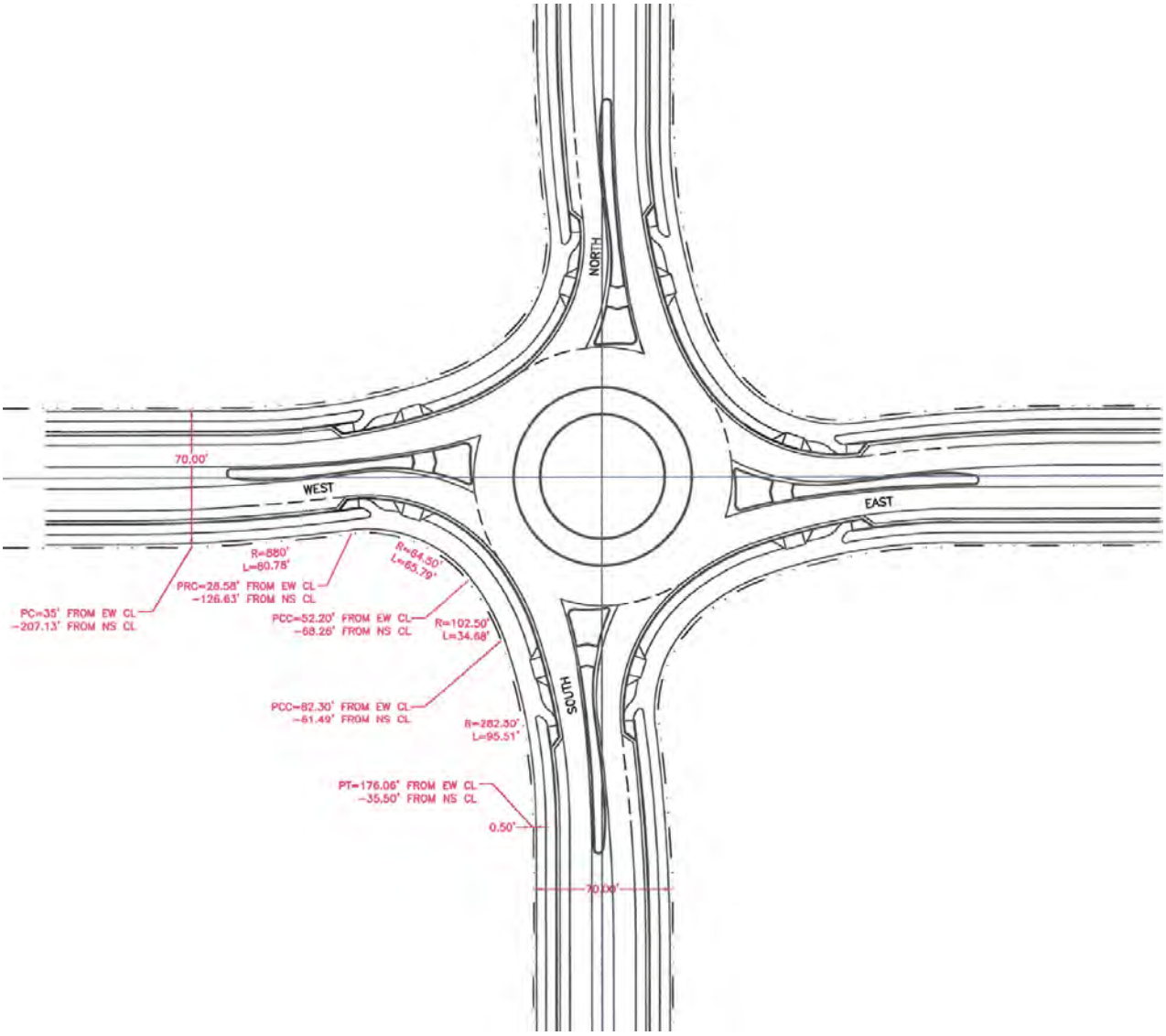
Recommendations

This proposal exceeds growth forecasted for this area. Transportation infrastructure may not be able to support the new transportation demands. This location is still in a largely farmland area. Nearby employment, parks, grocery stores, and services are likely accessed only by vehicle and there are no plans for public transportation to this location.

More information about COMPASS and ***Communities in Motion 2040 2.0***:
Web: www.compassidaho.org
Email info@compassidaho.org
More information about the development review process:
http://www.compassidaho.org/dashboard/devreview.htm

COMPASS
COMMUNITY PLANNING ASSOCIATION
of Southwest Idaho

SINGLE LANE ROUNDABOUT TEMPLATE



Ada County Utility Coordinating Council

Developer/Local Improvement District
Right of Way Improvements Guideline Request

Purpose: To develop the necessary avenue for proper notification to utilities of local highway and road improvements, to help the utilities in budgeting and to clarify the already existing process.

1) **Notification:** Within five (5) working days upon notification of required right of way improvements by Highway entities, developers shall provide written notification to the affected utility owners and the Ada County Utility Coordinating Council (UCC). Notification shall include but not be limited to, project limits, scope of roadway improvements/project, anticipated construction dates, and any portions critical to the right of way improvements and coordination of utilities.

2) **Plan Review:** The developer shall provide the highway entities and all utility owners with preliminary project plans and schedule a plan review conference. Depending on the scale of utility improvements, a plan review conference may not be necessary, as determined by the utility owners. Conference notification shall also be sent to the UCC. During the review meeting the developer shall notify utilities of the status of right of way/easement acquisition necessary for their project. At the plan review conference each company shall have the right to appeal, adjust and/or negotiate with the developer on its own behalf. Each utility shall provide the developer with a letter of review indicating the costs and time required for relocation of its facilities. Said letter of review is to be provided within thirty calendar days after the date of the plan review conference.

3) **Revisions:** The developer is responsible to provide utilities with any revisions to preliminary plans. Utilities may request an updated plan review meeting if revisions are made in the preliminary plans which affect the utility relocation requirements. Utilities shall have thirty days after receiving the revisions to review and comment thereon.

4) **Final Notification:** The developer will provide highway entities, utility owners and the UCC with final notification of its intent to proceed with right of way improvements and include the anticipated date work will commence. This notification shall indicate that the work to be performed shall be pursuant to final approved plans by the highway entity. The developer shall schedule a preconstruction meeting prior to right of way improvements. Utility relocation activity shall be completed within the times established during the preconstruction meeting, unless otherwise agreed upon.

Notification to the Ada County UCC can be sent to: 50 S. Cole Rd. Boise 83707, or Visit iducc.com for e-mail notification information.

Development Process Checklist

Items Completed to Date:

☒Submit a development application to a City or to Ada County

☒The City or the County will transmit the development application to ACHD

☒The ACHD **Planning Review Section** will receive the development application to review

☒The **Planning Review Section** will do one of the following:

☐Send a **"No Review"** letter to the applicant stating that there are no site specific conditions of approval at this time.

☒Write a **Staff Level** report analyzing the impacts of the development on the transportation system and evaluating the proposal for its conformance to District Policy.

☐Write a **Commission Level** report analyzing the impacts of the development on the transportation system and evaluating the proposal for its conformance to District Policy.

Items to be completed by Applicant:

☐For **ALL** development applications, including those receiving a **"No Review"** letter:

- The applicant should submit one set of engineered plans directly to ACHD for review by the **Development Review Section** for plan review and assessment of impact fees. (Note: if there are no site improvements required by ACHD, then architectural plans may be submitted for purposes of impact fee assessment.)
- The applicant is required to get a permit from Construction Services (ACHD) for ANY work in the right-of-way, including, but not limited to, driveway approaches, street improvements and utility cuts.

☐Pay Impact Fees prior to issuance of building permit. Impact fees cannot be paid prior to plan review approval.

DID YOU REMEMBER:
Construction (Non-Subdivisions)

☐ **Driveway or Property Approach(s)**

- Submit a "Driveway Approach Request" form to ACHD Construction (for approval by Development Services & Traffic Services). There is a one week turnaround for this approval.

☐ **Working in the ACHD Right-of-Way**

- Four business days prior to starting work have a bonded contractor submit a "Temporary Highway Use Permit Application" to ACHD Construction – Permits along with:
  a) Traffic Control Plan
  b) An Erosion & Sediment Control Narrative & Plat, done by a Certified Plan Designer, if trench is >50' or you are placing >600 sf of concrete or asphalt.

Construction (Subdivisions)

☐ **Sediment & Erosion Submittal**

- At least one week prior to setting up a Pre-Construction Meeting an Erosion & Sediment Control Narrative & Plan, done by a Certified Plan Designer, must be turned into ACHD Construction to be reviewed and approved by the ACHD Stormwater Section.

☐ **Idaho Power Company**

- Vic Steelman at Idaho Power must have his IPCO approved set of subdivision utility plans prior to Pre-Con being scheduled.

☐ **Final Approval from Development Services is required** prior to scheduling a Pre-Con.

Exhibit B-2

Request for Appeal of Staff Decision

1. **Appeal of Staff Decision:** The Commission shall hear and decide appeals by an applicant of the final decision made by the Development Services Manager when it is alleged that the Development Services Manager did not properly apply this section 7101.6, did not consider all of the relevant facts presented, made an error of fact or law, abused discretion or acted arbitrarily and capriciously in the interpretation or enforcement of the ACHD Policy Manual.

    a. Filing Fee: The Commission may, from time to time, set reasonable fees to be charged the applicant for the processing of appeals, to cover administrative costs.

    b. Initiation: An appeal is initiated by the filing of a written notice of appeal with the Secretary and Clerk of the District, which must be filed within ten (10) working days from the date of the decision that is the subject of the appeal. The notice of appeal shall refer to the decision being appealed, identify the appellant by name, address and telephone number and state the grounds for the appeal. The grounds shall include a written summary of the provisions of the policy relevant to the appeal and/or the facts and law relied upon and shall include a written argument in support of the appeal. The Commission shall not consider a notice of appeal that does not comply with the provisions of this subsection.

    c. Time to Reply: The Development Services Manager shall have ten (10) working days from the date of the filing of the notice of appeal to reply to the notice of the appeal, and may during such time meet with the appellant to discuss the matter, and may also consider and/or modify the decision that is being appealed. A copy of the reply and any modifications to the decision being appealed will be provided to the appellant prior to the Commission hearing on the appeal.

    d. Notice of Hearing: Unless otherwise agreed to by the appellant, the hearing of the appeal will be noticed and scheduled on the Commission agenda at a regular meeting to be held within thirty (30) days following the delivery to the appellant of the Development Services Manager's reply to the notice of appeal. A copy of the decision being appealed, the notice of appeal and the reply shall be delivered to the Commission at least one (1) week prior to the hearing.

    e. Action by Commission: Following the hearing, the Commission shall either affirm or reverse, in whole or part, or otherwise modify, amend or supplement the decision being appealed, as such action is adequately supported by the law and evidence presented at the hearing.

Exhibit B-3

Communities in Motion 2040 2.0 Development Review

The Community Planning Association of Southwest Idaho (COMPASS) is the metropolitan planning organization (MPO) for Ada and Canyon Counties. COMPASS has developed this review as a tool for local governments to evaluate whether land developments are consistent with the goals of *Communities in Motion 2040 2.0* (CIM 2040), the regional long-range transportation plan for Ada and Canyon Counties. This checklist is not intended to be prescriptive, but rather a guidance document based on CIM 2040 2.0 goals.

Development Name: Patagonia East **Agency: Kuna**

CIM Vision Category: Future Neighborhoods

New households: 537 **New jobs: 0** **Exceeds CIM forecast: Yes**

CIM Corridor: **Hubbard Road** Pedestrian level of stress: **R** Bicycle level of stress: **R**	Level of Stress considers facility type, number of vehicle lanes, and speed. Roads with **G or PG** ratings better support bicyclists and pedestrians of all ages and comfort levels.
Housing within 1 mile: **280** Jobs within 1 mile: **90** Jobs/Housing Ratio: **0.3**	A good jobs/housing balance – a ratio between **1 and 1.5** – reduces traffic congestion. Higher numbers indicate the need for more housing and lower numbers indicate an employment need.
Nearest police station: **>4 miles** Nearest fire station: **3.9 miles**	Developments within **1.5 miles** of police and fire stations ensure that emergency services are more efficient and reduce the cost of these important public services.
Farmland consumed: **Yes** Farmland within 1 mile: **1,545 acres**	Farmland contributes to the local economy, creates additional jobs, and provides food security to the region. Development in farm areas decreases the productivity and sustainability of farmland.
Nearest bus stop: **>4 miles** Nearest public school: **2.5 miles** Nearest public park: **2.1 miles** Nearest grocery store: **2 miles**	Residents who live or work less than **½ mile** from critical services have more transportation choices. Walking and biking reduces congestion by taking cars off the road, while supporting a healthy and active lifestyle.

Recommendations

This proposal exceeds growth forecasted for this area. Transportation infrastructure may not be able to support the new transportation demands. This location is still in a largely farmland area. Nearby employment, parks, grocery stores, and services are likely accessed only by vehicle and there are no plans for public transportation to this location.

More information about COMPASS and *Communities in Motion 2040 2.0*:
Web: www.compassidaho.org
Email info@compassidaho.org
More information about the development review process:
http://www.compassidaho.org/dashboard/devreview.htm

COMPASS
COMMUNITY PLANNING ASSOCIATION
of Southwest Idaho

Exhibit B-4

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1445 North Orchard • Boise, ID 83706 • (208) 373-0550

Brad Little, Governor
John H. Tippets, Director

March 5, 2020

City of Kuna
Planning & Zoning Department
P.O. Box 13
Kuna, Idaho 83634

RE: Patagonia East, Patagonia Ridge, Patagonia Lakes Subdivision 19-14-AN/19-11-S

Thank you for the opportunity to respond to your request for comment. While DEQ does not review projects on a project-specific basis, we attempt to provide the best review of the information provided. DEQ encourages agencies to review and utilize the Idaho Environmental Guide to assist in addressing project-specific conditions that may apply. This guide can be found at: deq.idaho.gov/assistance-resources/environmental-guide-for-local-govts.

The following information does not cover every aspect of this project; however, we have the following general comments to use as appropriate:

1. **Air Quality**
   - Please review IDAPA 58.01.01 for all rules on Air Quality, especially those regarding fugitive dust (58.01.01.651), trade waste burning (58.01.01.600-617), and odor control plans (58.01.01.776).

     All property owners, developers, and their contractor(s) must ensure that reasonable controls to prevent fugitive dust from becoming airborne are utilized during all phases of construction activities per IDAPA 58.01.01.651.

     DEQ recommends the city/county require the development and submittal of a dust prevention and control plan prior to final plat approval. Dust prevention and control plans incorporate appropriate best management practices to control fugitive dust that may be generated at sites.

     Citizen complaints received by DEQ regarding fugitive dust from subdivision development and construction activities will be referred to the city or county to address under their ordinances.

     Information on fugitive dust control plans can be found at:
     http://www.deq.idaho.gov/media/61833-dust_control_plan.pdf

   - Per IDAPA 58.01.01.600-617, the open burning of any construction waste is prohibited. The property owner, developer, and their contractor(s) are responsible for ensuring no prohibited open burning occurs during construction.

     For questions, contact David Luft, Air Quality Manager, at (208) 373-0550.

2. Wastewater and Recycled Water

- DEQ recommends verifying that there is adequate sewer to serve this project prior to approval. Please contact the sewer provider for a capacity statement, declining balance report, and willingness to serve this project.

- IDAPA 58.01.16 and IDAPA 58.01.17 are the sections of Idaho rules regarding wastewater and recycled water. Please review these rules to determine whether this or future projects will require DEQ approval. IDAPA 58.01.03 is the section of Idaho rules regarding subsurface disposal of wastewater. Please review this rule to determine whether this or future projects will require permitting by the district health department.

  All projects for construction or modification of wastewater systems require preconstruction approval. Recycled water projects and subsurface disposal projects require separate permits as well.

- DEQ recommends that projects be served by existing approved wastewater collection systems or a centralized community wastewater system whenever possible. Please contact DEQ to discuss potential for development of a community treatment system along with best management practices for communities to protect ground water.

- DEQ recommends that cities and counties develop and use a comprehensive land use management plan, which includes the impacts of present and future wastewater management in this area. Please schedule a meeting with DEQ for further discussion and recommendations for plan development and implementation.

  For questions, contact Valerie Greear, Water Quality Engineering Manager at (208) 373-0550.

3. Drinking Water

- DEQ recommends verifying that there is adequate water to serve this project prior to approval. Please contact the water provider for a capacity statement, declining balance report, and willingness to serve this project.

- IDAPA 58.01.08 is the section of Idaho rules regarding public drinking water systems. Please review these rules to determine whether this or future projects will require DEQ approval.

  All projects for construction or modification of public drinking water systems require preconstruction approval.

- DEQ recommends verifying if the current and/or proposed drinking water system is a regulated public drinking water system (refer to the DEQ website at: deq.idaho.gov/water-quality/drinking-water.aspx). For non-regulated systems, DEQ recommends annual testing for total coliform bacteria, nitrate, and nitrite.

- If any private wells will be included in this project, we recommend that they be tested for total coliform bacteria, nitrate, and nitrite prior to use and retested annually thereafter.

- DEQ recommends using an existing drinking water system whenever possible or construction of a new community drinking water system. Please contact DEQ to discuss this project and to explore options to both best serve the future residents of this development and provide for

protection of ground water resources.

- DEQ recommends cities and counties develop and use a comprehensive land use management plan which addresses the present and future needs of this area for adequate, safe, and sustainable drinking water. Please schedule a meeting with DEQ for further discussion and recommendations for plan development and implementation.

  For questions, contact Valerie Greear, Water Quality Engineering Manager at (208) 373-0550.

4. Surface Water

- A DEQ short-term activity exemption (STAE) from this office is required if the project will involve de-watering of ground water during excavation and discharge back into surface water, including a description of the water treatment from this process to prevent excessive sediment and turbidity from entering surface water.

- Please contact DEQ to determine whether this project will require a National Pollution Discharge Elimination System (NPDES) Permit. A Construction General Permit from EPA may be required if this project will disturb one or more acres of land, or will disturb less than one acre of land but are part of a common plan of development or sale that will ultimately disturb one or more acres of land.

- If this project is near a source of surface water, DEQ requests that projects incorporate construction best management practices (BMPs) to assist in the protection of Idaho's water resources. Additionally, please contact DEQ to identify BMP alternatives and to determine whether this project is in an area with Total Maximum Daily Load stormwater permit conditions.

- The Idaho Stream Channel Protection Act requires a permit for most stream channel alterations. Please contact the Idaho Department of Water Resources (IDWR), Western Regional Office, at 2735 Airport Way, Boise, or call (208) 334-2190 for more information. Information is also available on the IDWR website at:
  http://www.idwr.idaho.gov/WaterManagement/StreamsDams/Streams/AlterationPermit/AlterationPermit.htm

- The Federal Clean Water Act requires a permit for filling or dredging in waters of the United States. Please contact the US Army Corps of Engineers, Boise Field Office, at 10095 Emerald Street, Boise, or call 208-345-2155 for more information regarding permits.

  For questions, contact Lance Holloway, Surface Water Manager, at (208) 373-0550.

5. Hazardous Waste And Ground Water Contamination

- **Hazardous Waste.** The types and number of requirements that must be complied with under the federal Resource Conservations and Recovery Act (RCRA) and the Idaho Rules and Standards for Hazardous Waste (IDAPA 58.01.05) are based on the quantity and type of waste generated. Every business in Idaho is required to track the volume of waste generated, determine whether each type of waste is hazardous, and ensure that all wastes are properly disposed of according to federal, state, and local requirements.

- No trash or other solid waste shall be buried, burned, or otherwise disposed of at the project site. These disposal methods are regulated by various state regulations including Idaho's Solid Waste

Management Regulations and Standards, Rules and Regulations for Hazardous Waste, and Rules and Regulations for the Prevention of Air Pollution.

- **Water Quality Standards.** Site activities must comply with the Idaho Water Quality Standards (IDAPA 58.01.02) regarding hazardous and deleterious-materials storage, disposal, or accumulation adjacent to or in the immediate vicinity of state waters (IDAPA 58.01.02.800); and the cleanup and reporting of oil-filled electrical equipment (IDAPA 58.01.02.849); hazardous materials (IDAPA 58.01.02.850); and used-oil and petroleum releases (IDAPA 58.01.02.851 and 852).

  Petroleum releases must be reported to DEQ in accordance with IDAPA 58.01.02.851.01 and 04. Hazardous material releases to state waters, or to land such that there is likelihood that it will enter state waters, must be reported to DEQ in accordance with IDAPA 58.01.02.850.

- **Ground Water Contamination.** DEQ requests that this project comply with Idaho's Ground Water Quality Rules (IDAPA 58.01.11), which states that "No person shall cause or allow the release, spilling, leaking, emission, discharge, escape, leaching, or disposal of a contaminant into the environment in a manner that causes a ground water quality standard to be exceeded, injures a beneficial use of ground water, or is not in accordance with a permit, consent order or applicable best management practice, best available method or best practical method."

  For questions, contact Albert Crawshaw, Waste & Remediation Manager, at (208) 373-0550.

6. <u>Additional Notes</u>

- If an underground storage tank (UST) or an aboveground storage tank (AST) is identified at the site, the site should be evaluated to determine whether the UST is regulated by DEQ. EPA regulates ASTs. UST and AST sites should be assessed to determine whether there is potential soil and ground water contamination. Please call DEQ at (208) 373-0550, or visit the DEQ website deq.idaho.gov/waste-mgmt-remediation/storage-tanks.aspx for assistance.

- If applicable to this project, DEQ recommends that BMPs be implemented for any of the following conditions: wash water from cleaning vehicles, fertilizers and pesticides, animal facilities, composted waste, and ponds. Please contact DEQ for more information on any of these conditions.

We look forward to working with you in a proactive manner to address potential environmental impacts that may be within our regulatory authority. If you have any questions, please contact me, or any of our technical staff at (208) 373-0550.

Sincerely,



Aaron Scheff
Regional Administrator
Boise Regional Office

ec: CM#2020AEK68

Exhibit B-4

Development: Patagonia East Subdivision
19-14-AN (Annex), 19-11-S (Pre Plat) Patagonia East, Patagonia Ridge, Patagonia Lakes Subdivision.

Lead Agency: City of Kuna
Troy Behunin
Tbehunin@kunaid.gov
Phone: 2058-922-5274

Location: NW, NE and SE corners of the intersection of Locust Grove Road and Hubbard Road.

Applicant: Westpark Company, Inc

Consultant: Chhang Ream
CR Engineers (formerly Thompson Engineers)
181 East 50th Street
Garden City, ID 83714

Staff Contact: Erika Bowen
Traffic Technical Engineer
Erika.Bowen@itd.idaho.gov
Phone: 208-265-4312 ext. #7

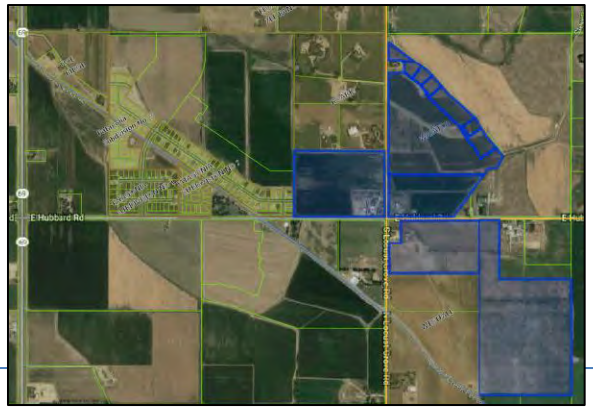
Traffic Findings for Consideration

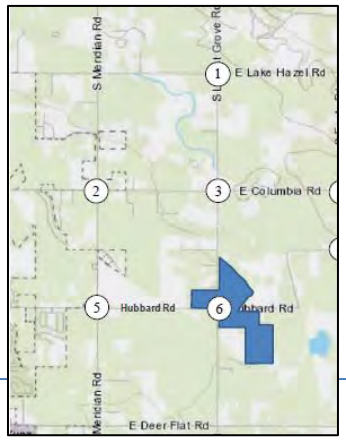
1. Proposed Development

The proposed Patagonia Subdivision contains four separate subdivisions with a combine total of 603 single-family dwelling units. Patagonia Subdivision is expected to be developed in multiple phases. For this study, the developments were consolidated into three major phases with the following proposed number of dwelling units and expected build-out year:

- 2023 Phase 1 – 201 dwelling units
- 2030 Phase 2 – 201 dwelling units
- 2038 Phase 3 (build-out) – 201 dwelling units

2. Vicinity Map





3. Trip Generation:

Table 4.1 – Phase 1 Site Trip Generation Summary

Land Use	ITE Code	Size	Unit	Period	Trip Rate Per Unit	Total Trips	Entering		Exiting	
Single-Family Detached Housing	210	201	DU	Weekday Daily (vpd)	9.44	1,898	50%	949	50%	949
				AM Peak Hour (vph)	0.74	149	25%	37	75%	112
				PM Peak Hour (vph)	0.99	199	63%	125	37%	74

Table 6.1 – Phase 2 Site Trip Generation Summary

Land Use	ITE Code	Size	Unit	Period	Trip Rate Per Unit	Total Trips	Entering		Exiting	
Single-Family Detached Housing	210	201	DU	Weekday Daily (vpd)	9.44	1,898	50%	949	50%	949
				AM Peak Hour (vph)	0.74	149	25%	37	75%	112
				PM Peak Hour (vph)	0.99	199	63%	125	37%	74

Table 8.1 – Phase 3 (Build-Out) Site Trip Generation Summary

Land Use	ITE Code	Size	Unit	Period	Trip Rate Per Unit	Total Trips	Entering		Exiting	
Single-Family Detached Housing	210	201	DU	Weekday Daily (vpd)	9.44	1,898	50%	949	50%	949
				AM Peak Hour (vph)	0.74	149	25%	37	75%	112
				PM Peak Hour (vph)	0.99	199	63%	125	37%	74

4. Traffic Impact Study

Dated: November 30, 2018

a. Executive Summary

Thompson Engineers prepared a traffic impact study for the proposed Patagonia East Subdivision. Below is an executive summary of the findings as presented by Thompson Engineers. The following executive summary is not the opinion of ITD staff. ITD Staff has reviewed the submitted traffic impact study for consistency with ITD policies and practices and may have additional and/or varied requirements beyond what is noted in the summary.

Table 1 – Intersection Improvements Summary

	Intersection	2018 Existing	2023 (Phase 1)		2030 (Phase 2)		2038 (Build-Out)	
			Background	Total	Background	Total	Background	Total
①	Lake Hazel Rd and Locust Grove Rd	None	None	None	None	None	**Signal or roundabout**	None beyond prior improvements
②	SH 69 and Columbia Rd	None	**Signal operation/timing adjustment**	None beyond prior improvements	**Auxiliary through lane on SH 69, SB right-turn lane, dual EBL and dual WBL**	None beyond prior improvements	**2 through lanes on Columbia Rd approaches**	None beyond prior improvements
③	Locust Grove Rd and Columbia Rd	None	None	None	None	**Signal or roundabout**	None beyond prior improvements	None beyond prior improvements
④	Eagle Rd and Columbia Rd	None	None	None	None	None	**Signal or roundabout**	None beyond prior improvements
⑤	SH 69 and Hubbard Rd	None (Signal)	None	None	**SB right-turn lane**	None beyond prior improvements	**WB right-turn lane**	None beyond prior improvements
⑥	Locust Grove Rd and Hubbard Rd	None	None	None	None	None	None	None
⑦	Eagle Rd and Hubbard Rd	None	None	None	None	None	None	None
⑧	N Ray Access and Locust Grove Rd	Future Intersection		Stop T-intersection	None	None	None	None
⑨	Bridge / Ray Access and Locust Grove Rd	Future Intersection		Two-Way Stop	None	None	None	**SB sight-turn lane**[1]
⑩	W Bridge Access and Hubbard Rd	Future Intersection		Stop T-intersection	None	None	None	None
⑪	Ray / Welsh Access and Hubbard Rd	Future Intersection		Two-Way Stop	None	None	None	None
⑫	Wood Access and Hubbard Rd	Future Intersection		Stop T-intersection	None	None	None	None
⑬	S Welsh Access and Locust Grove Rd	Future Intersection		Stop T-intersection	None	None	None	None

[1] Turn lane is needed based on ACHD's turn lane guidelines and is not required based on minimum operational thresholds

Table 2 – Roadway Segment Lane Improvement Summary

Roadway Segment	2018 Existing Lanes	2023 Phase 1		2030 Phase 2		2038 Phase 3 (Build-Out)	
		Background	Total	Background	Total	Background	Total
SH 69	5	5	5	**7 lanes 2,000 feet north and south of Columbia Rd intersection (Auxiliary through lanes)**	7 lanes 2,000 feet north and south of Columbia Rd intersection (Auxiliary through lanes)	7 lanes 2,000 feet north and south of Columbia Rd intersection (Auxiliary through lanes)	7 lanes 2,000 feet north and south of Columbia Rd intersection (Auxiliary through lanes)
Columbia Rd SH 69 to Locust Grove Rd	2	**3**	3	3	3	**5 lanes ½ mile east and west of SH 69**	5 lanes ½ mile east and west of SH 69
Columbia Rd Locust Grove Rd to Eagle Rd	2	2	2	2	**3**	3[A]	3[A]
Locust Grove Road Lake Hazel Rd to Columbia Rd	2	2	2	2	2	2	2
Locust Grove Rd Columbia Rd to Hubbard Rd	2	2	2	2	2	2	2
Hubbard Road SH 69 to Locust Grove Rd	2	2	2	2	2	2	2
Hubbard Road Locust Grove Rd to Eagle Rd	2	2	2	2	2	2	2

[A] Exceed ACHD's LOS E planning threshold as a three-lane minor arterial.

2.0 Improvements Needed to Mitigate 2018 Existing Traffic

2.1 All study area intersections meet ITD's or ACHD's minimum operational thresholds with 2018 existing traffic conditions analyzed with the existing intersection control and lane configurations or with the installation of a traffic signal at the SH 69 and Hubbard Road intersection in Autumn 2018, after traffic counts were collected. As a result, no intersection control or capacity improvements are needed to mitigate 2018 existing traffic.

2.2 None of the study area intersections need turn lanes based on ACHD's turn lane guidelines.

2.3 All study area roadways segments meet ACHD's LOS E planning threshold with 2018 existing traffic.

3.0 Improvements Needed to Mitigate 2023 Phase 1 Background Traffic

3.1 All study area intersections are expected to meet ITD's and ACHD's minimum operational thresholds with 2023 background traffic conditions analyzed with the existing intersection control and lane configurations, with the exception of one intersection. The intersection and proposed improvement are:

- SH 69 and Columbia Road intersection
  - Signal operation/timing adjustments

3.2 None of the study area intersections are expected to need turn lanes with 2023 background traffic based on ACHD's turn lane guidelines.

3.3 The Columbia Road segment between SH 69 and Locust Grove Road is expected to exceed ACHD's LOS E planning threshold with 2023 background traffic as a two-lane minor arterial.

- This segment of Columbia Road would need widened to three lanes, one lane in each direction with a center turn lane, to meet LOS E planning threshold.
  - According to ACHD's MSM, this segment of Columbia Road is planned for three lanes preservation.

4.0 Improvements Needed to Mitigate 2023 Phase 1 Total Traffic

4.1 All study area intersections are expected to meet ITD's or ACHD's minimum operational thresholds with 2023 total traffic conditions analyzed with the existing intersection control and lane configurations, with the exception of one intersection. The intersection and improvement are:

- SH 69 and Columbia Road intersection
  - No improvements are proposed to mitigate 2023 total traffic impacts
    - The intersection is expected to meet LOS D threshold with all lane group v/c ratios meeting 1.00 threshold.
    - The intersection is expected to exceed the overall intersection v/c ratio threshold during the peak hours.

4.2 None of the study area intersection or proposed site access intersections are expected to need turn lanes with 2023 total traffic based on ACHD's turn lane guidelines.

4.3 None of the study area roadway segments need additional capacity improvements beyond the improvements on Columbia Road segment needed to mitigate 2023 background traffic conditions.

5.0 Improvements Needed to Mitigate 2030 Phase 2 Background Traffic

5.1 Two study area intersections are expected to exceed ITD or ACHD minimum operational thresholds with 2030 Phase 2 background traffic conditions analyzed with the existing intersection control and lane configurations. The intersections and improvements needed to mitigate 2030 background traffic impacts are:

- Columbia Road and SH 69 intersection
  - Three through lanes on SH 55 approaches
    - The additional through lanes on SH 69 are auxiliary through lanes extending at least 2,000 feet beyond the intersection to allow proper merging operation and signage based on NCHRP Report 707.
  - Southbound right-turn lane
  - Dual left-turn lanes on Columbia Road approaches

These intersection improvements are not programmed in ITD's or ACHD's current transportation plans. They are identified in this TIS as anticipated improvements needed to mitigate 2030 Phase 2 background traffic. These improvements may or may not be required if the background traffic growth is different from what is assumed in this study and/or Patagonia Subdivision is developed at a different rate. These improvements should be verified with an updated TIS for future phase preliminary plat submittal.

- Hubbard Road and SH 69 intersection
  - Southbound right-turn lane

5.2 Two study area intersections are expected to meet vehicular volume thresholds for signals based on preliminary signal warrant analysis:

- Locust Grove Road and Columbia Road intersection
  - Although the intersection is expected to meet warrants for a signal, it is expected to meet ACHD's minimum operational thresholds as an all-way stop-controlled intersection.
  - A signal is not required to mitigate 2030 background traffic.
  - A detailed signal warrant analysis should be conducted with an updated TIS for Phase 2 preliminary plat submittal.

- Eagle Road and Columbia Road intersection
  - Although the intersection is expected to meet warrants for a signal, it is expected to meet ACHD's minimum operational thresholds as an all-way stop-controlled intersection.
  - A signal is not required to mitigate 2030 background traffic.
  - A detailed signal warrant analysis should be conducted with an updated TIS for Phase 2 preliminary plat submittal.

5.3 None of the study area intersections or proposed site access intersections are expected to need turn lanes with 2030 background traffic based on ACHD's turn lane guidelines.

5.4 None of the study area roadway segments need additional capacity improvements, except for the intersection improvements identified above.

6.0 Improvements Needed to Mitigate 2030 Phase 2 Total Traffic

6.1. Two study area intersections are expected to exceed ITD's or ACHD's minimum operational thresholds with 2030 Phase 2 total traffic conditions analyzed with the existing intersection control and lane configurations or with the preceding improvements identified in prior phase. The intersections and improvements needed to mitigate 2030 total traffic impacts are:

- SH 69 and Columbia Road intersection
  - No improvements are proposed to mitigate 2030 total traffic impacts.
    - The intersection is expected to meet LOS D threshold with all lane group v/c ratios meeting 1.00 threshold.
    - The intersection is expected to only exceed the overall intersection v/c ratio threshold during the peak hours.

- Locust Grove Road and Columbia Road intersection (two options)
  - Single-lane roundabout
    - The intersection is identified in the current ACHD MSM as a single-lane roundabout.
  - Signal with left-turn lanes on all approaches
    - The intersection is expected to meet warrants for a signal with 2030 total traffic.

These intersection improvement options are not programmed in the current ACHD's transportation plans. They are identified in this traffic impact study as anticipated improvement options needed to mitigate 2030 Phase 2 total traffic. These improvements may or may not be required if the background traffic growth is different from what is assumed in this study and/or Patagonia Subdivision is developed at a different rate. These improvement options should be verified with an updated TIS for future phase preliminary plat submittal.

6.2. Two study area intersections are expected to meet vehicular volume thresholds for signals based on preliminary signal warrant analysis:

- Lake Hazel Road and Locust Grove Road intersection
  - Although the intersection is expected to meet warrant for a signal, it is expected to meet ACHD's minimum operational thresholds as an all-way stop-controlled intersection.
  - As a result, a signal is not required to mitigate 2030 total traffic to meet ACHD's minimum operational thresholds.
  - A detailed signal warrant analysis should be conducted with an updated TIS for future phase preliminary plat submittal.

- Eagle Road and Columbia Road intersection
  - Although the intersection is expected to meet warrant for a signal, it is expected to meet ACHD's minimum operational thresholds as an all-way stop-controlled intersection.
  - As a result, a signal is not required to mitigate 2030 total traffic to meet ACHD's minimum operational thresholds.
  - A detailed signal warrant analysis should be conducted with an updated TIS for future phase preliminary plat submittal.

6.3. None of the study area intersections or proposed site access intersections are expected to need turn lanes with 2030 total traffic based on ACHD's turn lane guidelines.

6.4. The Columbia Road segment between Locust Grove Road and Eagle Road is expected to exceed ACHD's LOS E planning threshold with 2030 total traffic as a two-lane minor arterial.

- This segment of Columbia Road would need widened to three lanes, one lane in each direction with a center turn lane, to meet LOS E planning threshold.
  - According to ACHD's MSM, this segment of Columbia Road is planned for three lanes preservation.

7.0 Improvements Needed to Mitigate 2038 Phase 3 (Build-Out) Background Traffic

7.1 Four study area intersections are expected to exceed ITD's or ACHD's minimum operational thresholds with 2038 background traffic conditions analyzed with the existing intersection control and lane configurations or with the preceding improvements identified in prior phases. The intersections and improvements are:

- Locust Grove Road and Lake Hazel Road intersection (two options)
  - Single-lane roundabout
    - The Locust Grove Road and Lake Hazel Road intersection is identified in the current ACHD CIP as a single-lane roundabout between 2026 and 2030 timeframe.
  - Signal with left-turn lanes on all approaches
    - The intersection is expected to meet warrants for a signal with 2038 background traffic.

  These improvement options should be verified with an updated TIS for future phase preliminary plat submittal.

- SH 69 and Columbia Road intersection
  - Two through lanes on Columbia Road approaches
    - Columbia Road is not programed in the current ACHD's transportation plans to be widened to accommodate two through lanes in either direction. These improvements are identified as anticipated improvements needed to mitigate 2038 background traffic, and should be verified with an update TIS for future phase preliminary plat submittal.

- Eagle Road and Columbia Road intersection (two options)
  - Single-lane roundabout
    - The intersection is identified in the current ACHD MSM as a single-lane roundabout.
  - Traffic signal with left-turn lanes on all approaches
    - The intersection is expected to meet warrants for a signal with 2038 background traffic.

These intersection improvement options are not programmed in the current ACHD's transportation plans. They are identified in this TIS as anticipated improvement options needed to mitigate 2038 background traffic. These improvements may or may not be required if the background traffic growth is different from what is assumed in this study and/or Patagonia Subdivision is developed at a different rate. These improvement options should be verified with an updated TIS for future phase preliminary plat submittal.

- Hubbard Road and SH 69 intersection
  - Westbound right-turn lane

7.2 None of the study are intersections or proposed site access intersections are expected to need turn lanes with 2038 background traffic based on ACHD's turn lane guidelines.

7.3 In addition to the intersection improvements identified above, the following roadway capacity improvement is needed to mitigate 2038 background traffic

- Columbia Road
  - Widen to five lanes approximately ½ mile east and west of SH 69 intersection
    - These segments of Columbia Road are identified in ACHD MSM as a Transitional/Commercial arterial with preservation of up to three lanes.

8.0 Improvements Needed to Mitigate 2038 Phase 3 (Build-Out) Total Traffic

8.1 All study area intersections are expected to meet ITD's or ACHD's minimum operational thresholds with 2038 total traffic conditions analyzed with the existing intersection control and lane configurations or with the preceding improvements identified in prior phases, with the exception of two intersections exceeding overall intersection v/c ratio:

- SH 69 and Columbia Road intersection
  - No improvements are proposed to mitigate 2038 total traffic impacts
    - The intersection is expected to meet LOS D threshold with all lane group v/c ratios meeting 1.00 threshold.
    - The intersection is expected to only exceed the overall intersection v/c ratio threshold during the peak hours.

- SH 69 and Hubbard Road intersection
  - No improvements are proposed to mitigate 2038 total traffic impacts
    - The intersection is expected to meet LOS D threshold with all lane group v/c ratios meeting 1.00 threshold.
    - The intersection is expected to only exceed the overall intersection v/c ratio threshold during the AM peak hour.

8.2 One proposed site access intersection is expected to require turn lane based on ACHD's turn-lane guidelines

- Ray / Bridge Access on Locust Grove Road
  - Southbound right-turn lane

8.3 Columbia Road segments between Locust Grove Road and Eagle Road are expected to exceed ACHD's LOS E planning threshold with 2038 total traffic as a three-lane minor arterial.

5. ITD Policy Review

a. Proportionate Share Contribution

ITD District 3 has issued *Memo 39-Development Proportionate Share Contribution* as a means to request equitable contribution from developers to improve public facilities needed to serve new growth and development.

b. Jurisdictional Authority

ITD does not have jurisdictional authority to require improvements from the developer. A formal letter of request will need to be sent to the City of Kuna requesting them to include any mitigation to the State highway system in their development agreement.

c. Interagency Agreement

ITD does not have an Interagency Agreement with the City of Kuna. In order to collect any proportionate share contributions, ITD will need to enter into an interagency agreement with Kuna.

6. Staff Comments Recommendations

ITD is in the process of developing a SH-69 corridor plan to determine ultimate future width and intersection improvements along SH-69. The report is anticipated to be finalized in Spring 2020. ITD is uncertain if the TIS's proposed intersection mitigation improvements will be the preferred treatments identified in the SH-69 corridor plan, however the proposed mitigation are reasonable solutions on which to base proportionate share contribution.

<u>Intersection of SH-69/Columbia Road</u>
The TIS identified that in 2030 and 2038 the intersection of Columbia Road and SH-69 is anticipated to exceed ITD's minimum operational thresholds. Congestion increases from trips generated by this development. The TIS recommends the following improvements to this intersection.

(Prior to 202 dwelling units)

- Northbound and southbound auxiliary thru lane on SH-69
- Southbound right turn lane
- Dual eastbound left turn lanes
- Dual westbound left turn lanes

(Prior to 403 dwelling units)

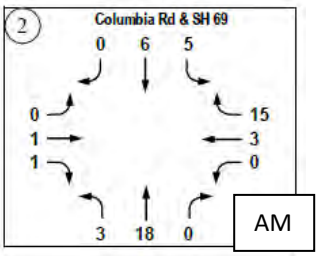
- Eastbound and westbound auxiliary thru lanes on Columbia Road

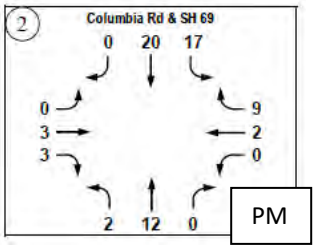
ITD estimates the design and construction costs of the improvements required prior to 202 dwelling units to be $2,477,973. This includes purchase of right-of-way and relocating four signal poles. See attached estimate.

ITD requests the developer pay the following proportionate shares towards the future intersection treatments at Columbia Road / SH-69 for Phase 1:

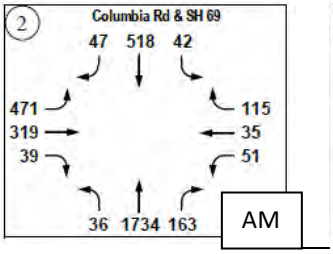
(Prior to 202 dwelling units) = $73,100 (2.95%)
Need to include site trips from prior phases. Double site traffic volumes below.

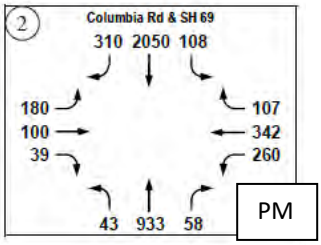
2030 Site Traffic





2030 Total Traffic





AM Site = 104	*AM Total = 3,570*	*AM % = 2.9*
PM Site = 136	*PM Total = 4,530*	*PM % = 3.0*
Proportionate Share for SH-69 / Columbia Rd Phase 1 Intersection Improvements		***Avg % = 2.95***

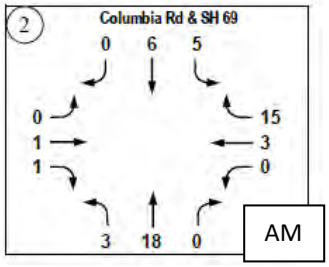
ITD estimates the design and construction costs of constructing eastbound and westbound auxiliary lanes on Columbia Road required prior to 403 dwelling units to be $888,136. See attached estimate.

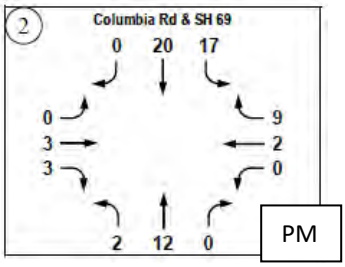
ITD requests the developer pay the following proportionate shares towards the future intersection treatments at Columbia Road / SH-69 for Phase 2:

(Prior to 403 dwelling units) = $34,193 (3.85%)

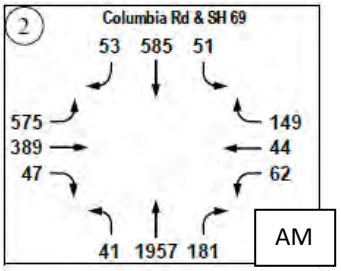
Need to include site trips from prior phases. Triple site traffic volumes below.

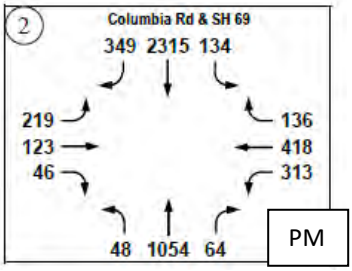
2038 Site Traffic





2038 Total Traffic





AM Site = 156	*AM Total = 4,134*	*AM % = 3.8*
PM Site = 204	*PM Total = 5,219*	*PM % = 3.9*
Proportionate Share for SH-69 / Columbia Rd Phase 2 Intersection Improvements		***Avg % = 3.85***

Staff recommends the developer pay a total proportionate share of $107,293 to all improvements needed at the intersection of SH-69 and Columbia Road. Proportionate share needs to be provided prior to occupancy of the development. Proportionate share could be broken by phase, see details above.

Intersection of SH-69/Hubbard Road

The TIS identified that in 2030 and 3038 the intersection of Columbia Road and SH-69 is anticipated to exceed ITD's minimum operational thresholds. Congestion increases from trips generated by this development. The TIS recommends the following improvements to this intersection.

(Prior to 202 dwelling units)

- Southbound right turn lane

(Prior to 403 dwelling units)

- Westbound right turn lane

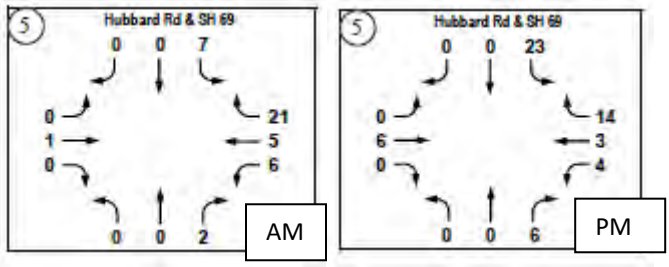
ITD estimates the cost of one right turn lane design, installation, and construction to be $867,465.60. This includes purchase of right-of-way and relocating one signal pole. See attached estimate.

ITD requests the developer pay the following proportionate shares towards the future intersection treatments at Hubbard Road / SH-69:

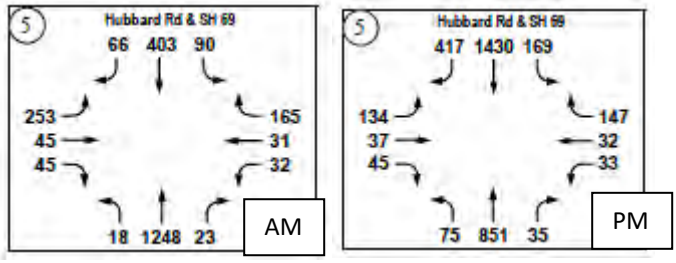
(Prior to 202 dwelling units) = $29,493 (3.4%)

Need to include site trips from prior phases. Double site traffic volumes below.

2030 Site Traffic



2030 Total Traffic

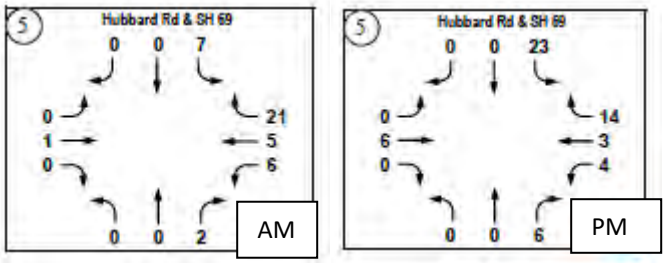


AM Site = 84	*AM Total = 2,419*	*AM % = 3.5*
PM Site = 112	*PM Total = 3,405*	*PM % = 3.3*
Proportionate Share for SH-69 / Hubbard Rd SB right turn lane Intersection Improvements		***Avg % = 3.4***

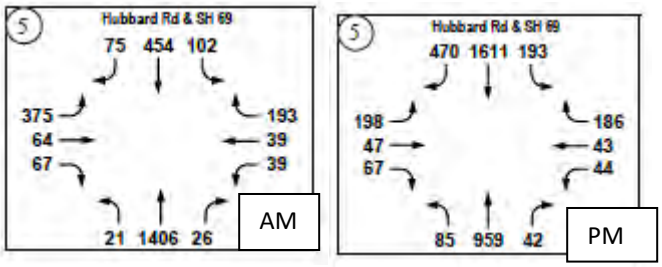
(Prior to 403 dwelling units) = $35,566 (4.1%)

Need to count site trips from prior phases. Triple site traffic volumes below.

2038 Site Traffic



2038 Total Traffic



AM Site = 126	*AM Total = 3,161*	*AM % = 4.0*
PM Site = 168	*PM Total = 3,995*	*PM % = 4.2*
Proportionate Share for SH-69 / Hubbard Rd WB right turn lane Intersection Improvements		***Avg % = 4.1***

Staff recommends the developer pay a total proportionate share of $65,060 to the future southbound right and westbound right turn lanes at the intersection of SH-69 and Hubbard Road. Proportionate share needs to be provided prior to occupancy of the development. Proportionate share could be broken by phase, see details above.

****ITD Staff Recommendations are intended to assure that the proposed development will not place an undue burden on the existing State Highway system within the vicinity impacted by the proposed development.*

1. Appendices

Appendix A	SH-69 / Columbia Road Cost Estimate - Phase 1
Appendix B	SH-69 / Columbia Road Cost Estimate - Phase 2
Appendix C	SH-69 / Hubbard Road Cost Estimate for a Single Right Turn Lane

Appendix A

SH-69 / Columbia Road Cost Estimate – Phase 1

Conceptual Cost Estimate

Estimated By: Dan Block Date: 4/09/2020
Checked By: Date:
Location: SH-69, Intersection Columbia Rd PHASE 1 (Segment 002150, MP 5.15)

Scope (Phase 1):
Widen SH-69 to accommodate the following lane configuration:
1 NB Left, 2 NB Thru, 1 NB Thru/Right (auxiliary)
1 SB Left, 2 SB Thru, 1 SB Thru (auxiliary), SB Right

Widen Columbia Rd to accommodate the following lane configuration:
2 EB Left, 1 EB Thru/Right
2 WB Left, 1 WB Thru, 1 WB Right

The proposed work is split into two phases. Phase 1 is provided through this cost estimate. Phase 2 involves additional widening of Columbia Rd to provide 2 Thru lanes in each direction. See Phase 2 estimate for additional details.

Work on SH-69 extends 1,850-FT north and south of the intersection. This length is comprised of 200-FT between the intersection and the first lane reduction sign, followed by 1,650-FT of lane reduction markings and taper per the ITD Standard Detail - Lane Reduction Arrow Placement for 55 mph. Columbia Rd is widened to provide two left turn lanes onto SH-69.

This estimate assumes that right-of-way purchase will be required on all 4 intersection legs. Right-of-way impacts for Phase 1 and 2 are included in this Phase 1 estimate (no additional R/W is included in Phase 2).

	Item	Quantity	Unit Price	Cost	Note
SECTION 1					
201-010A	CLEARING & GRUBBING	1.00 LS	$ 10,000.00	$ 10,000.00	KN 18872
203-130A	REMOVAL OF PAVEMENT MARKINGS	12,162.00 FT	$ 1.00	$ 12,162.00	KN 18852
205-005A	EXCAVATION	3,759.00 CY	$ 15.25	$ 57,324.75	KN 18872
203-015A	REM OF BITUMINOUS SURFACE	4,607.00 SY	$ 3.15	$ 14,512.05	KN 13030
301-005A	GRANULAR SUBBASE	9,100.00 TON	$ 15.90	$ 144,690.00	KN 18872
303-021A	3/4" AGGR TY A FOR BASE	6,651.00 TON	$ 18.30	$ 121,713.30	KN 18872
401-020A	CSS-1 DIL EMUL ASPH FOR TACK COAT	1,592.00 GAL	$ 3.48	$ 5,540.16	KN 18872
405-435A	SUPERPAVE HMA PAV INCL ASPH&ADD CL SP-3	4,269.00 TON	$ 70.00	$ 298,830.00	KN 18872
614-025A	CURB RAMP	40.00 SY	$ 95.00	$ 3,800.00	KN 13514
621-005A	SEED BED PREPARATION	2.37 ACRE	$ 4,000.00	$ 9,480.00	KN 13387
621-010A	SEEDING	2.37 ACRE	$ 2,400.00	$ 5,688.00	KN 13387
630-025A	LONGITUDINAL PAVEMENT MARKING	31,871.00 FT	$ 0.12	$ 3,824.52	KN 18852
656-005A	TRAF SIGNAL INSTALLATION	1.00 LS	$ 229,000.00	$ 229,000.00	KN 18872
S656-15A	MULTIPLE APPROACH RADAR DETECTION SYSTEM	1.00 LS	$ 78,388.33	$ 78,388.33	KN 19414
675-005A	SURVEY	1.00 LS	$ 45,000.00	$ 45,000.00	KN 18852
SP	RELOCATE IRRIGATION STRUCTURES	1.00 LS	$ 15,000.00	$ 15,000.00	ROM
	Traffic Control	1.00 LS	$ 81,000.00	$ 81,000.00	KN 18852
	Miscellaneous Minor Items	5%		$ 56,797.66	
	Mobilization	10%		$ 113,595.31	
	SECTION 1 Sub-Total			$ 1,306,346.08	
SECTION 2					
	CN Change Order / Quantity Variance	5%		$ 65,317.30	
	CN Non-Bid Items	3.5%		$ 45,722.11	
	SECTION 2 Sub-Total			$ 111,039.42	
SUMMARY					
	Sub-Total: SECTION 1 & SECTION 2			$ 1,417,385.49	
	Contingency - Scoping Level	30%		$ 425,215.65	
	TOTAL CONSTRUCTION COST			**$ 1,842,601.14**	

Summary of Project Costs		Amount	Note
Construction		$ 1,842,601.14	
Design Services	10%	$ 184,260.11	
Construction Services	12%	$ 221,112.14	
Right-of-Way	2.30 ACRES	$ 230,000.00	ROM
Total Cost		**$ 2,477,973.39**	

ESTIMATE_SH-69 Columbia Concept Phase 1 Page 1 of 2



CONCEPTUAL LAYOUT: SH-69, COLUMBIA RD INTERSECTION PHASE 1 WIDENING	IDAHO TRANSPORTATION DEPARTMENT	PROJECT NO.	SH-69, COLUMBIA RD INTERSECTION ADA CO
			COUNTY ADA KEY NUMBER SHEET OF

Appendix B

SH-69 / Columbia Road Cost Estimate – Phase 2

Conceptual Cost Estimate

Estimated By: Dan Block Date: 4/09/2020
Checked By: Date:
Location: SH-69, Intersection Columbia Rd PHASE 2 (Segment 002150, MP 5.15)

Scope (Phase 2):
Widen Columbia Rd to accommodate the following lane configuration:
2 EB Left, 1 EB Thru, 1 EB Thru/Right
2 WB Left, 1 WB Thru, 1 WB Thru/Right

The proposed work is split into two phases. This estimate covers Phase 2 work. Phase 1 provided the baseline widening to accommodate new auxiliary lanes on SH-69 and additional left turn lanes on Columbia Rd. Phase 2 involves additional widening of Columbia Rd to provide 2 Thru lanes in each direction. See Phase 1 estimate for additional details.

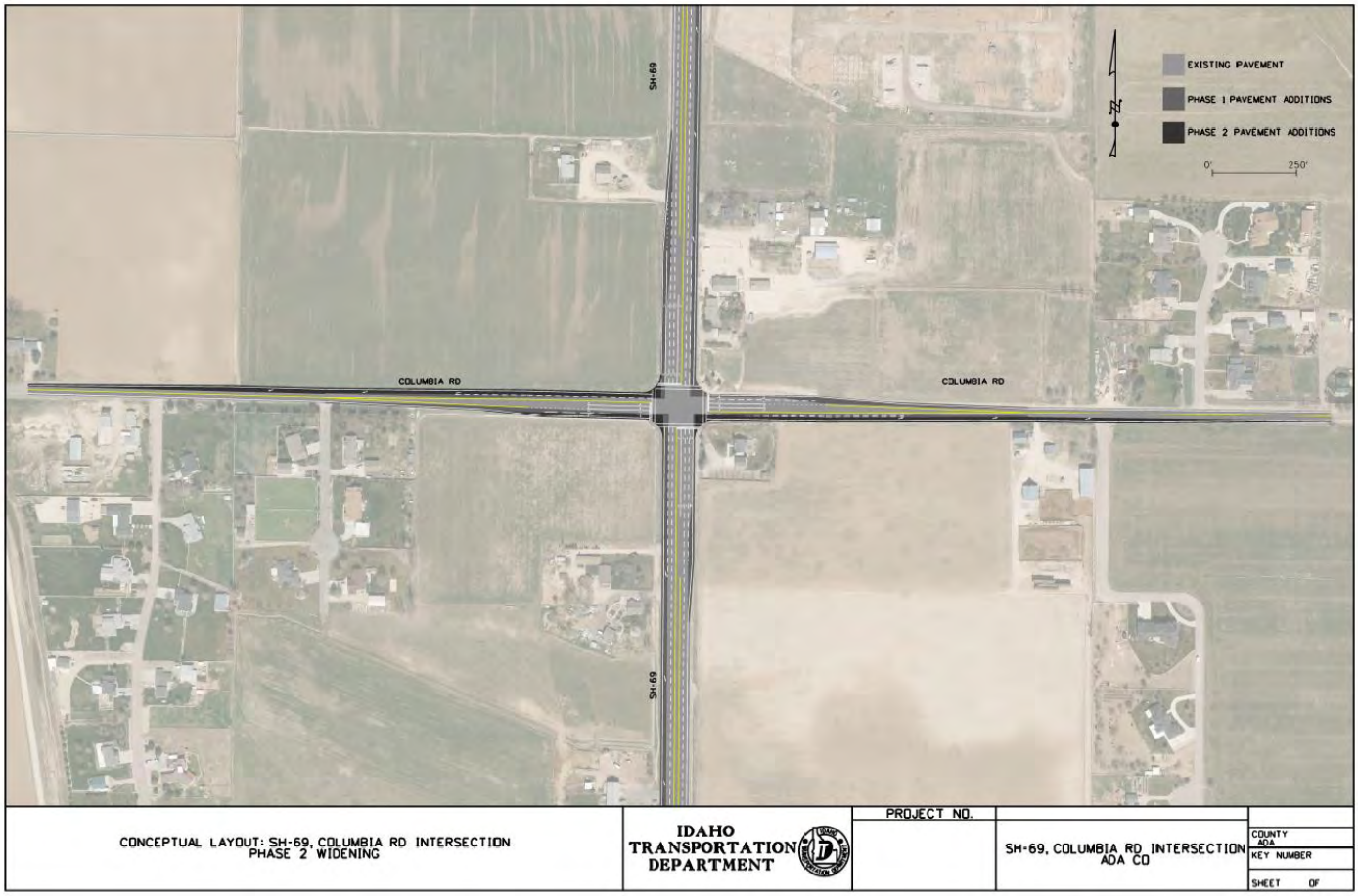
Work on Columbia Rd extends 1,850-FT east and west of the intersection. This length is comprised of 365-FT between the intersection and the first lane reduction sign, followed by 1,485-FT of lane reduction markings and taper per the ITD Standard Detail - Lane Reduction Arrow Placement for 50 mph.

This estimate assumes that all necessary right-of-way was acquired in Phase 1.

	Item	Quantity	Unit Price	Cost	Note
SECTION 1					
201-010A	CLEARING & GRUBBING	1.00 LS	$ 10,000.00	$ 10,000.00	KN 18872
203-130A	REMOVAL OF PAVEMENT MARKINGS	2,993.00 FT	$ 1.00	$ 2,993.00	KN 18852
205-005A	EXCAVATION	1,786.00 CY	$ 15.25	$ 27,236.50	KN 18872
203-015A	REM OF BITUMINOUS SURFACE	1,021.00 SY	$ 3.15	$ 3,216.15	KN 13030
301-005A	GRANULAR SUBBASE	4,319.00 TON	$ 15.90	$ 68,672.10	KN 18872
303-021A	3/4" AGGR TY A FOR BASE	3,157.00 TON	$ 18.30	$ 57,773.10	KN 18872
401-020A	CSS-1 DIL EMUL ASPH FOR TACK COAT	756.00 GAL	$ 3.48	$ 2,630.88	KN 18872
405-435A	SUPERPAVE HMA PAV INCL ASPH&ADD CL SP-3	2,028.00 TON	$ 70.00	$ 141,960.00	KN 18872
621-005A	SEED BED PREPARATION	1.12 ACRE	$ 4,000.00	$ 4,480.00	KN 13387
621-010A	SEEDING	1.12 ACRE	$ 2,400.00	$ 2,688.00	KN 13387
630-025A	LONGITUDINAL PAVEMENT MARKING	9,548.00 FT	$ 0.12	$ 1,145.76	KN 18852
675-005A	SURVEY	1.00 LS	$ 45,000.00	$ 45,000.00	KN 18852
	Traffic Control	1.00 LS	$ 81,000.00	$ 81,000.00	KN 18852
	Miscellaneous Minor Items	5%		$ 22,439.77	
	Mobilization	10%		$ 44,879.55	
	SECTION 1 Sub-Total			$ 516,114.81	
SECTION 2					
	CN Change Order / Quantity Variance	5%		$ 25,805.74	
	CN Non-Bid Items	3.5%		$ 18,064.02	
	SECTION 2 Sub-Total			$ 43,869.76	
SUMMARY					
	Sub-Total: SECTION 1 & SECTION 2			$ 559,984.57	
	Contingency - Scoping Level	30%		$ 167,995.37	
	TOTAL CONSTRUCTION COST			**$ 727,979.94**	

Summary of Project Costs		Amount	Note
Construction		$ 727,979.94	
Design Services	10%	$ 72,797.99	
Construction Services	12%	$ 87,357.59	
Right-of-Way	0.00 ACRES	$ -	
Total Cost		**$ 888,135.53**	

ESTIMATE_SH-69 Columbia Concept Phase 2 Page 1 of 2



CONCEPTUAL LAYOUT: SH-69, COLUMBIA RD INTERSECTION PHASE 2 WIDENING	IDAHO TRANSPORTATION DEPARTMENT	PROJECT NO.	SH-69, COLUMBIA RD INTERSECTION ADA CO	COUNTY ADA KEY NUMBER SHEET OF

Appendix C

SH-69 / Hubbard Road Cost Estimate – Single Right Turn Lane

Intersection Widening - Conceptual Cost Estimate

Estimated By: E. Bowen Date: 3-20-2020
Checked By: Date:

Location: Intersection of SH-69 and Hubbard Road
Scope: Right turn lane, 1 signal pole relocation, right-of-way acquisition

	Item Description	Quantity		Unit Price	Cost	Source
SECTION 1						
201-010A	CLEARING & GRUBBING	0.86	ACRE	$ 6,833.00	$ 5,909.22	KN 18872
203-015A	REM OF BITUMINOUS SURF	1026.67	SY	$ 9.67	$ 9,927.87	KN 18872
203-130A	REMOVAL OF PAV MARKINGS	6930.00	FT	$ 1.00	$ 6,930.00	KN 18852
205-005A	EXCAVATION	3422.22	CY	$ 15.25	$ 52,188.89	KN 18872
301-005A	GRANULAR SUBBASE	2647.94	TON	$ 15.90	$ 42,102.31	KN 18872
303-022A	3/4" AGGR TY B FOR BASE	2284.11	TON	$ 18.30	$ 41,799.26	KN 18872
401-020A	CSS-1 DIL EMUL ASPH FOR TACK COAT	474.93	GAL	$ 3.48	$ 1,652.77	KN 18872
405-435A	SUPERPAVE HMA PAV INCL ASPH&ADD CL SP-3	1273.42	TON	$ 70.00	$ 89,139.05	KN 18872
614-015A	SIDEWALK	26.94	SY	$ 80.00	$ 2,155.56	KN 20294
614-025A	CURB RAMP	20.00	SY	$ 193.50	$ 3,870.00	KN 19965
615-492A	CURB & GUTTER TYPE 2	78.50	FT	$ 50.00	$ 3,925.00	KN 20294
621-005A	SEED BED PREPARATION	0.55	ACRE	$ 1,529.67	$ 836.15	KN 18872
621-010A	SEEDING	0.55	ACRE	$ 1,663.33	$ 909.22	KN 18872
615-651A	TRAFFIC SEPARATOR TYPE 1	0.00	FT	$ 20.00	$ -	KN 19965 KN 20798
630-020A	TRANSVERSE, WORD, SYMBOL, ARROW PAV MKG – WATERBORNE	356.00	SF	$ 3.40	$ 1,210.40	KN 13962
630-025A	LONGITUDINAL PAVEMENT MARKING	9890.58	FT	$ 1.05	$ 10,385.11	KN 18872
656-005A	TRAF SIGNAL INSTALLATION	0.25	LS	$ 229,000.00	$ 57,250.00	KN 18872
675-005A	SURVEY	1.00	LS	$ 20,000.00	$ 20,000.00	KN 18872
	Traffic Control	1.00	LS	$ 73,000.00	$ 73,000.00	KN 18872
	Miscellaneous Minor Items	5%			$ 21,159.54	
	Mobilization	10%			$ 42,319.08	
	SECTION 1 Sub-Total				$ 486,669.40	
SECTION 2						
	CN Change Order / Quantity Variance	5%			$ 24,333.47	
	CN Non-Bid Items	3.5%			$ 17,033.43	
	SECTION 2 Sub-Total				$ 41,366.90	
SUMMARY						
	Sub-Total: SECTION 1 & SECTION 2				$ 528036.30	
	Contingency - Scoping Level	30%			$ 158,410.90	
	TOTAL CONSTRUCTION COST				$ 686,447.20	

Summary of Project Costs			Amount
Construction			$ 686,447.20
Design Services	10%		$ 68,644.72
Construction Services	12%		$ 82,373.67
Right-of-Way	0.30	ACRES	$ 30,000.00
Total Cost			$ 867,465.60

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Your Economic Opportunity

IDAHO TRANSPORTATION DEPARTMENT
P.O. Box 8028 • Boise, ID 83707-2028
(208) 334-8300 • itd.idaho.gov

April 28, 2020

Troy Behunin
City of Kuna, Planning and Zoning Department
P.O. Box 13
Kuna, ID 83634

VIA EMAIL

Development Application	**19-14-AN, 19-11-S**
Project Name	**PATAGONIA EAST SUBDIVISION, PATAGONIA RIDGE SUBDIVISION, PATAGONIA LAKES SUBDIVISION**
Project Location	The northwest corner, northeast corner, and southeast corner of Hubbard and Locust Grove Roads, east of SH-69 milepost 4.00
Project Description	Annexation of 163 acres into Kuna City limits with R-4, R-6, and R-8 zones. This is a multi-phased, Master-Planned project. Applicant requests preliminary plat consisting of approximately 163.30 acres into 574 lots.
Applicant	Bonnie Layton, WH Pacific

The Idaho Transportation Department (ITD) reviewed the referenced annexation and preliminary plat applications and has the following comments:

1. This project does not abut the State Highway system.

2. ITD has received, reviewed a Traffic Impact Study for Patagonia East, Patagonia Ridge, Patagonia Lakes Subdivisions. The TIS identified the SH-69/ Columbia Road and SH-69/ Hubbard Road intersections were impacted by traffic generated by this development.

3. The proposed development will generate approximately 600 trips during peak times at the SH-69/ Columbia Road intersection. Traffic analysis provided by the applicant calculated the proportionate share for the improvements at SH-69/ Columbia Road as $107,293. Proportionate share can be broken down by phasing. The Technical Engineer has written up a technical report with an explanation of the proportionate share (see attached).

4. The proposed development will generate approximately 490 trips during peak times at the SH-69/ Hubbard Road intersection. Traffic analysis provided by the applicant calculated the proportionate share for the improvements at SH-69/ Hubbard Road as $65,060. Proportionate share can be broken down by phasing. The

IDAHO TRANSPORTATION DEPARTMENT
P.O. Box 8028 • Boise, ID 83707-2028
(208) 334-8300 • itd.idaho.gov

Technical Engineer has written up a technical report with an explanation of the proportionate share (see attached).

5. The Idaho Administrative Procedures Act (IDAPA) 39.03.60 governs advertising along the State Highway system. The applicant may contact Justin Pond, Right-of-Way Section Program Manager, at (208) 334-8832 for more information.

6. Idaho Code 40-1910 does not allow advertising within the right-of-way of any State Highway.

7. Provided each phase provide their calculated proportionate share prior to occupancy, ITD does not object to the annexation and preliminary plat of Patagonia Subdivisions as presented.

If you have any questions, you may contact me at (208) 334-8338 or Erika Bowen (208) 265-4312 ext 7.

Sincerely,



Sarah Arjona
Development Services Coordinator
Sarah.Arjona@itd.idaho.gov

Troy Behunin

From: Phil Roberts <proberts@kunafire.com>
Sent: Monday, February 24, 2020 10:00 AM
To: Troy Behunin
Subject: RE: Patagonia East Subdivision(S) Request for Comment

Categories: Agency Comments

Fire Comments.

All Dead-end roads should be justified, meaning will they be extended in the future (What is the time frame). If not need to meet the standards of the fire code. Example – Fitz Roy, dead ends into a private property need to know how that will be finished.

Phil Roberts
Fire Chief
Kuna Rural Fire District
208-922-1144 Ext 101
208-922-1982 Fax
208-870-3057 Cell

From: Troy Behunin <tbehunin@kunaid.gov>
Sent: Friday, February 21, 2020 11:34 AM
To: ACHD <planningreview@achdidaho.org>; Becky Rone - Kuna USPS Addressing <rebecca.i.rone@usps.gov>; Bob Bachman <bbachman@kunaid.gov>; Boise Project Brd Cntrl <TRitthaler@boiseproject.org>; Boise-Kuna Irrigation Distr. <laurenboehlke@yahoo.com>; Brent Moore <bmoore@adacounty.id.gov>; Cable One Business <Adam.ingram@cableone.biz>; Cable One t.v. <cheryl.goettsche@cableone.biz>; Central District Health Dept. CDHD <lbadigia@cdhd.idaho.gov>; Phil Roberts <proberts@kunafire.com>; COMPASS <cmiller@compassidaho.org>; Dave R. - KSD <Dreinhart@kunaschools.org>; DEQ <Alicia.martin@deq.idaho.gov>; Eric Adolfson <eadolfson@compassidaho.org>; Idaho Power <bwatson2@idahopower.com>; Idaho Power - Jacky Chris <easements@idahopower.com>; Idaho Power - K Funke <kfunke@idahopower.com>; Intermountain Gas <robert.miller@mdu.com>; Intermountain Gas <bryce.ostler@intgas.com>; ITD <D3Development.Services@itd.idaho.gov>; J&M Sanitation - Chad Gordon <Chad.Gordon@jmsanitation.com>; Jim O. - KSD <Jim@kunaschools.org>; Julie Stanley - Regional Address Mgmt. <Julie.R.Stanley@usps.gov>; Kuna Police Chief <so4217@adaweb.net>; Kuna Postmaster - Marc C. Boyer <marc.c.boyer@usps.gov>; Kuna School District <kbekkedahl@kunaschools.org>; Kuna School District <bsaxton@kunaschools.org>; Kuna School District <wjohnson@kunaschools.org>; Lisa Holland <lholland@kunaid.gov>; Mike Borzick <mborzick@kunaid.gov>; Nampa Meridian Irrigation District <nmid@nmid.org>; New York Irrigation District <terri@nyid.org>; Paul Stevens <PStevens@kunaid.gov>; Planning Mgr: Ada County Development Services <jboal@adaweb.net>
Subject: Patagonia East Subdivision(S) Request for Comment

Friday Morning Greetings everyone,

Bonnie Layton

From: Terasa O'Brien
Sent: Thursday, December 19, 2019 3:01 PM
To: Bonnie Layton
Cc: Cara Duskey
Subject: FW: Patagonia Ridge and Patagonia Lakes Subdivision Name Reservations

See response below!

Terasa O'Brien | Administrative Assistant
WHPacific, Inc. - an NV5 company | 2141 W Airport Way, Ste 104, Boise, ID 83705
Direct 208.275.8744 | tobrien@whpacific.com

Enhance Client Satisfaction with Creative, Exceptional Service through Empowered Employees

From: Sub Name Mail [mailto:subnamemail@adacounty.id.gov]
Sent: Thursday, December 19, 2019 2:10 PM
To: Terasa O'Brien <TOBrien@whpacific.com>
Subject: RE: Patagonia Ridge and Patagonia Lakes Subdivision Name Reservations

Terasa;

Please note the two sentences of the reservation which state;
"I will reserve the two names **Patagonia Ridge Subdivision** and **Patagonia Lakes Subdivision** for your project. **Patagonia East Subdivision** was previously reserved on 7/26/2017 and we will revise that information to show the new firm and surveyor."

I believe that this answers your question.

Glen Smallwood
Surveying Technician
Ada County Development Services
200 W. Front St., Boise, ID 83702
(208) 287-7926 *office*
(208) 287-7909 *fax*

From: Terasa O'Brien <TOBrien@whpacific.com>
Sent: Wednesday, December 18, 2019 12:18 PM
To: Sub Name Mail <subnamemail@adacounty.id.gov>
Cc: Cara Duskey <CDuskey@whpacific.com>; Bonnie Layton <BLayton@whpacific.com>
Subject: [EXTERNAL] RE: Patagonia Ridge and Patagonia Lakes Subdivision Name Reservations

Hello Glen,

Per your email below, I want to make sure that we are reserving Patagonia East along with Patagonia Ridge and Patagonia Lakes. Could you please let me know?

Thank you,

Terry O'Brien | Administrative Assistant
WHPacific, Inc. - an NV5 company | 2141 W Airport Way, Ste 104, Boise, ID 83705
Direct 208.275.8744 | tobrien@whpacific.com

Enhance Client Satisfaction with Creative, Exceptional Service through Empowered Employees

From: Sub Name Mail [mailto:subnamemail@adacounty.id.gov]
Sent: Wednesday, December 18, 2019 10:54 AM
To: Terasa O'Brien <TOBrien@whpacific.com>
Cc: 'Clint Hansen' <chansen@landsolutions.biz>
Subject: RE: Patagonia Ridge and Patagonia Lakes Subdivision Name Reservations

December 18, 2019

Clinton Hansen, Land Solutions
Terasa O'Brien, WH Pacific

RE: Subdivision Name Reservation: **PATAGONIA RIDGE SUBDIVISION / PATAGONIA LAKES SUBDIVISION**

At your request, I will reserve the two names **Patagonia Ridge Subdivision** and **Patagonia Lakes Subdivision** for your project. **Patagonia East Subdivision** was previously reserved on 7/26/2017 and we will revise that information to show the new firm and surveyor. I can honor this reservation only as long as your project is in the approval process. Final approval can only take place when the final plat is recorded.

These reservations are available for the projects as long as they are in the approval process until the project is terminated by either the client or the jurisdiction, or the conditions of approval have not been met, in which case the name can be re-used by someone else.

Sincerely,

Glen Smallwood
Surveying Technician
Ada County Development Services
200 W. Front St., Boise, ID 83702
(208) 287-7926 *office*
(208) 287-7909 *fax*

From: Terasa O'Brien <TOBrien@whpacific.com>
Sent: Tuesday, December 17, 2019 11:15 AM
To: Sub Name Mail <subnamemail@adacounty.id.gov>
Cc: Cara Duskey <CDuskey@whpacific.com>; Bonnie Layton <BLayton@whpacific.com>
Subject: [EXTERNAL] FW: FW: New Subdivision Name Reservation

Good morning Glen,

Please see below Kent Brown's response giving us permission to use the subdivision names as requested on the map below.

Thank you,

Terry O'Brien | Administrative Assistant
WHPacific, Inc. - an NV5 company | 2141 W Airport Way, Ste 104, Boise, ID 83705
Direct 208.275.8744 | tobrien@whpacific.com

From: kent brown <kentlkb@gmail.com>
Sent: Tuesday, December 17, 2019 11:00 AM
To: Cara Duskey <CDuskey@whpacific.com>
Subject: Re: FW: New Subdivision Name Reservation

Cara you can use the subdivision names

Kent Brown

On Tue, Dec 17, 2019 at 8:56 AM Cara Duskey <CDuskey@whpacific.com> wrote:

> Hi Kent,
>
> You reserved the name Patagonia in 2017, I don't know if you will be the one doing the plat processing, but we are doing to preplat applications and all, can you give us permission to use the Patagonia names as listed below?
>
> Thank you.
>
> Cara

Cara Duskey | Administrative Assistant
WHPacific, Inc. - an NV5 company | 2141 W Airport Way, Ste 104, Boise, ID 83705
Direct 208.275.8700 | Fax 208.342.5353 | cduskey@whpacific.com

Enhance Client Satisfaction with Creative, Exceptional Service through Empowered Employees

From: Sub Name Mail [mailto:subnamemail@adacounty.id.gov]
Sent: Monday, December 16, 2019 4:09 PM
To: Terasa O'Brien <TOBrien@whpacific.com>
Subject: RE: New Subdivision Name Reservation

Terasa;

The name Patagonia East was previously reserved by Kent Brown on 7/26/2017 for Parcel S1407449560, which is only one of the five Parcels you noted below.

However, since the other two developments are on the opposite sides of an existing right-of-way, new names are needed to comply with our existing policies.

I have inserted a conceptual map which Kent provided at the time which essentially shows the parcels that you listed in your email, and the names that were requested at the time.

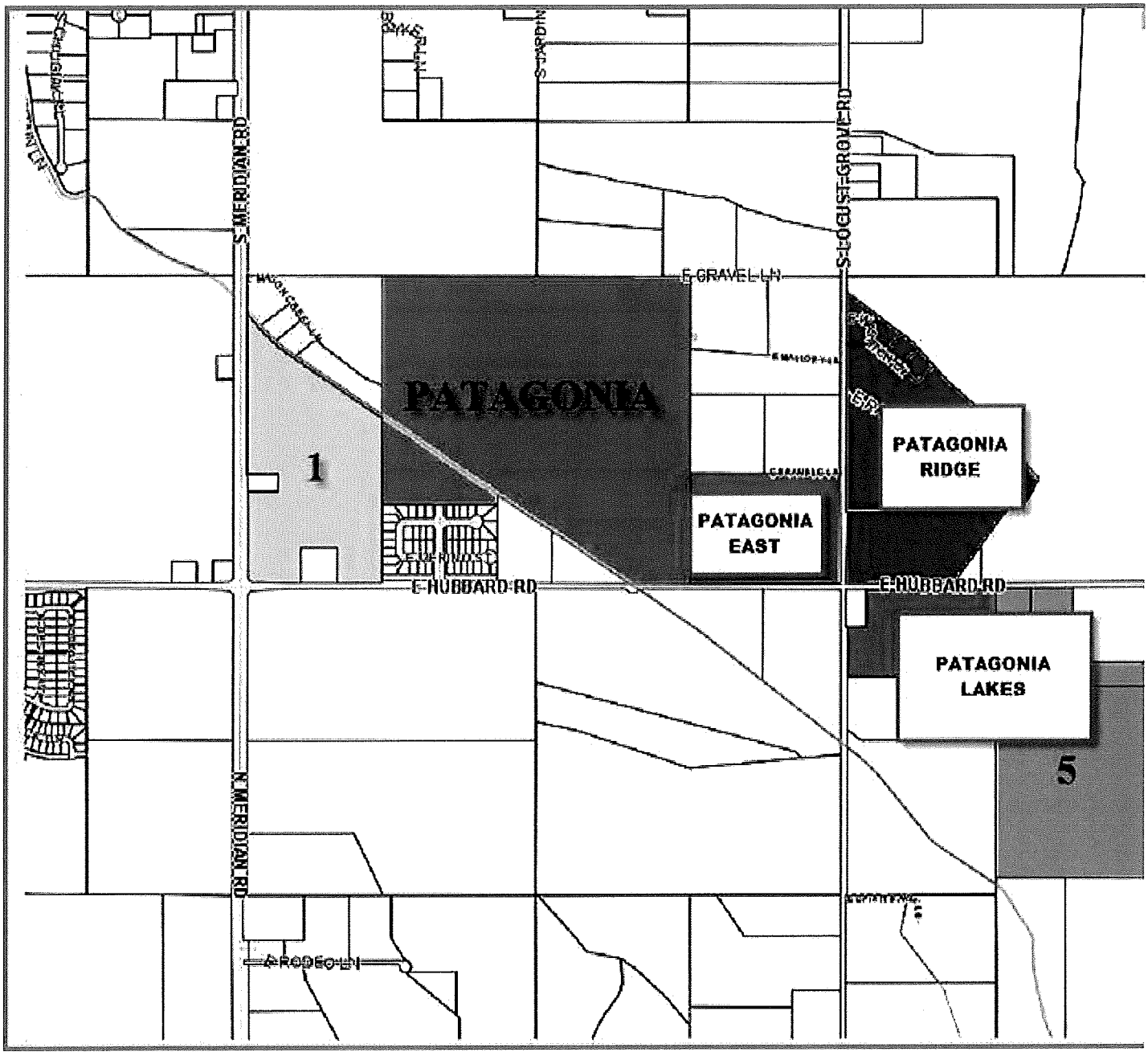
If you wish to reserve these names, we can. The only restrictions are outlined in Idaho Code 50-1307. If the developer is any other entity other than Patagonia Development LLC, then a permission to use the subdivision name is required to be recorded.

Otherwise, you will need to choose new name for both the parcels on the northeast side of Hubbard & Locust Grove, and the a new name for the parcels on the southeast side of the intersection.

Glen Smallwood

Surveying Technician

Ada County Development Services
200 W. Front St., Boise, ID 83702
(208) 287-7926 *office*
(208) 287-7909 *fax*



From: Terasa O'Brien <TOBrien@whpacific.com>
Sent: Thursday, December 12, 2019 8:47 AM
To: Sub Name Mail <subnamemail@adacounty.id.gov>
Cc: Cara Duskey <CDuskey@whpacific.com>; Bonnie Layton <BLayton@whpacific.com>; chansen@landsolutions.biz
Subject: [EXTERNAL] FW: New Subdivision Name Reservation

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Hello,

I am requesting a new subdivision name: **Patagonia East**

Below are the details:

- A PORTION OF SE ¼ OF SECTION 7, SW ¼ OF SECTION 8

AND NW ¼ SECTION 17, T.2N., R.1E., BOISE MERIDIAN

KUNA, ADA COUNTY, IDAHO

- Parcel numbers: S1407449560; R9237170650; S1408336300; R9321840100; S1417212700
- Surveyor: Clint Hansen – Land Solutions
- Developer: The Westpark Company, Inc.
- Contact/ Planner: Bonnie Layton – WHPacific, Inc.

Kind regards,

Terry O'Brien | Administrative Assistant
WHPacific, Inc. - an NV5 company | 2141 W Airport Way, Ste 104, Boise, ID 83705
Direct 208.275.8744 | tobrien@whpacific.com

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--

Kent Brown

Kent Brown Planning Services
3161 E. Springwood Drive
Meridian, ID 83642
P: 208-871-6842

SITE PHOTO NO. 1A



SITE PHOTO NO. 2A



SITE PHOTO NO. 3A



SITE PHOTO NO. 4A



SITE PHOTO NO 5A and NO 25



SITE PHOTO 5B



SITE PHOTO NO 6A and NO 26



SITE PHOTO 6B



SITE PHOTO NO 7A and NO 27



SITE PHOTO NO 8A and NO 28



SITE PHOTO NO. 9A and13B



SITE PHOTO 9B



SITE PHOTO NO 9C



SITE PHOTO NO 10A and 14B



SITE PHOTO 10B



SITE PHOTO NO. 10C



SITE PHOTO NO. 11A and 15B



SITE PHOTO NO 11B



SITE PHOTO 11B



SITE PHOTO NO. 11C



SITE PHOTO NO. 12A and16B



SITE PHOTO NO. 12B



SITE PHOTO 12B



SITE PHOTO NO. 12C



PHOTO SITE NO. 13A



PHOTO SITE NO. 14A



PHOTO SITE NO. 15A



PHOTO SITE NO. 16A



SITE PHOTO NO. 21



SITE PHOTO NO. 22



SITE PHOTO NO. 23



SITE PHOTO NO. 24



SITE PHOTO NO. 25



SITE PHOTO NO. 25A



SITE PHOTO NO.26



SITE PHOTO NO. 26



SITE PHOTO NO. 27



SITE PHOTO NO. 27A



SITE PHOTO NO. 28A



PHOTO SITE NO. 29



PHOTO SITE NO. 30



SITE PHOTO NO. 31



Traffic Impact Study

Patagonia Subdivision

Kuna, Idaho



August 9, 2018

Revised November 30, 2018

Thompson Traffic and Civil Engineers Inc.

181 East 50th St
Garden City, ID 83714
(208) 484-4110

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EXECUTIVE SUMMARY

Thompson Engineers, Inc. has been retained to prepare a traffic impact study (TIS) for the proposed Patagonia Subdivision located around the Hubbard Road and Locust Grove Road intersection north of Kuna, Idaho, as shown in **Figure 1.1**. The scope of this report was determined through coordination with the Idaho Transportation Department (ITD) and Ada County Highway District (ACHD).

The TIS evaluates the potential traffic impacts resulting from background traffic growth with an off-site development, the proposed development, and makes recommendations for mitigating the impacts. The TIS evaluates traffic impacts for three major phases. **Table 1** and **Table 2** summarize the intersection and roadway improvements needed to mitigate the traffic impacts for the analysis scenarios, which are:

- 2018 Existing Traffic
- 2023 Phase 1 Background Traffic
- 2023 Phase 1 Total Traffic
- 2030 Phase 2 Background Traffic
- 2030 Phase 2 Total Traffic
- 2038 Phase 3 (Build-Out) Background Traffic
- 2038 Phase 3 (Build-Out) Total Traffic

Some of the improvements identified in this TIS are not programmed nor funded in the most current versions of ITD's or ACHD's transportation plans. However, ITD's and ACHD's transportation plans are living documents and will be continually updated to reflect the current community growth and transportation system needs, which may include these improvements in future transportation plans updates.

The mitigation improvements identified in this TIS are the anticipated improvements needed to mitigate the traffic impacts. These mitigations may or may not be required if the expected traffic growth is different from what is assumed in this TIS and/or Patagonia Subdivision is developed at a different rate. These mitigations will be verified in future TIS updates for future phases preliminary plat submittal.

Patagonia Subdivision is a multi-phase development, which ACHD will require an updated TIS for each subsequent phase. The updated TIS will allow opportunity to more accurately assess the traffic impacts and identified mitigation measures with the most current information:

- Update traffic counts
- Background traffic projection and off-site development
- Updated transportation plans with programmed/funded improvements
- Actual development for each phase
- Necessary mitigation measures for the current phase

1.0 Proposed Development

1.1 The proposed Patagonia Subdivision contains four separate subdivisions with a combine total of 603 single-family dwelling units. Patagonia Subdivision is expected to be developed in multiple phases. For this study, the developments were consolidated into three major phases with the following proposed number of dwelling units and expected build-out year:

- 2023 Phase 1 – 201 dwelling units
- 2030 Phase 2 – 201 dwelling units
- 2038 Phase 3 (build-out) – 201 dwelling units

1.2 Based on ITE Trip Generation Manual, 10th Edition, the development is estimated to generate approximately 5,692 trips per weekday, 447 trips during the AM peak hour, and 597 trips during the PM peak hour at full build-out.

- The development is not expected to retain internal trips within the site or generate pass-by trips.
- All trips generated by the development are expected to be made by personal and commercial vehicles.
- The estimated site traffic distribution patterns are:
  - 50% north of the site
  - 10% south of the site
  - 20% west of the site
  - 20% east of the site

1.3 According to the preliminary site plan, Patagonia Subdivision is proposing six access intersections:

- 3 site access intersections on Locust Grove Road
  - North Ray Access located 2,000 feet North of Hubbard Road
  - Bridge / Ray Access located 800 feet North of Hubbard Road
  - West Bridge Access located 700 feet West of Locust Grove Road
- 3 site access intersections on Hubbard Road
  - Ray / Welsh Access located 675 feet East of Locust Grove Road
  - Wood Access located 1,325 feet east of Locust Grove Road
  - South Welsh Access located 500 feet South of Hubbard Road
- These proposed site access locations generally meet ACHD access spacing

1.4 The Patagonia Subdivision site is located within the ACHD Master Street Map collector street system.

- All proposed future collector streets are beyond the site boundary.
- The proposed Eagle Road realignment is located along the eastern site boundary
  - Based on the preliminary site plan, improvements are planned along the eastern site boundary to accommodate future Eagle Road realignment.

Table 1 – Intersection Improvements Summary

	Intersection	2018 Existing	2023 (Phase 1)		2030 (Phase 2)		2038 (Build-Out)	
			Background	Total	Background	Total	Background	Total
1	Lake Hazel Rd and Locust Grove Rd	None	None	None	None	None	**Signal or roundabout**	None beyond prior improvements
2	SH 69 and Columbia Rd	None	**Signal operation/timing adjustment**	None beyond prior improvements	**Auxiliary through lane on SH 69, SB right-turn lane, dual EBL and dual WBL**	None beyond prior improvements	**2 through lanes on Columbia Rd approaches**	None beyond prior improvements
3	Locust Grove Rd and Columbia Rd	None	None	None	None	**Signal or roundabout**	None beyond prior improvements	None beyond prior improvements
4	Eagle Rd and Columbia Rd	None	None	None	None	None	**Signal or roundabout**	None beyond prior improvements
5	SH 69 and Hubbard Rd	None (Signal)	None	None	**SB right-turn lane**	None beyond prior improvements	**WB right-turn lane**	None beyond prior improvements
6	Locust Grove Rd and Hubbard Rd	None	None	None	None	None	None	None
7	Eagle Rd and Hubbard Rd	None	None	None	None	None	None	None
8	N Ray Access and Locust Grove Rd	Future Intersection		Stop T-intersection	None	None	None	None
9	Bridge / Ray Access and Locust Grove Rd	Future Intersection		Two-Way Stop	None	None	None	**SB sight-turn lane**[1]
10	W Bridge Access and Hubbard Rd	Future Intersection		Stop T-intersection	None	None	None	None
11	Ray / Welsh Access and Hubbard Rd	Future Intersection		Two-Way Stop	None	None	None	None
12	Wood Access and Hubbard Rd	Future Intersection		Stop T-intersection	None	None	None	None
13	S Welsh Access and Locust Grove Rd	Future Intersection		Stop T-intersection	None	None	None	None

[1] Turn lane is needed based on ACHD's turn lane guidelines and is not required based on minimum operational thresholds

Table 2 – Roadway Segment Lane Improvement Summary

Roadway Segment	2018 Existing Lanes	2023 Phase 1		2030 Phase 2		2038 Phase 3 (Build-Out)	
		Background	Total	Background	Total	Background	Total
SH 69	5	5	5	**7 lanes 2,000 feet north and south of Columbia Rd intersection (Auxiliary through lanes)**	7 lanes 2,000 feet north and south of Columbia Rd intersection (Auxiliary through lanes)	7 lanes 2,000 feet north and south of Columbia Rd intersection (Auxiliary through lanes)	7 lanes 2,000 feet north and south of Columbia Rd intersection (Auxiliary through lanes)
Columbia Rd SH 69 to Locust Grove Rd	2	**3**	3	3	3	**5 lanes ½ mile east and west of SH 69**	5 lanes ½ mile east and west of SH 69
Columbia Rd Locust Grove Rd to Eagle Rd	2	2	2	2	**3**	3[A]	3[A]
Locust Grove Road Lake Hazel Rd to Columbia Rd	2	2	2	2	2	2	2
Locust Grove Rd Columbia Rd to Hubbard Rd	2	2	2	2	2	2	2
Hubbard Road SH 69 to Locust Grove Rd	2	2	2	2	2	2	2
Hubbard Road Locust Grove Rd to Eagle Rd	2	2	2	2	2	2	2

[A] Exceed ACHD's LOS E planning threshold as a three-lane minor arterial.

2.0 Improvements Needed to Mitigate 2018 Existing Traffic

2.1 All study area intersections meet ITD's or ACHD's minimum operational thresholds with 2018 existing traffic conditions analyzed with the existing intersection control and lane configurations or with the installation of a traffic signal at the SH 69 and Hubbard Road intersection in Autumn 2018, after traffic counts were collected. As a result, no intersection control or capacity improvements are needed to mitigate 2018 existing traffic.

2.2 None of the study area intersections need turn lanes based on ACHD's turn lane guidelines.

2.3 All study area roadways segments meet ACHD's LOS E planning threshold with 2018 existing traffic.

3.0 Improvements Needed to Mitigate 2023 Phase 1 Background Traffic

3.1 All study area intersections are expected to meet ITD's and ACHD's minimum operational thresholds with 2023 background traffic conditions analyzed with the existing intersection control and lane configurations, with the exception of one intersection. The intersection and proposed improvement are:

- SH 69 and Columbia Road intersection
  - Signal operation/timing adjustments

3.2 None of the study area intersections are expected to need turn lanes with 2023 background traffic based on ACHD's turn lane guidelines.

3.3 The Columbia Road segment between SH 69 and Locust Grove Road is expected to exceed ACHD's LOS E planning threshold with 2023 background traffic as a two-lane minor arterial.

- This segment of Columbia Road would need widened to three lanes, one lane in each direction with a center turn lane, to meet LOS E planning threshold.
  - According to ACHD's MSM, this segment of Columbia Road is planned for three lanes preservation.

4.0 Improvements Needed to Mitigate 2023 Phase 1 Total Traffic

4.1 All study area intersections are expected to meet ITD's or ACHD's minimum operational thresholds with 2023 total traffic conditions analyzed with the existing intersection control and lane configurations, with the exception of one intersection. The intersection and improvement are:

- SH 69 and Columbia Road intersection
  - No improvements are proposed to mitigate 2023 total traffic impacts
    - The intersection is expected to meet LOS D threshold with all lane group v/c ratios meeting 1.00 threshold.
    - The intersection is expected to exceed the overall intersection v/c ratio threshold during the peak hours.

4.2 None of the study area intersection or proposed site access intersections are expected to need turn lanes with 2023 total traffic based on ACHD's turn lane guidelines.

4.3 None of the study area roadway segments need additional capacity improvements beyond the improvements on Columbia Road segment needed to mitigate 2023 background traffic conditions.

5.0 Improvements Needed to Mitigate 2030 Phase 2 Background Traffic

5.1 Two study area intersections are expected to exceed ITD or ACHD minimum operational thresholds with 2030 Phase 2 background traffic conditions analyzed with the existing intersection control and lane configurations. The intersections and improvements needed to mitigate 2030 background traffic impacts are:

- Columbia Road and SH 69 intersection
  - Three through lanes on SH 55 approaches
    - The additional through lanes on SH 69 are auxiliary through lanes extending at least 2,000 feet beyond the intersection to allow proper merging operation and signage based on NCHRP Report 707.
  - Southbound right-turn lane
  - Dual left-turn lanes on Columbia Road approaches

  These intersection improvements are not programmed in ITD's or ACHD's current transportation plans. They are identified in this TIS as anticipated improvements needed to mitigate 2030 Phase 2 background traffic. These improvements may or may not be required if the background traffic growth is different from what is assumed in this study and/or Patagonia Subdivision is developed at a different rate. These improvements should be verified with an updated TIS for future phase preliminary plat submittal.

- Hubbard Road and SH 69 intersection
  - Southbound right-turn lane

5.2 Two study area intersections are expected to meet vehicular volume thresholds for signals based on preliminary signal warrant analysis:

- Locust Grove Road and Columbia Road intersection
  - Although the intersection is expected to meet warrants for a signal, it is expected to meet ACHD's minimum operational thresholds as an all-way stop-controlled intersection.
  - A signal is not required to mitigate 2030 background traffic.
  - A detailed signal warrant analysis should be conducted with an updated TIS for Phase 2 preliminary plat submittal.

- Eagle Road and Columbia Road intersection
  - Although the intersection is expected to meet warrants for a signal, it is expected to meet ACHD's minimum operational thresholds as an all-way stop-controlled intersection.
  - A signal is not required to mitigate 2030 background traffic.
  - A detailed signal warrant analysis should be conducted with an updated TIS for Phase 2 preliminary plat submittal.

5.3 None of the study area intersections or proposed site access intersections are expected to need turn lanes with 2030 background traffic based on ACHD's turn lane guidelines.

5.4 None of the study area roadway segments need additional capacity improvements, except for the intersection improvements identified above.

6.0 Improvements Needed to Mitigate 2030 Phase 2 Total Traffic

6.1. Two study area intersections are expected to exceed ITD's or ACHD's minimum operational thresholds with 2030 Phase 2 total traffic conditions analyzed with the existing intersection control and lane configurations or with the preceding improvements identified in prior phase. The intersections and improvements needed to mitigate 2030 total traffic impacts are:

- SH 69 and Columbia Road intersection
  - No improvements are proposed to mitigate 2030 total traffic impacts.
    - The intersection is expected to meet LOS D threshold with all lane group v/c ratios meeting 1.00 threshold.
    - The intersection is expected to only exceed the overall intersection v/c ratio threshold during the peak hours.

- Locust Grove Road and Columbia Road intersection (two options)
  - Single-lane roundabout
    - The intersection is identified in the current ACHD MSM as a single-lane roundabout.
  - Signal with left-turn lanes on all approaches
    - The intersection is expected to meet warrants for a signal with 2030 total traffic.

  These intersection improvement options are not programmed in the current ACHD's transportation plans. They are identified in this traffic impact study as anticipated improvement options needed to mitigate 2030 Phase 2 total traffic. These improvements may or may not be required if the background traffic growth is different from what is assumed in this study and/or Patagonia Subdivision is developed at a different rate. These improvement options should be verified with an updated TIS for future phase preliminary plat submittal.

6.2. Two study area intersections are expected to meet vehicular volume thresholds for signals based on preliminary signal warrant analysis:

- Lake Hazel Road and Locust Grove Road intersection
  - Although the intersection is expected to meet warrant for a signal, it is expected to meet ACHD's minimum operational thresholds as an all-way stop-controlled intersection.
  - As a result, a signal is not required to mitigate 2030 total traffic to meet ACHD's minimum operational thresholds.
  - A detailed signal warrant analysis should be conducted with an updated TIS for future phase preliminary plat submittal.

- Eagle Road and Columbia Road intersection
  - Although the intersection is expected to meet warrant for a signal, it is expected to meet ACHD's minimum operational thresholds as an all-way stop-controlled intersection.
  - As a result, a signal is not required to mitigate 2030 total traffic to meet ACHD's minimum operational thresholds.
  - A detailed signal warrant analysis should be conducted with an updated TIS for future phase preliminary plat submittal.

6.3. None of the study area intersections or proposed site access intersections are expected to need turn lanes with 2030 total traffic based on ACHD's turn lane guidelines.

6.4. The Columbia Road segment between Locust Grove Road and Eagle Road is expected to exceed ACHD's LOS E planning threshold with 2030 total traffic as a two-lane minor arterial.

- This segment of Columbia Road would need widened to three lanes, one lane in each direction with a center turn lane, to meet LOS E planning threshold.
  - According to ACHD's MSM, this segment of Columbia Road is planned for three lanes preservation.

7.0 Improvements Needed to Mitigate 2038 Phase 3 (Build-Out) Background Traffic

7.1 Four study area intersections are expected to exceed ITD's or ACHD's minimum operational thresholds with 2038 background traffic conditions analyzed with the existing intersection control and lane configurations or with the preceding improvements identified in prior phases. The intersections and improvements are:

- Locust Grove Road and Lake Hazel Road intersection (two options)
  - Single-lane roundabout
    - The Locust Grove Road and Lake Hazel Road intersection is identified in the current ACHD CIP as a single-lane roundabout between 2026 and 2030 timeframe.
  - Signal with left-turn lanes on all approaches
    - The intersection is expected to meet warrants for a signal with 2038 background traffic.

  These improvement options should be verified with an updated TIS for future phase preliminary plat submittal.

- SH 69 and Columbia Road intersection
  - Two through lanes on Columbia Road approaches
    - Columbia Road is not programed in the current ACHD's transportation plans to be widened to accommodate two through lanes in either direction. These improvements are identified as anticipated improvements needed to mitigate 2038 background traffic, and should be verified with an update TIS for future phase preliminary plat submittal.

- Eagle Road and Columbia Road intersection (two options)
  - Single-lane roundabout
    - The intersection is identified in the current ACHD MSM as a single-lane roundabout.
  - Traffic signal with left-turn lanes on all approaches
    - The intersection is expected to meet warrants for a signal with 2038 background traffic.

  These intersection improvement options are not programmed in the current ACHD's transportation plans. They are identified in this TIS as anticipated improvement options needed to mitigate 2038 background traffic. These improvements may or may not be required if the background traffic growth is different from what is assumed in this study and/or Patagonia Subdivision is developed at a different rate. These improvement options should be verified with an updated TIS for future phase preliminary plat submittal.

- Hubbard Road and SH 69 intersection
  - Westbound right-turn lane

7.2 None of the study are intersections or proposed site access intersections are expected to need turn lanes with 2038 background traffic based on ACHD's turn lane guidelines.

7.3 In addition to the intersection improvements identified above, the following roadway capacity improvement is needed to mitigate 2038 background traffic

- Columbia Road
  - Widen to five lanes approximately ½ mile east and west of SH 69 intersection
    - These segments of Columbia Road are identified in ACHD MSM as a Transitional/Commercial arterial with preservation of up to three lanes.

8.0 Improvements Needed to Mitigate 2038 Phase 3 (Build-Out) Total Traffic

8.1 All study area intersections are expected to meet ITD's or ACHD's minimum operational thresholds with 2038 total traffic conditions analyzed with the existing intersection control and lane configurations or with the preceding improvements identified in prior phases, with the exception of two intersections exceeding overall intersection v/c ratio:

- SH 69 and Columbia Road intersection
  - No improvements are proposed to mitigate 2038 total traffic impacts
    - The intersection is expected to meet LOS D threshold with all lane group v/c ratios meeting 1.00 threshold.
    - The intersection is expected to only exceed the overall intersection v/c ratio threshold during the peak hours.

- SH 69 and Hubbard Road intersection
  - No improvements are proposed to mitigate 2038 total traffic impacts
    - The intersection is expected to meet LOS D threshold with all lane group v/c ratios meeting 1.00 threshold.
    - The intersection is expected to only exceed the overall intersection v/c ratio threshold during the AM peak hour.

8.2 One proposed site access intersection is expected to require turn lane based on ACHD's turn-lane guidelines

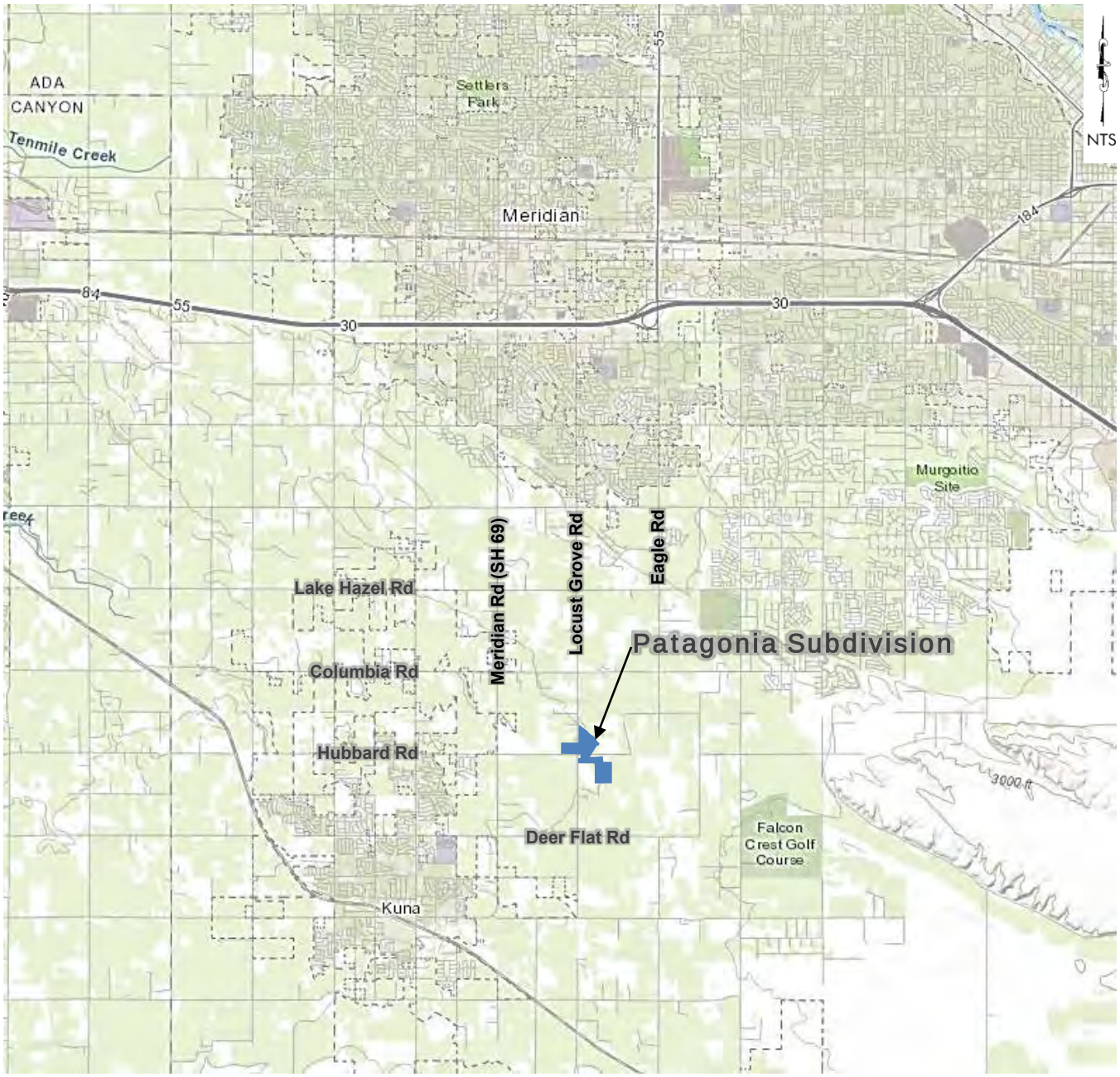
- Ray / Bridge Access on Locust Grove Road
  - Southbound right-turn lane

8.3 Columbia Road segments between Locust Grove Road and Eagle Road are expected to exceed ACHD's LOS E planning threshold with 2038 total traffic as a three-lane minor arterial.

1.0 INTRODUCTION

Thompson Engineers, Inc. has been retained to prepare a traffic impact study (TIS) for the proposed Patagonia Subdivision located around the Hubbard Road and Locust Grove Road intersection north of Kuna, Idaho. The site is located within the City of Kuna's Area of Impacts. **Figure 1.1** shows the site location and its vicinity. The TIS evaluates the potential traffic impacts resulting from background traffic growth and off-site development, and Patagonia Subdivision, and identify improvements needed to mitigate the impacts. This TIS provides an initial overview of the impacts for the development at three major phases. It is expected that an updated TIS will be required at the time of submission of the preliminary plat for each subsequent phase.

Figure 1.1 – Site Location and Vicinity



1.1. Proposed Development

Figure 1.2 shows the preliminary site plan with the proposed site access locations. Patagonia Subdivision is a residential development consists of four separate subdivisions:

- Bridge Subdivision : 126 dwelling units
- Ray Subdivision : 142 dwelling units
- Wood Subdivision : 252 dwelling units
- Welsh Subdivision : 83 dwelling units

The development contains a total of 603 single-family dwelling units at full build-out, which is expected by year 2038. The subdivisions will be developed in multiple phases occurring simultaneously in multiple subdivisions. For this TIS, the traffic impacts were evaluated for three major phases as summarized in T**able 1.1.**

Patagonia Subdivision is proposing six (6) access points onto the existing roadway network, three on Locust Grove Road and three on Hubbard Road, for site access. In addition, the subdivision is proposing multiple stub roads for future connectivities.

Table 1.1 – Proposed Development Summary (Dwelling Units)

Subdivision	Phase 1 (2023)	Phase 2 (2030)	Phase 3 (2038 Build-Out)
Bridge	42	42	42
Ray	47	47	48
Wood	84	84	84
Welsh	28	28	27
Phase Total	**201**	**201**	**201**

Figure 1.2 – Preliminary Site Plan



1.2. Study Approach

This study follows ITD's and ACHD's requirements for transportation impact studies. The study area, specific parameters, and requirements for the study were coordinated with ITD's and ACHD's staff. Scoping documents and correspondences are included in the appendix.

1.3. Study Area

The following study area intersections were identified for the traffic impact analysis:

- Locust Grove Road and Lake Hazel Road intersection
- Columbia Road and Locust Grove Road intersection
- Columbia Road and Eagle Road intersection
- Columbia Road and Meridian Road (SH 69) intersection
- Hubbard Road and SH 69 intersection
- Hubbard Road and Locust Grove Road intersection
- Hubbard Road and Eagle Road intersection
- All proposed site access approaches

The following roadway segments were identified

- Columbia Road between SH 69 and Locust Grove Road
- Columbia Road between SH Locust Grove Road and Eagle Road
- Hubbard Road between SH 69 and Locust Grove Road
- Hubbard Road between Locust Grove Road and Eagle Road
- Locust Grove Road between Lake Hazel Road and Columbia Road
- Locust Grove Road between Columbia Road and Hubbard Road

1.4. Study Period

AM and PM peak hours of operation are the peak analysis times of the transportation system. The analysis years are:

- 2018 Existing traffic
- 2023 Phase 1 background traffic
- 2023 Phase 1 total traffic
- 2030 Phase 2 background traffic
- 2030 Phase 2 total traffic
- 2038 Phase 3 (build-out) background traffic
- 2038 Phase 3 (build-out) total traffic

1.5. Analysis Methods and Performance Measure Thresholds

The study area roadways and intersections along Meridian Road (SH 69) fall under ITD's jurisdictions. The rest of the existing and site access intersections are under ACHD's jurisdiction.

For ITD intersections, the minimum operational thresholds are level of service (LOS) D and a maximum vehicle to capacity (v/c) ratio of 1.00 for the worst lane-group was used.

For ACHD roadway segments, the minimum acceptable level of service is LOS D for local and collector roadways and LOS E for minor and principal arterials. For ACHD intersections, a v/c of 0.90 for the overall intersection and 1.00 for a lane group was used as the operational thresholds for signalized intersections. For unsignalized intersections, the maximum operational threshold is a v/c ratio of 1.00 for the critical lane group. The minimum operational threshold for roundabouts is 0.85 for the worst lane group v/c ratio.

Intersection capacity analysis was performed using the Synchro 10 (Version 10.3.15.0), which utilizes the HCM 2010 methodologies. Roundabouts were calculated under HCM 6th Edition methodologies, as they more accurately simulate roundabouts. All parameters used in the analysis were based on existing data when available or Synchro default values, when not available. Signal timing data for the signalized intersections was obtained from ACHD. The current signal timing data was used for the 2018 existing conditions analysis. No reductions for right-turn on red (RTOR) movements were collected or used in analysis. For future conditions, the signal timing was optimized in Synchro and adjusted for the intersection lane configuration and traffic conditions.

The HCM 2010 methodology does not define an overall intersection v/c ratio as a measure of effectiveness (MOE) for signalized intersections. Therefore, an overall intersection v/c ratio is not a relevant MOE for determining when a signalized intersection fails and needs mitigation improvements. As a result, LOS and lane group v/c ratios will be given more weight in assessing the signalized intersection operations. No mitigation improvements are proposed if a signalized intersection only fails to meet the overall intersection v/c ratio. For this study, the overall intersection v/c ratio's minimum operational thresholds for signalized intersections was estimated using Synchro based on HCM 2000 methodology.

2.0 EXISTING CONDITIONS

2.1 Roadway Network, Intersection Control, and Lane Configuration

A brief description of the existing roadways and intersections within the study area is summarized in **Table 2.1** below. The roadway functional classification is based on COMPASS 2040 Functional Classification Map, which does not include collector or local streets.

Table 2.1 – Existing Roadway Characteristics

Roadway	Functional Classification	Number of Lanes	Posted Speed Limit (mph)	Pedestrian Facilities
SH 69	Principal Arterial	5	55	None
Columbia Road	Minor Arterial	2	50	None
Hubbard Road	Minor Arterial	2	45	Partial sidewalks along developed frontages
Lake Hazel Road	Principal Arterial	2	50	None
Locust Grove Road	Minor Arterial	2	50	None
Eagle Road	Principal Arterial	2	50	None

Lake Hazel Road and Locust Grove Road intersection is an all-way stop intersection with one lane for all movements at all approaches.

Columbia Road and SH 69 intersection is a signalized intersection with left turn lanes at all approaches. SH 69 has two through lanes and a right turn lane at both of its approaches. Columbia Road has one through lane and one right-turn lane at the westbound approach, and one through-right shared movement lane on the eastbound approach.

Columbia Road and Locust Grove Road intersection is an all-way stop intersection with one lane for all movements at all approaches.

Columbia Road and Eagle Road intersection is an all-way stop intersection with one lane for all movements at all approaches.

SH 69 and Hubbard Road intersection is a two-way stop intersection with stop signs on the Hubbard Road approaches at the time traffic counts were collected on June 14, 2018. SH 69 has a total of five lanes with one being a center turn lane striped as left-turn bays at the intersection. Hubbard Road has a left-turn lane and through/right turn shared lane on both approaches. This intersection became signal controlled in Autumn 2018, per ITD's SH 69 Improvements (Kuna to Meridian) Report released on February 2018.

Locust Grove Road and Hubbard Road intersection is a two-way stop-controlled intersection with stop signs on the Locust Grove approaches with one lane for all movements at all approaches.

Eagle Road and Hubbard Road intersection is a stop-controlled T-intersection with signage on the Eagle Road approach. All approaches have one shared lane for both of their respective movements.

2.2 Existing Traffic Volumes

AM and PM peak hour traffic counts were obtained at the study area intersections between October 18, 2017 and July 23, 2018, from both L2Data and the previous study. The peak hour intersection turning movement counts were collected on a weekday for a 2-hour period at 15-minute intervals between 7:00 and 9:00 during the AM peak travel period hour and between 4:00 and 6:00 during the PM peak travel period. Existing peak hour traffic volumes are summarized in **Figure 2.1** and **Figure 2.2**. 24-hour counts were obtained the study area roadway segments in July 2018 – summarized in **Table 2.2**. Full copies of the traffic counts are included in the appendix.

It should be noted that traffic counts were conducted before the signals were installed at the intersections of Hubbard Road and Lake Hazel Road on SH 69. These signals may alter the traffic patterns in the area, specifically eastbound left-turning movements. With high volume and speed on SH 69, the eastbound left-turn movement from the side streets is experiencing high delay during the peak hours at unsignalized intersections. As a result, traffic would shift to the signalized intersections to make the eastbound left-turn movement. As shown in Figure 2.1, the eastbound left-turn volume at the Columbia Road signal is twice the eastbound left-turn volume at Hubbard Road, unsignalized, during the AM peak hour. The signals at Hubbard Road and Lake Hazel Road will likely shift some of the eastbound left-turn volume from Columbia Road. Upon field review, no major trip origins or destinations on Columbia Road west of SH 69 could be identified that would cause the high volume of left-turning movements on the eastbound approach of Columbia Road during the peak hours.

Table 2.2 – 2018 Existing ADT Summary

Roadway Segment	ADT	Count Date
Columbia Rd – SH 69 to Locust Grove Rd	4,100	July 11-12, 2018
Columbia Rd – Locust Grove Rd to Eagle Rd	3,842	July 11-12, 2018
Hubbard Rd – SH 69 to Locust Grove Rd	978	July 11-12, 2018
Hubbard Rd – Locust Grove Rd to Eagle Rd	479	July 11-12, 2018
Locust Grove Rd – Lake Hazel Rd to Columbia Rd	1,756	July 11-12, 2018
Locust Grove Rd – Columbia Rd to Hubbard Rd	893	July 11-12, 2018

Figure 2.1 – 2017/2018 Existing AM Peak Hour Traffic

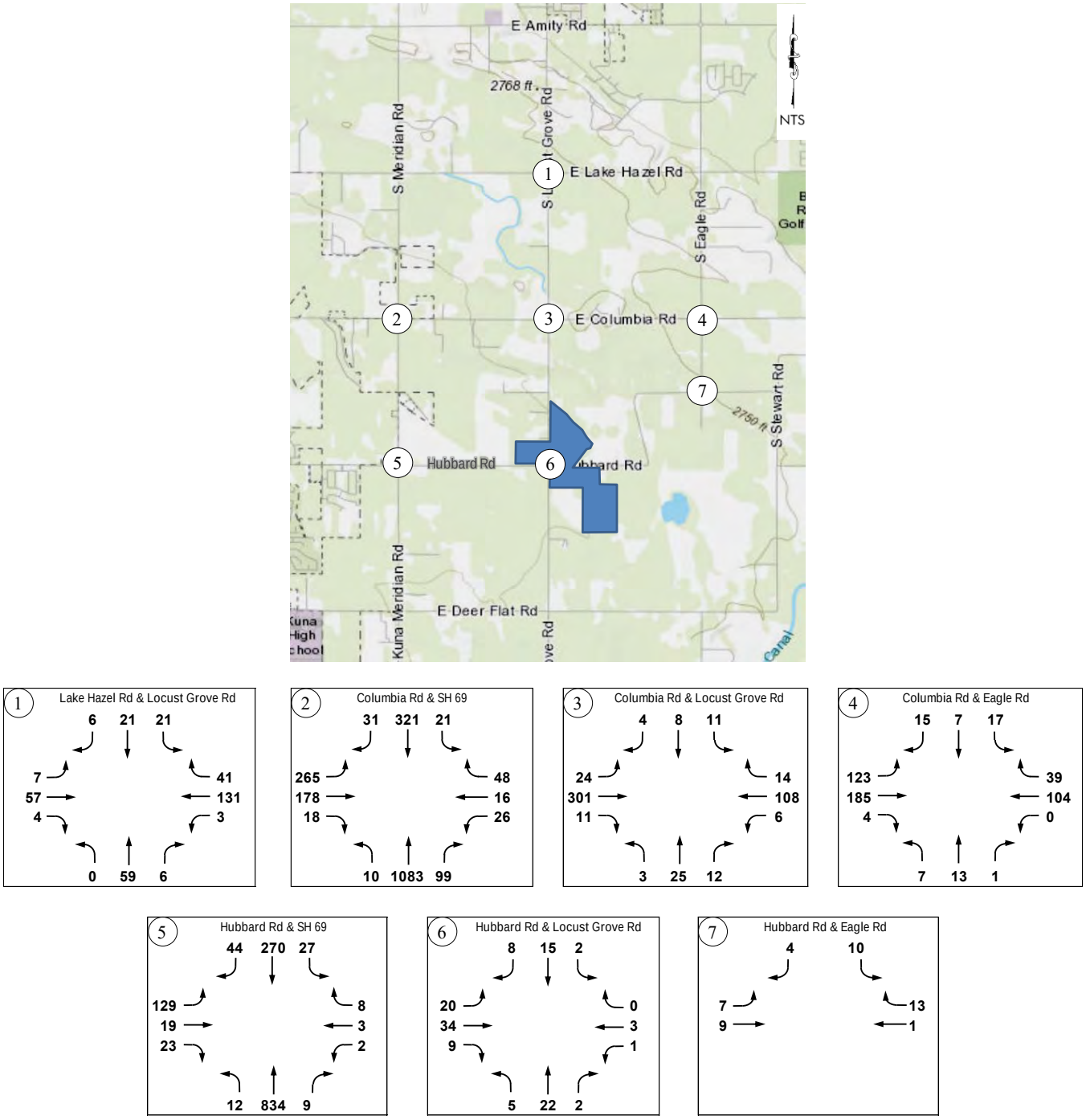
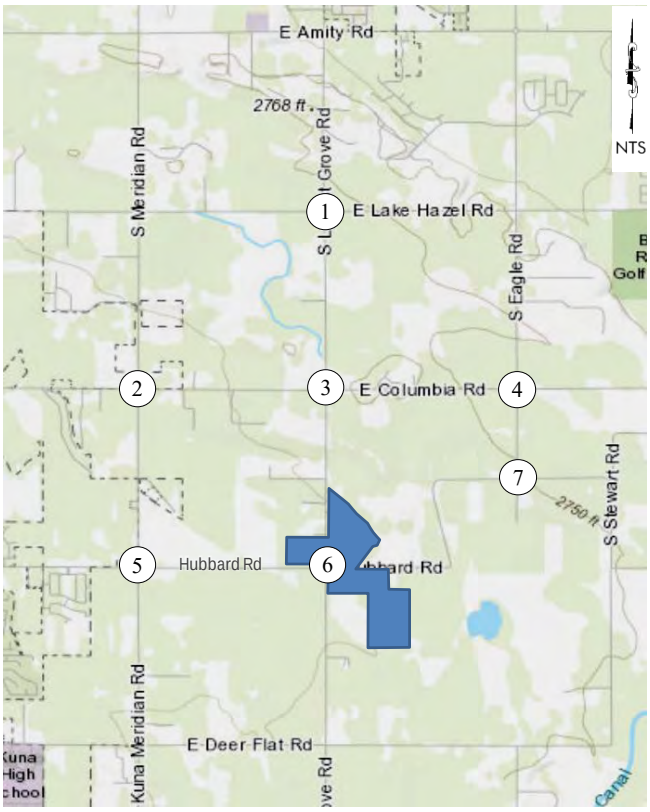
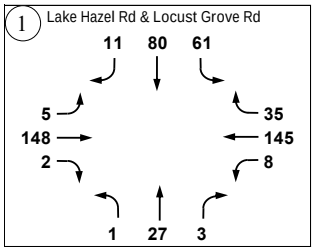
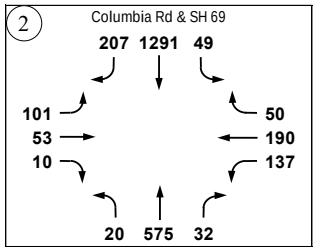
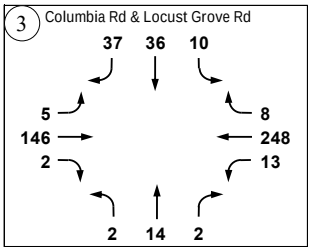


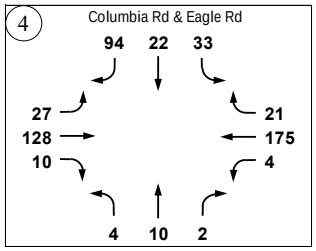
Figure 2.2 – 2017/2018 2018 Existing PM Peak Hour Traffic

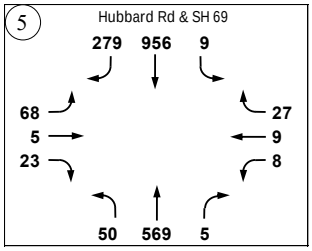


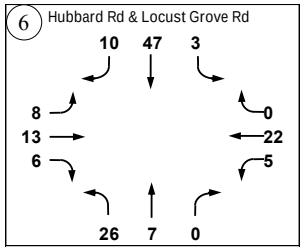


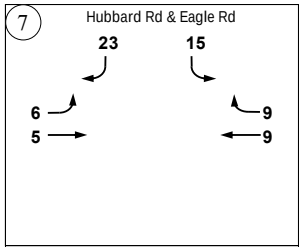












2.3 Intersection Crash Data

The most current five-year crash data (2012-2016) was obtained from the Local Highway Technical Assistance Council (LHTAC) website (http://gis.lhtac.org/safety/). **Table 2.2** summarizes the crash data for the study area intersections. Based on the historic traffic volumes from 2012-2016 gathered from the ACHD website (http://www.achdidaho.org/Documents/Traffic/TrafficCounts.pdf), no safety concerns are warranted at the study area intersections at this time. The above average Columbia Road and Locust Grove Road intersection accident rate had 5 of the 7 reported accidents occur while the intersection was controlled as a two-way stop on the Columbia Road approaches before becoming an all-way stop afterwards. The one recorded fatality at the intersection of Columbia Road and SH 69 was due to the vehicle starting in the intersection and the traffic signal not functioning at the time. The SH 69 and Hubbard Road intersection has been signalized recently.

Table 2.3 – Intersection Crash Data (2012-2016)

Intersection		Total Crashes	*Crash Severity*			Base Crash Rate[1] (ACC/MV)	Existing Crash Rate (ACC/MV)
			PDO	*Injury*	*Fatal*		
1	Locust Grove Road and Lake Hazel Road	2	*1*	*1*	*0*	0.84 (Type=45)	0.34
2	SH 69 and Columbia Road	13	*7*	*5*	*1*	0.54 (Type=66)	0.33
3	Locust Grove Road and Columbia Road	7	*2*	*5*	*0*	0.84 (Type=45)	1.07
4	Eagle Road and Columbia Road	1	*1*	*0*	*0*	0.84 (Type=45)	0.14
5	SH 69 and Hubbard Road	20	*11*	*9*	*0*	0.54 (Type=66)	0.60
6	Locust Grove Road and Hubbard Road	1	*1*	*2*	*0*	2.11 (Type=44)	0.50
7	Eagle Road and Hubbard Road	1	*1*	*0*	*0*	2.11 (Type=44)	1.00

[1]Based on similar roadway type, width and volume.

2.4 Roadway Segment Level of Service

The study area roadway segment level of service was evaluated with the existing number of lanes with 2018 existing traffic. **Table 2.3** summarizes the results. All study area roadway segments currently meet ACHD's LOS planning thresholds with the existing lane configuration.

Table 2.4 – Roadway Segment Level of Service – 2018 Existing Traffic

Roadway	Segment	Functional Classification (No. of Lanes)	Left-Turn Lane Type	LOS E Planning Threshold [vph]	Peak Hour Directional Volume [vph]		Meets LOS Planning Threshold?
					AM Peak	PM Peak	
Columbia Rd	SH 69 to Locust Grove Rd	Minor Arterial (2)	None	575	336	377	Yes
	Locust Grove Rd to Eagle Road	Minor Arterial (2)	None	575	324	273	Yes
Hubbard Rd	SH 69 to Locust Grove Rd	Minor Arterial (2)	None	575	63	58	Yes
	Locust Grove Rd to Eagle Road	Minor Arterial (2)	None	575	38	32	Yes
Locust Grove Rd	Lake Hazel Rd to Columbia Rd	Minor Arterial (2)	None	575	65	90	Yes
	Columbia Rd to Hubbard Rd	Minor Arterial (2)	None	575	42	60	Yes

2.5 Intersection Measures of Effectiveness

To determine the existing traffic impacts, the study area intersections were analyzed with the existing intersection control and lane configuration and 2018 peak hour traffic. Copies of the analysis reports are included in the appendix. **Table 2.4** and **Table 2.5** summarizes the measures of effectives (MOE) from the intersection capacity analysis. The MOEs shown are for the overall intersection if the intersection is signalized or all-way stop, and for the critical movements if unsignalized. Based on traffic analysis results, all study area intersections meet ITD's or ACHD's minimum operational thresholds, with the exception of one intersection:

- SH 69 and Hubbard Road intersection

This SH 69 and Hubbard Road intersection has been signalized from the time turning movement traffic counts were obtained to the publishing of this report.

Table 2.5 – Intersection MOEs – 2018 Existing Traffic

Intersection		Control	MOEs	AM Peak Hour	PM Peak Hour
1	Locust Grove Road and Lake Hazel Road	All-Way Stop	Intersection LOS	A	A
			Intersection Delay [s/v]	8	9
			Worst Lane Group v/c	0.24 (WB)	0.28 (WB)
2	SH 69 and Columbia Road	Signal	Intersection LOS	C	C
			Intersection Delay [s/v]	24	23
			Intersection v/c	0.84	0.75
			Worst Lane Group v/c	0.90 (EBL)	0.81 (WBT)
3	Locust Grove Road and Columbia Road	All-Way Stop	Intersection LOS	A	A
			Intersection Delay [s/v]	10	9
			Worst Lane Group v/c	0.42 (EB)	0.36 (WB)
4	Eagle Road and Columbia Road	All-Way Stop	Intersection LOS	A	A
			Intersection Delay [s/v]	9	9
			Worst Lane Group v/c	0.40 (EB)	0.26 (WB)
5	SH 69 and Hubbard Road	Two-Way Stop (Hubbard)	LOS (EB / WB)	**E** / D	**F / E**
			Delay [s/v] (EB / WB)	39 / 33	**319** / 40
			Worst Lane Group v/c	0.58 (EBL)	**1.24 (EBL)**
6	Locust Grove Road and Hubbard Road	Two-Way Stop (Locust Grove)	LOS (NB / SB)	A / A	A / A
			Delay [s/v] (NB / SB)	10 / 9	10 / 10
			Worst Lane Group v/c	0.04 (NB)	0.09 (SB)
7	Eagle Road and Hubbard Road	Stop (Eagle)	LOS (SB)	A	A
			Delay [s/v] (SB)	9	9
			Worst Lane Group v/c	0.02 (SB)	0.05 (SB)

Table 2.6 – Lane Group v/c Ratio – 2018 Existing Traffic

Intersection		Approach	AM Peak Hour			PM Peak Hour		
			LT	THRU	RT	LT	THRU	RT
1	Locust Grove Road and Lake Hazel Road	NB	0.10			0.05		
		SB	0.07			0.24		
		EB	0.10			0.24		
		WB	0.24			0.28		
2	SH 69 and Columbia Road	NB	0.02	0.72	0.15	0.14	0.37	0.05
		SB	0.11	0.20	0.04	0.13	0.78	0.28
		EB	0.90	0.79		0.55	0.25	
		WB	0.18	0.08	0.26	0.50	0.81	0.25
3	Locust Grove Road and Columbia Road	NB	0.06			0.03		
		SB	0.03			0.12		
		EB	0.42			0.21		
		WB	0.17			0.36		
4	Eagle Road and Columbia Road	NB	0.03			0.02		
		SB	0.06			0.19		
		EB	0.40			0.22		
		WB	0.18			0.26		
5	SH 69 and Hubbard Road	NB	0.01	--	--	0.10	--	--
		SB	0.04	--	--	0.01	--	--
		EB	0.58	0.17		**1.24**	0.14	
		WB	0.02	0.04		0.08	0.22	
6	Locust Grove Road and Hubbard Road	NB	0.04			0.05		
		SB	0.03			0.09		
		EB	0.01			0.01		
		WB	< 0.01			< 0.01		
7	Eagle Road and Hubbard Road	SB	0.02			0.05		
		EB	0.01			0.01		
		WB	--			--		

2.6 Roadway Segment Mitigation

All study area roadway segments meet ACHD's LOS planning threshold with the existing lane configuration. As a result, no roadway widening is needed to mitigate 2018 existing traffic.

2.7 Intersection Mitigation

One study area intersection is exceeding ITD's minimum operational thresholds with 2018 existing traffic. None of the study area intersections meet ACHD's guidelines for turn lane with 2018 existing traffic. Intersection improvements are discussed below.

SH 69 and Hubbard Road Intersection

The SH 69 and Hubbard Road currently exceed ITD's minimum operational thresholds during the peak hours as a two-way stop-controlled intersection. The intersection has been signalized after the traffic counts were obtained. **Table 2.6** and **Table 2.7** summarize the intersection MOEs with the signal improvement.

Table 2.7 – Intersection MOEs – 2018 Existing Traffic Mitigation

Intersection		Mitigation	MOEs	AM Peak Hour	PM Peak Hour
5	SH 69 and Hubbard Road	Signal	Intersection LOS	A	A
			Intersection Delay [s/v]	9	9
			Intersection v/c	0.54	0.60
			Worst Lane Group v/c	0.62 (NBTR)	0.71 (SBTR)

Table 2.8 – Lane Group v/c Ratio – 2018 Existing Traffic Mitigation

Intersection		Approach	AM Peak Hour			PM Peak Hour		
			LT	THRU	RT	LT	THRU	RT
5	SH 69 and Hubbard Road	NB	0.02	0.62	0.62	0.21	0.32	0.32
		SB	0.10	0.24	0.25	0.02	0.70	0.71
		EB	0.32	0.14		0.24	0.12	
		WB	< 0.01	0.04		0.03	0.16	

3.0 2023 PHASE 1 BACKGROUND TRAFFIC CONDITIONS

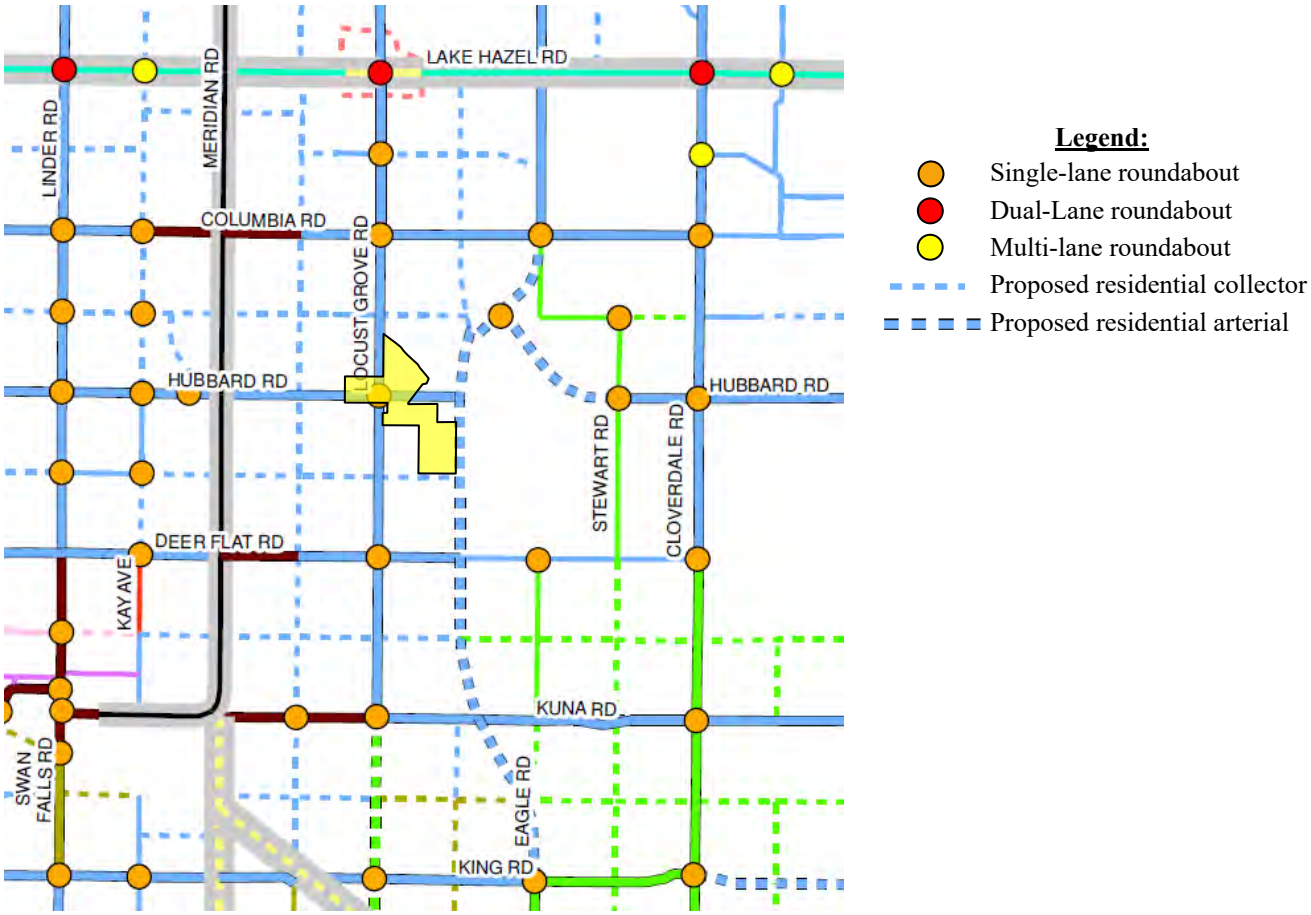
3.1 Roadway Network

The study area roadways and intersections are expected to remain the same as existing conditions when traffic counts were obtained, with the exception of the traffic signal installation at the SH 69 and Hubbard Road intersection. There are roadway and intersection improvements planned within and in the vicinity of the study area according to the following transportation plans:

- ACHD's Master Street Map (MSM), May 16, 2018
- ACHD's 2019-2023 Integrated Five-Year Work Plan (FYWP), September 26, 2018
- ITD's FY19-FY25 Idaho Transportation Investment Program (ITIP)
- ITD's FY18-FY24 Idaho Statewide Transportation Improvement Program (STIP)

Figure 3.1 shows the ACHD's MSM illustrating planned roadway system within the study area. **Table 3.1** summarizes the roadway and intersection improvements planned within and in the vicinity of the study area. These planned improvements will be considered for mitigating the impacts if needed.

Figure 3.1 – ACHD's MSM Roadway Network Within the Study Area



Source: ACHD's Ada County Master Street Map, May 16, 2018

Table 3.1 – Planned Improvements Summary

Transportation Plan	Project	Project Year	Funding
ACHD 2019-2023 FYWP	**Eagle Rd:** Reconstruct/widen to five lanes with curb, gutter, sidewalk and bike facility from Lake Hazel Rd to Amity Rd	Preliminary Development	Programmed
	Eagle Rd: Reconstruct/widen to five lanes with curb, gutter, sidewalk and bike facility from Amity Rd to Victory Rd	2021	Funded
	Lake Hazel Rd: Reconstruct/widen to five lanes with curb, gutter, and 10' multi-use pathways from Eagle Rd to Cloverdale Rd	Preliminary Development	Programmed
ACHD 2016 CIP	**Eagle Rd:** Reconstruct/widen from two to five lanes from Lake Hazel Rd to Victory Rd	2021-2025	Unfunded
	Lake Hazel Rd: Reconstruct/widen from two to three lanes from Black Cat Rd to Cloverdale Rd	2021-2030	Unfunded
	Lake Hazel Rd and Locust Grove Rd Intersection: Reconstruct intersection as a single-lane roundabout with bypass right-turn lane	2026-2030	Unfunded
	Hubbard Rd and Meridian Rd Intersection: Reconstruct/widen approaches	2031-2035	Unfunded
ACHD MSM	**Lake Hazel Rd and Locust Grove Rd Intersection:** Dual-lane roundabout	Unknown	Unfunded
	Locust Grove Rd and Columbia Rd Intersection: Single-lane roundabout	Unknown	Unfunded
	Locust Grove Rd and Hubbard Rd Intersection: Single-lane roundabout	Unknown	Unfunded
	Eagle Rd and Columbia Rd Intersection: Single-lane roundabout	Unknown	Unfunded
ITD FY18-24 STIP	**SH 69 and Lake Hazel Rd Intersection:** Install traffic signal	Constructed Autumn 2018	
	SH 69 and Hubbard Rd Intersection: Install traffic signal	Constructed Autumn 2018	
ITD FY19-25 ITIP	None		

3.2 Background Traffic

Background traffic growth from 2018 to 2023 was estimated by extrapolating the existing traffic counts with the following annual growth rates:

- SH 69 – 4.0%
- All ACHD roadways – 10%

These growth rates are based on COMPASS 2018 and 2025 traffic forecasts and were verified with ITD and ACHD. A copy of the COMPASS forecasts and growth rate summary is included in the appendix.

In addition to the expected traffic growth, the proposed Artiach Subdivision located west of the site is included in the 2023 background traffic estimate as off-site traffic. **Figure 3.1** and **Figure 3.2** show the 2023 background traffic for the AM and PM peak hours, respectively.

Figure 3.2 – 2023 Phase 1 AM Peak Hour Background Traffic

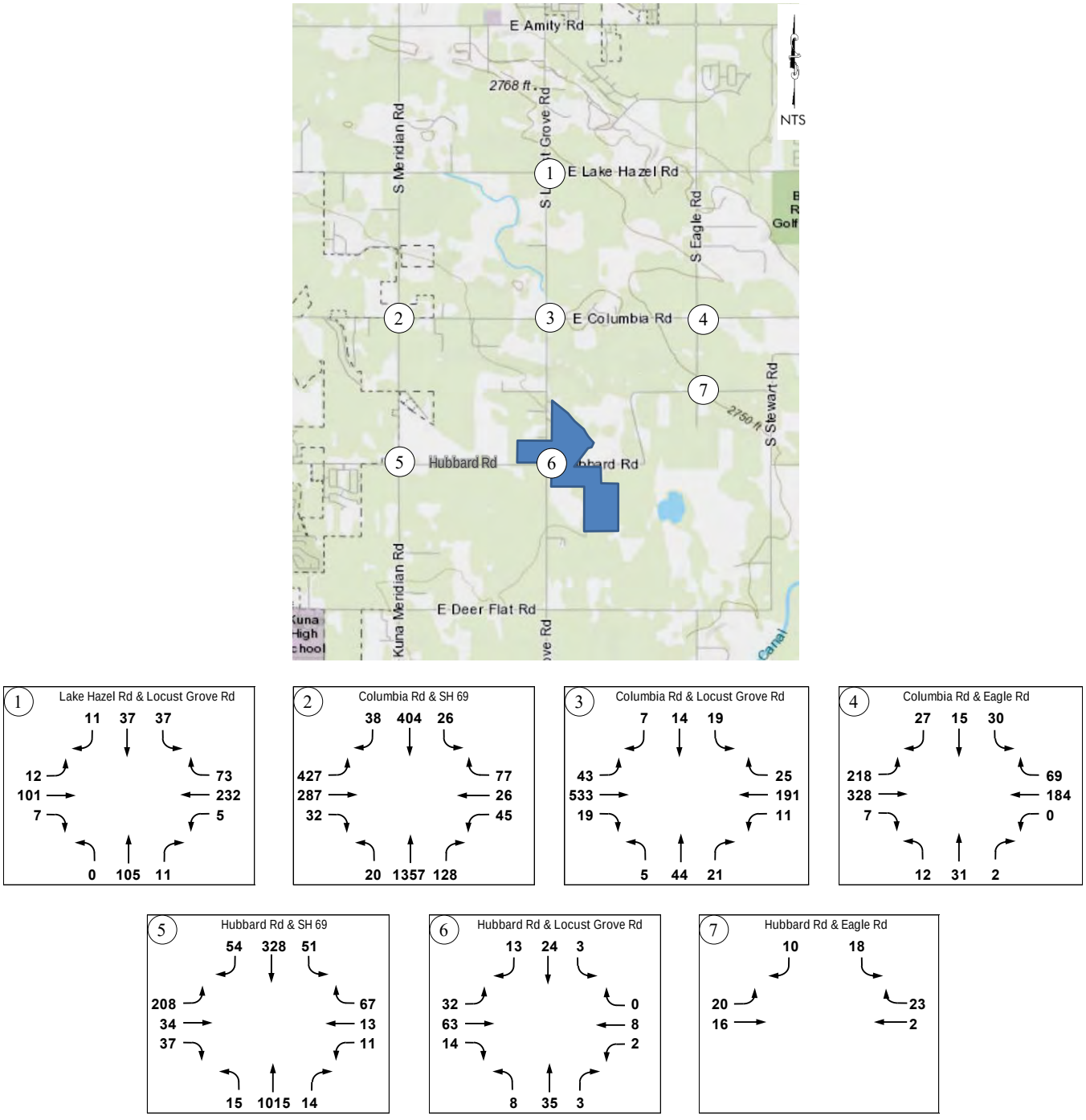
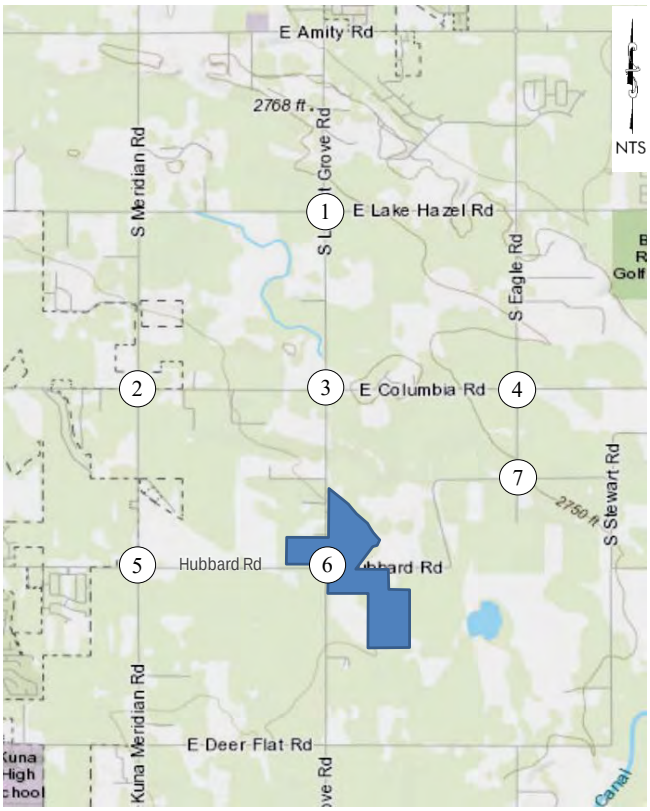
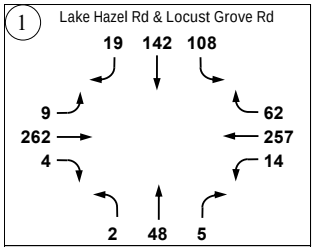
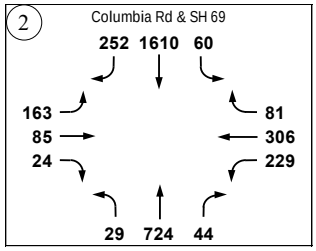
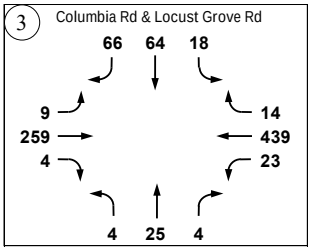


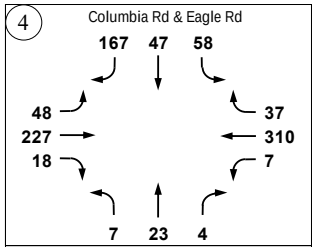
Figure 3.3 – 2023 Phase 1 PM Peak Hour Background Traffic

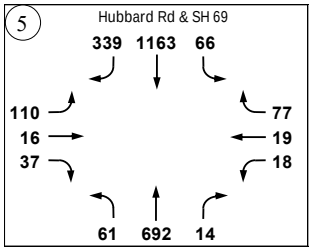


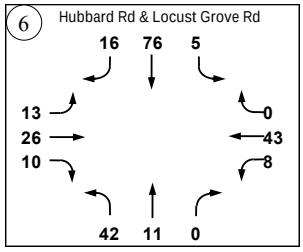


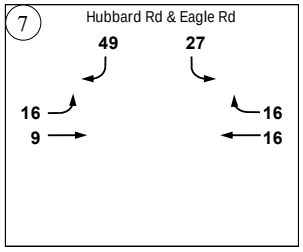












3.3 Roadway Segment Level of Service

The study area roadway segment level of service was evaluated with the existing number of lanes with 2023 background traffic. **Table 3.2** summarizes the results. The study area roadway segment of Columbia Road from SH 69 to Locust Grove Road is expected to slightly exceed ACHD's LOS E planning threshold with the existing lane configuration.

Table 3.2 – Roadway Segment Level of Service – 2023 Phase 1 Background Traffic

Roadway	Segment	Functional Classification (No. of Lanes)	Left-Turn Lane Type	LOS E Planning Threshold [vph]	Peak Hour Directional Volume [vph]		Meets LOS Planning Threshold?
					AM Peak	PM Peak	
Columbia Rd	SH 69 to Locust Grove Rd	Minor Arterial (2)	None	575	**595**	**616**	**No**
	Locust Grove Rd to Eagle Road	Minor Arterial (2)	None	575	573	484	Yes
Hubbard Rd	SH 69 to Locust Grove Rd	Minor Arterial (2)	None	575	109	114	Yes
	Locust Grove Rd to Eagle Road	Minor Arterial (2)	None	575	69	65	Yes
Locust Grove Rd	Lake Hazel Rd to Columbia Rd	Minor Arterial (2)	None	575	116	160	Yes
	Columbia Rd to Hubbard Rd	Minor Arterial (2)	None	575	70	106	Yes

3.4 Intersection Measures of Effectiveness

To determine the 2023 background traffic impacts, the study area intersections were analyzed with the existing intersection control and lane configuration. Copies of the analysis reports are included in the appendix. **Table 3.3** and **Table 3.4** summarizes the intersection capacity analysis results. All study area intersections are expected to meet ITD's or ACHD's minimum operational thresholds, with the exception of one intersection:

- SH 69 and Columbia Road intersection

Table 3.3 – Intersection MOEs – 2023 Phase 1 Background Traffic

Intersection		Control	MOEs	AM Peak Hour	PM Peak Hour
1	Locust Grove Road and Lake Hazel Road	All-Way Stop	Intersection LOS	B	B
			Intersection Delay [s/v]	10	14
			Worst Lane Group v/c	0.44 (WB)	0.56 (WB)
2	SH 69 and Columbia Road	Signal	Intersection LOS	D	D
			Intersection Delay [s/v]	40	45
			Intersection v/c	**1.00**	**1.01**
			Worst Lane Group v/c	**1.05 (EBL)**	**1.11 (EBL)**
3	Locust Grove Road and Columbia Road	All-Way Stop	Intersection LOS	C	C
			Intersection Delay [s/v]	19	16
			Worst Lane Group v/c	0.80 (EB)	0.71 (WB)
4	Eagle Road and Columbia Road	All-Way Stop	Intersection LOS	C	B
			Intersection Delay [s/v]	17	13
			Worst Lane Group v/c	0.78 (EB)	0.53 (WB)
5	SH 69 and Hubbard Road	Signal	Intersection LOS	B	B
			Intersection Delay [s/v]	12	12
			Intersection v/c	0.65	0.70
			Worst Lane Group v/c	0.69 (NBTR)	0.76 (SBTR)
6	Locust Grove Road and Hubbard Road	Two-Way Stop (Locust Grove)	LOS (NB / SB)	B / A	B / B
			Delay [s/v] (NB / SB)	10 / 10	11 / 10
			Worst Lane Group v/c	0.07 (NB)	0.14 (SB)
7	Eagle Road and Hubbard Road	Stop (Eagle)	LOS (SB)	A	A
			Delay [s/v] (SB)	9	9
			Worst Lane Group v/c	0.03 (SB)	0.09 (SB)

Table 3.4 – Lane Group v/c Ratios – 2023 Phase 1 Background Traffic

Intersection		Approach	AM Peak Hour			PM Peak Hour		
			LT	THRU	RT	LT	THRU	RT
1	Lake Hazel Road and Locust Grove Road	NB	0.19			0.11		
		SB	0.14			0.50		
		EB	0.18			0.48		
		WB	0.44			0.56		
2	SH 69 and Columbia Road	NB	0.44	0.88	0.19	0.31	0.44	0.06
		SB	0.21	0.26	0.05	0.18	0.97	0.34
		EB	**1.05**	0.86		**1.11**	0.32	
		WB	0.32	0.11	0.40	0.77	0.90	0.28
3	Locust Grove Road and Columbia Road	NB	0.12			0.06		
		SB	0.07			0.26		
		EB	0.80			0.44		
		WB	0.33			0.71		
4	Eagle Road and Columbia Road	NB	0.08			0.06		
		SB	0.13			0.42		
		EB	0.78			0.45		
		WB	0.37			0.53		
5	SH 69 and Hubbard Road	NB	0.03	0.69	0.69	0.36	0.34	0.34
		SB	0.23	0.26	0.26	0.15	0.74	0.76
		EB	0.51	0.17		0.47	0.19	
		WB	0.03	0.20		0.06	0.35	
6	Locust Grove Road and Hubbard Road	NB	0.07			0.08		
		SB	0.06			0.14		
		EB	0.02			0.01		
		WB	< 0.01			0.01		
7	Eagle Road and Hubbard Road	SB	0.03			0.09		
		EB	0.01			0.01		
		WB	--			--		

3.5 Roadway Segment Mitigation

Columbia Road

A segment of Columbia Road between SH 69 and Locust Lane Road is expected to exceed ACHD's LOS planning threshold with 2030 background traffic as a two-lane minor arterial. The following roadway improvement is needed for this roadway segment to meet ACHD's LOS E planning threshold:

- Widen to three lanes for a center turn lane between SH 69 and Locust Grove Road
  - According to ACHD's MSM, this segment of Columbia Road is planned for three lanes preservation.

3.6 Intersection Mitigation

One study area intersection is expected to exceed ITD's minimum operational thresholds with 2023 background traffic. The proposed intersection improvements discussed below are expected to mitigate 2023 background traffic impacts. **Table 3.5** and **Table 3.6** summarize the results for the proposed mitigation improvements.

Columbia Road Segment between SH 69 and Locust Grove Road

The SH 69 and Columbia Road intersection is expected to exceed ITD's minimum operational thresholds with 2023 background traffic with the existing lane configuration and signal operation. The signal operations and timings will need to be adjusted for the expected traffic conditions. The eastbound left-turn volume is expected to reach over 400 vph compared to about 150 vph total on the westbound approach during the AM peak hour. Based on the expected volumes, green time is in higher demand on the eastbound approach relative to the westbound approach. To allow more green time for the eastbound left-turn movement, the westbound pedestrian Phase 2 should be eliminated. Based on the traffic counts, one pedestrian was observed at the intersection and pedestrian volume is expected to be low, which could be accommodated with the eastbound Pedestrian Phase 6. With this signal modification, the intersection is expected to meet ITD's LOS D threshold with all lane group operating below capacity. However, the overall intersection v/c ratio is expected to exceed the 0.90 threshold during the peak hours.

Constructing dual left-turn lanes on the eastbound approach would be an option but would restrict the eastbound and westbound left turns to operate with protected phases only, which is not efficient as left turns from the westbound approach is very low. The intersection is expected to operate worse with dual eastbound left-turn lanes operating with protected phases, compared to a single eastbound left-turn lane and operating with protected/permitted phases during the peak hours. The intersection operations during the off-peak hours would also be negatively impacted with protected phases only.

Based on the mitigation analysis results, signal modification alternative is a better option and is recommended to mitigate 2023 background traffic impacts at the SH 69 and Columbia Road intersection.

Table 3.5 – Intersection MOEs – 2023 Phase 1 Background Traffic Mitigation

Intersection		Mitigation	MOEs	AM Peak Hour	PM Peak Hour
2	SH 69 and Columbia Road	Signal Modifications	Intersection LOS	D	D
			Intersection Delay [s/v]	42	46
			Intersection v/c	**0.94**	**0.99**
			Worst Lane Group v/c	0.92 (NBT)	0.98 (SBT)
		Dual EBL	Intersection LOS	D	**E**
			Intersection Delay [s/v]	37	58
			Intersection v/c	**0.91**	**1.03**
			Worst Lane Group v/c	0.90 (NBT)	**1.14 (WBL)**

Table 3.6 – Lane Group v/c Ratios – 2023 Phase 1 Background Traffic Mitigation

Intersection		Approach	AM Peak Hour			PM Peak Hour		
			LT	THRU	RT	LT	THRU	RT
2	SH 69 and Columbia Road (Signal Modifications)	NB	0.84	0.68	0.28	0.34	0.45	0.06
		SB	0.21	0.75	0.05	0.19	0.98	0.34
		EB	0.92	0.19		0.96	0.29	
		WB	0.25	0.27	0.06	0.74	0.91	0.28
	SH 69 and Columbia Road (Dual EBL)	NB	0.05	0.90	0.19	0.32	0.49	0.07
		SB	0.21	0.26	0.05	0.20	**1.06**	0.37
		EB	0.87	0.86		0.72	0.44	
		WB	0.67	0.13	0.47	**1.14**	0.88	0.27

4.0 2023 PHASE 1 TOTAL TRAFFIC CONDITIONS

4.1 Phase 1 Development

The proposed developments in Phase 1 included a total of 201 dwelling units. These developments are assumed to occur simultaneously within the four subdivisions as follow:

- Bridge Subdivision : 42 dwelling units
- Ray Subdivision : 47 dwelling units
- Wood Subdivision : 84 dwelling units
- Welsh Subdivision : 28 dwelling units

4.2 Phase 1 Site Traffic

4.2.1 Trip Generation

Site trip generation is estimated using the procedures recommended in the latest edition of the Trip Generation Manual (10th edition), published by the Institute of Transportation Engineers, in the absence of site-specific data. The site trip generation is obtained by applying the trip generation rates obtained from the manual for the proposed land use within the development. **Table 4.1** summarizes the site trip generation for Phase 1. The proposed Phase 1 development is estimated to generated approximately 1,898 trips per day, 149 trips during the AM peak hour, and 199 trips during the PM peak hour.

Table 4.1 – Phase 1 Site Trip Generation Summary

Land Use	ITE Code	Size	Unit	Period	Trip Rate Per Unit	Total Trips	Entering		Exiting	
Single-Family Detached Housing	210	201	DU	Weekday Daily (vpd)	9.44	1,898	50%	949	50%	949
				AM Peak Hour (vph)	0.74	149	25%	37	75%	112
				PM Peak Hour (vph)	0.99	199	63%	125	37%	74

4.2.2 Trip Capture

Based on the proposed land use in Phase 1, the development is not expected to retain trips within the site. No trip reduction for internal capture trip was assumed in the traffic impact analysis.

4.2.3 Pass-by Trips

The development is residential and is not expected to attract pass-by trips. No pass-by trips were assumed in the traffic impact analysis.

4.2.4 Modal Split

For the traffic analysis purposes, all trips generated by the development were assumed to be made by personal or commercial vehicles.

4.2.5 Trip Distribution and Assessment

In order to determine the impacts, trips generated by the development must be distributed and assigned to the transportation system. Site traffic was distributed and assigned to the external roadway system based on the current travel patterns, site layout, and general location of the site within the area. **Figure 4.1** shows site traffic distribution patterns. **Figure 4.2** and **Figure 4.3** summarize the estimated build-out site peak hour traffic assignment to the transportation system.

Figure 4.1 – Site Traffic Distribution Patterns

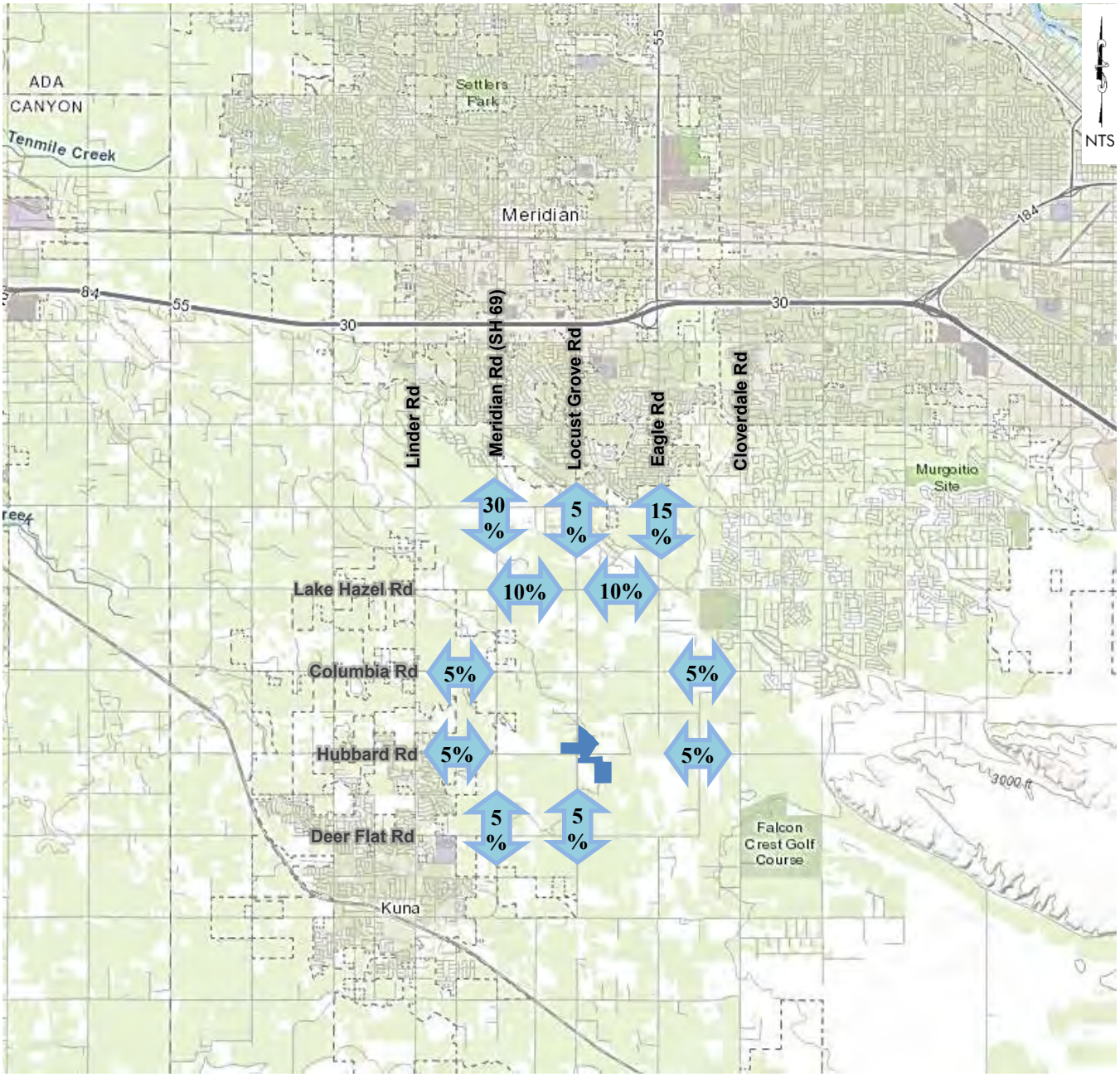


Figure 4.2 – 2023 Phase 1 AM Peak Hour Site Traffic

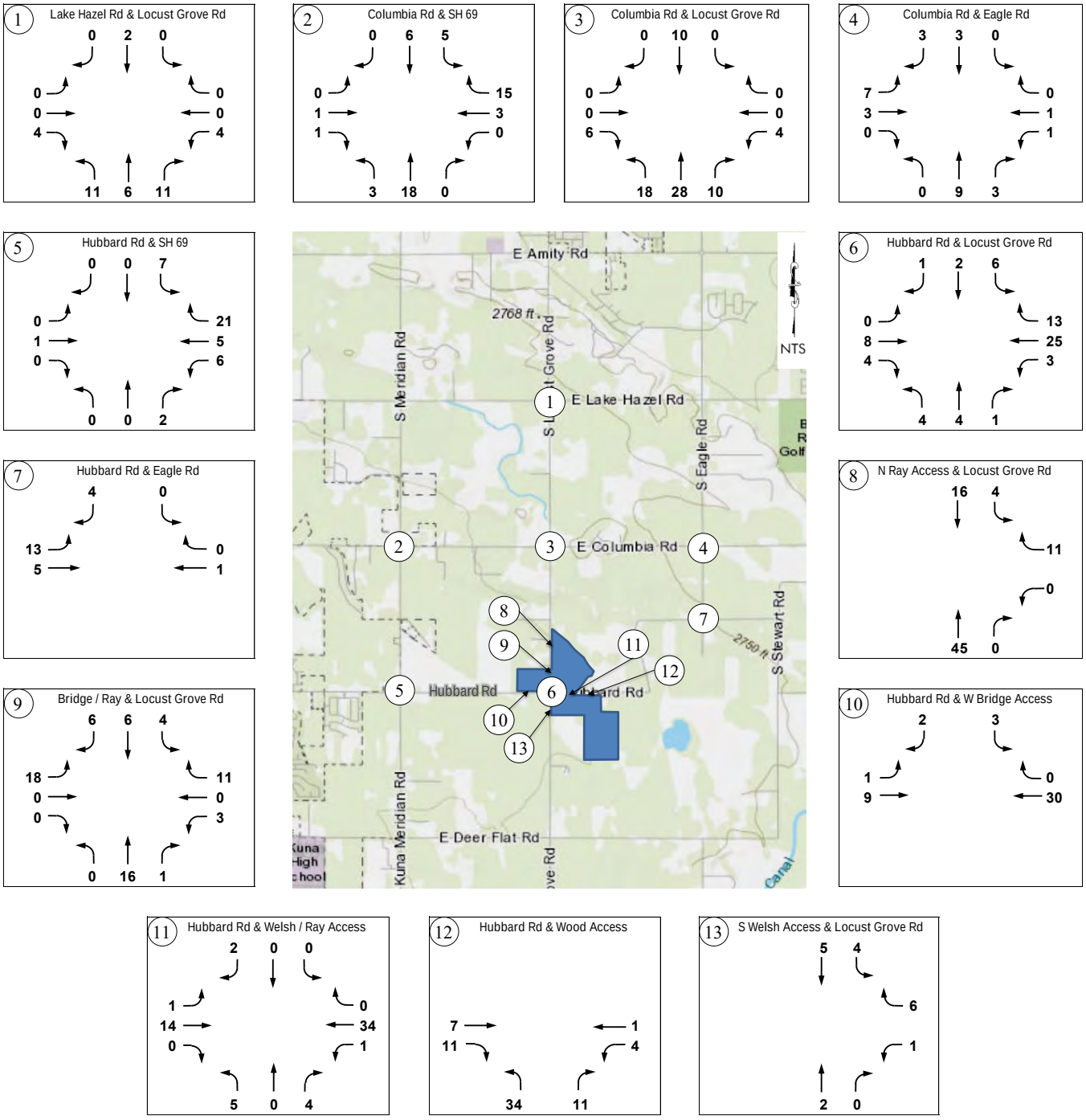
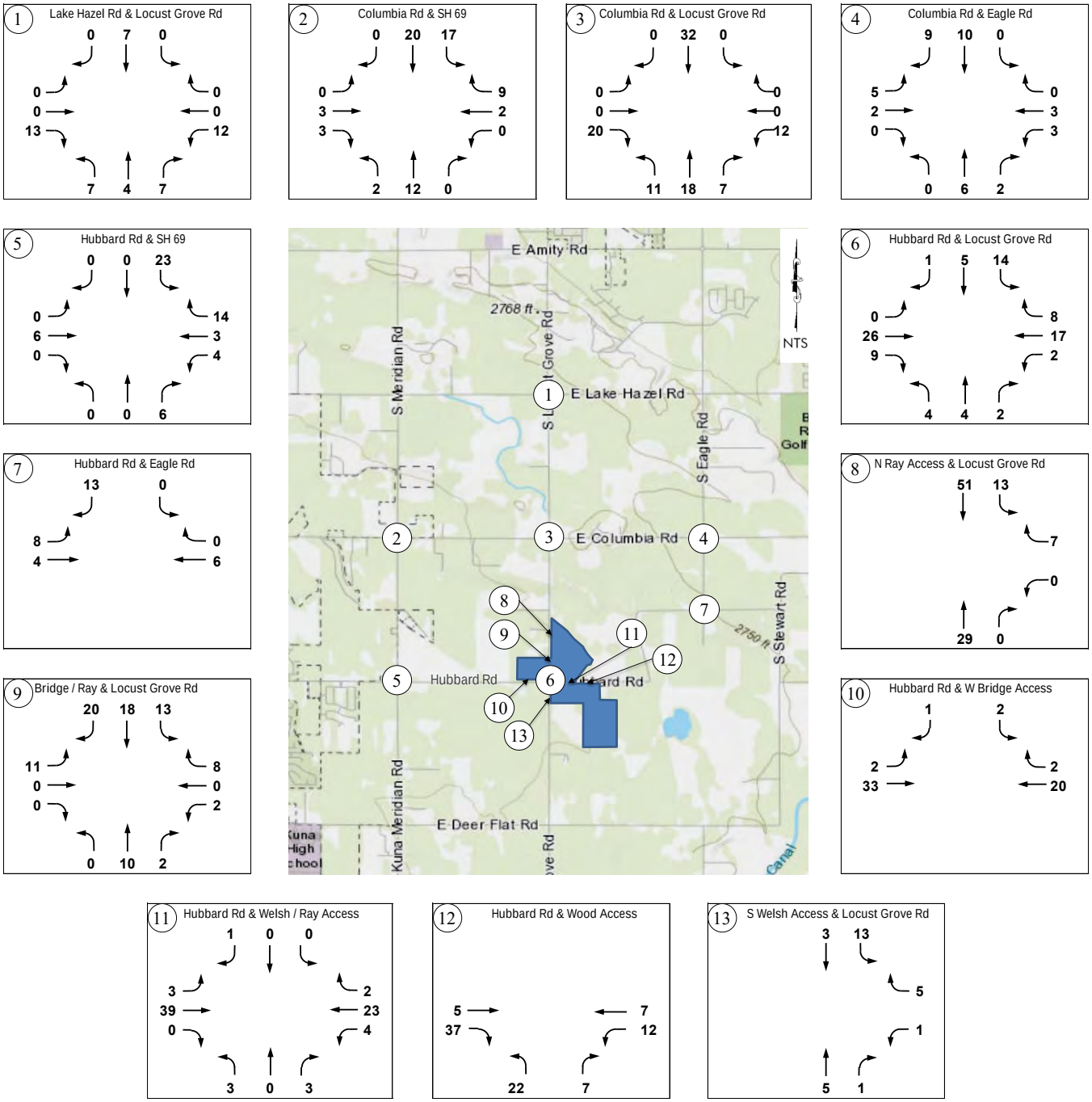


Figure 4.3 – 2023 Phase 1 PM Peak Hour Site Traffic



4.3 Total Traffic

The site traffic is then added to the background traffic as determined above. **Figure 4.4** and **Figure 4.5** shows the total traffic at each intersection for AM and PM peak hour traffic conditions for the 2023 Phase 1 build year.

Figure 4.4 – 2023 Phase 1 AM Peak Hour Total Traffic

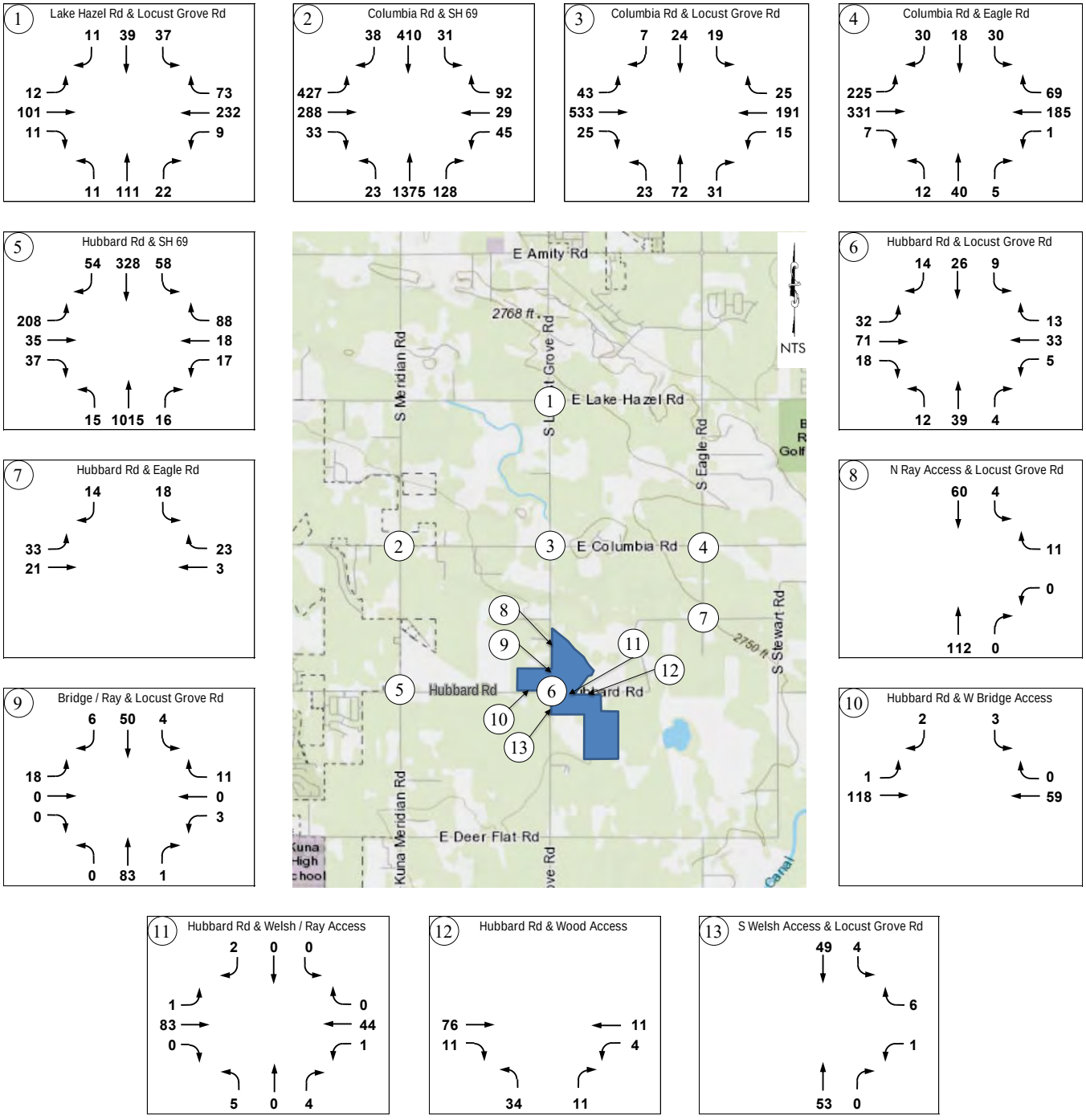
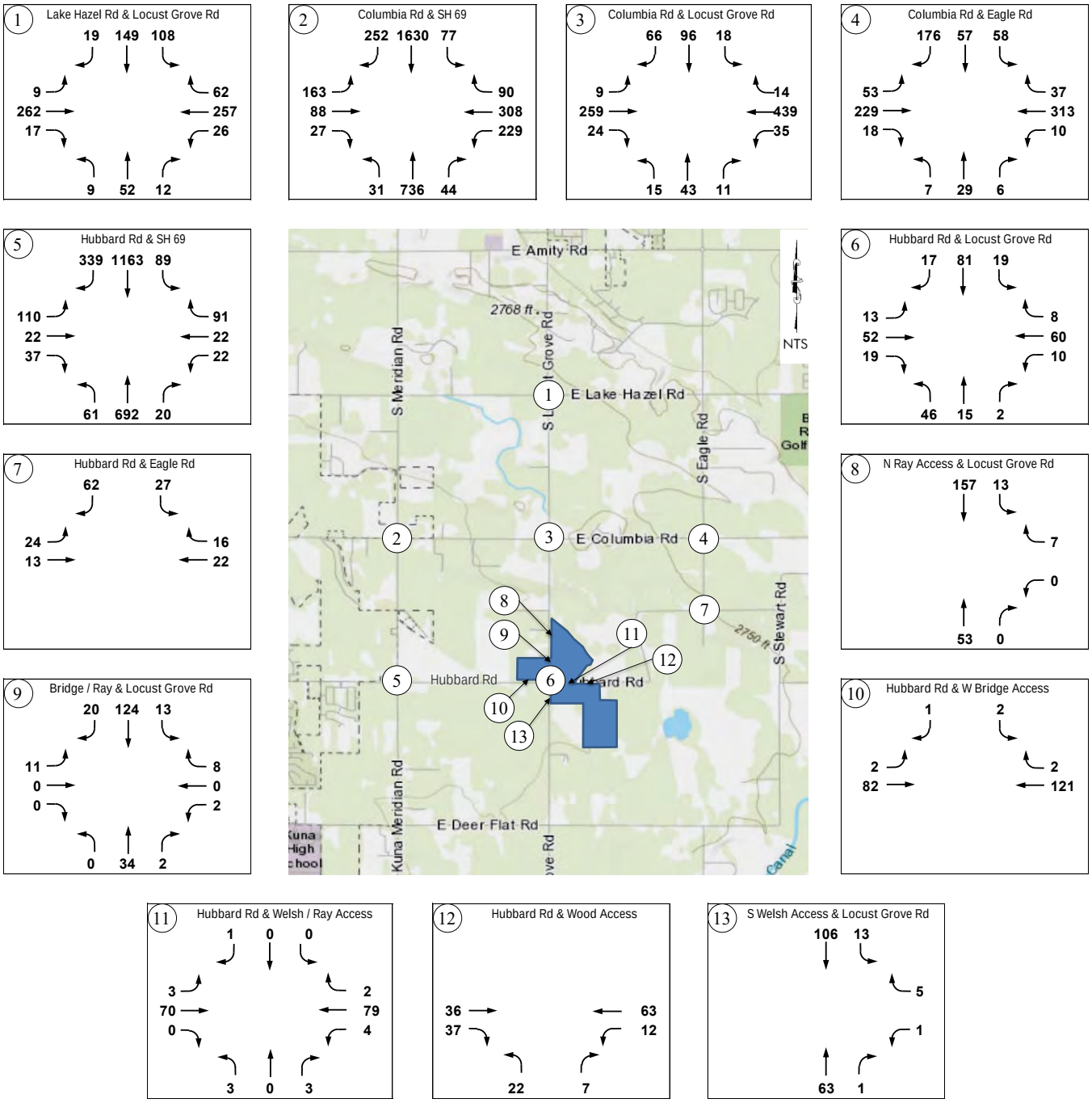


Figure 4.5 – 2023 Phase 1 PM Peak Hour Total Traffic



4.4 Roadway Segment Level of Service

The study area roadway segment level of service was evaluated with 2023 total traffic with the existing number of lanes or proposed number of lanes for 2023 background traffic. **Table 4.2** summarizes the results. Columbia Road segment between Locust Grove Road and Eagle Road is expected to slightly exceed ACHD's LOS E planning threshold with the existing lane configuration.

Table 4.2 – Roadway Segment Level of Service – 2023 Phase 1 Total Traffic

Roadway	Segment	Functional Classification (No. of Lanes)	Left-Turn Lane Type	LOS E Planning Threshold [vph]	Peak Hour Directional Volume [vph]		Meets LOS Planning Threshold?
					AM Peak	PM Peak	
Columbia Rd	SH 69 to Locust Grove Rd	Minor Arterial (3)	None	720	601	627	Yes
	Locust Grove Rd to Eagle Road	Minor Arterial (2)	None	575	**583**	496	**No**
Hubbard Rd	SH 69 to Locust Grove Rd	Minor Arterial (2)	None	575	123	135	Yes
	Locust Grove Rd to Eagle Road	Minor Arterial (2)	None	575	87	85	Yes
Locust Grove Rd	Lake Hazel Rd to Columbia Rd	Minor Arterial (2)	None	575	144	192	Yes
	Columbia Rd to Hubbard Rd	Minor Arterial (2)	None	575	126	170	Yes

4.5 Intersection Measures of Effectiveness

To determine the 2023 total traffic impacts, the study area intersections were analyzed with the existing intersection control and lane configuration or with the preceding mitigations needed to mitigate 2018 existing and 2023 background traffic. Copies of the calculations are included in the appendix. **Table 4.3** and **Table 4.4** summarize the intersection capacity analysis results. All study area intersections are expected to continue to meet ITD's or ACHD's minimum operational thresholds, with the exception of one intersection:

- SH 69 and Columbia Road intersection

4.6 Roadway Segment Mitigation

Columbia Road

The Columbia Road segment between Locust Grove Road and Eagle Road is expected to exceed ACHD's LOS E planning threshold by eight (8) vph with the existing lane configuration. This deficiency is not sufficient to require additional lanes. As a result, no roadway improvements are needed for this roadway segment.

4.7 Intersection Mitigation

SH 69 and Columbia Road Intersection

The SH 69 and Columbia Road intersection is expected to exceed the overall intersection v/c ratio threshold. However, the intersection is expected to operate at LOS D during the peak hours, which meet acceptable LOS threshold. In addition, all lane groups are expected to meet the maximum 1.00 v/c ratio. As a result, no additional improvements are proposed to reduce the overall intersection v/c ratio to meet the 0.90 threshold.

Table 4.3 – Intersection MOEs – 2023 Phase 1 Total Traffic

Intersection		Control	MOEs	AM Peak Hour	PM Peak Hour
1	Locust Grove Road and Lake Hazel Road	All-Way Stop	Intersection LOS	B	C
			Intersection Delay [s/v]	10	16
			Worst Lane Group v/c	0.45 (WB)	0.60 (WB)
2	SH 69 and Columbia Road	Signal	Intersection LOS	D	D
			Intersection Delay [s/v]	44	48
			Intersection v/c	**0.93**	**1.00**
			Worst Lane Group v/c	0.93 (NBT)	1.00 (SBT)
3	Locust Grove Road and Columbia Road	All-Way Stop	Intersection LOS	C	C
			Intersection Delay [s/v]	23	19
			Worst Lane Group v/c	0.86 (EB)	0.52 (WB)
4	Eagle Road and Columbia Road	All-Way Stop	Intersection LOS	C	B
			Intersection Delay [s/v]	20	14
			Worst Lane Group v/c	0.81 (EB)	0.56 (WB)
5	SH 69 and Hubbard Road	Signal	Intersection LOS	B	B
			Intersection Delay [s/v]	13	13
			Intersection v/c	0.66	0.70
			Worst Lane Group v/c	0.69 (NBTR)	0.77 (SBTR)
6	Locust Grove Road and Hubbard Road	Two-Way Stop (Locust Grove)	LOS (NB / SB)	B / B	B / B
			Delay [s/v] (NB / SB)	11 / 10	11 / 11
			Worst Lane Group v/c	0.09 (NB)	0.18 (SB)
7	Hubbard Road and Eagle Road	Stop (Eagle)	LOS (SB)	A	A
			Delay [s/v] (SB)	9	9
			Worst Lane Group v/c	0.04 (SB)	0.10 (SB)

Table 4.4 – Lane Group v/c Ratios – 2023 Phase 1 Total Traffic

Intersection		Approach	AM Peak Hour			PM Peak Hour		
			LT	THRU	RT	LT	THRU	RT
1	Locust Grove Road and Lake Hazel Road	NB	0.23			0.15		
		SB	0.15			0.52		
		EB	0.19			0.52		
		WB	0.45			0.60		
2	SH 69 and Columbia Road	NB	0.06	0.93	0.19	0.36	0.46	0.06
		SB	0.30	0.27	0.06	0.24	1.00	0.34
		EB	0.86	0.69		0.97	0.31	
		WB	0.26	0.22	0.83	0.75	0.91	0.31
3	Locust Grove Road and Columbia Road	NB	0.23			0.14		
		SB	0.10			0.34		
		EB	0.86			0.50		
		WB	0.36			0.79		
4	Eagle Road and Columbia Road	NB	0.11			0.08		
		SB	0.14			0.46		
		EB	0.81			0.47		
		WB	0.38			0.56		
5	SH 69 and Hubbard Road	NB	0.03	0.69	0.69	0.38	0.35	0.35
		SB	0.27	0.26	0.26	0.21	0.74	0.77
		EB	0.53	0.16		0.48	0.20	
		WB	0.04	0.25		0.08	0.39	
6	Locust Grove Road and Hubbard Road	NB	0.09			0.11		
		SB	0.08			0.18		
		EB	0.02			0.01		
		WB	< 0.01			0.01		
7	Eagle Road and Hubbard Road	SB	0.04			0.10		
		EB	0.02			0.02		
		WB	--			--		

4.8 Site Access and Circulation

The development is proposing site access on Hubbard Road and Locust Grove Road as shown in **Figure 4.6**. According to ACHD access policy, the required driveway spacing on the study area roadways are as follows:

- Hubbard Road – 45 mph minor arterial (Section 7205.4)
  - 660 feet minimum from a signalized intersection with single left-turn lane for a full-movement driveway
  - 330 feet minimum from a signalized intersection with single left-turn lane for a right-in/right-out driveway
  - 380 feet minimum driveway separations
- Locust Grove Road – 50 mph minor arterial (Section 7205.4)
  - 660 feet minimum from a signalized intersection with single left-turn lane for a full-movement driveway
  - 330 feet minimum from a signalized intersection with single left-turn lane for a right-in/right-out driveway
  - 425 feet minimum driveway separations

A total of six (6) site access intersections are proposed for site access and their locations are shown in **Figure 4.6**, all of which meet ACHD minimum spacing guidelines. None of the proposed site access intersections require turn lanes according to ACHD's turn lane guidelines. **Table 4.6** and **Table 4.7** summarize the site access intersection capacity results, all of which meet minimum operational thresholds.

Patagonia Subdivision is not expected to impact the roadway system infrastructure feasibility as planned in the ACHD's MSM, as was shown in Figure 3.1. All planned collector streets are beyond the site boundary. The proposed Eagle Road realignment is located along the eastern site boundary. According to preliminary site plan, improvements are planned along the eastern site boundary to accommodate future Eagle Road realignment. Two site access points are proposed along the eastern site boundary, which do not have access to the transportation system until the Eagle Road realignment is constructed.

Figure 4.6 – Phase 1 Site Access, Circulation, and ADT

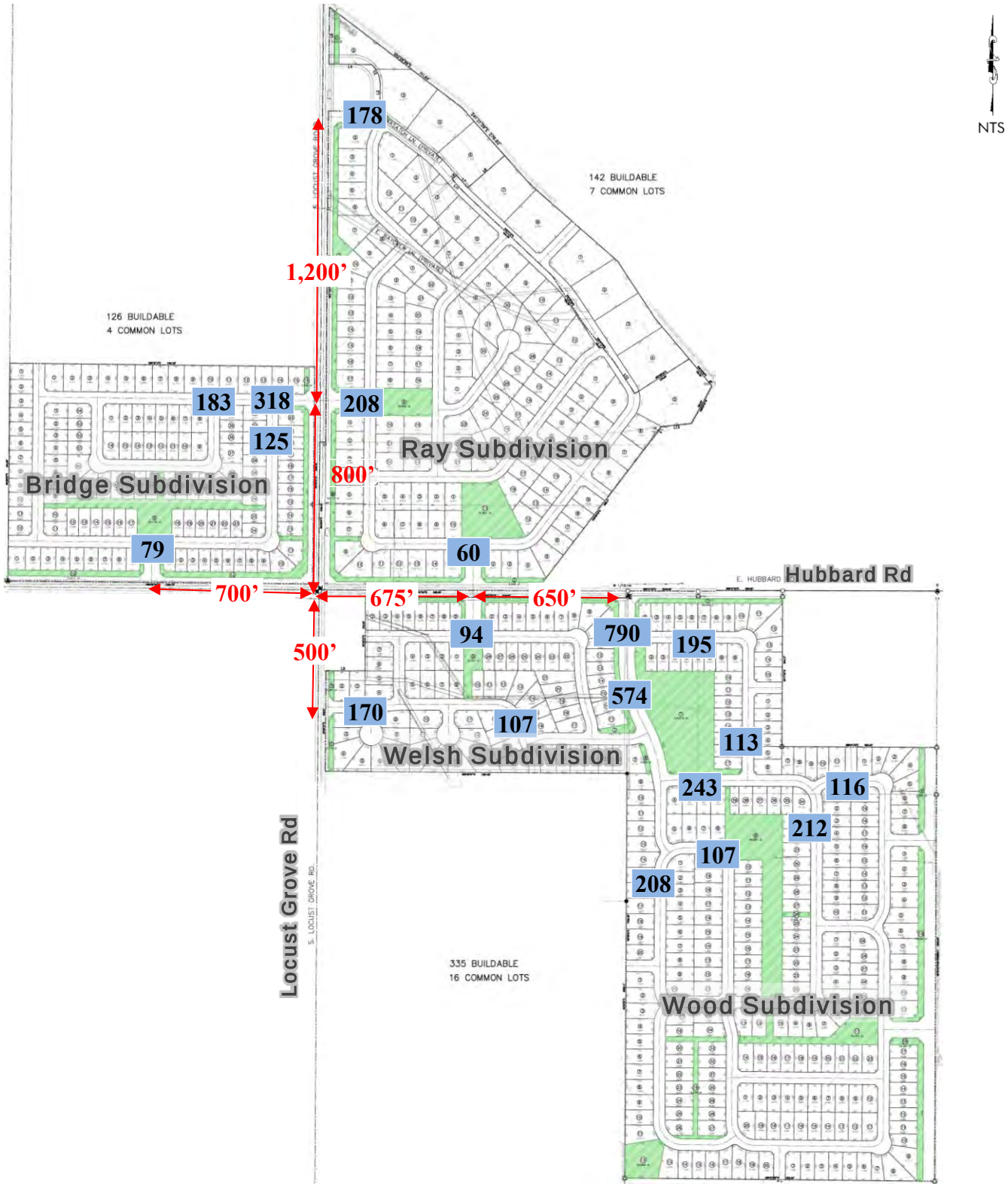


Table 4.5 – Site Access Intersection MOEs – 2023 Phase 1 Total Traffic

Intersection		Control	MOEs	AM Peak Hour	PM Peak Hour
8	North Ray Access and Locust Grove Road	Stop (Ray Access)	LOS (WB)	A	A
			Delay [s/v] (WB)	9	9
			Worst Lane Group v/c	0.01 (WB)	0.01 (SB)
9	Bridge / Ray Access and Locust Grove Road	Two-Way Stop (Bridge / Ray)	LOS (EB / WB)	A / A	B / A
			Delay [s/v] (EB / WB)	10 / 9	10 / 9
			Worst Lane Group v/c	0.02 (EB)	0.02 (EB)
10	West Bridge Access and Hubbard Road	Stop (Bridge)	LOS (SB)	A	A
			Delay [s/v] (SB)	9	10
			Worst Lane Group v/c	0.01 (SB)	< 0.01 (SB)
11	Welsh / Ray Access and Hubbard Road	Two-Way Stop (Welsh / Ray)	LOS (NB / SB)	A / A	A / A
			Delay [s/v] (NB / SB)	9 / 9	9 / 9
			Worst Lane Group v/c	0.01 (NB)	0.01 (NB)
12	Wood Access and Hubbard Road	Stop (Wood)	LOS (NB)	A	A
			Delay [s/v] (NB)	9	9
			Worst Lane Group v/c	0.05 (NB)	0.04 (NB)
13	South Welsh Access and Locust Grove Road	Stop (Welsh)	LOS (WB)	A	A
			Delay [s/v] (WB)	9	9
			Worst Lane Group v/c	0.01 (WB)	0.01 (WB)

Table 4.6 – Site Access Intersection Lane Group v/c Ratios – 2023 Phase 1 Total Traffic

Intersection		Approach	AM Peak Hour			PM Peak Hour		
			LT	THRU	RT	LT	THRU	RT
8	North Ray Access and Locust Grove Road	NB	--			--		
		SB	< 0.01			0.01		
		WB	0.01			0.01		
9	Bridge / Ray Access and Locust Grove Road	NB	--			--		
		SB	< 0.01			0.01		
		EB	0.03			0.02		
		WB	0.02			0.01		
10	West Bridge Access and Hubbard Road	SB	0.01			< 0.01		
		EB	< 0.01			< 0.01		
		WB	--			--		
11	Welsh / Ray Access and Hubbard Road	NB	0.01			0.01		
		SB	< 0.01			< 0.01		
		EB	< 0.01			< 0.01		
		WB	< 0.01			< 0.01		
12	Wood Access and Hubbard Road	NB	0.06			0.04		
		EB	--			--		
		WB	< 0.01			0.01		
13	South Welsh Access and Locust Grove Road	NB	--			--		
		SB	< 0.01			0.01		
		WB	0.01			0.01		

5.0 2030 PHASE 2 BACKGROUND TRAFFIC CONDITIONS

5.1 Roadway Network

The study area roadways and intersections are expected to remain the same as existing conditions with the exception of the intersection improvements needed to mitigate 2023 background traffic. There are roadway and intersection improvements planned within and in the vicinity of the study area according to various transportation plans as discussed in the previous section. These planned improvements will be considered for mitigating the impacts if needed.

5.2 Background Traffic

Background traffic growth from 2023 to 2030 was estimated by extrapolating the 2023 background growth traffic with the following annual growth rates:

- SH 69 – 3.0%
- Hubbard Road and Locust Grove Road – 4.0%
- All other ACHD's roadways – 2.0%

These growth rates are based on COMPASS traffic forecasts and were verified with ITD and ACHD. A copy of the COMPASS forecasts and growth rate summary is included in the appendix. In addition to the expected traffic growth, the proposed Artiach Subdivision located west of the site as well as the Phase 1 build of Patagonia Subdivision are included in the 2030 background traffic estimate as off-site traffic. **Figure 5.1** and **Figure 5.2** show the 2030 background traffic for the AM and PM peak hours, respectively.

Figure 5.1 – 2030 Phase 2 AM Peak Hour Background Traffic

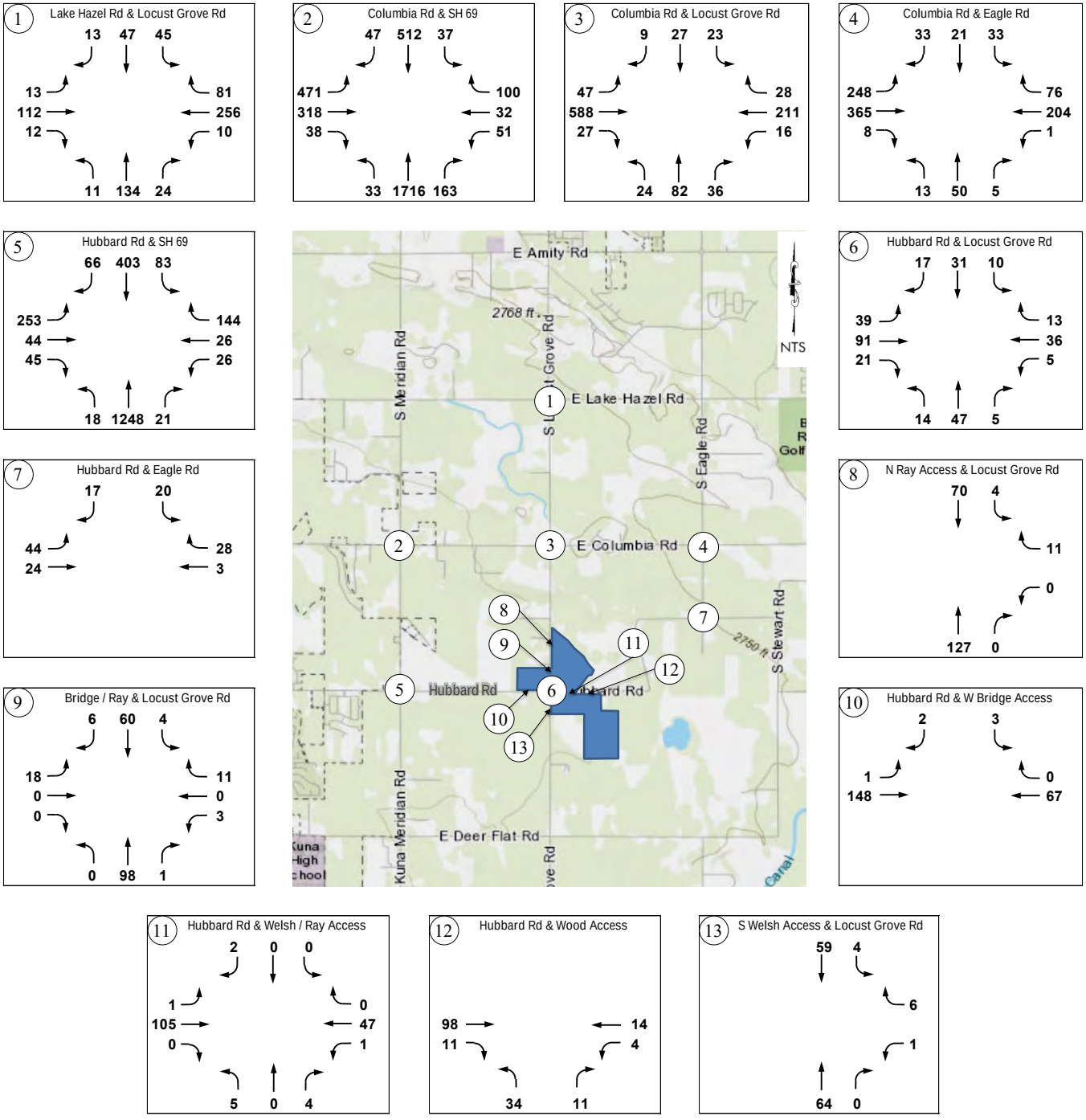
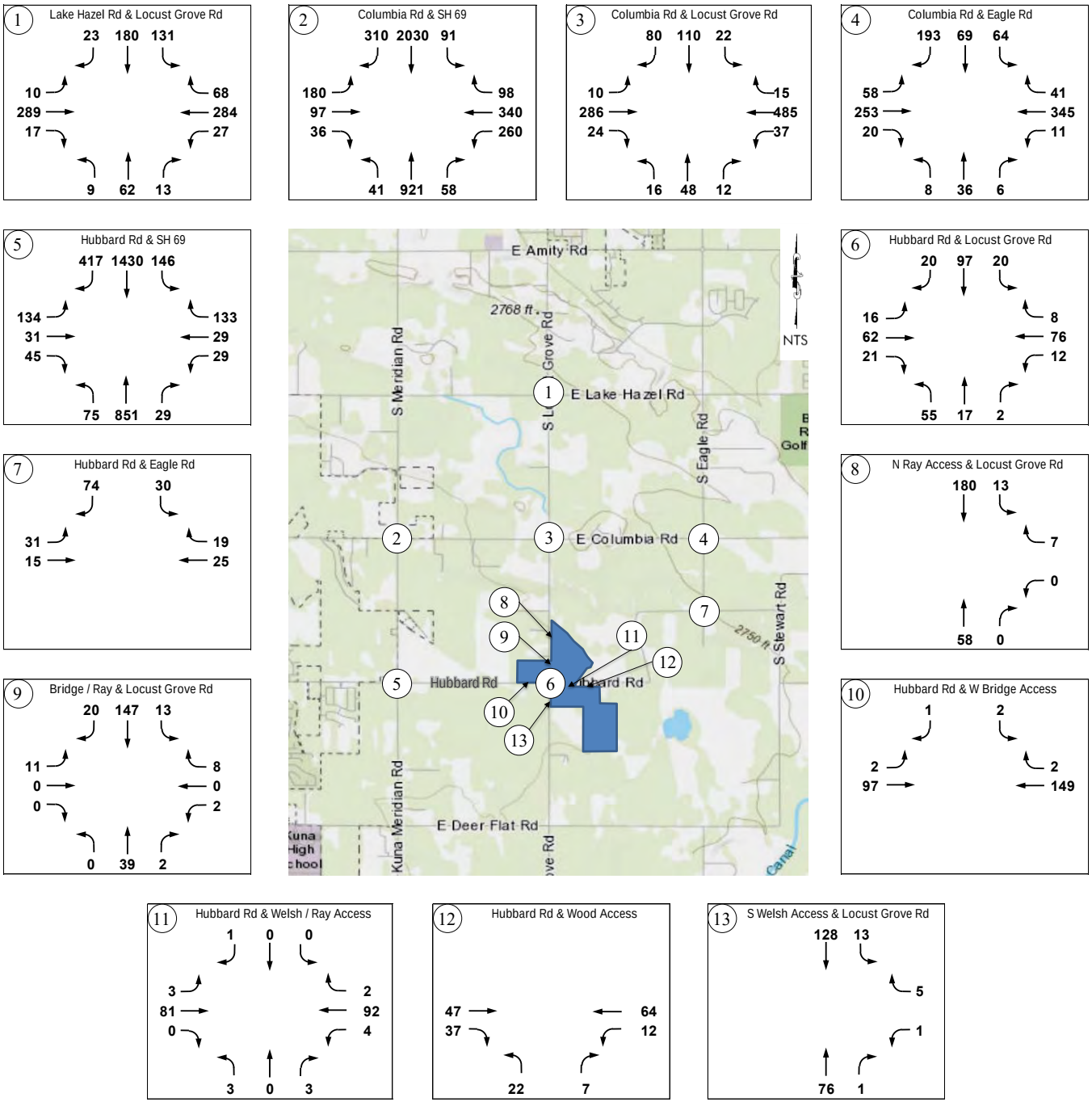


Figure 5.2 – 2030 Phase 2 PM Peak Hour Background Traffic



5.3 Roadway Segment Level of Service

The study area roadway segment level of service was evaluated with the existing number of lanes with 2030 background traffic. **Table 5.1** summarizes the results. The Columbia Road segment between Locust Grove Road and Eagle Road is expected to exceed ACHD's LOS E planning threshold with the existing lane configuration.

Table 5.1 – Roadway Segment Level of Service – 2030 Phase 2 Background Traffic

Roadway	Segment	Functional Classification (No. of Lanes)	Left-Turn Lane Type	LOS E Planning Threshold [vph]	Peak Hour Directional Volume [vph]		Meets LOS Planning Threshold?
					AM Peak	PM Peak	
Columbia Rd	SH 69 to Locust Grove Rd	Minor Arterial (3)	None	720	662	698	Yes
	Locust Grove Rd to Eagle Road	Minor Arterial (2)	None	575	**647**	546	**No**
Hubbard Rd	SH 69 to Locust Grove Rd	Minor Arterial (2)	None	575	196	206	Yes
	Locust Grove Rd to Eagle Road	Minor Arterial (2)	None	575	109	99	Yes
Locust Grove Rd	Lake Hazel Rd to Columbia Rd	Minor Arterial (2)	None	575	169	224	Yes
	Columbia Rd to Hubbard Rd	Minor Arterial (2)	None	575	142	193	Yes

5.4 Intersection Measures of Effectiveness

To determine the 2030 background traffic impacts, the study area intersections were analyzed with the existing intersection control and lane configuration or with the preceding mitigations. **Table 5.2** and **Table 5.3** summarize the intersection capacity analysis results. Based on traffic analysis results, two study area intersections are expected to exceed ITD's minimum operational thresholds with 2030 background traffic:

- SH 69 and Columbia Road intersection
- SH 69 and Hubbard Road intersection

Two study area intersections are expected to operate at LOS D or worse, which require signal warrant analysis according to ACHD policy:

- Locust Grove Road and Columbia Road intersection
- Eagle Road and Columbia Road intersection

Table 5.2 – Intersection MOEs – 2030 Phase 2 Background Traffic

Intersection		Control	MOEs	AM Peak Hour	PM Peak Hour
1	Locust Grove Road and Lake Hazel Road	All-Way Stop	Intersection LOS	B	C
			Intersection Delay [s/v]	12	22
			Worst Lane Group v/c	0.52 (WB)	0.73 (WB)
2	SH 69 and Columbia Road	Signal	Intersection LOS	**E**	**F**
			Intersection Delay [s/v]	65	**99**
			Intersection v/c	**1.11**	**1.28**
			Worst Lane Group v/c	**1.22 (EBL)**	**1.29 (EBL)**
3	Locust Grove Road and Columbia Road	All-Way Stop	Intersection LOS	E	D
			Intersection Delay [s/v]	36	30
			Worst Lane Group v/c	0.98 (EB)	0.93 (WB)
4	Eagle Road and Columbia Road	All-Way Stop	Intersection LOS	D	C
			Intersection Delay [s/v]	28	16
			Worst Lane Group v/c	0.92 (EB)	0.65 (WB)
5	SH 69 and Hubbard Road	Signal	Intersection LOS	D	D
			Intersection Delay [s/v]	40	44
			Intersection v/c	0.86	**0.94**
			Worst Lane Group v/c	0.90 (NBTR)	**1.02 (SBTR)**
6	Locust Grove Road and Hubbard Road	Two-Way Stop (Locust Grove)	LOS (NB / SB)	B / B	B / B
			Delay [s/v] (NB / SB)	11 / 11	12 / 12
			Worst Lane Group v/c	0.12 (NB)	0.22 (SB)
7	Eagle Road and Hubbard Road	Stop (Eagle)	LOS (SB)	A	A
			Delay [s/v] (SB)	9	9
			Worst Lane Group v/c	0.05 (SB)	0.12 (SB)

Table 5.3 – Lane Group v/c Ratios – 2030 Phase 2 Background Traffic

Intersection		Approach	AM Peak Hour			PM Peak Hour		
			LT	THRU	RT	LT	THRU	RT
1	Lake Hazel Road and Locust Grove Road	NB	0.29			0.19		
		SB	0.19			0.68		
		EB	0.23			0.63		
		WB	0.52			0.73		
2	SH 69 and Columbia Road	NB	0.08	**1.01**	0.21	0.46	0.59	0.08
		SB	0.43	0.29	0.06	0.35	**1.26**	0.39
		EB	**1.22**	0.77		**1.29**	0.35	
		WB	0.45	0.25	0.92	0.89	0.91	0.31
3	Locust Grove Road and Columbia Road	NB	0.27			0.17		
		SB	0.12			0.43		
		EB	0.98			0.59		
		WB	0.42			0.93		
4	Eagle Road and Columbia Road	NB	0.13			0.10		
		SB	0.17			0.54		
		EB	0.92			0.56		
		WB	0.44			0.65		
5	SH 69 and Hubbard Road	NB	0.04	0.90	0.90	0.79	0.48	0.48
		SB	0.47	0.27	0.27	0.41	0.95	**1.02**
		EB	0.80	0.18		0.72	0.23	
		WB	0.07	0.36		0.11	0.50	
6	Locust Grove Road and Hubbard Road	NB	0.12			0.14		
		SB	0.09			0.22		
		EB	0.03			0.01		
		WB	< 0.01			0.01		
7	Eagle Road and Hubbard Road	SB	0.05			0.12		
		EB	0.03			0.02		
		WB	--			--		

5.5 Roadway Segment Mitigation

Columbia Road

The Columbia Road segment between Locust Grove Road and Eagle Road is expected to exceed ACHD's LOS planning threshold with the existing lane configuration. The following roadway improvement is needed for this roadway segment to meet ACHD's LOS E planning threshold:

- Widen to three lanes for a center turn lane between Locust Grove Road and Eagle Road
  - According to ACHD's MSM, this segment of Columbia Road is planned for three lanes preservation.

5.6 Intersection Mitigation

Two study are intersections are expected to exceed ITD's minimum operational thresholds. Two study area intersections are expected to require signal warrant analysis according to ACHD policy. The intersection improvements needed to mitigate 2030 background traffic and signal warrant analysis are discussed in the following sections. **Table 5.4** and **Table 5.5** summarize the analysis results for the proposed mitigation improvements.

Table 5.4 – Intersection MOEs – 2030 Phase 2 Background Traffic Mitigation

Intersection		Mitigation	MOEs	AM Peak Hour	PM Peak Hour
2	SH 69 and Columbia Road	Dual EBL + WBL	Intersection LOS	E	**F**
			Intersection Delay [s/v]	59	**117**
			Intersection v/c	**0.99**	**1.18**
			Worst Lane Group v/c	**1.05 (NBT)**	**1.33 (SBT)**
		3 Through lanes on SH 69 + SB right-turn lane	Intersection LOS	D	D
			Intersection Delay [s/v]	48	46
			Intersection v/c	**0.96**	**0.98**
			Worst Lane Group v/c	0.95 (EBL)	0.97 (SBT)
		3 Through lanes on SH 69 + SB right-turn lane + Dual EBL + Dual WBL	Intersection LOS	D	D
			Intersection Delay [s/v]	39	47
			Intersection v/c	0.87	**0.95**
			Worst Lane Group v/c	0.89 (EBTR)	0.97 (WBL)
5	SH 69 and Hubbard Road	SB right-turn lane	Intersection LOS	D	C
			Intersection Delay [s/v]	36	24
			Intersection v/c	0.86	0.78
			Worst Lane Group v/c	0.89 (NBTR)	0.84 (SBT)

Table 5.5 – Lane Group v/c Ratios – 2030 Phase 2 Background Traffic Mitigation

Intersection			Approach	AM Peak Hour			PM Peak Hour		
				LT	THRU	RT	LT	THRU	RT
2	SH 69 and Columbia Road	Dual EBL + WBL	NB	0.08	**1.05**	0.22	0.46	0.63	0.09
			SB	0.42	0.31	0.06	0.38	**1.33**	0.40
			EB	0.87	0.92		0.87	0.37	
			WB	0.51	0.21	0.76	**1.26**	0.90	0.30
		3 Thru + SBR	NB	0.67	0.88	0.89	0.68	0.50	0.50
			SB	0.70	0.24	0.07	0.76	0.97	0.40
			EB	0.95	0.76		0.91	0.33	
			WB	0.30	0.25	0.90	0.75	0.90	0.31
		3Thru + SBR + Dual EBL + Dual WBL	NB	0.67	0.84	0.85	0.78	0.49	0.49
			SB	0.67	0.23	0.07	0.76	0.95	0.40
			EB	0.85	0.89		0.79	0.39	
			WB	0.50	0.20	0.73	0.97	0.89	0.30
5	SH 69 and Hubbard Road		NB	0.04	0.89	0.89	0.48	0.53	0.53
			SB	0.54	0.24	0.09	0.43	0.84	0.55
			EB	0.77	0.17		0.62	0.21	
			WB	0.06	0.35		0.10	0.47	

SH 69 and Columbia Road Intersection

The SH 69 and Columbia Road intersection is expected to exceed ITD's minimum operational thresholds with 2030 background traffic analyzed as a signalized intersection with the existing lane configuration. However, there are no funded improvements planned at the intersection, on SH 69, or on Columbia Road based on ITD's and ACHD's transportation plans. For the purposes of this traffic impact study, three different mitigation scenarios were evaluated to determine the range of improvements needed to mitigate the 2030 background traffic impacts. The results and improvements are summarized in **Table 5.5** and **Table 5.6** and key findings are as follows:

- Dual left-turn lanes on eastbound and westbound approaches
  - Dual left-turn lanes are needed based on the projected peak hour left-turn volumes on the eastbound and westbound approaches
  - These improvements are not sufficient to mitigate 2030 background traffic to meet ITD's minimum operational thresholds
    - The intersection is expected to exceed minimum operational thresholds
    - The northbound and southbound approaches on SH 69 are expected to operate over capacity
- Three through lanes on SH 69 approaches with southbound right-turn lane
  - Based on the expected 2030 peak hour volume, the SH 69 approaches are expected to operate over capacity with two through lanes
  - The improvements are expected to mitigate 2030 background traffic
    - The intersection is expected to operate at LOS D, which meet acceptable LOS threshold
    - All lane groups are expected to operate under capacity with a v/c ratio of 0.97 or less
    - The overall intersection v/c ratio is expected to exceed the 0.90 thresholds during both the AM and PM peak hours

- Three through lanes on SH 69 approaches with southbound right-turn lane and dual left-turn lanes on eastbound and westbound approaches
  - These lanes are needed based on the expected 2030 background traffic
  - These improvements are expected to mitigate 2030 background traffic
    - The intersection is expected to operate at LOS D, which meet acceptable LOS threshold
    - All lane groups are expected to operate under capacity with a v/c ratio of 0.97 or less
    - The overall intersection v/c ratio is expected to exceed the 0.90 threshold during the PM peak hour

Based on the mitigation analysis results discussed above, the SH 69 and Columbia Road intersection will need the following improvements to mitigate 2030 background traffic impacts:

- Three through lanes on SH 69 approaches
  - The additional through lanes on SH 69 would be auxiliary through lanes extending at least 2,000 feet beyond the intersection to allow for proper merging and signage based on NCHRP Report 707.
- Southbound right-turn lane
- Dual left-turn lanes on eastbound and westbound approaches

These improvements are not in any current transportation plans nor funded. They are identified and considered in this study to demonstrate what improvements are needed to mitigate 2030 background traffic. These improvements may or may not be needed if the background traffic growth is different from what is assumed in this study and/or Patagonia Subdivision is developed at a different rate. An updated TIS will be required at the time of submission of the preliminary plat for Phase 2 to verify the needs for these improvements.

Locust Grove Road and Columbia Road Intersection

The Locust Grove Road and Columbia Road intersection is expected to operate at LOS E during the AM peak hour with 2030 background traffic as an all-way stop-controlled intersection, which require signal warrant analysis. Based on a preliminary signal warrant analysis, the Locust Grove Road and Columbia Road intersection is expected to meet warrants for a signal with 2030 background traffic. Signal warrant worksheets are included in the appendix.

Although the intersection is expected to meet warrants for a signal, it is expected to meet ACHD's minimum operational thresholds as an all-way stop-controlled intersection. As a result, no improvements are proposed to mitigate 2030 background traffic impacts. A detailed signal warrant analysis with actual traffic data should be conducted with the updated TIS for Phase 2 preliminary plat is submittal.

Eagle Road and Columbia Road Intersection

The Eagle Road and Columbia Road intersection is expected to operate at LOS D with 2030 background traffic as an all-way stop-controlled intersection, which require signal warrant analysis. Based on a preliminary signal warrant analysis, the Eagle Road and Columbia Road intersection is expected to meet warrants for a signal with 2030 background traffic. Signal warrant worksheets are included in the appendix.

Although the intersection is expected to meet warrants for a signal, it is expected to meet ACHD's minimum operational thresholds as an all-way stop-controlled intersection. As a result, no improvements are proposed to mitigate 2030 background traffic impacts. A detailed signal warrant analysis with actual traffic data should be conducted with updated TIS for Phase 2 preliminary plat is submittal.

SH 69 and Hubbard Road Intersection

The SH 69 and Hubbard Road intersection is expected to exceed ITD's minimum operational thresholds with 2030 background traffic analyzed as a signalized intersection with the existing lane configuration. The southbound right-turn volume is expected to reach over 400 vph during the PM peak. A southbound right-turn lane is needed to improve the intersection operation and safety.

5.7 Site Access and Circulation

Site access and circulation for Phase 2 is expected to remain the same as the Phase 1 conditions. No additional site accesses are proposed for Phase 2. None of the proposed site access intersections require turn lanes based on ACHD's turn lane guidelines. **Table 5.6** and **Table 5.7** summarize the site access capacity analysis results. All site access intersections are expected to meet minimum operational thresholds.

Table 5.6 – Site Access Intersection MOEs – 2030 Phase 2 Background Traffic

Intersection		Control	MOEs	AM Peak Hour	PM Peak Hour
8	North Ray Access and Locust Grove Road	Stop (Ray Access)	LOS (WB)	A	A
			Delay [s/v] (WB)	9	9
			Worst Lane Group v/c	0.01 (WB)	0.01 (SB)
9	Bridge / Ray Access and Locust Grove Road	Two-Way Stop (Bridge / Ray)	LOS (EB / WB)	A / A	B / A
			Delay [s/v] (EB / WB)	10 / 9	10 / 9
			Worst Lane Group v/c	0.03 (EB)	0.02 (EB)
10	West Bridge Access and Hubbard Road	Stop (Bridge)	LOS (SB)	A	A
			Delay [s/v] (SB)	9	10
			Worst Lane Group v/c	0.01 (SB)	< 0.01 (SB)
11	Welsh / Ray Access and Hubbard Road	Two-Way Stop (Welsh / Ray)	LOS (NB / SB)	A / A	A/ A
			Delay [s/v] (NB / SB)	9 / 9	9 / 9
			Worst Lane Group v/c	0.01 (NB)	0.01 (NB)
12	Wood Access and Hubbard Road	Stop (Wood)	LOS (NB)	A	A
			Delay [s/v] (NB)	9	9
			Worst Lane Group v/c	0.06 (NB)	0.04 (NB)
13	South Welsh Access and Locust Grove Road	Stop (Welsh)	LOS (WB)	A	A
			Delay [s/v] (WB)	9	9
			Worst Lane Group v/c	0.01 (WB)	0.01 (WB)

Table 5.7 – Site Access Intersection Lane Group v/c Ratios – 2030 Phase 2 Background Traffic

Intersection		Approach	AM Peak Hour			PM Peak Hour		
			LT	THRU	RT	LT	THRU	RT
8	North Ray Access and Locust Grove Road	NB	--			--		
		SB	< 0.01			0.01		
		WB	0.01			0.01		
9	Bridge / Ray Access and Locust Grove Road	NB	--			--		
		SB	< 0.01			0.01		
		EB	0.03			0.02		
		WB	0.02			0.01		
10	West Bridge Access and Hubbard Road	SB	0.01			< 0.01		
		EB	< 0.01			< 0.01		
		WB	--			--		
11	Welsh / Ray Access and Hubbard Road	NB	0.01			0.01		
		SB	< 0.01			< 0.01		
		EB	< 0.01			< 0.01		
		WB	< 0.01			< 0.01		
12	Wood Access and Hubbard Road	NB	0.06			0.04		
		EB	--			--		
		WB	< 0.01			0.01		
13	South Welsh Access and Locust Grove Road	SB	< 0.01			0.01		
		EB	--			--		
		WB	0.01			0.01		

6.0 2030 PHASE 2 TOTAL TRAFFIC CONDITIONS

6.1 Phase 2 Development

The proposed developments in Phase 2 included a total of 201 dwelling units. These developments are assumed to occur simultaneously within the four subdivisions as follow:

- Bridge Subdivision : 42 dwelling units
- Ray Subdivision : 47 dwelling units
- Wood Subdivision : 84 dwelling units
- Welsh Subdivision : 28 dwelling units

6.2 Phase 2 Site Traffic

6.2.1 Trip Generation

The site trip generation is obtained by applying the trip generation rates obtained from the ITE Trip Generation Manual for the proposed land use within the development. **Table 6.1** summarizes the site trip generation for Phase 2. The proposed Phase 2 development is estimated to generated approximately 1,898 trips per day, 149 trips during the AM peak hour, and 199 trips during the PM peak hour.

Table 6.1 – Phase 2 Site Trip Generation Summary

Land Use	ITE Code	Size	Unit	Period	Trip Rate Per Unit	Total Trips	Entering		Exiting	
Single-Family Detached Housing	210	201	DU	Weekday Daily (vpd)	9.44	1,898	50%	949	50%	949
				AM Peak Hour (vph)	0.74	149	25%	37	75%	112
				PM Peak Hour (vph)	0.99	199	63%	125	37%	74

6.2.2 Trip Capture

Based on the proposed land use in Phase 2, the development is not expected to retain trips within the site. No trip reduction for internal capture trips was assumed in the traffic impact analysis.

6.2.3 Pass-by Trips

The development is residential and is not expected to attract pass-by trips. No pass-by trips were assumed in the traffic impact analysis.

6.2.4 Modal Split

The development is residential and is not expected to attract pass-by trips. No pass-by trips were assumed in the traffic impact analysis.

6.2.5 Trip Distribution and Assessment

In order to determine the impacts, trips generated by the development must be distributed and assigned to the transportation system. Site traffic distribution patterns are shown in **Figure 4.1**. **Figure 6.1** and **Figure 6.2** summarize the estimated build-out site peak hour traffic assignment to the transportation system.

Figure 6.1 – 2030 Phase 2 AM Peak Hour Site Traffic

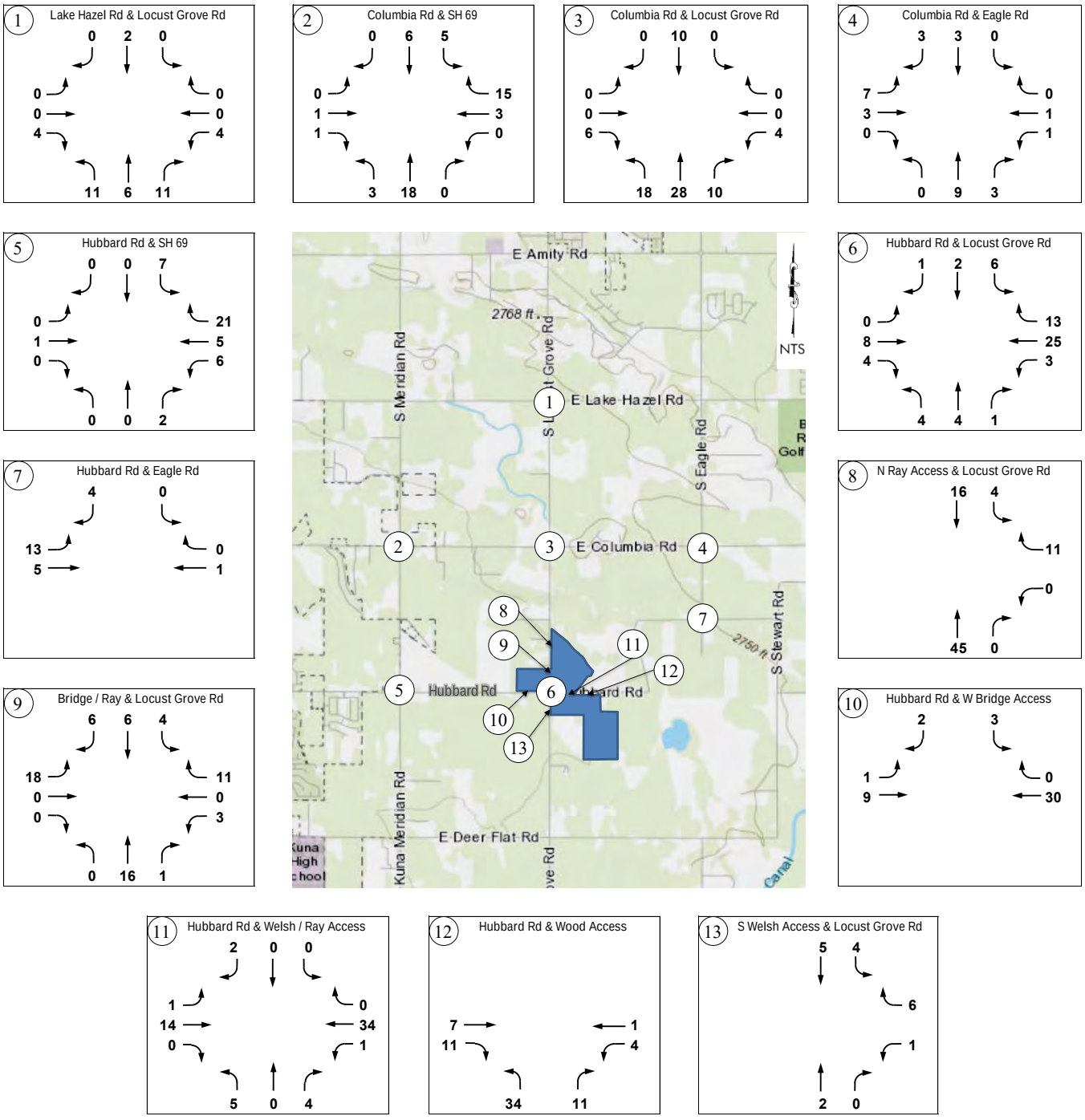
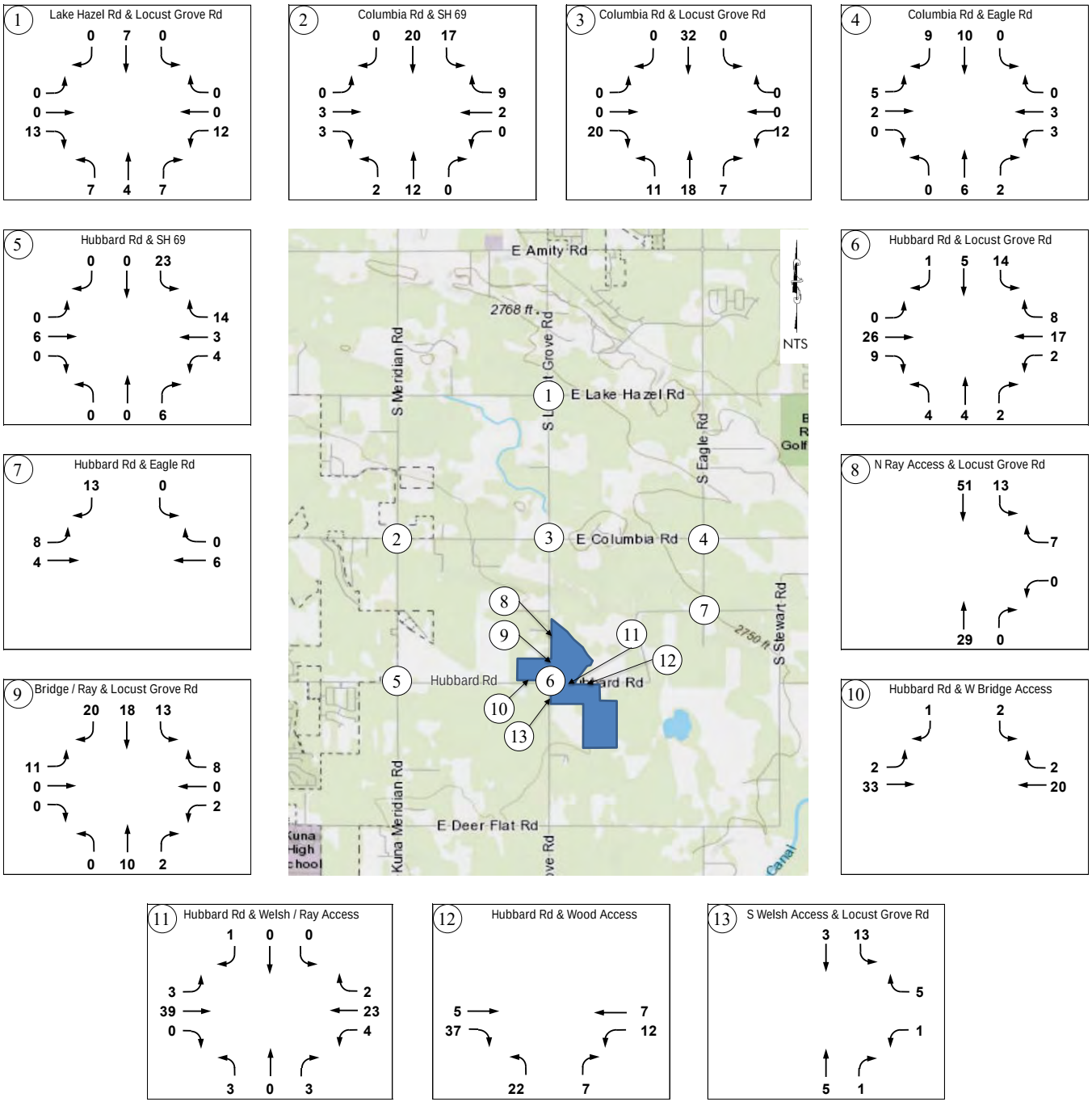


Figure 6.2 – 2030 Phase 2 PM Peak Hour Site Traffic



6.3 Total Traffic

The site traffic is then added to the background traffic as determined above. **Figure 6.3** and **Figure 6.4** shows the total traffic at each intersection for AM and PM peak hour traffic conditions for the 2030 Phase 2 build year.

Figure 6.3 – 2030 Phase 2 AM Peak Hour Total Traffic

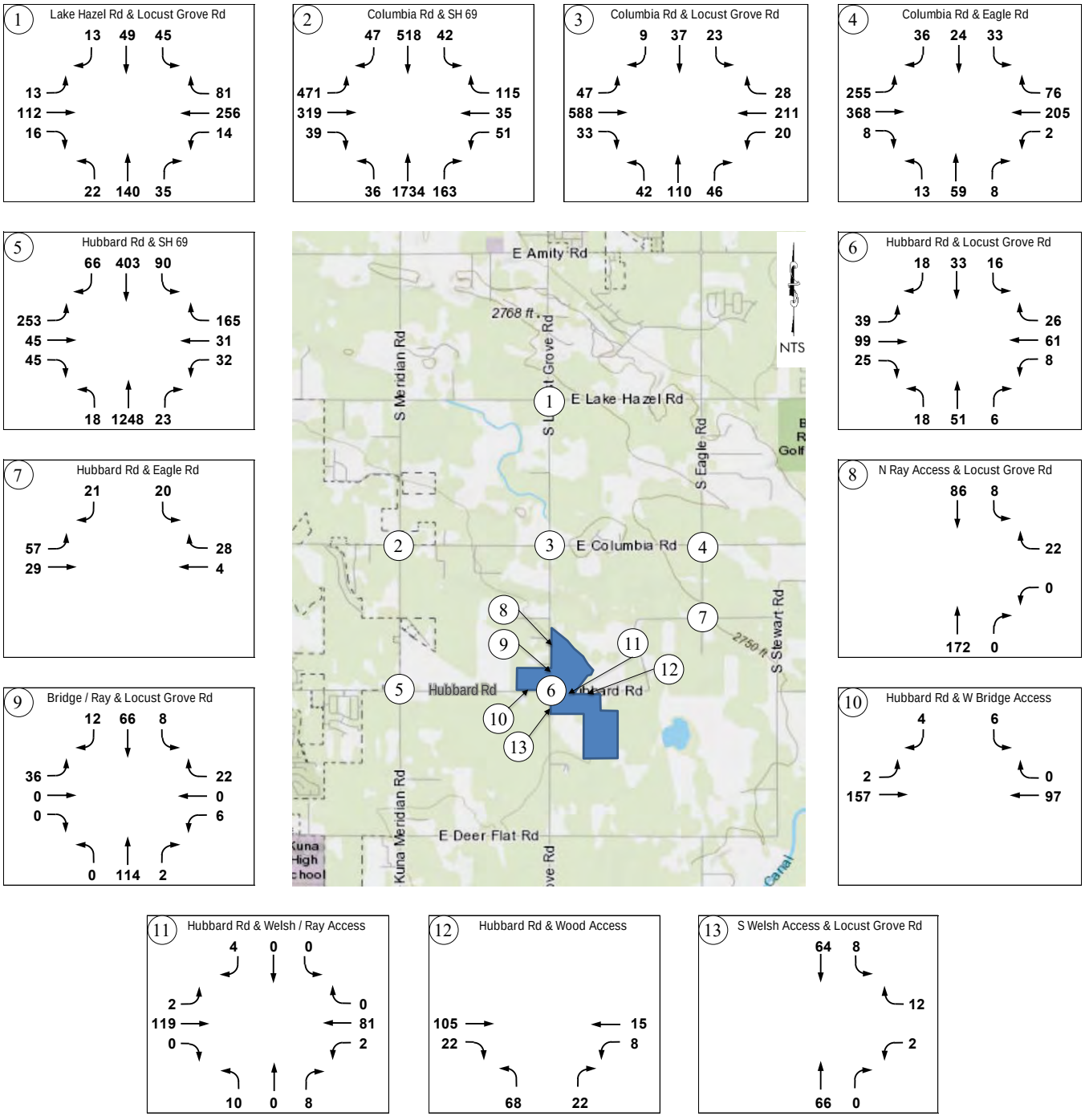
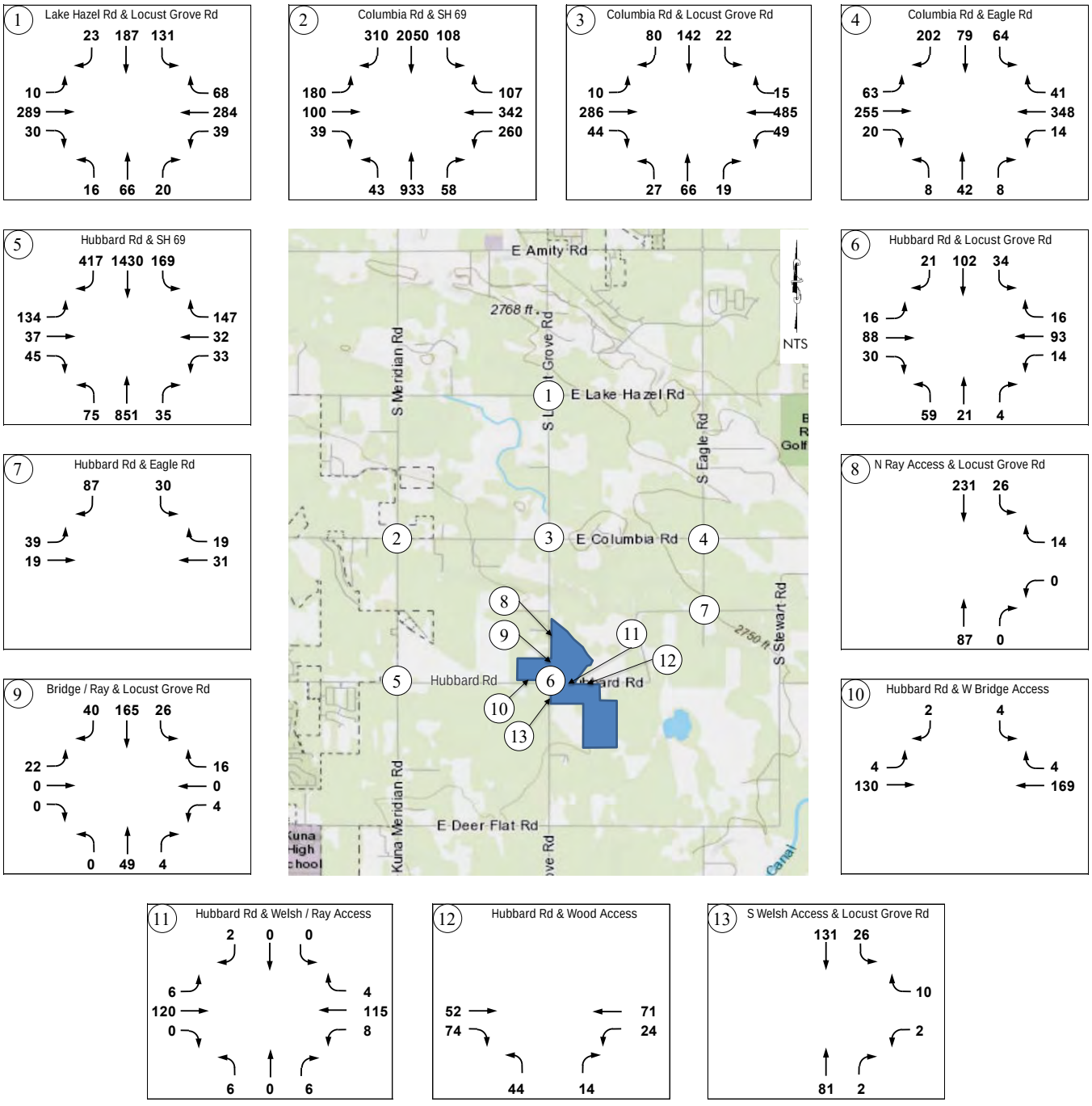


Figure 6.4 – 2030 Phase 2 PM Peak Hour Total Traffic



6.4 Roadway Segment Level of Service

The study area roadway segment level of service was evaluated with the existing number of lanes with 2030 total traffic. **Table 6.2** summarizes the results. All study area roadway segments are expected to exceed ACHD's LOS planning threshold with 2030 Phase 2 total traffic.

Table 6.2 – Roadway Segment Level of Service – 2030 Phase 2 Total Traffic

Roadway	Segment	Functional Classification (No. of Lanes)	Left-Turn Lane Type	LOS E Threshold [vph]	Peak Hour Directional Volume [vph]		Meets LOS?
					AM Peak	PM Peak	
Columbia Rd	SH 69 to Locust Grove Rd	Minor Arterial (3)	None	720	668	709	Yes
	Locust Grove Rd to Eagle Road	Minor Arterial (3)	None	720	657	558	Yes
Hubbard Rd	SH 69 to Locust Grove Rd	Minor Arterial (2)	None	575	228	241	Yes
	Locust Grove Rd to Eagle Road	Minor Arterial (2)	None	575	127	127	Yes
Locust Grove Rd	Lake Hazel Rd to Columbia Rd	Minor Arterial (2)	None	575	197	256	Yes
	Columbia Rd to Hubbard Rd	Minor Arterial (2)	None	575	198	257	Yes

6.5 Intersection Measures of Effectiveness

To determine the 2030 total traffic impacts, the study area intersections were analyzed with the existing intersection control and lane configuration or with the preceding mitigations. Copies of the calculations are included in the appendix. **Table 6.3** and **Table 6.4** summarize the intersection capacity analysis results. All study are intersections are expected to meet ITD's or ACHD's minimum operational thresholds with the exception of two intersections:

- SH 69 and Columbia Road intersection
- Locust Grove Road and Columbia Road intersection

Two unsignalized intersections are expected to operate at LOS D, which require signal warrant analysis according to ACHD policy:

- Lake Hazel Road and Locust Grove Road intersection
- Eagle Road and Columbia Road intersection

Table 6.3 – Intersection MOEs – 2030 Phase 2 Total Traffic

Intersection		Control	MOEs	AM Peak Hour	PM Peak Hour
1	Locust Grove Road and Lake Hazel Road	All-Way Stop	Intersection LOS	B	D
			Intersection Delay [s/v]	12	26
			Worst Lane Group v/c	0.54 (WB)	0.79 (WB)
2	SH 69 and Columbia Road[1]	Signal (3 Through lanes on SH 69 + SB right-turn lane + Dual EBL + Dual WBL)	Intersection LOS	D	D
			Intersection Delay [s/v]	42	49
			Intersection v/c	0.87	**0.96**
			Worst Lane Group v/c	0.90 (EBTR)	0.98 (WBL)
3	Locust Grove Road and Columbia Road	All-Way Stop	Intersection LOS	E	E
			Intersection Delay [s/v]	47	43
			Worst Lane Group v/c	**1.05 (EB)**	**1.03 (WB)**
4	Eagle Road and Columbia Road	All-Way Stop	Intersection LOS	D	C
			Intersection Delay [s/v]	32	18
			Worst Lane Group v/c	0.95 (EB)	0.68 (WB)
5	SH 69 and Hubbard Road[2]	Signal (SB right-turn lane)	Intersection LOS	D	C
			Intersection Delay [s/v]	45	25
			Intersection v/c	0.88	0.79
			Worst Lane Group v/c	0.93 (NBTR)	0.85 (SBT)
6	Locust Grove Road and Hubbard Road	Two-way Stop (Locust Grove)	LOS (NB / SB)	B / B	B / B
			Delay [s/v] (NB / SB)	12 / 11	13 / 13
			Worst Lane Group v/c	0.14 (NB)	0.28 (SB)
7	Eagle Road and Hubbard Road	Stop (Eagle)	LOS (SB)	A	A
			Delay [s/v] (SB)	9	9
			Worst Lane Group v/c	0.05 (SB)	0.14 (SB)

[1] No-build (LOS / v/c): AM=E / 1.12, PM=F / 1.21
[2] No-build (LOS / v/c): AM=D / 0.87, PM=D / 0.96

Table 6.4 – Lane Group v/c Ratios – 2030 Phase 2 Total Traffic

Intersection		Approach	AM Peak Hour			PM Peak Hour		
			LT	THRU	RT	LT	THRU	RT
1	Lake Hazel Road and Locust Grove Road	NB	0.34			0.25		
		SB	0.19			0.73		
		EB	0.24			0.69		
		WB	0.54			0.79		
2	SH 69 and Columbia Road	NB	0.67	0.84	0.85	0.82	0.51	0.51
		SB	0.68	0.23	0.07	0.79	0.96	0.46
		EB	0.88	0.90		0.76	0.40	
		WB	0.51	0.21	0.81	0.98	0.91	0.34
3	Locust Grove Road and Columbia Road	NB	0.39			0.27		
		SB	0.15			0.54		
		EB	**1.05**			0.69		
		WB	0.46			**1.03**		
4	Eagle Road and Columbia Road	NB	0.16			0.12		
		SB	0.18			0.59		
		EB	0.95			0.58		
		WB	0.45			0.68		
5	SH 69 and Hubbard Road	NB	0.05	0.83		0.49	0.55	
		SB	0.54	0.27	0.10	0.50	0.85	0.55
		EB	0.80	0.17		0.63	0.22	
		WB	0.08	0.39		0.11	0.49	
6	Locust Grove Road and Hubbard Road	NB	0.14			0.18		
		SB	0.12			0.28		
		EB	0.03			0.01		
		WB	0.01			0.01		
7	Eagle Road and Hubbard Road	SB	0.05			0.14		
		EB	0.04			0.03		
		WB	--			--		

6.6 Roadway Segment Mitigation

SH 69

Based on the intersection mitigation analysis below, SH 69 is expected to need one auxiliary through lane in each direction at the Columbia Road intersection. The auxiliary through lane should extend at least 2,000 beyond the intersection for full lane utilization.

6.7 Intersection Mitigation

Two study are intersections are expected to exceed ITD's minimum operational thresholds. Two study area intersections are expected to require signal warrant analysis according to ACHD policy. The intersection improvements needed to mitigate 2030 total traffic and signal warrant analysis are discussed in the following sections. **Table 6.5** and **Table 6.6** summarize the analysis results for the mitigation improvements.

Table 6.5 – Intersection MOEs – 2030 Phase 2 Total Traffic Mitigation

Intersection		Mitigation	MOEs	AM Peak Hour	PM Peak Hour
3	Locust Grove Road and Columbia Road	Single-Lane Roundabout	Intersection LOS	A	A
			Intersection Delay [s/v]	8	7
			Worst Lane Group v/c	0.56 (EB)	0.48 (WB)
		Traffic Signal with left-turn lanes on all approaches	Intersection LOS	A	A
			Intersection Delay [s/v]	8	8
			Intersection v/c	0.50	0.45
			Worst Lane Group v/c	0.67 (EBTR)	0.60 (WBTR)

Table 6.6 – Lane Group v/c Ratios – 2030 Phase 2 Total Traffic Prior Proposed Mitigation

Intersection		Approach	AM Peak Hour			PM Peak Hour		
			LT	THRU	RT	LT	THRU	RT
3	Locust Grove Road and Columbia Road (Roundabout)	NB	0.23			0.09		
		SB	0.06			0.32		
		EB	0.56			0.32		
		WB	0.24			0.48		
	Locust Grove Road and Columbia Road (Traffic Signal)	NB	0.06	0.46		0.04	0.17	
		SB	0.05	0.14		0.04	0.50	
		EB	0.06	0.67		0.02	0.38	
		WB	0.03	0.26		0.06	0.60	

SH 69 and Columbia Road Intersection

The SH 69 and Columbia Road intersection is expected to exceed ITD's minimum operational thresholds with 2030 total traffic analyzed as a signalized intersection with the existing lane configuration. However, the intersection is expected to meet ITD's minimum operational thresholds with the preceding improvements needed to mitigate 2030 background traffic as discussed in the previous section, which are:

- Three through lanes on SH 69 approaches
- Southbound right-turn lane
- Dual left-turn lanes on eastbound and westbound approaches

With these improvements, the intersection is expected to operate at LOS D with a lane groups v/c ratio of 0.98 or less during the peak hours. The overall intersection v/c ratio is expected to exceed the 0.90 threshold during the PM peak hour, which occurs only during the peak 15-minute of the PM peak hour. As a result, no additional improvements are proposed to reduce the overall intersection v/c to 0.90 or less.

Locust Grove Road and Columbia Road Intersection

The Locust Grove Road and Columbia Road intersection is expected to exceed ACHD's minimum operational thresholds with 2030 total traffic as an all-way stop-controlled intersection. Based on a preliminary signal warrant analysis, the intersection is expected to meet warrants for a signal with 2030 background traffic, and therefore would meet signal warrants with 2030 total traffic. According to the ACHD MSM, the intersection is planned as a single-lane roundabout. As a result, two mitigation options are proposed to mitigate 2030 total traffic impacts:

- Single-lane roundabout
- Signal with left-turn lane on all approaches
  - A detailed signal warrant analysis with actual traffic data should be conducted along with an updated TIS for future phase preliminary plat is submittal.

Lake Hazel Road and Locust Grove Road Intersection

The Lake Hazel Road and Locust Grove Road intersection is expected to operate at LOS D with 2030 total traffic as an all-way stop-controlled intersection, which require signal warrant analysis. Based on a preliminary signal warrant analysis, the intersection is expected to meet warrants for a signal with 2030 total traffic. Signal warrant worksheets are included in the appendix.

Although the intersection is expected to meet warrants for a signal, it is expected to meet ACHD's minimum operational thresholds as an all-way stop-controlled intersection. As a result, no improvements are proposed to mitigate 2030 total traffic impacts. A detailed signal warrant analysis with actual traffic data should be conducted along with an updated TIS for future phase preliminary plat is submittal.

Eagle Road and Columbia Road Intersection

The Eagle Road and Columbia Road intersection is expected to operate at LOS D with 2030 background traffic as an all-way stop-controlled intersection, which require signal warrant analysis.

Based on a preliminary signal warrant analysis, the Eagle Road and Columbia Road intersection is expected to meet warrants for a signal with 2030 background traffic, and therefore would meet signal warrants with 2030 total traffic. Signal warrant worksheets are included in the appendix.

Although the intersection is expected to meet warrants for a signal, it is expected to meet ACHD's minimum operational thresholds as an all-way stop-controlled intersection. As a result, no improvements are proposed to mitigate 2030 total traffic impacts. A detailed signal warrant analysis with actual traffic data should be conducted along with an updated TIS for future phase preliminary plat is submittal.

6.8 Site Access and Circulation

Site access and circulation for Phase 2 is the same as Phase 1. No additional site accesses are proposed for Phase 2 None of the access intersections are expected to warrant turn lanes according to ACHD's turn lane guidelines with 2030 total traffic. **Table 6.7** and **Table 6.8** summarize the site access intersection capacity results. All site access intersections are expected to meet minimum operational thresholds.

Figure 6.5 summarizes the estimated ADT on the internal roadways with Phase 1 and Phase 2 developments. All internal roadways are expected to carry less than 1,000 vpd, with the exception of the shared Welsh/Wood access off Hubbard Road east of Locust Grove Road. This roadway segment does not have front-on housing and should be classified as a collector street.

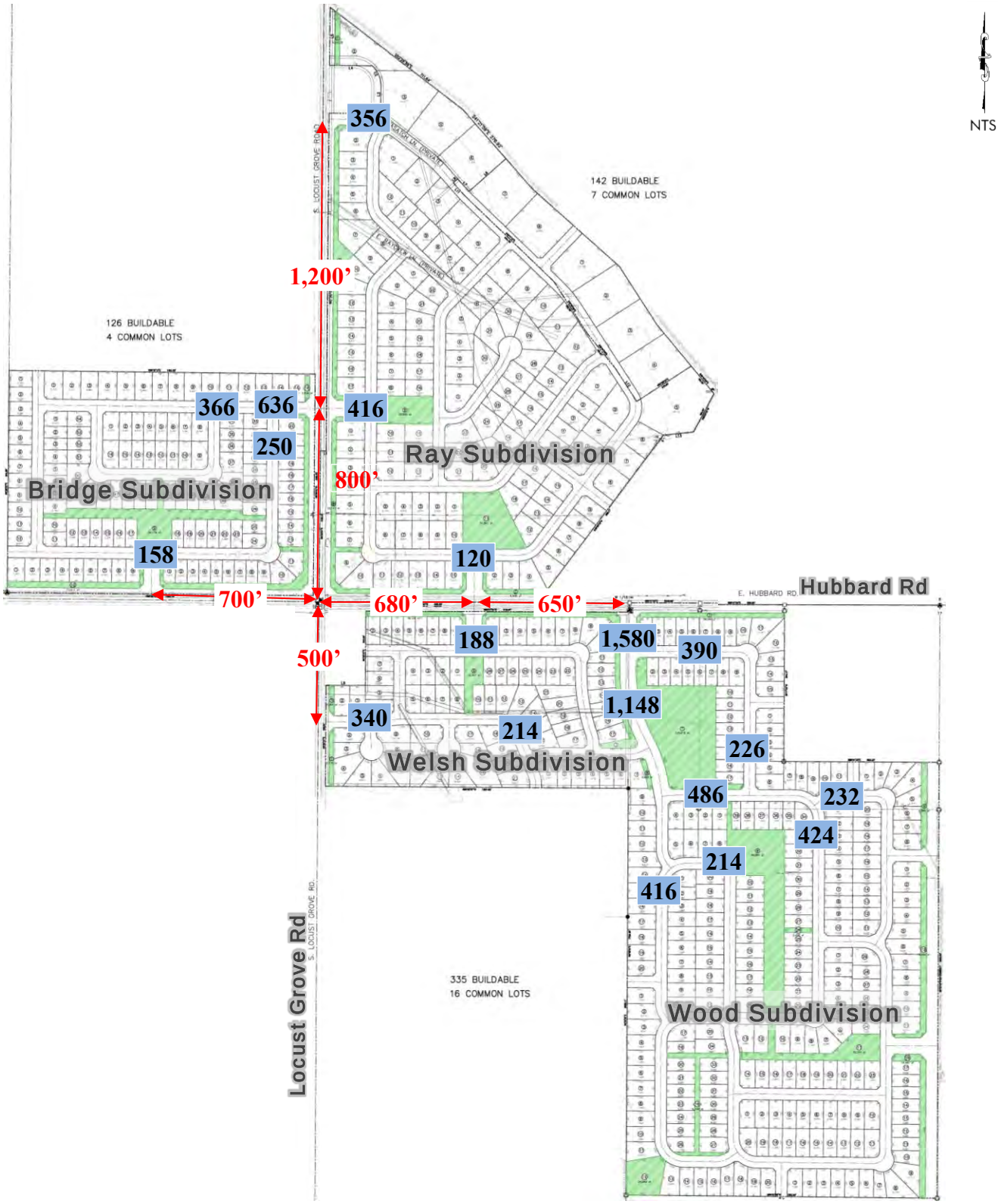
Table 6.7 – Site Access Intersection MOEs – 2030 Phase 2 Total Traffic

Intersection		Control	MOEs	AM Peak Hour	PM Peak Hour
8	North Ray Access and Locust Grove Road	Stop (Ray Access)	LOS (WB)	A	A
			Delay [s/v] (WB)	9	9
			Worst Lane Group v/c	0.03 (WB)	0.02 (SB)
9	Bridge / Ray Access and Locust Grove Road	Two-way Stop (Bridge / Ray)	LOS (EB / WB)	B / A	B / A
			Delay [s/v] (EB / WB)	10 / 9	11 / 9
			Worst Lane Group v/c	0.05 (EB)	0.04 (EB)
10	West Bridge Access and Hubbard Road	Stop (Bridge)	LOS (SB)	A	A
			Delay [s/v] (SB)	10	10
			Worst Lane Group v/c	0.01 (SB)	0.01 (SB)
11	Welsh / Ray Access and Hubbard Road	Two-way Stop (Welsh / Ray)	LOS (NB / SB)	A / A	A / A
			Delay [s/v] (NB / SB)	10 / 9	10 / 9
			Worst Lane Group v/c	0.02 (NB)	0.02 (NB)
12	Wood Access and Hubbard Road	Stop (Wood)	LOS (NB)	A	A
			Delay [s/v] (NB)	10	10
			Worst Lane Group v/c	0.12 (NB)	0.08 (NB)
13	South Welsh Access and Locust Grove Road	Stop (Welsh)	LOS (WB)	A	A
			Delay [s/v] (WB)	9	9
			Worst Lane Group v/c	0.02 (WB)	0.01 (WB)

Table 6.8 – Site Access Lane Group v/c Ratios – 2030 Phase 2 Total Traffic

Intersection		Approach	AM Peak Hour			PM Peak Hour		
			LT	THRU	RT	LT	THRU	RT
8	North Ray Access and Locust Grove Road	NB	--			--		
		SB	0.01			0.02		
		WB	0.03			0.02		
9	Bridge / Ray Access and Locust Grove Road	NB	--			--		
		SB	0.01			0.02		
		EB	0.06			0.04		
		WB	0.04			0.03		
10	West Bridge Access and Hubbard Road	SB	0.01			0.01		
		EB	< 0.01			< 0.01		
		WB	--			--		
11	Welsh / Ray Access and Hubbard Road	NB	0.03			0.02		
		SB	0.01			< 0.01		
		EB	< 0.01			0.01		
		WB	< 0.01			0.01		
12	Wood Access and Hubbard Road	NB	0.12			0.08		
		EB	--			--		
		WB	0.01			0.02		
13	South Welsh Access and Locust Grove Road	SB	0.01			0.02		
		EB	--			--		
		WB	0.02			0.02		

Figure 6.5 – Phase 2 Site Access, Circulation, and ADT



7.0 2038 PHASE 3 (BUILD-OUT) BACKGROUND TRAFFIC CONDITIONS

7.1 Roadway Network

The study area roadways and intersections are expected to remain the same as existing conditions with the exception of the intersection improvements needed to mitigate 2030 background and total traffic. There are roadway and intersection improvements planned within and in the vicinity of the study area according to various transportation plans as discussed in earlier sections. These planned improvements will be considered for mitigating the impacts if needed.

7.2 Background Traffic

Background traffic growth from 2030 to 2038 was estimated by extrapolating the 2030 background traffic with the following annual growth rates:

- SH 69 – 1.5%
- Hubbard Road and Locust Grove Road – 4.0%
- All other ACHD's roadways – 2.0%

These growth rates are based on COMPASS traffic forecasts and were verified with ITD and ACHD. A copy of the COMPASS forecasts and growth rate summary is included in the appendix. In addition to the expected traffic growth, the proposed Artiach Subdivision located west of the site as well as Phase 1 and Phase 2 of Patagonia Subdivision are included in the 2038 background traffic estimate as off-site traffic. **Figure 7.1** and **Figure 7.2** show the 2038 background traffic for the AM and PM peak hours, respectively

Figure 7.1 – 2038 Phase 3 (Build-Out) AM Peak Hour Background Traffic

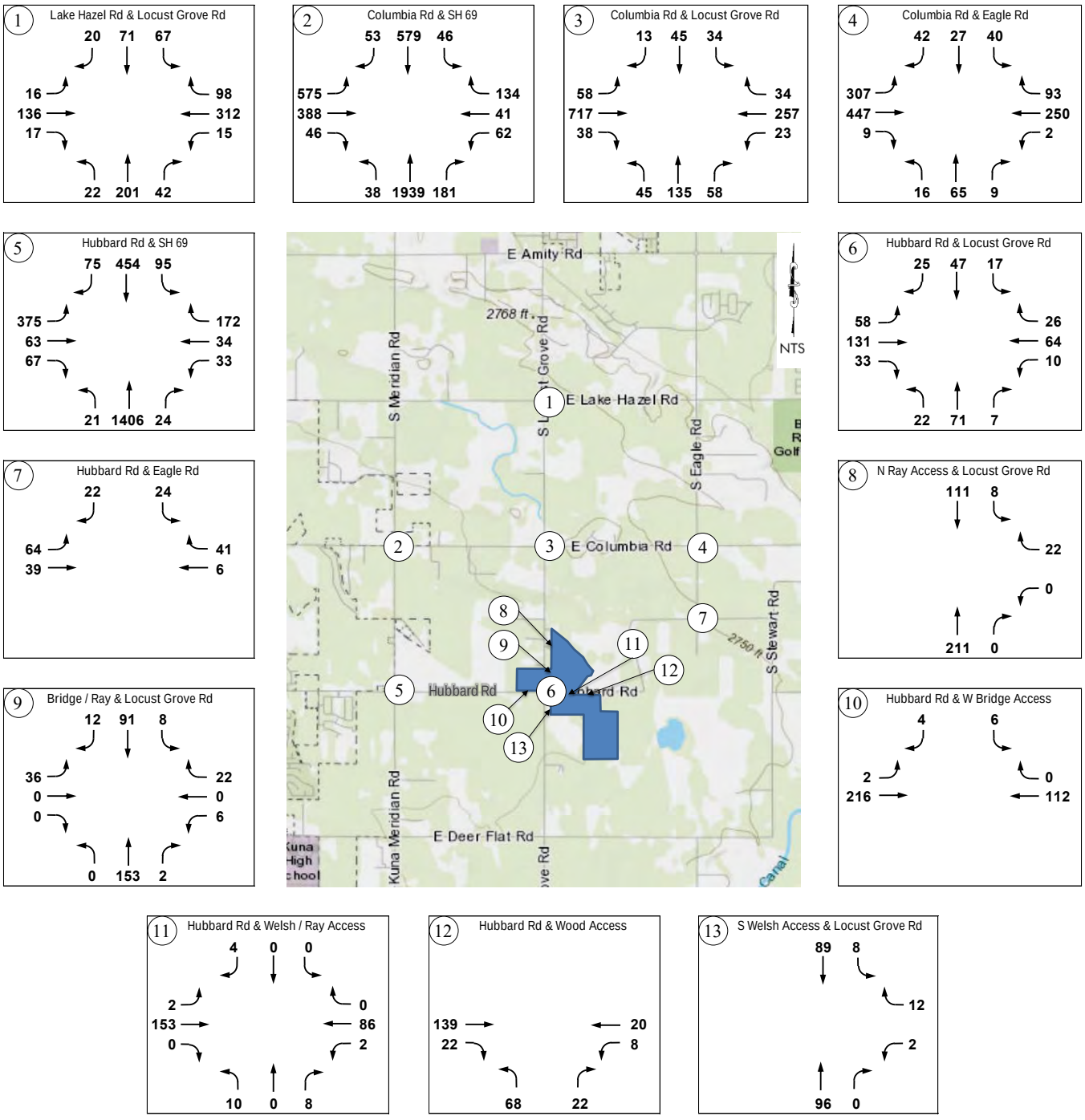
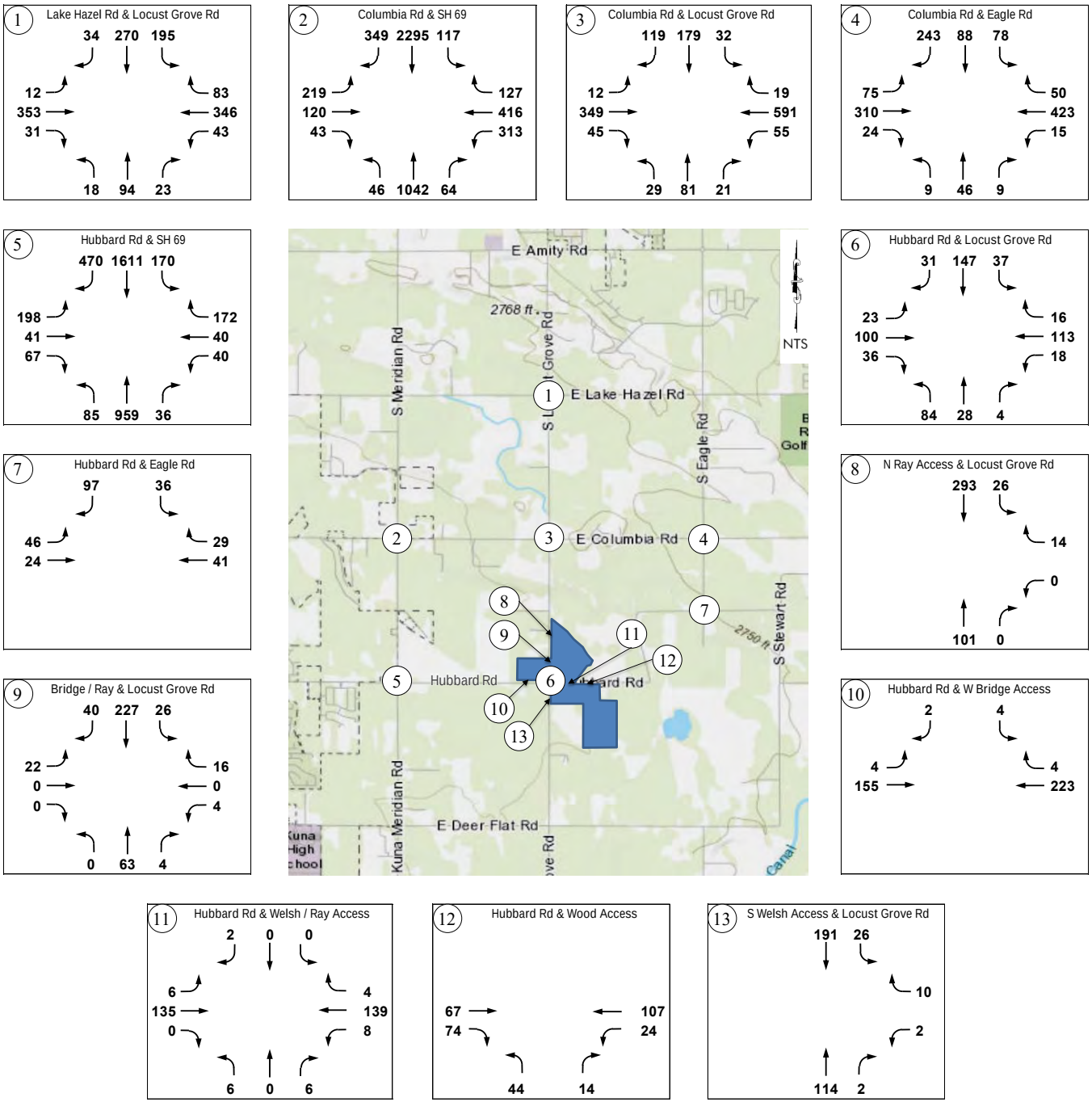


Figure 7.2 – 2038 Phase 3 (Build-Out) PM Peak Hour Background Traffic



7.3 Roadway Segment Level of Service

The study area roadway segment level of service was evaluated with the existing number of lanes with 2030 total traffic. **Table 7.1** summarizes the results. Both study area roadway segments along Columbia Road are expected to exceed ACHD's LOS E planning threshold with 2038 Phase 3 background traffic.

Table 7.1 – Roadway Segment Level of Service – 2038 Phase 3 (Build-Out) Background Traffic

Roadway	Segment	Functional Classification (No. of Lanes)	Left-Turn Lane Type	LOS E Planning Threshold [vph]	Peak Hour Directional Volume [vph]		Meets LOS Planning Threshold?
					AM Peak	PM Peak	
Columbia Rd	SH 69 to Locust Grove Rd	Minor Arterial (3)	None	720	**813**	**856**	**No**
	Locust Grove Rd to Eagle Road	Minor Arterial (3)	None	720	**809**	675	**No**
Hubbard Rd	SH 69 to Locust Grove Rd	Minor Arterial (2)	None	575	239	252	Yes
	Locust Grove Rd to Eagle Road	Minor Arterial (2)	None	575	161	151	Yes
Locust Grove Rd	Lake Hazel Rd to Columbia Rd	Minor Arterial (2)	None	575	265	344	Yes
	Columbia Rd to Hubbard Rd	Minor Arterial (2)	None	575	238	319	Yes

7.4 Intersection Measures of Effectiveness

To determine the 2038 background traffic impacts, the study area intersections were analyzed with the existing intersection control and lane configuration or with the preceding mitigations needed to mitigate the previous phases traffic conditions. **Table 7.2** and **Table 7.3** summarize the intersection capacity analysis results. Based on traffic analysis results, four study area intersections are expected to exceed minimum operational thresholds with 2038 background traffic:

- Locust Grove Road and Lake Hazel Road intersection
- SH 69 and Columbia Road intersection
- Eagle Road and Columbia Road intersection
- SH 69 and Hubbard Road intersection

Table 7.2 – Intersection MOEs – 2038 Phase 3 (Build-Out) Background Traffic

Intersection		Control	MOEs	AM Peak Hour	PM Peak Hour
1	Locust Grove Road and Lake Hazel Road	All-Way Stop	Intersection LOS	C	**F**
			Intersection Delay [s/v]	18	**108**
			Worst Lane Group v/c	0.75 (WB)	**1.28 (SB)**
2	SH 69 and Columbia Road[1]	Signal (3 Through lanes on SH 69 + SB right-turn lane + Dual EBL + Dual WBL)	Intersection LOS	E	**F**
			Intersection Delay [s/v]	60	**86**
			Intersection v/c	**0.99**	**1.10**
			Worst Lane Group v/c	0.98 (NBTR)	**1.22 (WBL)**
3	Locust Grove Road and Columbia Road[2]	Single-Lane Roundabout	Intersection LOS	B	B
			Intersection Delay [s/v]	12	11
			Worst Lane Group v/c	0.74 (EB)	0.62 (WB)
		Signal with left-turn lanes on all approaches.	Intersection LOS	B	B
			Intersection Delay [s/v]	12	14
			Intersection v/c	0.71	0.69
			Worst Lane Group v/c	0.83 (EBTR)	0.80 (WBTR)
4	Eagle Road and Columbia Road	All-Way Stop	Intersection LOS	**F**	**E**
			Intersection Delay [s/v]	**82**	**39**
			Worst Lane Group v/c	**1.20 (EB)**	0.94 (WB)

[1] No-build (LOS / v/c): AM=F / 1.34, PM=F / 1.49

[2] No-build (LOS / v/c): AM=F / 1.39 (EB), PM=F / 1.45 (WB)

Table 7.2 – Intersection MOEs – 2038 Phase 3 (Build-Out) Background Traffic (Continued)

Intersection		Control	MOEs	AM Peak Hour	PM Peak Hour
5	SH 69 and Hubbard Road[3]	Signal (SB right-turn lane)	Intersection LOS	E	D
			Intersection Delay [s/v]	70	41
			Intersection v/c	**1.09**	**0.94**
			Worst Lane Group v/c	**1.12 (EBL)**	0.97 (SBT)
6	Locust Grove Road and Hubbard Road	Two-way Stop (Locust Grove)	Worst Lane Group v/c	0.06 (SB)	0.16 (SB)
			Delay [s/v] (NB / SB)	14 / 13	18 / 16
			Worst Lane Group v/c	0.22 (NB)	0.42 (SB)
7	Eagle Road and Hubbard Road	Stop (Eagle)	LOS (SB)	A	A
			Delay [s/v] (SB)	10	10
			Worst Lane Group v/c	0.06 (SB)	0.16 (SB)

[3] No-build (LOS / v/c): AM=F / 1.08, PM=F / 1.12

Table 7.3 – Lane Group v/c Ratios – 2038 Phase 3 (Build-Out) Background Traffic

Intersection		Approach	AM Peak Hour			PM Peak Hour		
			LT	THRU	RT	LT	THRU	RT
1	Lake Hazel Road and Locust Grove Road	NB	0.51			0.44		
		SB	0.33			**1.28**		
		EB	0.34			**1.09**		
		WB	0.75			**1.23**		
2	SH 69 and Columbia Road	NB	0.75	0.97	0.98	0.90	0.62	0.62
		SB	0.89	0.26	0.08	0.81	**1.14**	0.48
		EB	0.92	0.95		**1.01**	0.40	
		WB	0.63	0.23	0.89	**1.22**	0.94	0.34
3	Locust Grove Road and Columbia Road (Roundabout)	NB	0.49			0.17		
		SB	0.11			0.58		
		EB	0.74			0.45		
		WB	0.34			0.62		
	Locust Grove Road and Columbia Road (Signal)	NB	0.13	0.61		0.13	0.24	
		SB	0.16	0.18		0.08	0.71	
		EB	0.10	0.83		0.05	0.52	
		WB	0.10	0.33		0.14	0.80	
4	Eagle Road and Columbia Road	NB	0.20			0.16		
		SB	0.23			0.80		
		EB	**1.20**			0.81		
		WB	0.59			0.94		
5	SH 69 and Hubbard Road	NB	0.06	**1.01**	**1.01**	0.85	0.64	0.64
		SB	0.91	0.32	0.12	0.61	0.97	0.63
		EB	**1.13**	0.23		0.86	0.25	
		WB	0.14	0.89		0.12	0.50	
6	Locust Grove Road and Hubbard Road	NB	0.22			0.32		
		SB	0.18			0.42		
		EB	0.04			0.02		
		WB	0.01			0.01		
7	Eagle Road and Hubbard Road	SB	0.06			0.16		
		EB	0.05			0.03		
		WB	--			--		

7.5 Roadway Segment Mitigation

Columbia Road

The Columbia Road segments between SH 69 and Eagle Road are expected to exceed ACHD's LOS planning threshold as a three-lane minor arterial. Based on the intersection mitigation analysis discussed below, the following roadway improvements are needed:

- Widen to five lanes approximately ½ mile east and west of SH 69 intersection
  - These segments of Columbia Road are identified in ACHD MSM as a Transitional/Commercial arterial.
- The segment of Columbia Road between Locust Grove Road and Eagle Road is identified in ACHD MSM for three-lane preservation. The Locust Grove Road and Eagle Road intersections on Columbia are expected to meet ACHD's minimum operational thresholds with on through lane in each direction. As a result, no additional lanes are proposed for this roadway segment.

7.6 Intersection Mitigation

Four study area intersections are expected to exceed minimum operational thresholds. The intersection improvements needed to mitigate 2038 background traffic are discussed in the following sections. **Table 7.4** and **Table 7.5** summarize the analysis results for the mitigation improvements.

Lake Hazel Road and Locust Grove Road Intersection

The Lake Hazel Road and Locust Grove Road intersection is expected to exceed ACHD's minimum operational thresholds with 2038 background traffic as an all-way stop-controlled intersection. Based on a preliminary signal warrant analysis, the intersection is expected to meet warrants for a signal with 2038 background traffic. According to ACHD's 2016 CIP, the Lake Hazel Road and Locust Grove Road intersection is planned to be reconstructed as a single-lane roundabout between 2026 and 2030 timeframe. As a result, two mitigation options are proposed to mitigate 2038 background traffic impacts:

- Single-lane roundabout
- Signal with left-turn lane on all approaches
  - A detailed signal warrant analysis with actual traffic data should be conducted along with an updated TIS for future phase preliminary plat submittal.

SH 69 and Columbia Road Intersection

The SH 69 and Columbia Road intersection is expected to exceed ITD's minimum operational thresholds with three through lanes on SH 69 approaches, southbound right-turn lane, and dual left-turn lanes on Columbia Road approaches. The following improvements are needed to mitigate 2038 background traffic impacts:

- Two through lanes on Columbia Road approaches
  - With these improvements, the intersection is expected to operate at LOS D with a lane groups v/c ratio of 0.97 or less during the peak hours. The overall intersection v/c ratio is expected to slightly exceed the 0.90 threshold during the PM peak hour. As a result, no additional improvements are proposed to reduce the overall intersection v/c to 0.90 or less.

Eagle Road and Columbia Road Intersection

The Eagle Road and Columbia Road intersection is expected to exceed ACHD's minimum operational thresholds with 2038 background traffic as an all-way stop-controlled intersection. Based on a preliminary signal warrant analysis, the intersection is expected to meet warrants for a signal with 2030 background traffic, and therefore would meet signal warrants with 2038 background traffic. According to ACHD's MSM, the Eagle Road and Columbia Road intersection is identified as a single-lane roundabout. As a result, two mitigation options are proposed to mitigate 2038 background traffic impacts:

- Single-lane roundabout

- Signal with left-turn lane on all approaches
  - A detailed signal warrant analysis with actual traffic data should be conducted along with an updated TIS for future phase preliminary plat submittal.

Table 7.4 – Intersection MOEs – 2038 Phase 3 (Build-Out) Background Traffic Mitigation

Intersection		Mitigation	MOEs	AM Peak Hour	PM Peak Hour
1	Locust Grove Road and Lake Hazel Road	Single-lane Roundabout	Intersection LOS	A	B
			Intersection Delay [s/v]	7	12
			Worst Lane Group v/c	0.46 (WB)	0.66 (SB)
		3x3 Signal	Intersection LOS	B	B
			Intersection Delay [s/v]	11	13
			Intersection v/c	0.57	0.60
			Worst Lane Group v/c	0.70 (WBTR)	0.73 (WBTR)
2	SH 69 and Columbia Road	2 Through lanes on Columbia Rd approaches	Intersection LOS	D	D
			Intersection Delay [s/v]	55	46
			Intersection v/c	**0.91**	**0.93**
			Worst Lane Group v/c	0.97 (NBTR)	0.93 (SBT)
4	Eagle Road and Columbia Road	Single-lane Roundabout	Intersection LOS	B	A
			Intersection Delay [s/v]	10	8
			Worst Lane Group v/c	0.66 (EB)	0.50 (SB)
		3x3 Signal	Intersection LOS	B	B
			Intersection Delay [s/v]	12	13
			Intersection v/c	0.58	0.61
			Worst Lane Group v/c	0.73 (WBTR)	0.67 (WBTR)
5	SH 69 and Hubbard Road	WB right-turn lane	Intersection LOS	D	C
			Intersection Delay [s/v]	45	28
			Intersection v/c	**0.99**	0.86
			Worst Lane Group v/c	0.94 (EBL)	0.89 (SBT)

Table 7.5 – Lane Group v/c Ratios – 2038 Phase 3 (Build-Out) Background Traffic Mitigation

Intersection		Approach	AM Peak Hour			PM Peak Hour		
			LT	THRU	RT	LT	THRU	RT
1	Locust Grove Road and Lake Hazel Road (Roundabout)	NB	0.28			0.21		
		SB	0.19			0.66		
		EB	0.17			0.58		
		WB	0.46			0.45		
	Locust Grove Road and Lake Hazel Road (Signal)	NB	0.05	0.54		0.06	0.23	
		SB	0.20	0.20		0.41	0.58	
		EB	0.05	0.26		0.04	0.61	
		WB	0.03	0.70		0.13	0.73	
2	SH 69 and Columbia Road	NB	0.68	0.96	0.97	0.83	0.49	0.49
		SB	0.89	0.26	0.08	0.82	0.93	0.39
		EB	0.92	0.50	0.50	0.80	0.38	0.39
		WB	0.63	0.13	0.93	0.92	0.82	0.56
4	Eagle Road and Columbia Road (Roundabout)	NB	0.17			0.08		
		SB	0.12			0.50		
		EB	0.66			0.38		
		WB	0.42			0.43		
	Eagle Road and Columbia Road (Signal)	NB	0.07	0.33		0.04	0.11	
		SB	0.16	0.34		0.16	0.71	
		EB	0.58	0.45		0.26	0.49	
		WB	0.01	0.73		0.04	0.11	
5	SH 69 and Hubbard Road	NB	0.05	0.93	0.93	0.62	0.57	0.57
		SB	0.71	0.29	0.11	0.52	0.89	0.58
		EB	0.94	0.27		0.74	0.32	
		WB	0.15	0.14	0.84	0.16	0.11	0.55

SH 69 and Hubbard Road Intersection

The SH 69 and Hubbard Road intersection is expected to exceed ITD's minimum operational thresholds with 2038 background traffic analyzed as a signalized intersection with mitigations from prior phases. The following improvement is proposed to mitigate 2038 background traffic impacts:

- Westbound right-turn lane
  - With this improvement, the SH 69 and Hubbard Road intersection is expected to meet ITD's minimum operational thresholds with the exception of the overall intersection v/c ratio exceeding 0.90 threshold during the AM peak hour. No additional improvements are proposed to reduce the overall intersection v/c ratio.

7.7 Site Access and Circulation

Site access and circulation for Phase 3 is expected to remain the same as the Phase 1 and Phase 2 conditions. No additional site accesses are proposed for Phase 3. None of the proposed site access intersections require turn lanes based on ACHD's turn lane guidelines. **Table 7.6** and **Table 7.7** summarize the site access capacity analysis results. All site access intersections are expected to meet minimum operational thresholds.

Table 7.6 – Site Access Intersection MOEs – 2038 Phase 3 (Build-Out) Background Traffic

Intersection		Control	MOEs	AM Peak Hour	PM Peak Hour
8	North Ray Access and Locust Grove Road	Stop (Ray Access)	LOS (WB)	A	A
			Delay [s/v] (WB)	10	9
			Worst Lane Group v/c	0.03 (WB)	0.02 (SB)
9	Bridge / Ray Access and Locust Grove Road	Two-Way Stop (Bridge / Ray)	LOS (EB / WB)	B / A	B / A
			Delay [s/v] (EB / WB)	11 / 10	12 / 9
			Worst Lane Group v/c	0.06 (EB)	0.05 (EB)
10	West Bridge Access and Hubbard Road	Stop (Bridge)	LOS (SB)	B	B
			Delay [s/v] (SB)	10	11
			Worst Lane Group v/c	0.02 (SB)	0.01 (SB)
11	Welsh / Ray Access and Hubbard Road	Two-Way Stop (Welsh / Ray)	LOS (NB / SB)	A / A	B / A
			Delay [s/v] (NB / SB)	10 / 9	10 / 9
			Worst Lane Group v/c	0.03 (NB)	0.02 (NB)
12	Wood Access and Hubbard Road	Stop (Wood)	LOS (NB)	B	B
			Delay [s/v] (NB)	10	10
			Worst Lane Group v/c	0.13 (NB)	0.09 (NB)
13	South Welsh Access and Locust Grove Road	Stop (Welsh)	LOS (WB)	A	A
			Delay [s/v] (WB)	9	9
			Worst Lane Group v/c	0.02 (SB)	0.02 (SB)

Table 7.7 – Lane Group v/c Ratios – 2038 Phase 3 (Build-Out) Background Traffic

Intersection		Approach	AM Peak Hour			PM Peak Hour		
			LT	THRU	RT	LT	THRU	RT
8	North Ray Access and Locust Grove Road	NB	--			--		
		SB	0.01			0.02		
		WB	0.03			0.02		
9	Bridge / Ray Access and Locust Grove Road	NB	--			--		
		SB	0.01			0.02		
		EB	0.06			0.05		
		WB	0.04			0.03		
10	West Bridge Access and Hubbard Road	SB	0.02			0.01		
		EB	< 0.01			< 0.01		
		WB	--			--		
11	Welsh / Ray Access and Hubbard Road	NB	0.03			0.02		
		SB	0.01			< 0.01		
		EB	< 0.01			0.01		
		WB	< 0.01			0.01		
12	Wood Access and Hubbard Road	NB	0.13			0.09		
		EB	--			--		
		WB	0.01			0.02		
13	South Welsh Access and Locust Grove Road	SB	0.01			0.02		
		EB	--			--		
		WB	0.02			0.02		

8.0 2038 PHASE 3 (BUILD-OUT) TOTAL TRAFFIC CONDITIONS

8.1 Phase 3 Development

The proposed developments in Phase 3 included a total of 201 dwelling units, completing the build-out of the Patagonia Subdivision. These developments are assumed to occur simultaneously within the four subdivisions are:

- Bridge Subdivision : 42 dwelling units
- Ray Subdivision : 48 dwelling units
- Wood Subdivision : 84 dwelling units
- Welsh Subdivision : 27 dwelling units

8.2 Phase 3 Site Traffic

8.2.1 Trip Generation

Site trip generation is estimated using the procedures recommended in the latest edition of the Trip Generation Manual (10th edition), published by the Institute of Transportation Engineers, in the absence of site-specific data. The site trip generation is obtained by applying the trip generation rates obtained from the Manual for the proposed land use within the development. **Table 8.1** summarizes the site trip generation. Phase 3 is estimated to generate 1,898 weekday trips with 149 trips occurring during the AM Peak Hour and 199 trips during the PM Peak hour.

Table 8.1 – Phase 3 (Build-Out) Site Trip Generation Summary

Land Use	ITE Code	Size	Unit	Period	Trip Rate Per Unit	Total Trips	Entering		Exiting	
Single-Family Detached Housing	210	201	DU	Weekday Daily (vpd)	9.44	1,898	50%	949	50%	949
				AM Peak Hour (vph)	0.74	149	25%	37	75%	112
				PM Peak Hour (vph)	0.99	199	63%	125	37%	74

8.2.2 Trip Capture

Based on the proposed land use in Phase 3, the development is not expected to retain trips within the site at full build-out. No trip reduction for internal capture trip was assumed in the traffic impact analysis.

8.2.3 Pass-by Trips

The development is residential and is not expected to attract pass-by trips. No pass-by trips were assumed in the traffic impact analysis.

8.2.4 Modal Split

For the traffic analysis purposes, all trips generated by the development were assumed to be made by personal or commercial vehicles.

8.2.5 Trip Distribution and Assessment

In order to determine the impacts, trips generated by the development must be distributed and assigned to the transportation system. **Figure 4.1** shows site traffic distribution patterns. **Figure 8.1** and **Figure 8.2** summarize the estimated build-out site peak hour traffic assignment to the transportation system.

Figure 8.1 – 2038 Phase 3 (Build-Out) AM Peak Hour Site Traffic

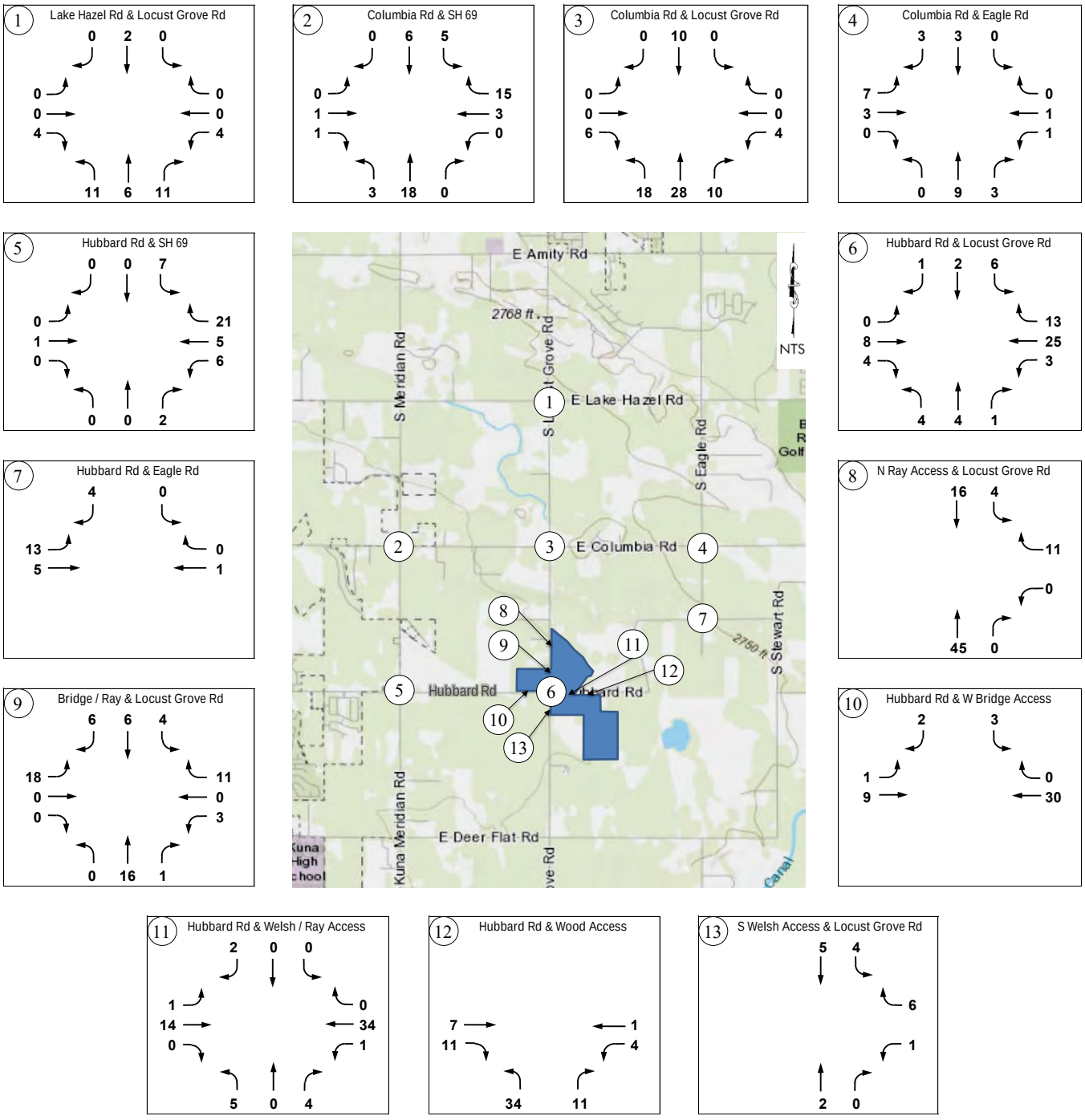
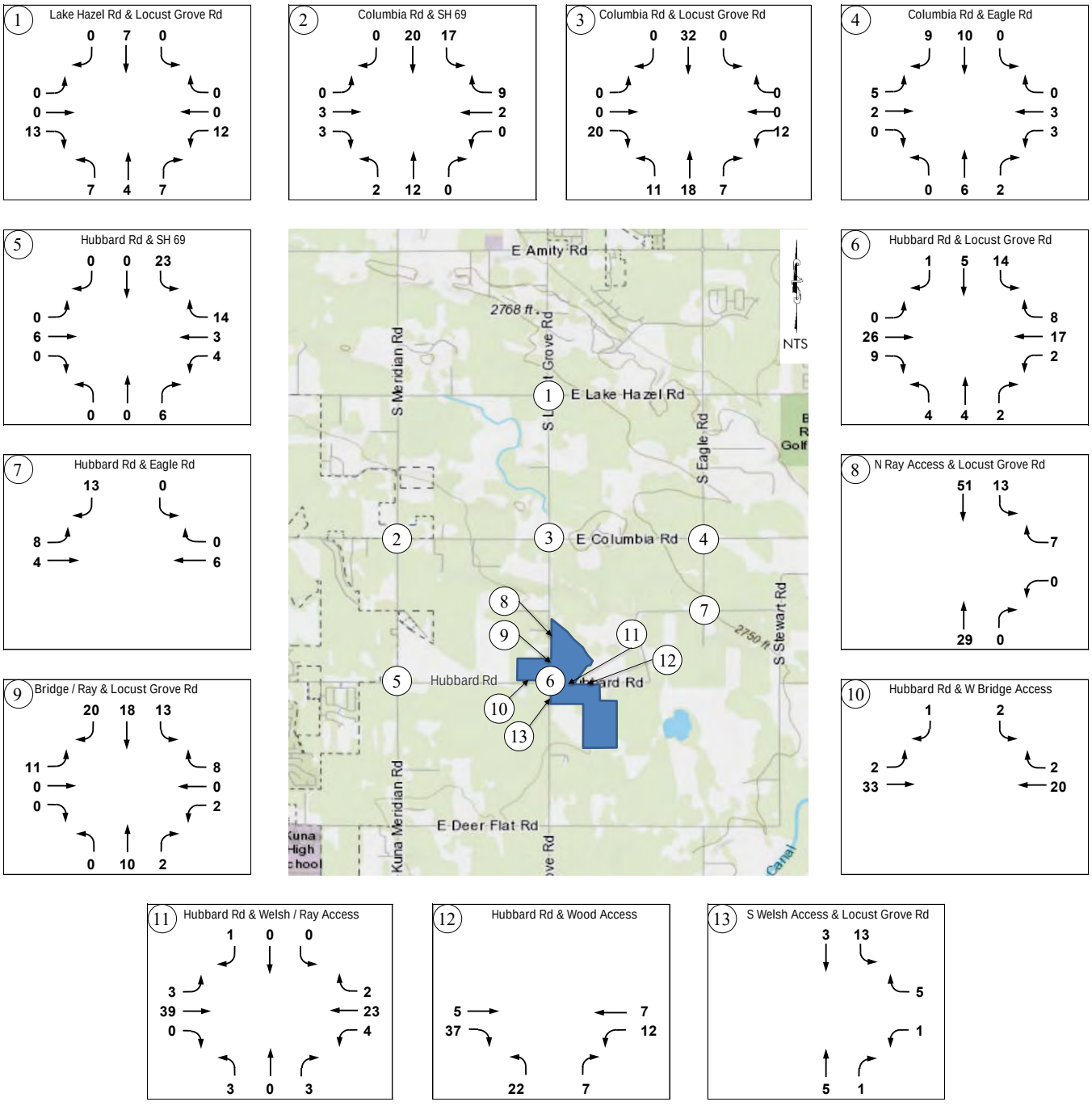


Figure 8.2 – 2038 Phase 3 (Build-Out) PM Peak Hour Site Traffic



8.3 Total Traffic

The site traffic is then added to the background traffic as determined above. **Figure 8.3** and **Figure 8.4** shows the total traffic at each intersection for AM and PM peak hour traffic conditions for the 2038 build-out year, respectively.

Figure 8.3 – 2038 Phase 3 (Build-Out) AM Peak Hour Total Traffic

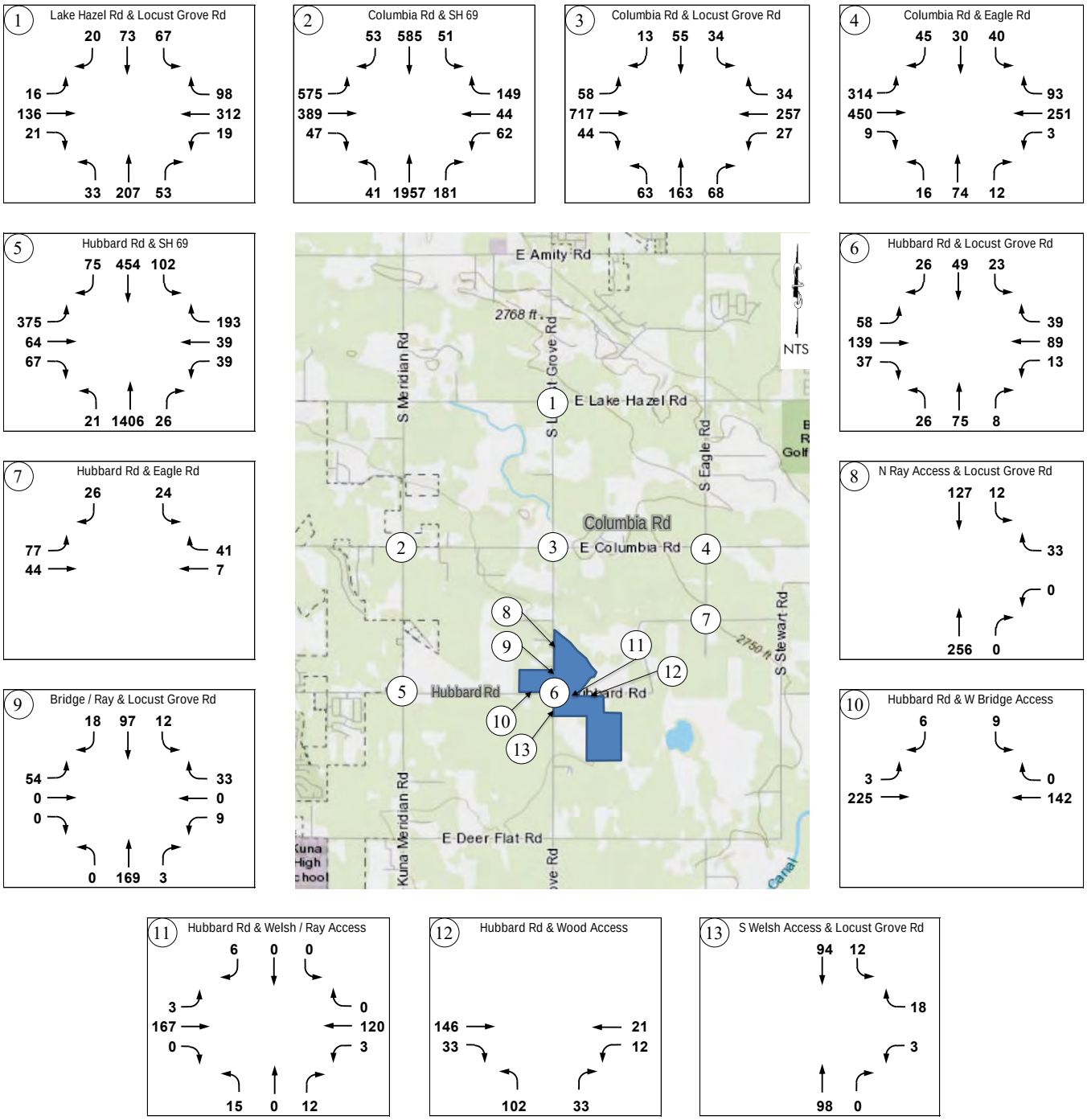
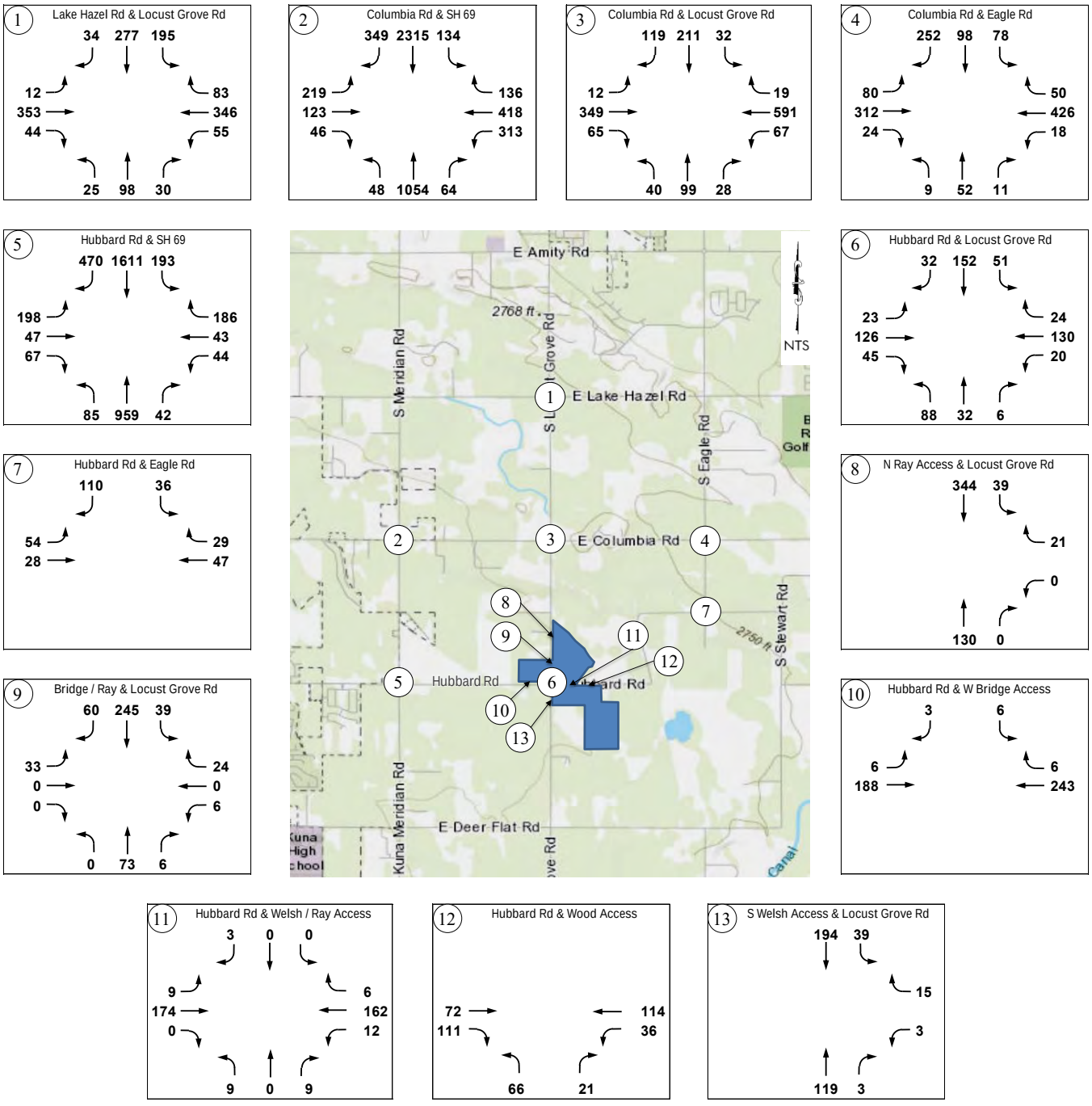


Figure 8.4 – 2038 Phase 3 (Build-Out) PM Peak Hour Total Traffic



8.4 Roadway Segment Level of Service

Study area roadway segment levels of service were evaluated with 2038 build-out total traffic. **Table 8.2** summarizes the results. Both segments along Columbia Road are expected to exceed ACHD's minimum acceptable LOS for a three-lane roadway segment without a left-turn lane during the both peak hours. The threshold for minor arterials with a continuous left-turn lane is 720 vph for LOS E. No improvements in the ACHD CIP up to 2035 are planned along Columbia Road. At the time of the writing of this report, no major trip generators are located on Columbia Road from SH 69 to Eagle Road; thus, additional capacity for Columbia Road traffic would be more beneficial for throughput of the roadway. A TIS update is recommended after completion of phases to reevaluate these volumes.

Table 8.2 – Roadway Segment Level of Service – 2038 Phase 3 (Build-Out) Total Traffic

Roadway	Segment	Functional Classification (No. of Lanes)	Left-Turn Lane Type	LOS E Threshold [vph]	Peak Hour Directional Volume [vph]		Meets LOS?
					AM Peak	PM Peak	
Columbia Rd	SH 69 to Locust Grove Rd	Minor Arterial (5)	None	1,540	819	867	Yes
	Locust Grove Rd to Eagle Road	Minor Arterial (3)	None	720	**819**	**687**	**No**
Hubbard Rd	SH 69 to Locust Grove Rd	Minor Arterial (2)	None	575	271	282	Yes
	Locust Grove Rd to Eagle Road	Minor Arterial (2)	None	575	179	183	Yes
Locust Grove Rd	Lake Hazel Rd to Columbia Rd	Minor Arterial (2)	None	575	293	376	Yes
	Columbia Rd to Hubbard Rd	Minor Arterial (2)	None	575	294	383	Yes

8.5 Intersection Measures of Effectiveness

To determine the 2038 build-out total traffic impacts, the study area intersections were analyzed with the existing intersection control and lane configuration or with the preceding mitigations needed to mitigate the previous phases traffic conditions. Copies of the calculations are included in the appendix. **Table 8.3** and **Table 8.4** summarize the intersection capacity analysis results. All study area intersections are expected to meet ITD's or ACHD's minimum operational thresholds, with the exception of two intersections exceeding overall intersection v/c ratio:

- SH 69 and Columbia Road intersection
- SH 69 and Hubbard Road intersection

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Table 8.3 – Intersection MOEs – 2038 Phase 3 (Build-Out) Total Traffic

Intersection		Control	MOEs	AM Peak Hour	PM Peak Hour
1	Locust Grove Road and Lake Hazel Road[1]	Single-Lane Roundabout	Intersection LOS	A	B
			Intersection Delay [s/v]	7	13
			Worst Lane Group v/c	0.47 (WB)	0.68 (SB)
		Signal with left-turn lanes on all approaches	Intersection LOS	B	B
			Intersection Delay [s/v]	11	13
			Intersection v/c	0.58	0.61
			Worst Lane Group v/c	0.71 (WBTR)	0.72 (WBTR)
2	SH 69 and Columbia Road[2]	Signal (3 Through lanes on SH 69 + SB right-turn lane +Dual EBL + Dual WBL + 2 through lanes on Columbia Rd)	Intersection LOS	D	D
			Intersection Delay [s/v]	50	47
			Intersection v/c	**0.91**	**0.94**
			Worst Lane Group v/c	0.96 (WBR)	0.93 (SBT)
3	Locust Grove Road and Columbia Road[3]	Single-Lane Roundabout	Intersection LOS	B	B
			Intersection Delay [s/v]	13	13
			Worst Lane Group v/c	0.73 (EB)	0.66 (SB)
		Signal with left-turn lanes on all approaches	Intersection LOS	B	B
			Intersection Delay [s/v]	14	15
			Intersection v/c	0.73	0.71
			Worst Lane Group v/c	0.84 (EBTR)	0.81 (WBTR)

[1] No-build (LOS / v/c): AM=C / 0.78 (WB), PM=F / 1.35 (SB)
[2] No-build (LOS / v/c): AM=F / 1.27, PM=F / 1.42
[3] No-build (LOS / v/c): AM=F / 1.49 (EB), PM=F / 1.64 (WB)

Table 8.3 – Intersection MOEs – 2038 Phase 3 (Build-Out) Total Traffic (continued)

Intersection		Control	MOEs	AM Peak Hour	PM Peak Hour
4	Eagle Road and Columbia Road[4]	Single-Lane Roundabout	Intersection LOS	B	A
			Intersection Delay [s/v]	10	9
			Worst Lane Group v/c	0.67 (EB)	0.53 (SB)
		Signal with left-turn lanes on all approaches	Intersection LOS	A	B
			Intersection Delay [s/v]	9	14
			Intersection v/c	0.55	0.63
			Worst Lane Group v/c	0.54 (EBL)	0.73 (SBTR)
5	SH 69 and Hubbard Road[5]	Signal (with SB and WB right-turn lanes)	Intersection LOS	D	C
			Intersection Delay [s/v]	49	29
			Intersection v/c	**0.99**	0.87
			Worst Lane Group v/c	0.95 (EBL)	0.89 (SBT)
6	Locust Grove Road and Hubbard Road	Two-way Stop (Locust Grove)	LOS (NB / SB)	C / B	C / C
			Delay [s/v] (NB / SB)	16 / 14	21 / 19
			Worst Lane Group v/c	0.26 (NB)	0.50 (SB)
7	Eagle Road and Hubbard Road	Stop (Eagle)	LOS (SB)	A	A
			Delay [s/v] (SB)	10	10
			Worst Lane Group v/c	0.07 (SB)	0.18 (SB)

[4] No-build (LOS / v/c): AM=F / 1.24 (EB), PM=E / 0.98 (WB)
[5] No-build (LOS / v/c): AM=F / 1.16, PM=F / 1.16

Table 8.4 – Lane Group v/c Ratios – 2038 Phase 3 (Build-Out) Total Traffic

Intersection		Approach	AM Peak Hour			PM Peak Hour		
			LT	THRU	RT	LT	THRU	RT
1	Lake Hazel Road and Locust Grove Road (Roundabout)	NB	0.31			0.24		
		SB	0.20			0.68		
		EB	0.17			0.62		
		WB	0.47			0.46		
	Lake Hazel Road and Locust Grove Road (Signal)	NB	0.07	0.56		0.08	0.25	
		SB	0.20	0.20		0.43	0.59	
		EB	0.05	0.26		0.04	0.62	
		WB	0.04	0.71		0.17	0.72	
2	SH 69 and Columbia Road	NB	0.68	0.93	0.94	0.87	0.50	0.50
		SB	0.70	0.25	0.07	0.84	0.93	0.39
		EB	0.91	0.58	0.58	0.80	0.39	0.41
		WB	0.55	0.22	0.96	0.93	0.83	0.61
3	Locust Grove Road and Columbia Road (Roundabout)	NB	0.56			0.21		
		SB	0.12			0.66		
		EB	0.73			0.49		
		WB	0.34			0.65		
	Locust Grove Road and Columbia Road (Signal)	NB	0.18	0.67		0.18	0.27	
		SB	0.17	0.19		0.08	0.72	
		EB	0.10	0.84		0.05	0.56	
		WB	0.13	0.33		0.19	0.81	
4	Eagle Road and Columbia Road (Roundabout)	NB	0.20			0.09		
		SB	0.12			0.53		
		EB	0.67			0.39		
		WB	0.43			0.44		
	Eagle Road and Columbia Road (Signal)	NB	0.06	0.35		0.04	0.12	
		SB	0.15	0.33		0.16	0.73	
		EB	0.54	0.48		0.28	0.50	
		WB	0.01	0.39		0.05	0.67	
5	SH 69 and Hubbard Road	NB	0.05	0.94	0.94	0.63	0.58	0.58
		SB	0.74	0.29	0.11	0.59	0.89	0.58
		EB	0.95	0.27		0.74	0.33	
		WB	0.17	0.15	0.86	0.18	0.11	0.58
6	Locust Grove Road and Hubbard Road	NB	0.26			0.39		
		SB	0.21			0.50		
		EB	0.05			0.02		
		WB	0.01			0.02		
7	Eagle Road and Hubbard Road	SB	0.07			0.18		
		EB	0.06			0.04		
		WB	--			--		

8.6 Roadway Segment Mitigation

Columbia Road

The Columbia Road segments between Locust Grove Road and Eagle Road is expected to exceed ACHD's LOS planning threshold as a three-lane minor arterial. According the ACHD MSM, the maximum planned lane preservation for this roadway segment is three lanes. The Locust Grove Road and Eagle Road intersections on Columbia are expected to meet ACHD's minimum operational thresholds with on through lane in each direction. As a result, no additional lanes are proposed for this roadway segment.

8.7 Intersection Mitigation

Two study area intersections are expected to exceed ITD's overall intersection v/c ratio with 2038 total traffic – Columbia Road and Hubbard Road intersections on SH 69. However, these intersections are expected to operate at LOS D or better with a lane group v/c ratio of 0.96 or less during the peak hours, which meet ITD's minimum operational thresholds. As a result, no additional improvements are proposed to reduce the overall intersection v/c ratio to 0.90 or less.

8.8 Site Access and Circulation

Site access and circulation for Phase 3 is the same as Phase 1 and Phase 2. No additional site accesses are proposed for Phase 3. One of the site access intersections are expected to warrant turn lane with 2038 total traffic according to ACHD's turn lane guidelines:

- Bridge / Ray access and Locust Grove Road
  - Southbound right-turn lane

Table 8.7 and **Table 8.8** summarize the site access intersection capacity results. All site access intersections are expected to meet minimum operational thresholds.

Figure 8.6 summarizes the estimated ADT on the internal roadways with full build-out of the developments. All internal roadways are expected to carry less than 1,000 vpd, with the exception of the shared Welsh/Wood access off Hubbard Road east of Locust Grove Road. This roadway segment does not have front-on housing and should be classified as a collector street.

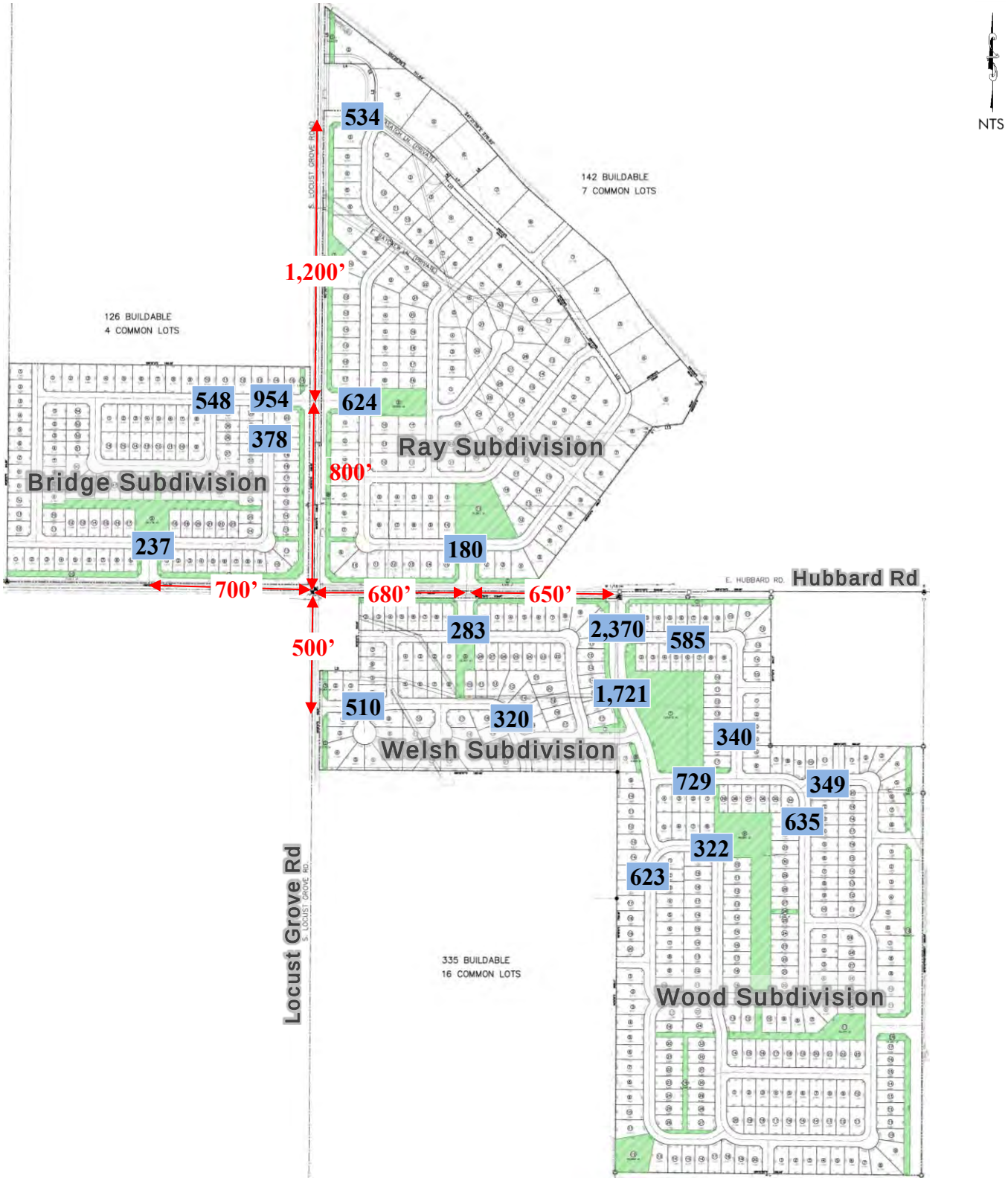
Table 8.5 – Site Access MOEs – 2038 Phase 3 (Build-Out) Total Traffic

Intersection		Control	MOEs	AM Peak Hour	PM Peak Hour
8	North Ray Access and Locust Grove Road	Stop (Ray Access)	LOS (WB)	B	A
			Delay [s/v] (WB)	10	9
			Worst Lane Group v/c	0.05 (WB)	0.03 (SB)
9	Bridge / Ray Access and Locust Grove Road	Two-Way Stop (Bridge / Ray)	LOS (EB / WB)	B / A	B / A
			Delay [s/v] (EB / WB)	12 / 10	13 / 10
			Worst Lane Group v/c	0.11 (EB)	0.08 (EB)
10	West Bridge Access and Hubbard Road	Stop (Bridge)	LOS (SB)	B	B
			Delay [s/v] (SB)	10	11
			Worst Lane Group v/c	0.02 (SB)	0.02 (SB)
11	Welsh / Ray Access and Hubbard Road	Two-Way Stop (Welsh / Ray)	LOS (NB / SB)	B / A	B / A
			Delay [s/v] (NB / SB)	10 / 9	11 / 9
			Worst Lane Group v/c	0.04 (NB)	0.03 (NB)
12	Wood Access and Hubbard Road	Stop (Wood)	LOS (NB)	B	B
			Delay [s/v] (NB)	11	11
			Worst Lane Group v/c	0.19 (NB)	0.14 (NB)
13	South Welsh Access and Locust Grove Road	Stop (Welsh)	LOS (WB)	A	A
			Delay [s/v] (WB)	9	10
			Worst Lane Group v/c	0.03 (WB)	0.02 (WB)

Table 8.6 – Site Access Lane Group v/c Ratios – 2038 Build-Out Total Traffic

Intersection		Approach	AM Peak Hour			PM Peak Hour		
			LT	THRU	RT	LT	THRU	RT
8	North Ray Access and Locust Grove Road	NB	--			--		
		SB	0.01			0.03		
		WB	0.05			0.03		
9	Bridge / Ray Access and Locust Grove Road	NB	--			--		
		SB	0.01			0.03		
		EB	0.11			0.08		
		WB	0.06			0.04		
10	West Bridge Access and Hubbard Road	SB	0.02			0.02		
		EB	< 0.01			0.01		
		WB	--			--		
11	Welsh / Ray Access and Hubbard Road	NB	0.04			0.03		
		SB	0.01			< 0.01		
		EB	< 0.01			0.01		
		WB	< 0.01			0.01		
12	Wood Access and Hubbard Road	NB	0.19			0.14		
		EB	--			--		
		WB	0.01			0.03		
13	South Welsh Access and Locust Grove Road	SB	0.01			0.03		
		EB	--			--		
		WB	0.03			0.02		

Figure 8.5 – Phase 3 Build-Out Site Access and Circulation



APPENDIX

Scope and COMPASS Area of Influence Results
Traffic Counts
2018 Capacity Analysis Report
2023 Phase 1 Capacity Analysis Reports
2030 Phase 2 Capacity Analysis Reports
2038 Phase 3 (Build-Out) Capacity Analysis Reports
Turn Lane Warrant Worksheets
Signal Warrant Worksheets

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To: Mindy Wallace
From: Heidi Carter, P.E.
Date: June 21st, 2018
Subject: Patagonia and Artiach Assumptions

Memorandum

The following memorandum was prepared in order to define the assumptions that will be used to formulate the revisions to the Traffic Impact Study's (TIS) for the Patagonia and Artiach development. Horrocks will proceed with the preparation of these revisions once ACHD has had an to opportunity review and approval these assumptions. Horrocks met with ACHD to discuss the requirements of the Patagonia and Artiach Traffic Impact Study's on July 21, 2017. The meeting notes from this pre-application meeting are included as an Appendix to this memo. Based on the discussions from the pre-application meeting and the area of influence analysis prepared by COMPASS, included in the Appendix, the following intersections and roadway segments will be analyzed for each individual TIS:

Artiach –

Intersections:

- SH-69/Hubbard Road
- SH-69/Columbia Road
- All site access points

Roadway Segments:

- Hubbard Road between SH-69 and the site access

A discussion on the maximum traffic on one access point will be included.

Patagonia –

Intersections:

- SH-69/Hubbard Road
- SH-69/Columbia Road
- Locust Grove/Lake Hazel (potential roundabout per ACHD TMP)
- Locust Grove/Columbia (potential roundabout per ACHD TMP)
- Locust Grove/Hubbard (potential roundabout per ACHD TMP)
- Eagle/Columbia (potential roundabout per ACHD TMP)
- Eagle/Hubbard (potential roundabout per ACHD TMP)
- All site access points

Roadway Segments:

- Columbia – SH-69 to Locust Grove and Locust Grove to Eagle Road
- Hubbard – SH-69 to Locust Grove and Locust Grove to Eagle Road
- Locust Grove – Hubbard to Columbia and Columbia to Lake Hazel
- All internal collectors

Those intersections noted above for potential roundabout will be analyzed accordingly.

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The following sections summarize the data and assumptions that will be utilized for this analysis:

Traffic Counts –

Included in this memo are the counts that were collected by L2 Data Collection and Horrocks Engineers. Included in Table 1 is a summary of the traffic counts that were collected, who they were collected by, and the date in which they were collected. These traffic counts are included in the appendix.

Table 1: Summary of Data Collection

Intersection	Collector	Collection Date
Eagle and Columbia	L2 Data Collection	10/18/2017
Eagle and Hubbard	L2 Data Collection	10/18/2017
Locust Grove and Columbia	L2 Data Collection	10/18/2017
Locust Grove and Lake Hazel	L2 Data Collection	10/18/2017
Hubbard and SH 69 (Meridian)	Horrocks Engineers	6/15/18
Hubbard and Locust Grove	Horrocks Engineers	5/9/2017
SH 69 (Meridian) and Columbia	Horrocks Engineers	5/11/2017

As was established in the latest meeting with ACHD the volumes will not be balanced or adjusted between intersections. The volumes will be directly input into the traffic modeling software without volume balancing procedures.

Trip Generation –

The trip generation has been recalculated based on the Institute of Transportation Engineers (ITE) Trip Generation Manual 10th Edition based on comments received from ACHD. The trip generation for the Artiach development can be found in **Table 2**. The trip generation is based on a total of 795 storage units, 144 apartment units, and 276 Condominium/Townhouse units. The proposed trip generation for the Patagonia development can be found in **Table 3**. The trip generation is based on 603 single-family detached homes. **Table 3** is broken down into individual development areas and total trip generation for the development. Site plans for each development are included in the appendix.

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Table 2: Artiach Development Trip Generation

Artiach (Artiach TIS)										
Variable	Quantity	Daily			AM Peak Hour			PM Peak Hour		
		Total	In	Out	Total	In	Out	Total	In	Out
Multifamily Housing (Low Rise) (ITE 220)		**7.32**	50%	50%	**0.46**	23%	77%	**0.56**	63%	37%
Dwelling Units	144	1,054	527	527	66	15	51	81	51	30
Multifamily Housing (Low Rise) (ITE 220)		**7.32**	50%	50%	**0.46**	23%	77%	**0.56**	63%	37%
Dwelling Units	276	2,020	1,010	1,010	127	29	98	155	97	57
Mini-Warehouse (ITE 151)		**17.96**	50%	50%	**1.39**	51%	49%	**1.95**	50%	50%
Storage Units (100s)	8	143	71	71	11	6	5	16	8	8
Total New Trips		**3,217**	**1,609**	**1,609**	**204**	**50**	**154**	**251**	**156**	**95**

ITE Trip Generation 10th Edition

Table 3: Patagonia Development Trip Generation

Bridge (Patagonia TIS)										
Variable	Quantity	Daily			AM Peak Hour			PM Peak Hour		
		Total	In	Out	Total	In	Out	Total	In	Out
Single-Family Detached Housing (ITE 210)		**9.44**	50%	50%	**0.74**	25%	75%	**0.99**	63%	37%
Dwelling Units	126	1,189	595	595	93	23	70	125	79	46
Total New Trips		**1,189**	**595**	**595**	**93**	**23**	**70**	**125**	**79**	**46**

ITE Trip Generation 10th Edition

Ray (Patagonia TIS)										
Variable	Quantity	Daily			AM Peak Hour			PM Peak Hour		
		Total	In	Out	Total	In	Out	Total	In	Out
Single-Family Detached Housing (ITE 210)		**9.44**	50%	50%	**0.74**	25%	75%	**0.99**	63%	37%
Dwelling Units	142	1,340	670	670	105	26	79	141	89	52
Total New Trips		**1,340**	**670**	**670**	**105**	**26**	**79**	**141**	**89**	**52**

ITE Trip Generation 10th Edition

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Wood (Patagonia TIS)										
Variable	Quantity	Daily			AM Peak Hour			PM Peak Hour		
		Total	In	Out	Total	In	Out	Total	In	Out
Single-Family Detached Housing (ITE 210)		**9.44**	50%	50%	**0.74**	25%	75%	**0.99**	63%	37%
Dwelling Units	252	2,379	1,189	1,189	186	47	140	249	157	92
Total New Trips		**2,379**	**1,189**	**1,189**	**186**	**47**	**140**	**249**	**157**	**92**

ITE Trip Generation 10th Edition

Welsh (Patagonia TIS)										
Variable	Quantity	Daily			AM Peak Hour			PM Peak Hour		
		Total	In	Out	Total	In	Out	Total	In	Out
Single-Family Detached Housing (ITE 210)		**9.44**	50%	50%	**0.74**	25%	75%	**0.99**	63%	37%
Dwelling Units	83	784	392	392	61	15	46	82	52	30
Total New Trips		**784**	**392**	**392**	**61**	**15**	**46**	**82**	**52**	**30**

ITE Trip Generation 10th Edition

Patagonia Development Total										
Variable	Quantity	Daily			AM Peak Hour			PM Peak Hour		
		Total	In	Out	Total	In	Out	Total	In	Out
Single-Family Detached Housing (ITE 210)		**9.44**	50%	50%	**0.74**	25%	75%	**0.99**	63%	37%
Dwelling Units	603	5,692	2,846	2,846	446	112	335	597	376	221
Total New Trips		**5,692**	**2,846**	**2,846**	**446**	**112**	**335**	**597**	**376**	**221**

ITE Trip Generation 10th Edition

Trip Distribution –

The trip distribution for both of the development sites were created from COMPASS travel demand model runs. **Figure 1** presents the proposed trip distribution for the Artiach development. **Figure 2** presents the proposed trip distribution for the Patagonia development.

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Figure 2: Proposed Patagonia Trip Distribution



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Analysis Scenarios –

The following scenarios will be analyzed in the approved simulation software and be included in the report:

- Existing
- 2023 Background
- 2023 Background plus Project
- 2030 Background
- 2030 Background plus Project
- 2038 Buildout
- 2038 Buildout plus Project

Simulation Software –

Synchro 10 with Highway Capacity Manual (HCM) will be utilized in order to analyze the level of service capacity of the intersections and the roadway segments. SIDRA will be used for any potential mitigation requiring roundabout analysis.

V/C Ratio –

Based on the last meeting with ACHD it has been established that an intersection with an overall V/C ratio of 0.90 or higher will require mitigation. Additionally, if a lane group V/C ratio exceeds 1.00, regardless of the overall intersection V/C ratio, mitigations will be required.

Interior Traffic Flow –

ACHD defines their Average Daily Traffic standards as the following per ACHD Technical Requirements 7207.3.1:

> ADT on new and existing local streets should typically be less than 2,000. This ADT applies to both existing and new streets. For new streets that are stubbed to connect to adjacent land that is not fully developed, the allowable ADT for the new street will typically be no more than 1,000 ADT, to accommodate future additional traffic from the adjacent land, depending on the location and type of the stub street and the location and size of the adjacent undeveloped land. When stub streets are connected and properties fully developed, local streets should not exceed 2,000 ADT.
>
> In developed areas where streets already exceed 2,000 ADT or are close to exceeding 2,000 ADT, the Commission may grant approval to exceed the 2,000 ADT based on existing zoning of undeveloped properties or infill development. The Commission may also consider the need for additional roadway improvements or traffic calming to mitigate the additional traffic if necessary.
>
> The ADTs listed above are desirable planning thresholds for local streets, not roadway capacities. Actual roadway capacities are much higher than the planning thresholds.

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Per the last meeting with ACHD, it was determined that 1,000 ADT on a roadway segment is not to be exceeded. The stub road in the Artiach development is connected to a parcel that will be fully developed by opening day of the project. For the Artiach subdivision the development will be considered "fully developed" and will not qualify as "undeveloped land" as the proposed stub road will be connected and the properties fully developed. Per the standard, once these conditions are met local streets should not exceed 2,000 ADT.

COMPASS Traffic Growth –

COMPASS ran the travel demand model specific to the Artiach and Patagonia developments to provide the influence area which is provided in the Appendix. The travel demand model provided estimates to forecast background traffic. Based on the ADT generated by the travel demand model in the horizon year, a comparison will be made with the existing traffic conditions. From there the annual growth rate will be calculated. That annual growth rate will be utilized in the analysis of all future traffic conditions. The following formula will be utilized:

$$A = [\left(\frac{FT}{CT}\right)^{\left(\frac{1}{FY-CY}\right)}] * 100$$

Where:

A = Annual Growth Rate of Traffic (%)
FT = Future Year AADT (total for both directions)
CT = Current Year AADT (total for both directions)
FY = Future Year
CY = Current Year

Document Compilation –

Based on the meeting with ACHD the Artiach TIS report will be completed first and reviewed. The traffic conditions generated by the Artiach development will be used as the background traffic for the Patagonia development.

Each of the reports will include a summary of the proposed development including the study area and the proposed land uses being developed. The internal road segment volumes of each of the developments will be included. Included with the analysis of the internal road segment volumes will be an analysis of the maximum allowable volume on roadway segments. The existing, 2023, 2030, and 2038 conditions will be analyzed with and without project traffic. In each scenario the LOS conditions will be analyzed for both the roadway segments and the intersections. Where deficiencies occur, recommendations for lane widening, intersection signalization, and/or lane configuration changes will be given. Lastly, a summary of recommended mitigations will be given.

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ENGINEERS

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208 463 4197 tel
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Meeting Minutes

		Date(s):	July 21, 2017
Location:	ACHD Meridian Room		
Purpose:	Artiach and Patagonia TIS Discussion		
Prepared By:	Heidi Carter	Issue Date:	Internal Meeting Notes

Attendees:			
Client:	Christy Little, ACHD		Katie Miller, Bailey Engineering
	Mindy Wallace, ACHD		Kent Brown
	Aimee Loudenslager, ACHD		
	David Bailey, Bailey Engineering	Company:	Heidi Carter

Discussion Topics:		
Item No.	Discussion Items	Action Item
1	Horrocks met with ACHD to discuss the proposed Patagonia and Artiach developments. ACHD reiterated that these developments will require separate TIS'.	Horrocks will split the original TIS into two separate traffic studies.
2	The influence area as defined in ACHD's July 19 e-mail was discussed (see attached). ACHD concurred that the analysis will require an evaluation of the intersections and roadway segments as defined in this e-mail. The analysis will also need to include a section on the maximum traffic on one access point.	Horrocks will evaluate the intersections and roadway segments as defined.
3	The TIS will need to verify that the local road volumes are not exceeding 1000 vpd per ACHD policy requirements.	The maximum traffic on access points will be evaluated.
4	ACHD had some minor changes to the stub street locations as discussed in the meeting.	Bailey engineering will address stub street location layouts for Patagonia as discussed.
5	ACHD will need to see a courtesy copy of what goes to Kuna.	Bailey Engineering will provide a courtesy copy.
6	Patagonia is the only proposed development within the area that will need to be included in the background traffic.	Horrocks will include Patagonia in the background traffic.
7		
8		
9		
10		
11		

Cc: Rob Sunderlage, Heidi Carter, File BE-373-1609

From: Mary Ann Waldinger [mailto:MWaldinger@compassidaho.org]
Sent: Wednesday, July 19, 2017 4:44 PM
To: Heidi Carter <heidic@horrocks.com>
Subject: FW: Patagonia_Artiach.docx

Hi Heidi,
Here you go. I've sent this and the write up to Shona at ITD.

M
From: Mindy Wallace [mailto:Mwallace@achdidaho.org]
Sent: Wednesday, July 19, 2017 4:07 PM
To: Mary Ann Waldinger
Cc: Aimee Loudenslager
Subject: RE: Patagonia_Artiach.docx

Hi Mary Ann,

ACHD suggest that the following intersections and roadway segments be included in the traffic impact studies for the Artiach and Patagonia sites.

Artiach
Intersections:

- SH-69/ Hubbard
- SH/69/Columbia
- All site access points

Roadway Segment:

- Hubbard Road between SH-69 and the site access.

This study should include any additional analysis requested by ITD and an a section on Maximum Traffic on One Access Point.

Patagonia
Intersections:

- SH-69/ Hubbard
- SH/69/Columbia
- Locust Grove/Lake Hazel
- Locust Grove/Columbia
- Locust Grove/Hubbard
- Eagle/Columbia
- Eagle/Hubbard
- All site access points

Roadway Segments

- Columbia – SH/69 to Locust Grove and Locust Grove to Eagle Road
- Hubbard - SH-69 to Locust Grove and Locust Grove to Eagle Road
- Locust Grove – Hubbard to Columbia and Columbia to Lake Hazel

- All internal collectors

This study should include any additional analysis requested by IDT.

Please let me know if you have any questions.

Mindy

From: Mary Ann Waldinger [mailto:MWaldinger@compassidaho.org]
Sent: Tuesday, July 18, 2017 11:46 AM
To: Mindy Wallace
Subject: Patagonia_Artiach.docx

Hi Mindy,
Heidi sent me an official area of influence request which I completed today given that this information will help with the scoping meeting.
Will you take a quick look at this and tell me it meets ACHD's needs.
I ran two area of influence runs – one for Artiach and one for Patagonia (the other 4 property owners) since Artiach is non-contiguous with the others.

Heidi would like to see this before they meet with ACHD but I will wait until I get the okay from you to share it with her.

Thanks!
M

Artiach and Patagonia Development

The following summarizes the results of an area of influence model run for a proposed development located near SH 69, Locust Grove Road and Hubbard Road. The proposed development will consist of 420 apartments, 603 single-family units and with an anticipated build out by 2040. See figure 1.

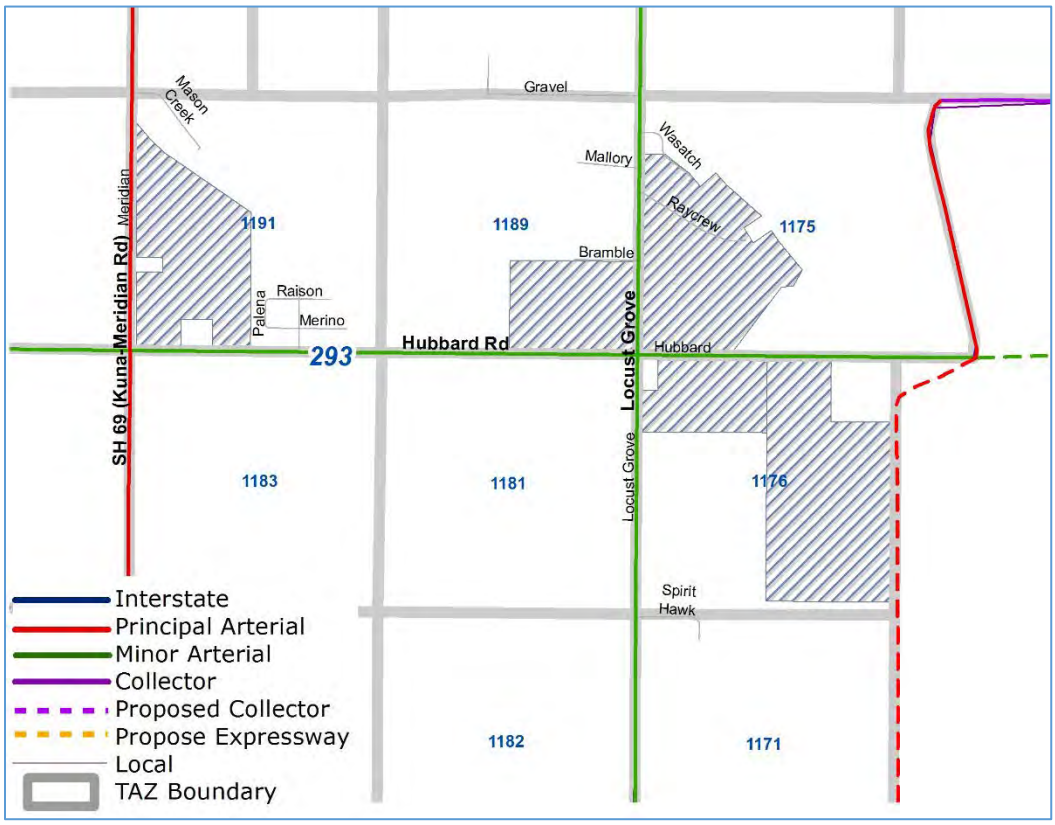


Figure 1: TAZs 1175, 1176, 1189, 1191

Table 1 provides the existing demographics for TAZs 1175, 1176, 1189 and 1191. The demographics for the proposed development used for the area of influence model run for analysis year 2040.

Table 1

	2017		2040 with proposal		2040	
	HH	Jobs	HH	Jobs	HH	Jobs
TAZ 1175	10	11	152	33	100	33
TAZ 1176	3	15	338	15	3	15
TAZ 1189	7	25	133	25	242	25
TAZ 1191	17	49	437	59*	544	232

*adjusted the 2040 jobs for the special model run to 2017 jobs plus 10 for the proposed storage unit facility.

The area of influence results for the proposed development are shown in figures 2 and 3. The 2040 peak hour results are shown in figures 4 and 5.

Figure 2: Area of Influence, Peak hour demand contribution to the total peak hour demand for 2040 for TAZs 1175, 1176 and 1189

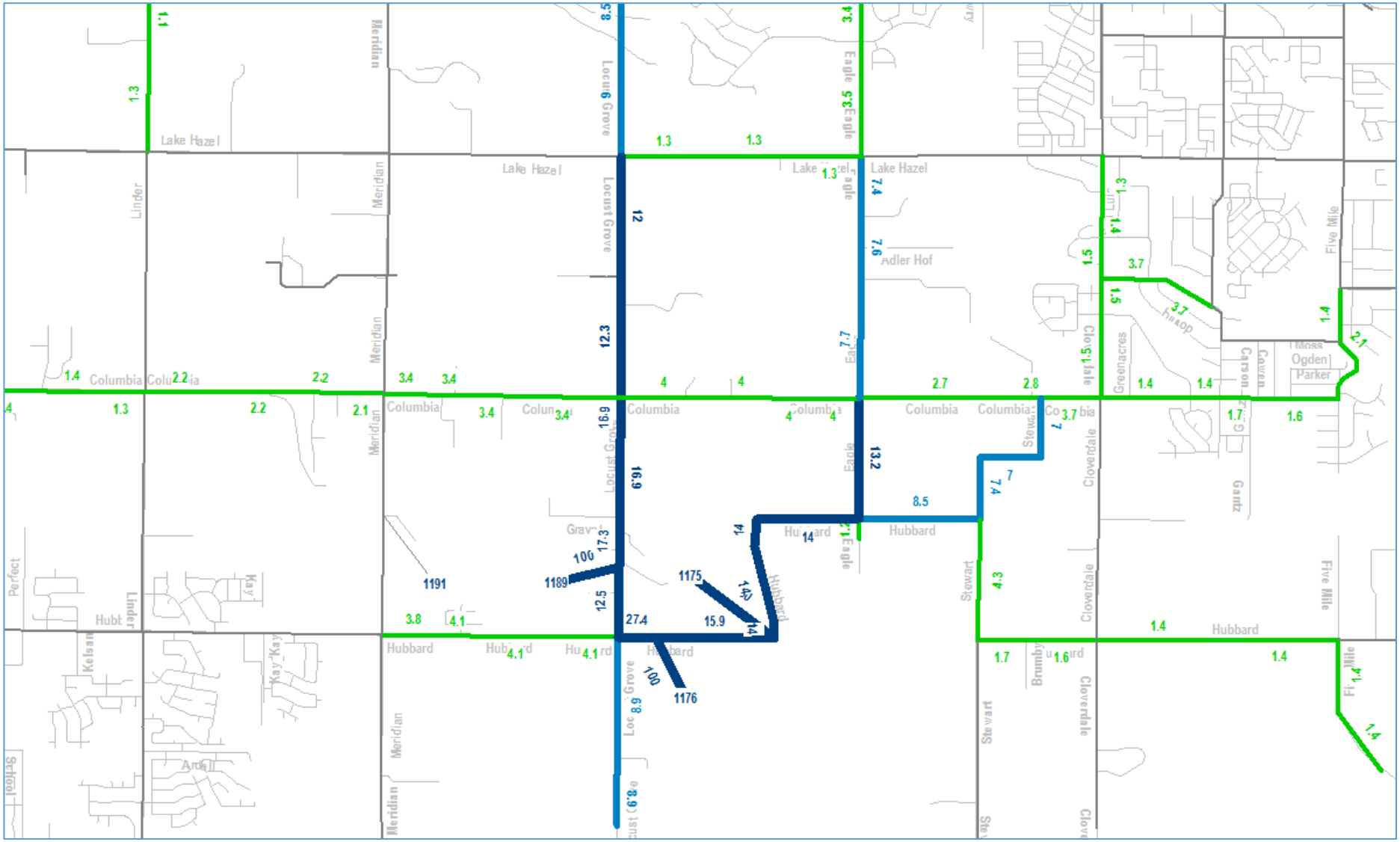


Figure 3: Area of Influence, Peak hour demand contribution to the total peak hour demand for 2040 for TAZ 1191

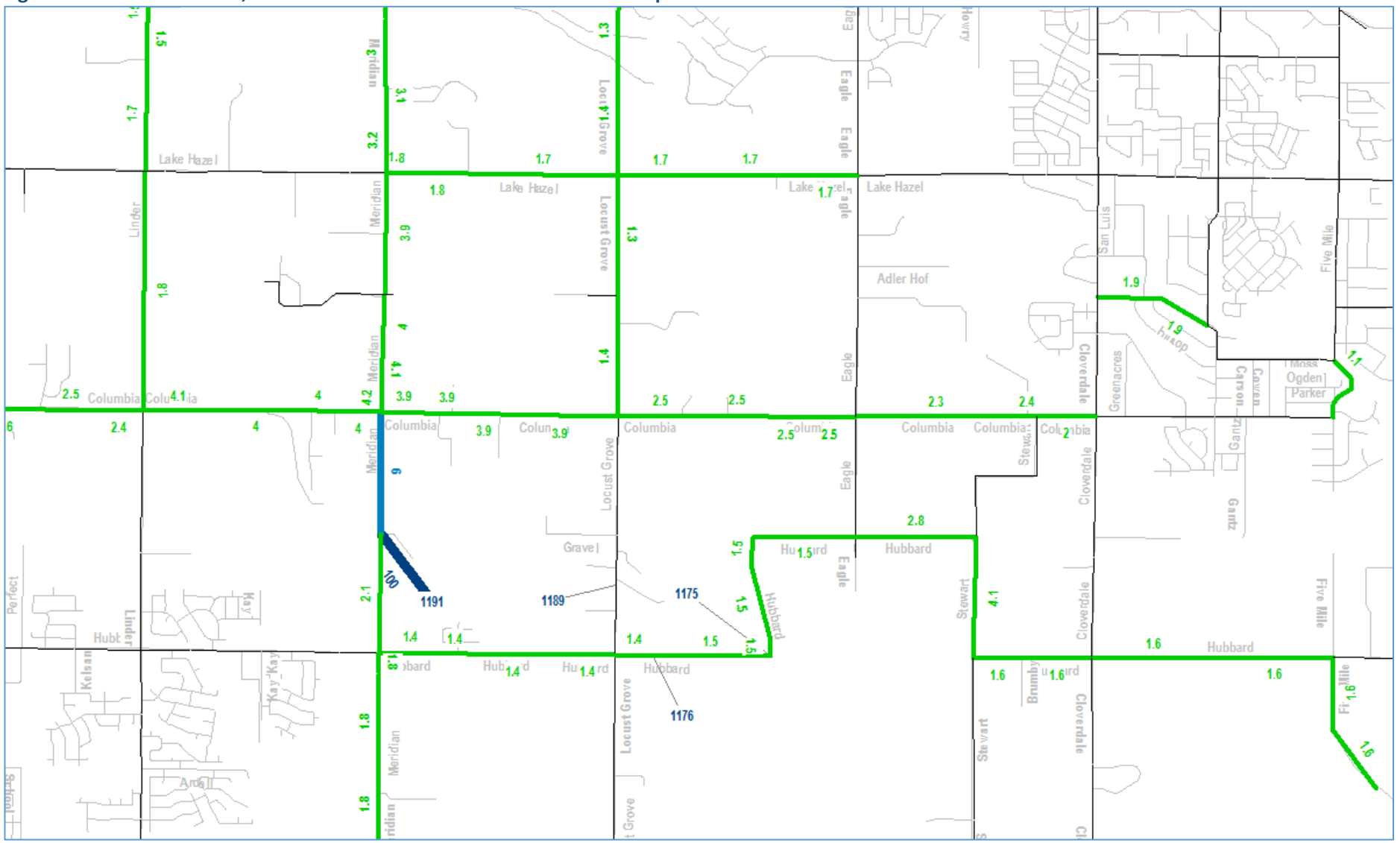


Figure 4: 2040 Peak Hour Demand with Proposed Development

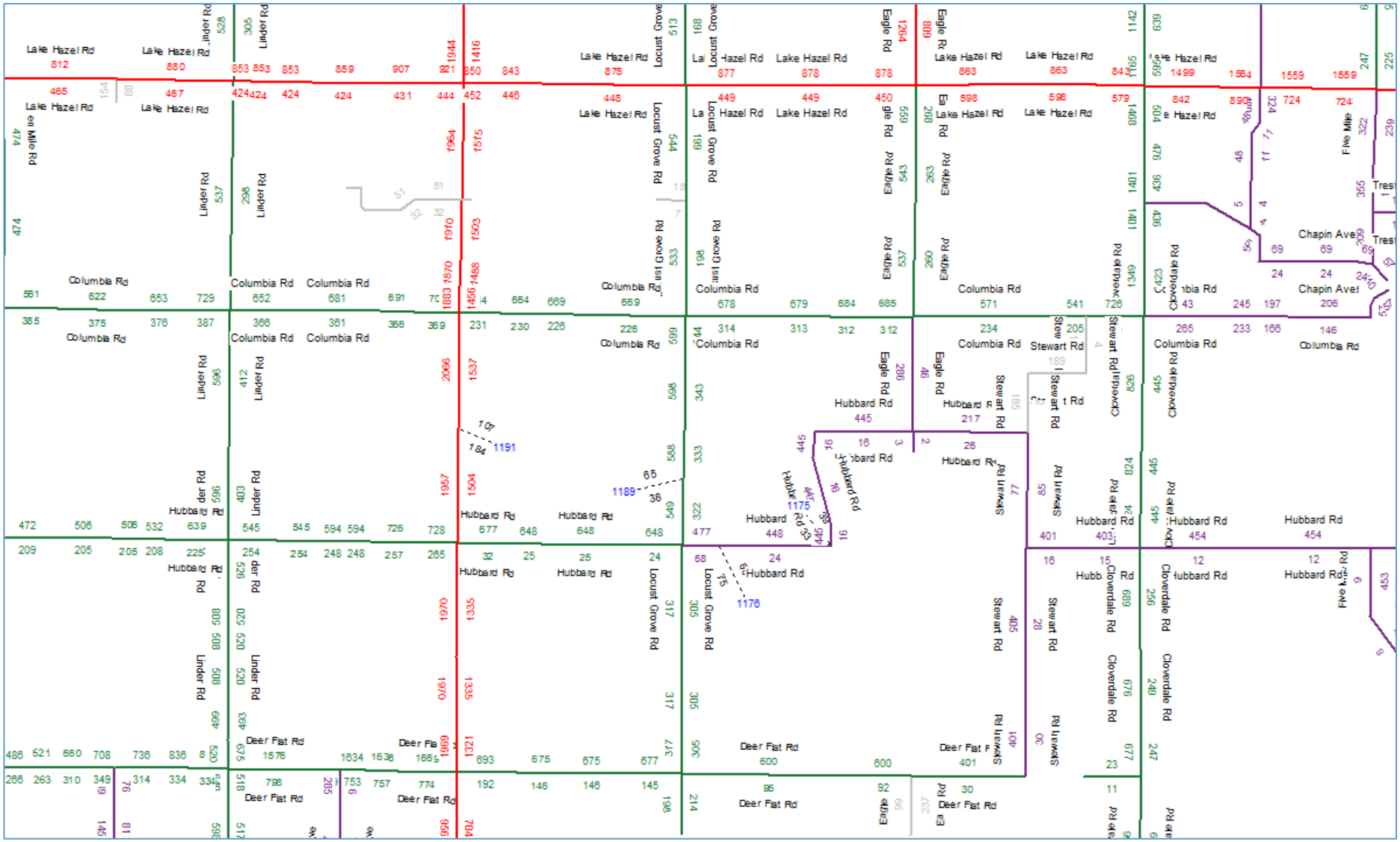
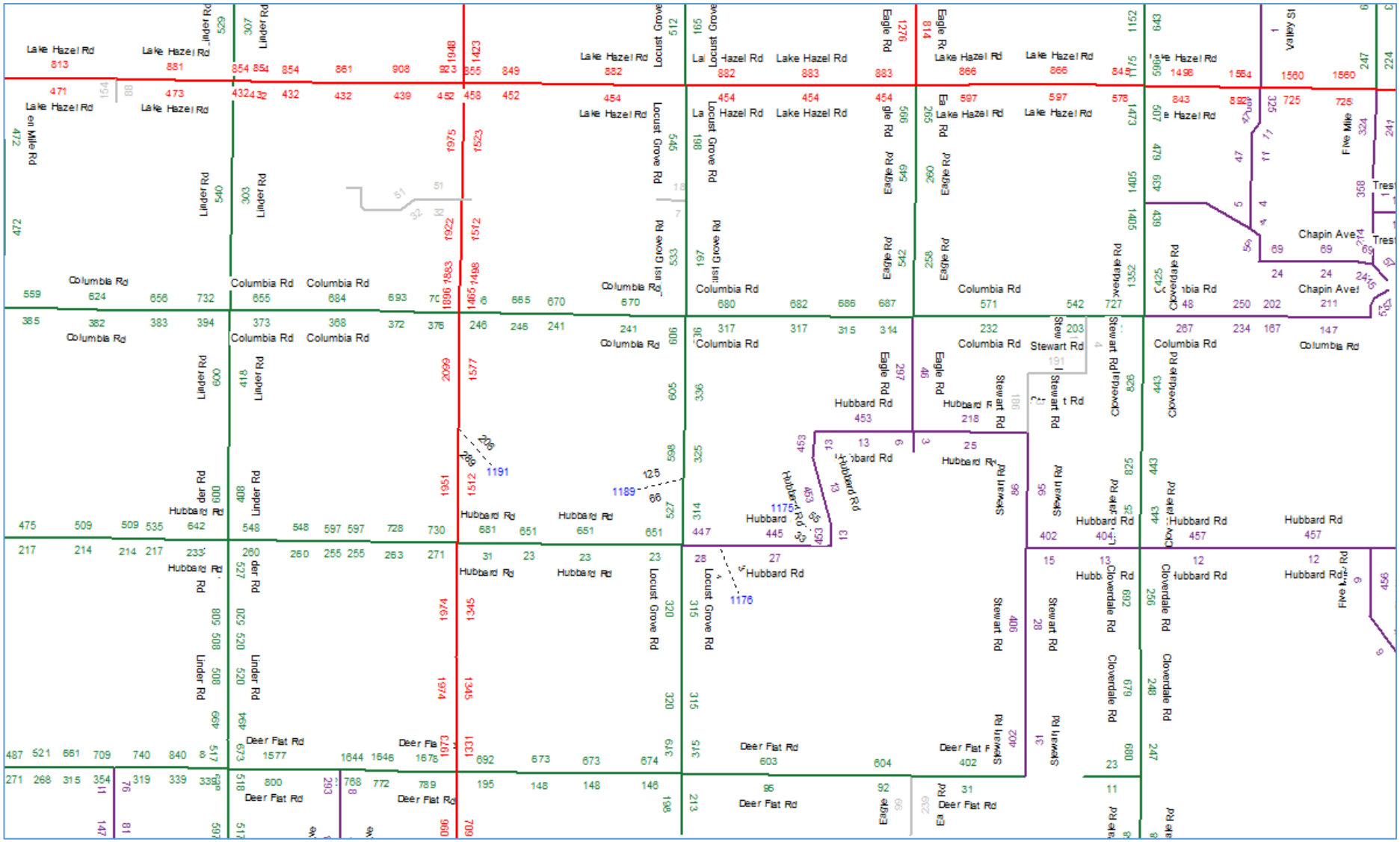


Figure 5: 2040 Peak Hour Demand without Proposed Development



Hi John,
I spent some time looking at the official 2025, 2030 and 2040 demographic forecasts and comparing them to today's households plus the dwelling units proposed for Patagonia.
Among these 4 TAZs there are 890 households forecasted by 2040 compared to the 1023 proposed. Once you know what ACHD needs in the TIS let me know if you need special model runs (area of influence).
Thanks,
M

See the tables below:

TAZs	2017 Households	2025 Households	2025 Jobs	2030 Households	2030 Jobs	2040 Households	2040 Jobs	*Proposed Dwelling units*	
1175	10	31	15	52	19	100	33	*142*	*Ray*
1176	3	3	15	3	15	3	15	*335*	*Wood / Welsh*
1189	7	242	25	242	25	242	25	*126*	*Bridge*
1191	17	486	113	495	152	544	232	*420*	*Artiach*
Total	**37**	**762**	**168**	**792**	**211**	**889**	**305**	*1023*	

TAZs	2017 + Proposed Households	2025 vs 2017+Proposal Households	2030 vs 2017+Proposal Households	2040 vs 2017+Proposal Households
1175	152	-121	-100	-52
1176	338	-335	-335	-335
1189	133	109	109	109
1191	437	49	58	107
Total	*1060*	*-298*	*-268*	*-171*

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: HORR0038
Intersection: Locust Grove / Lake Hazel
City, State: Kuna, Idaho
Control: All Stop

File Name : Locust Grove Rd & Lake Hazel Rd
Site Code : 00000000
Start Date : 10/18/2017
Page No : 1

Groups Printed- General Traffic

	Locust Grove Road From North					Lake Hazel Road From East					Locust Grove Road From South					Lake Hazel Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	1	3	0	4	15	28	0	0	43	1	7	1	0	9	0	10	1	0	11	67
07:15 AM	0	6	4	0	10	14	27	0	0	41	0	8	0	0	8	0	7	2	0	9	68
07:30 AM	0	5	3	0	8	13	45	1	0	59	1	19	0	0	20	1	15	2	0	18	105
07:45 AM	2	6	5	0	13	6	35	2	0	43	2	20	0	0	22	2	17	2	0	21	99
Total	2	18	15	0	35	48	135	3	0	186	4	54	1	0	59	3	49	7	0	59	339
08:00 AM	4	4	9	0	17	8	24	0	0	32	3	12	0	0	15	1	18	1	0	20	84
08:15 AM	1	2	7	0	10	11	23	3	0	37	1	7	0	0	8	0	12	1	0	13	68
08:30 AM	0	5	3	0	8	12	33	1	0	46	1	13	0	0	14	0	11	0	0	11	79
08:45 AM	0	4	3	0	7	3	23	3	0	29	2	6	0	0	8	2	12	0	0	14	58
Total	5	15	22	0	42	34	103	7	0	144	7	38	0	0	45	3	53	2	0	58	289

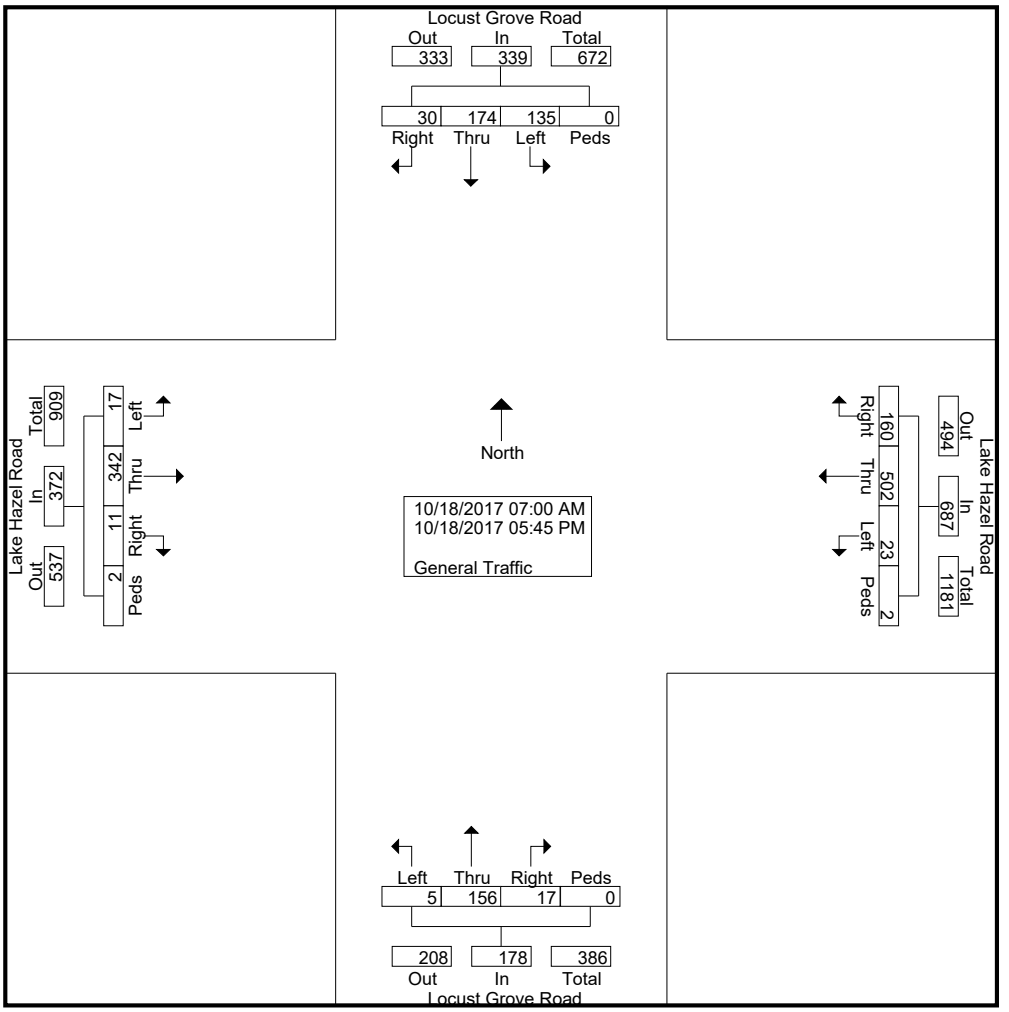
04:00 PM	1	18	11	0	30	6	20	1	0	27	0	8	1	0	9	1	23	0	1	25	91
04:15 PM	4	18	8	0	30	13	37	1	1	52	3	9	2	0	14	0	14	1	0	15	111
04:30 PM	4	10	10	0	24	10	35	1	0	46	0	9	0	0	9	2	18	0	0	20	99
04:45 PM	1	17	15	0	33	9	31	1	0	41	0	11	1	0	12	1	39	1	0	41	127
Total	10	63	44	0	117	38	123	4	1	166	3	37	4	0	44	4	94	2	1	101	428
05:00 PM	2	21	12	0	35	7	43	1	0	51	1	3	0	0	4	1	34	0	1	36	126
05:15 PM	1	28	23	0	52	13	37	2	0	52	0	8	0	0	8	0	36	3	0	39	151
05:30 PM	7	14	11	0	32	6	34	4	1	45	2	5	0	0	7	0	39	1	0	40	124
05:45 PM	3	15	8	0	26	14	27	2	0	43	0	11	0	0	11	0	37	2	0	39	119
Total	13	78	54	0	145	40	141	9	1	191	3	27	0	0	30	1	146	6	1	154	520
Grand Total	30	174	135	0	339	160	502	23	2	687	17	156	5	0	178	11	342	17	2	372	1576
Apprch %	8.8	51.3	39.8	0		23.3	73.1	3.3	0.3		9.6	87.6	2.8	0		3	91.9	4.6	0.5		
Total %	1.9	11	8.6	0	21.5	10.2	31.9	1.5	0.1	43.6	1.1	9.9	0.3	0	11.3	0.7	21.7	1.1	0.1	23.6	

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: HORR0038
Intersection: Locust Grove / Lake Hazel
City, State: Kuna, Idaho
Control: All Stop

File Name : Locust Grove Rd & Lake Hazel Rd
Site Code : 00000000
Start Date : 10/18/2017
Page No : 2



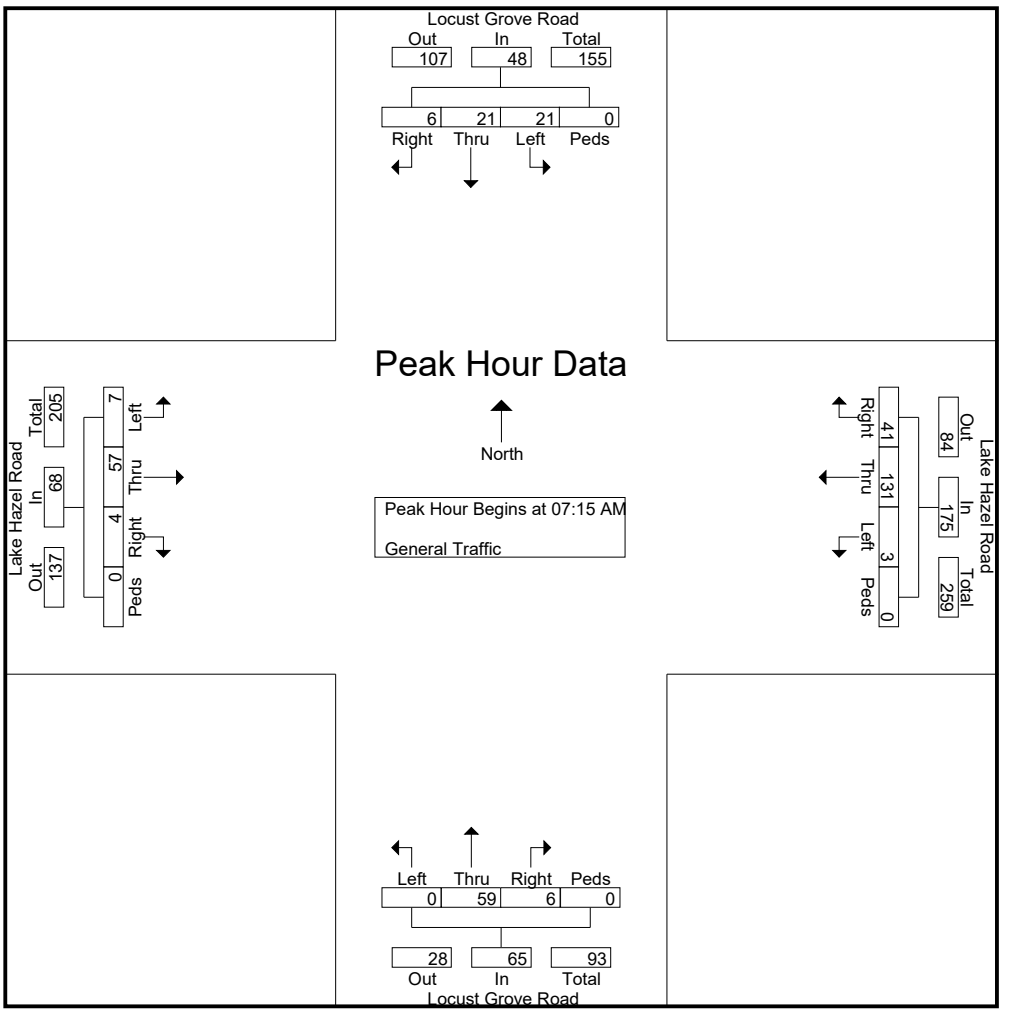
L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: HORR0038
Intersection: Locust Grove / Lake Hazel
City, State: Kuna, Idaho
Control: All Stop

File Name : Locust Grove Rd & Lake Hazel Rd
Site Code : 00000000
Start Date : 10/18/2017
Page No : 3

	Locust Grove Road From North					Lake Hazel Road From East					Locust Grove Road From South					Lake Hazel Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	**6**	4	0	10	**14**	27	0	0	41	0	8	0	0	8	0	7	**2**	0	9	68
07:30 AM	0	5	3	0	8	13	**45**	1	0	**59**	1	19	0	0	20	1	15	2	0	18	**105**
07:45 AM	2	6	5	0	13	6	35	**2**	0	43	2	**20**	0	0	**22**	**2**	17	2	0	**21**	99
08:00 AM	**4**	4	**9**	0	**17**	8	24	0	0	32	**3**	12	0	0	15	1	**18**	1	0	20	84
Total Volume	6	21	21	0	48	41	131	3	0	175	6	59	0	0	65	4	57	7	0	68	356
% App. Total	12.5	43.8	43.8	0		23.4	74.9	1.7	0		9.2	90.8	0	0		5.9	83.8	10.3	0		
PHF	.375	.875	.583	.000	.706	.732	.728	.375	.000	.742	.500	.738	.000	.000	.739	.500	.792	.875	.000	.810	.848



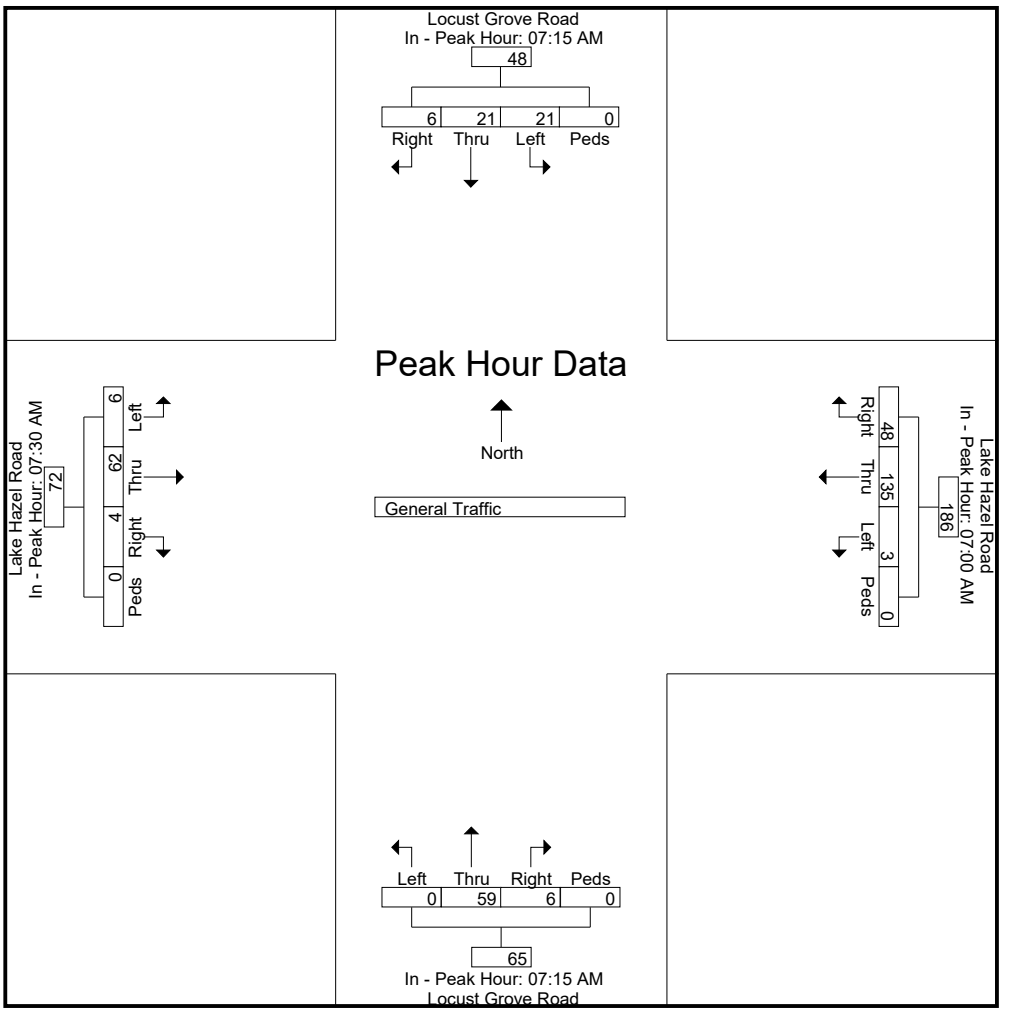
L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: HORR0038
Intersection: Locust Grove / Lake Hazel
City, State: Kuna, Idaho
Control: All Stop

File Name : Locust Grove Rd & Lake Hazel Rd
Site Code : 00000000
Start Date : 10/18/2017
Page No : 4

	Locust Grove Road From North					Lake Hazel Road From East					Locust Grove Road From South					Lake Hazel Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:15 AM					07:00 AM					07:15 AM					07:30 AM					
+0 mins.	0	**6**	4	0	10	**15**	28	0	0	43	0	8	0	0	8	1	15	**2**	0	18	
+15 mins.	0	5	3	0	8	14	27	0	0	41	1	19	0	0	20	**2**	17	2	0	**21**	
+30 mins.	2	6	5	0	13	13	**45**	1	0	**59**	2	**20**	0	0	**22**	1	**18**	1	0	20	
+45 mins.	**4**	4	**9**	0	**17**	6	35	**2**	0	43	**3**	12	0	0	15	0	12	1	0	13	
Total Volume	6	21	21	0	48	48	135	3	0	186	6	59	0	0	65	4	62	6	0	72	
% App. Total	12.5	43.8	43.8	0		25.8	72.6	1.6	0		9.2	90.8	0	0		5.6	86.1	8.3	0		
PHF	.375	.875	.583	.000	.706	.800	.750	.375	.000	.788	.500	.738	.000	.000	.739	.500	.861	.750	.000	.857	



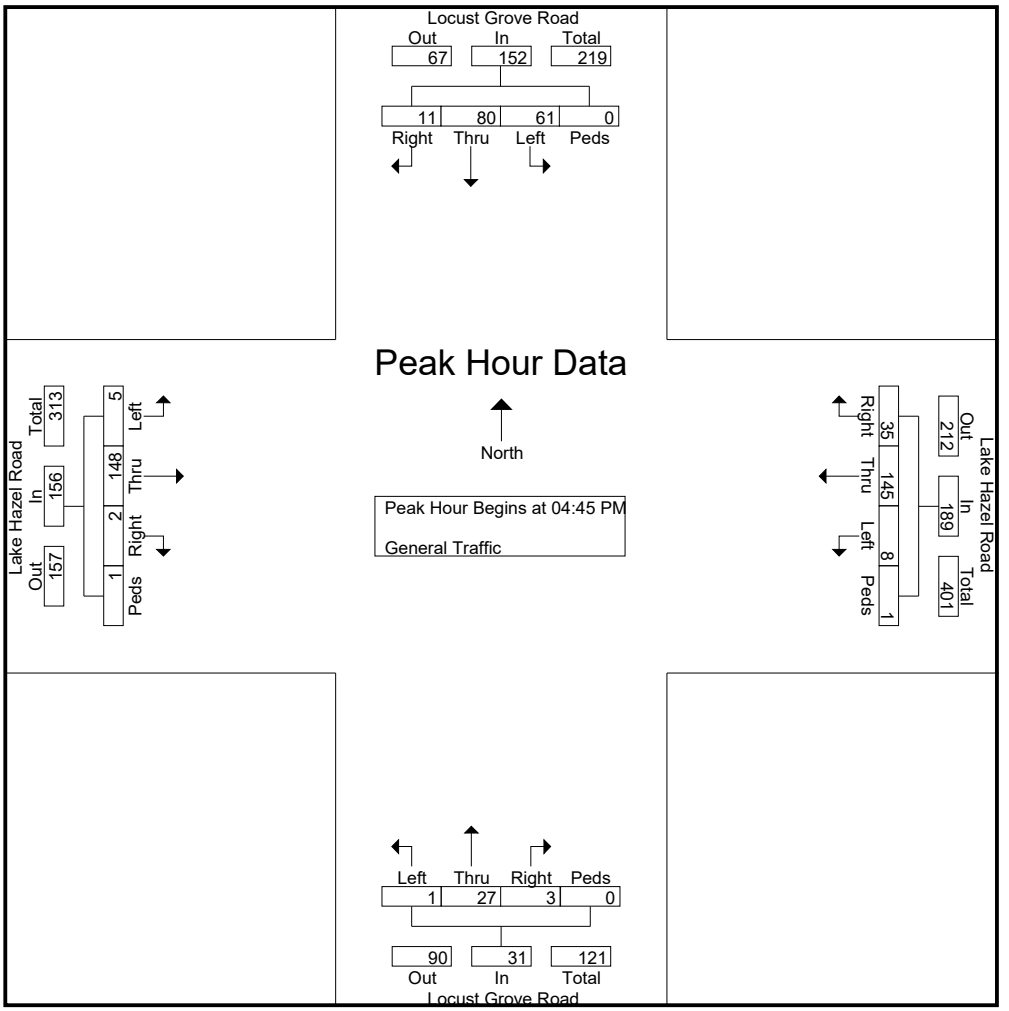
L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: HORR0038
Intersection: Locust Grove / Lake Hazel
City, State: Kuna, Idaho
Control: All Stop

File Name : Locust Grove Rd & Lake Hazel Rd
Site Code : 00000000
Start Date : 10/18/2017
Page No : 5

	Locust Grove Road From North					Lake Hazel Road From East					Locust Grove Road From South					Lake Hazel Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	1	17	15	0	33	9	31	1	0	41	0	**11**	**1**	0	**12**	**1**	**39**	1	0	**41**	127
05:00 PM	2	21	12	0	35	7	**43**	1	0	51	1	3	0	0	4	1	34	0	**1**	36	126
05:15 PM	1	**28**	**23**	0	**52**	**13**	37	2	0	**52**	0	8	0	0	8	0	36	**3**	0	39	**151**
05:30 PM	**7**	14	11	0	32	6	34	**4**	**1**	45	**2**	5	0	0	7	0	39	1	0	40	124
Total Volume	11	80	61	0	152	35	145	8	1	189	3	27	1	0	31	2	148	5	1	156	528
% App. Total	7.2	52.6	40.1	0		18.5	76.7	4.2	0.5		9.7	87.1	3.2	0		1.3	94.9	3.2	0.6		
PHF	.393	.714	.663	.000	.731	.673	.843	.500	.250	.909	.375	.614	.250	.000	.646	.500	.949	.417	.250	.951	.874



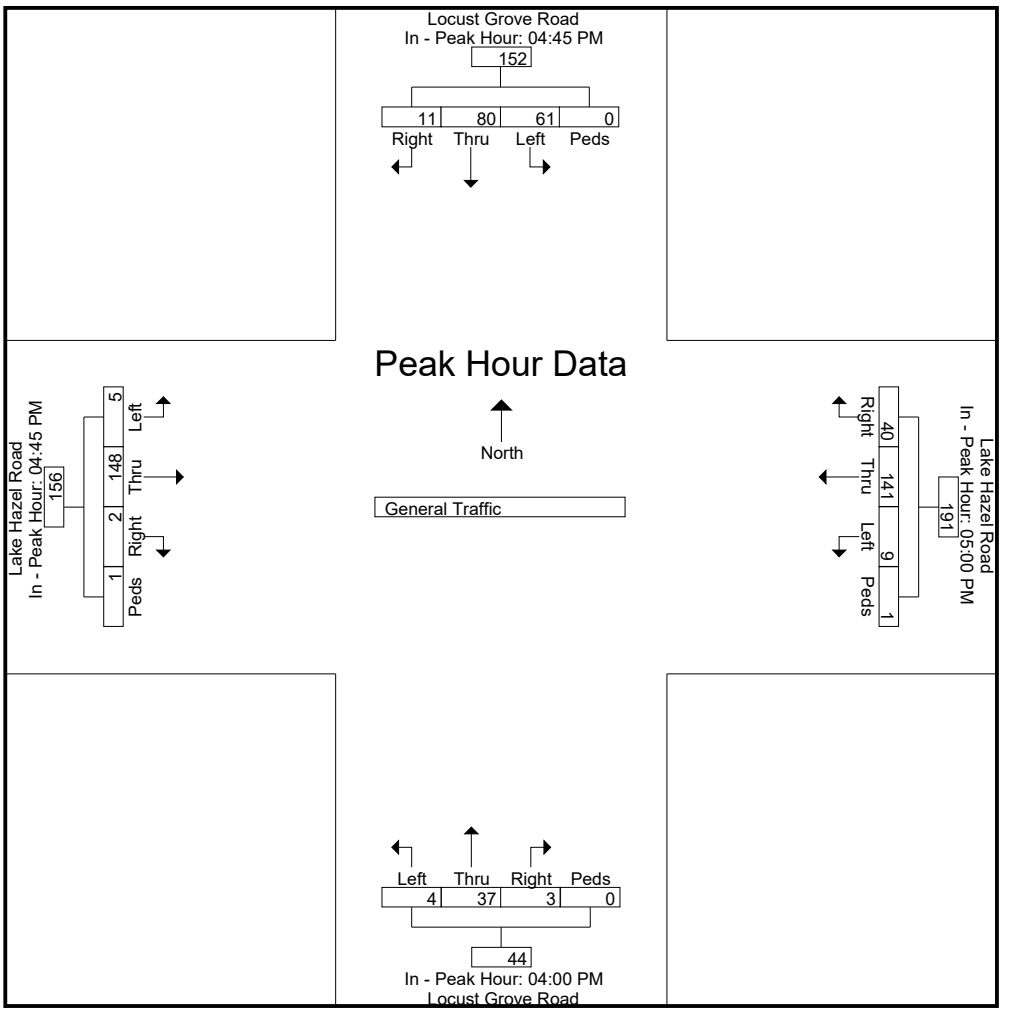
L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: HORR0038
Intersection: Locust Grove / Lake Hazel
City, State: Kuna, Idaho
Control: All Stop

File Name : Locust Grove Rd & Lake Hazel Rd
Site Code : 00000000
Start Date : 10/18/2017
Page No : 6

	Locust Grove Road From North					Lake Hazel Road From East					Locust Grove Road From South					Lake Hazel Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	04:45 PM					05:00 PM					04:00 PM					04:45 PM					
+0 mins.	1	17	15	0	33	7	**43**	1	0	51	0	8	1	0	9	**1**	**39**	1	0	**41**	
+15 mins.	2	21	12	0	35	13	37	2	0	**52**	**3**	9	**2**	0	**14**	1	34	0	**1**	36	
+30 mins.	1	**28**	**23**	0	**52**	6	34	**4**	**1**	45	0	9	0	0	9	0	36	**3**	0	39	
+45 mins.	**7**	14	11	0	32	**14**	27	2	0	43	0	**11**	1	0	12	0	39	1	0	40	
Total Volume	11	80	61	0	152	40	141	9	1	191	3	37	4	0	44	2	148	5	1	156	
% App. Total	7.2	52.6	40.1	0		20.9	73.8	4.7	0.5		6.8	84.1	9.1	0		1.3	94.9	3.2	0.6		
PHF	.393	.714	.663	.000	.731	.714	.820	.563	.250	.918	.250	.841	.500	.000	.786	.500	.949	.417	.250	.951	



L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: THOM0167
Intersection: SH-69 / Columbia Road
City, State: Ada County, Idaho
Control: Signalized

File Name : SH-69 & Columbia Rd
Site Code : 00000000
Start Date : 7/11/2018
Page No : 1

Groups Printed- General Traffic

	SH-69 (Meridian Road) From North					Columbia Road From East					SH-69 (Meridian Road) From South					Columbia Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	8	71	6	0	85	9	5	5	1	20	24	265	3	0	292	4	40	58	0	102	499
07:15 AM	5	90	6	0	101	17	5	6	0	28	30	314	3	0	347	3	46	62	0	111	587
07:30 AM	11	73	4	0	88	13	2	8	0	23	25	278	2	0	305	4	54	84	0	142	558
07:45 AM	7	87	5	0	99	9	4	7	0	20	20	226	2	0	248	7	38	61	0	106	473
Total	31	321	21	0	373	48	16	26	1	91	99	1083	10	0	1192	18	178	265	0	461	2117
08:00 AM	13	81	6	0	100	5	7	3	0	15	19	221	2	0	242	2	28	44	0	74	431
08:15 AM	5	77	9	0	91	7	6	9	0	22	16	224	1	0	241	2	34	57	0	93	447
08:30 AM	10	131	3	0	144	10	5	5	0	20	20	265	2	0	287	4	17	40	0	61	512
08:45 AM	5	104	6	0	115	7	3	6	0	16	10	202	0	0	212	2	18	44	0	64	407
Total	33	393	24	0	450	29	21	23	0	73	65	912	5	0	982	10	97	185	0	292	1797

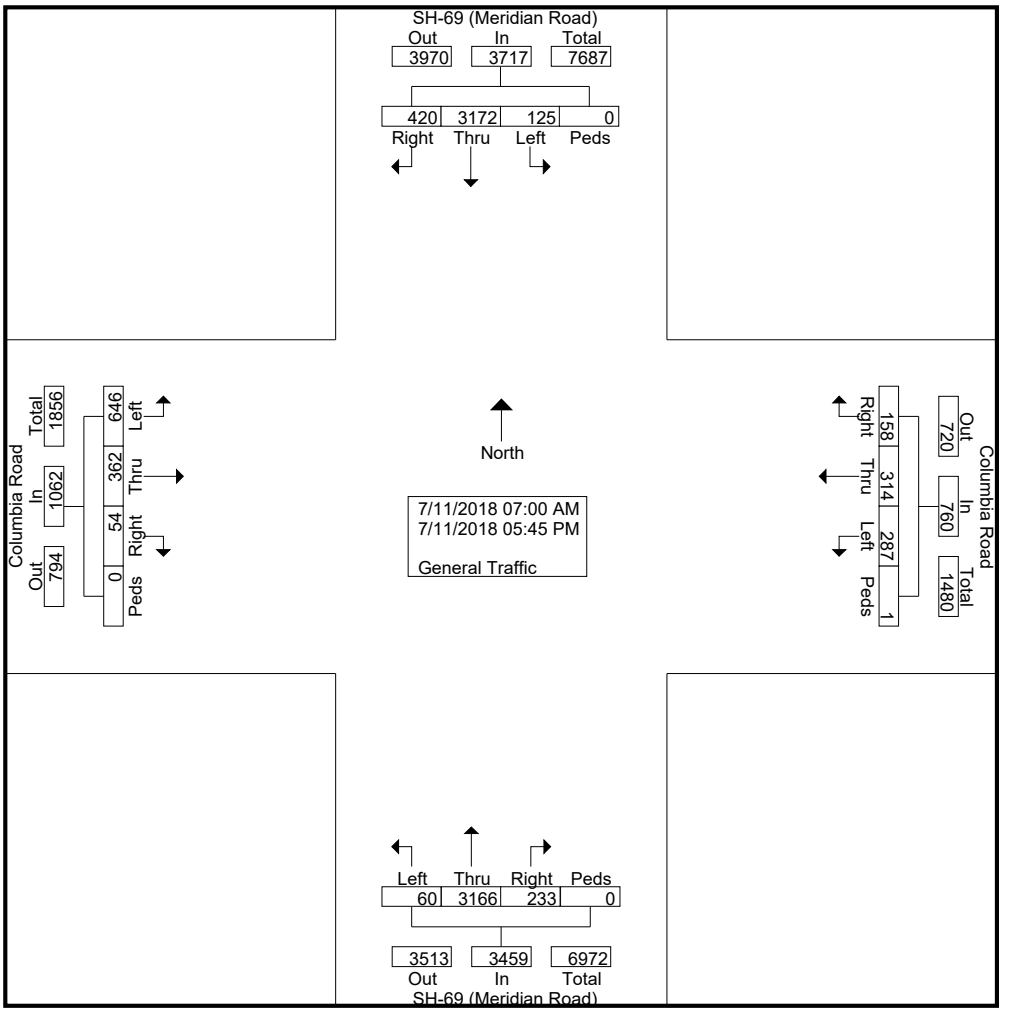
04:00 PM	32	272	2	0	306	9	17	17	0	43	9	140	6	0	155	4	10	24	0	38	542
04:15 PM	38	294	12	0	344	8	28	30	0	66	10	143	6	0	159	2	8	16	0	26	595
04:30 PM	33	317	12	0	362	6	21	23	0	50	4	164	8	0	176	3	5	27	0	35	623
04:45 PM	46	284	5	0	335	8	21	31	0	60	14	149	5	0	168	7	11	28	0	46	609
Total	149	1167	31	0	1347	31	87	101	0	219	37	596	25	0	658	16	34	95	0	145	2369
05:00 PM	56	279	11	0	346	7	60	35	0	102	11	170	3	0	184	3	17	26	0	46	678
05:15 PM	49	321	12	0	382	14	44	55	0	113	10	126	9	0	145	3	12	32	0	47	687
05:30 PM	57	363	13	0	433	10	43	26	0	79	7	142	6	0	155	2	12	24	0	38	705
05:45 PM	45	328	13	0	386	19	43	21	0	83	4	137	2	0	143	2	12	19	0	33	645
Total	207	1291	49	0	1547	50	190	137	0	377	32	575	20	0	627	10	53	101	0	164	2715
Grand Total	420	3172	125	0	3717	158	314	287	1	760	233	3166	60	0	3459	54	362	646	0	1062	8998
Apprch %	11.3	85.3	3.4	0		20.8	41.3	37.8	0.1		6.7	91.5	1.7	0		5.1	34.1	60.8	0		
Total %	4.7	35.3	1.4	0	41.3	1.8	3.5	3.2	0	8.4	2.6	35.2	0.7	0	38.4	0.6	4	7.2	0	11.8	

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: THOM0167
Intersection: SH-69 / Columbia Road
City, State: Ada County, Idaho
Control: Signalized

File Name : SH-69 & Columbia Rd
Site Code : 00000000
Start Date : 7/11/2018
Page No : 2



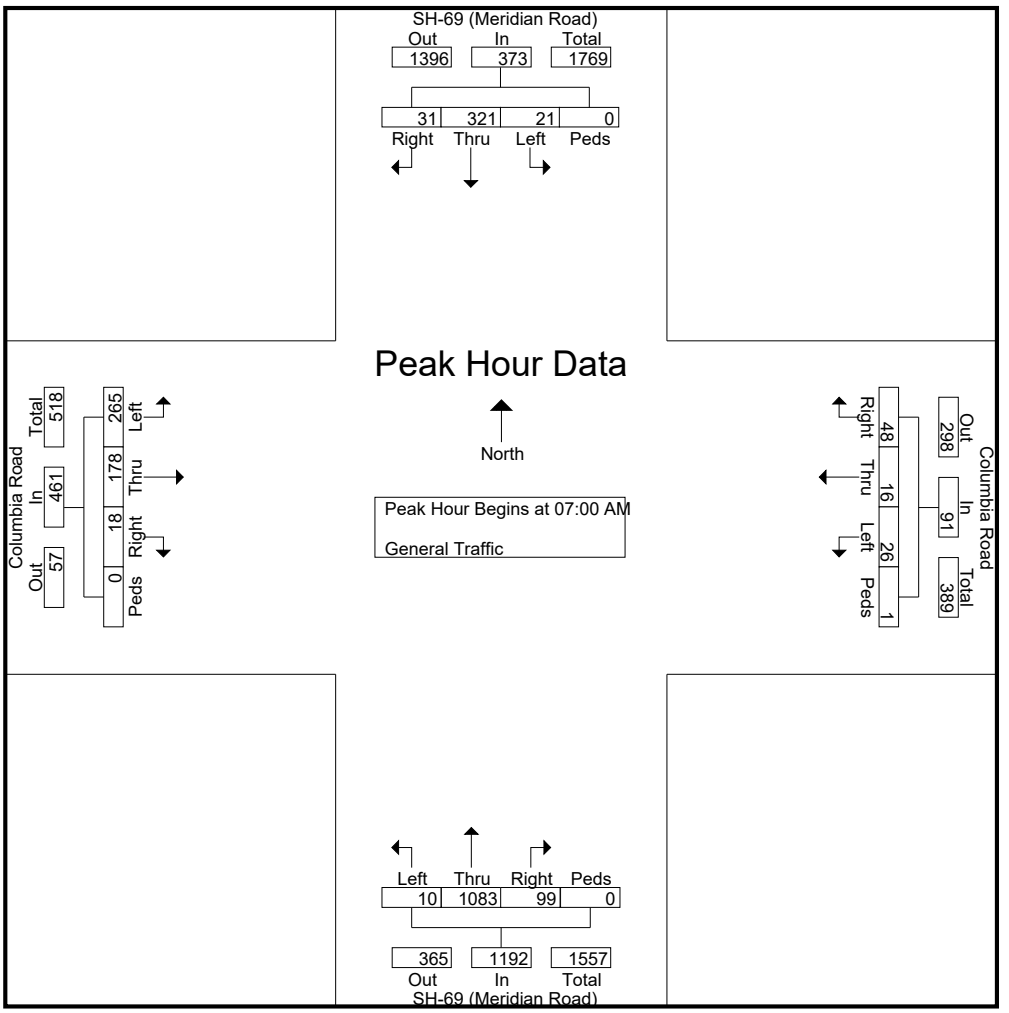
L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: THOM0167
Intersection: SH-69 / Columbia Road
City, State: Ada County, Idaho
Control: Signalized

File Name : SH-69 & Columbia Rd
Site Code : 00000000
Start Date : 7/11/2018
Page No : 3

	SH-69 (Meridian Road) From North					Columbia Road From East					SH-69 (Meridian Road) From South					Columbia Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	8	71	**6**	0	85	9	**5**	5	**1**	20	24	265	**3**	0	292	4	40	58	0	102	499
07:15 AM	5	**90**	6	0	**101**	**17**	5	6	0	**28**	**30**	**314**	3	0	**347**	3	46	62	0	111	**587**
07:30 AM	**11**	73	4	0	88	13	2	**8**	0	23	25	278	2	0	305	4	**54**	**84**	0	**142**	558
07:45 AM	7	87	5	0	99	9	4	7	0	20	20	226	2	0	248	**7**	38	61	0	106	473
Total Volume	31	321	21	0	373	48	16	26	1	91	99	1083	10	0	1192	18	178	265	0	461	2117
% App. Total	8.3	86.1	5.6	0		52.7	17.6	28.6	1.1		8.3	90.9	0.8	0		3.9	38.6	57.5	0		
PHF	.705	.892	.875	.000	.923	.706	.800	.813	.250	.813	.825	.862	.833	.000	.859	.643	.824	.789	.000	.812	.902



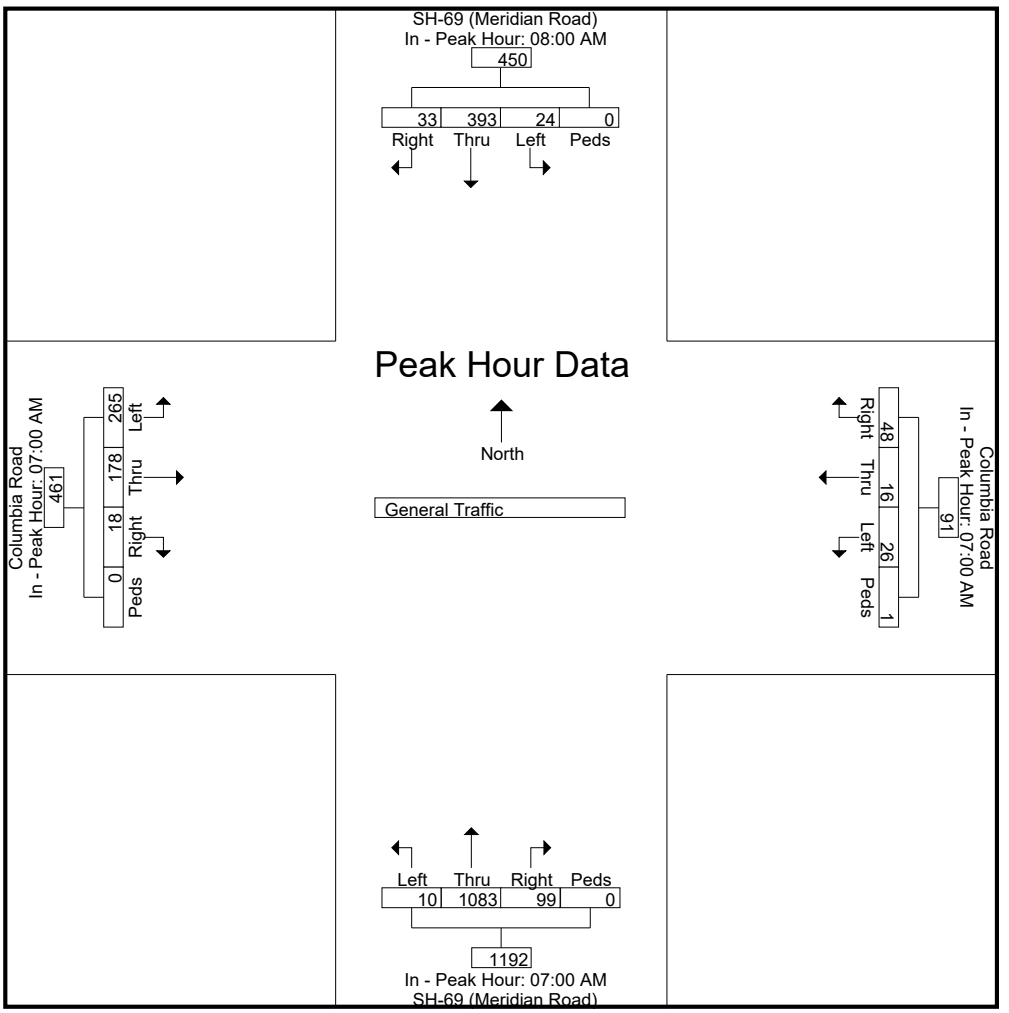
L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: THOM0167
Intersection: SH-69 / Columbia Road
City, State: Ada County, Idaho
Control: Signalized

File Name : SH-69 & Columbia Rd
Site Code : 00000000
Start Date : 7/11/2018
Page No : 4

	SH-69 (Meridian Road) From North					Columbia Road From East					SH-69 (Meridian Road) From South					Columbia Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	08:00 AM					07:00 AM					07:00 AM					07:00 AM					
+0 mins.	**13**	81	6	0	100	9	**5**	5	**1**	20	24	265	**3**	0	292	4	40	58	0	102	
+15 mins.	5	77	**9**	0	91	**17**	5	6	0	**28**	**30**	**314**	3	0	**347**	3	46	62	0	111	
+30 mins.	10	**131**	3	0	**144**	13	2	**8**	0	23	25	278	2	0	305	4	**54**	**84**	0	**142**	
+45 mins.	5	104	6	0	115	9	4	7	0	20	20	226	2	0	248	**7**	38	61	0	106	
Total Volume	33	393	24	0	450	48	16	26	1	91	99	1083	10	0	1192	18	178	265	0	461	
% App. Total	7.3	87.3	5.3	0		52.7	17.6	28.6	1.1		8.3	90.9	0.8	0		3.9	38.6	57.5	0		
PHF	.635	.750	.667	.000	.781	.706	.800	.813	.250	.813	.825	.862	.833	.000	.859	.643	.824	.789	.000	.812	



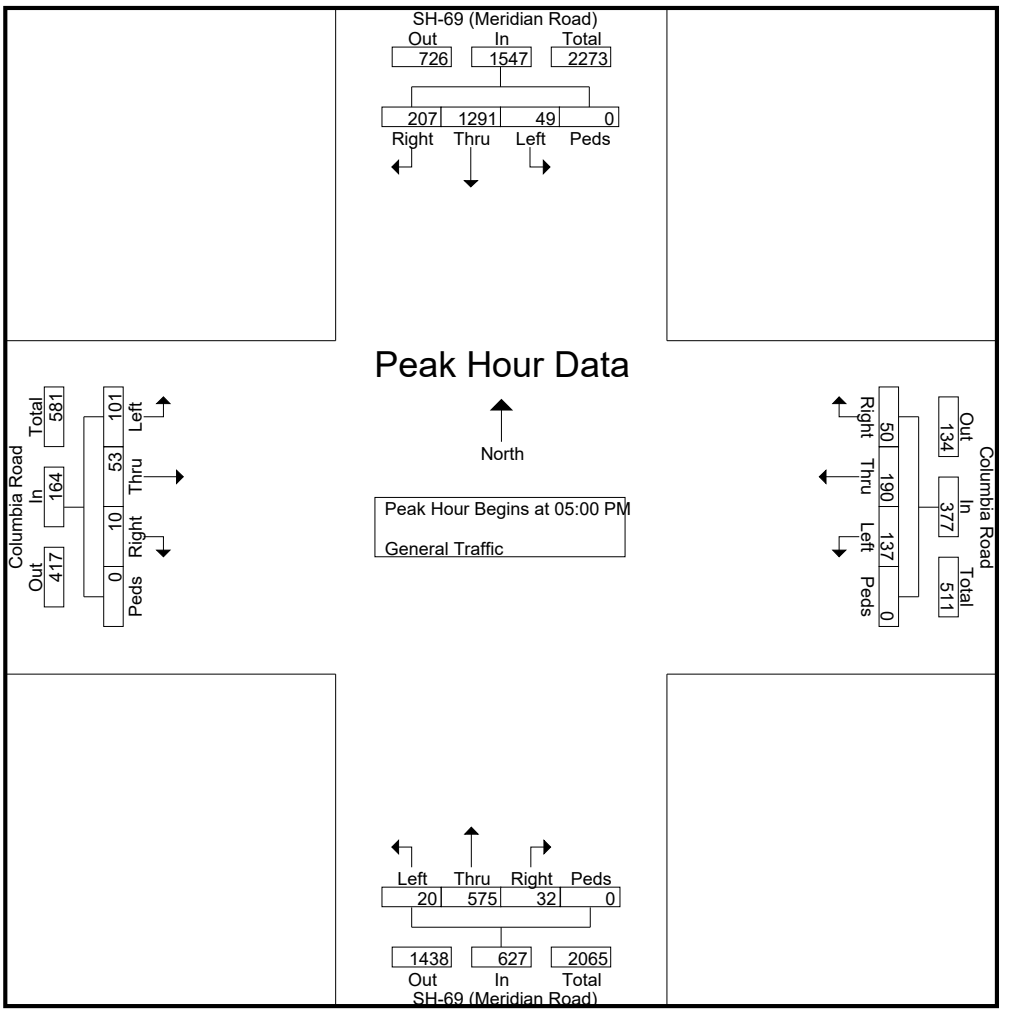
L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: THOM0167
Intersection: SH-69 / Columbia Road
City, State: Ada County, Idaho
Control: Signalized

File Name : SH-69 & Columbia Rd
Site Code : 00000000
Start Date : 7/11/2018
Page No : 5

	SH-69 (Meridian Road) From North					Columbia Road From East					SH-69 (Meridian Road) From South					Columbia Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	56	279	11	0	346	7	**60**	35	0	102	**11**	**170**	3	0	**184**	**3**	**17**	26	0	46	678
05:15 PM	49	321	12	0	382	14	44	**55**	0	**113**	10	126	**9**	0	145	3	12	**32**	0	**47**	687
05:30 PM	**57**	**363**	**13**	0	**433**	10	43	26	0	79	7	142	6	0	155	2	12	24	0	38	**705**
05:45 PM	45	328	13	0	386	**19**	43	21	0	83	4	137	2	0	143	2	12	19	0	33	645
Total Volume	207	1291	49	0	1547	50	190	137	0	377	32	575	20	0	627	10	53	101	0	164	2715
% App. Total	13.4	83.5	3.2	0		13.3	50.4	36.3	0		5.1	91.7	3.2	0		6.1	32.3	61.6	0		
PHF	.908	.889	.942	.000	.893	.658	.792	.623	.000	.834	.727	.846	.556	.000	.852	.833	.779	.789	.000	.872	.963



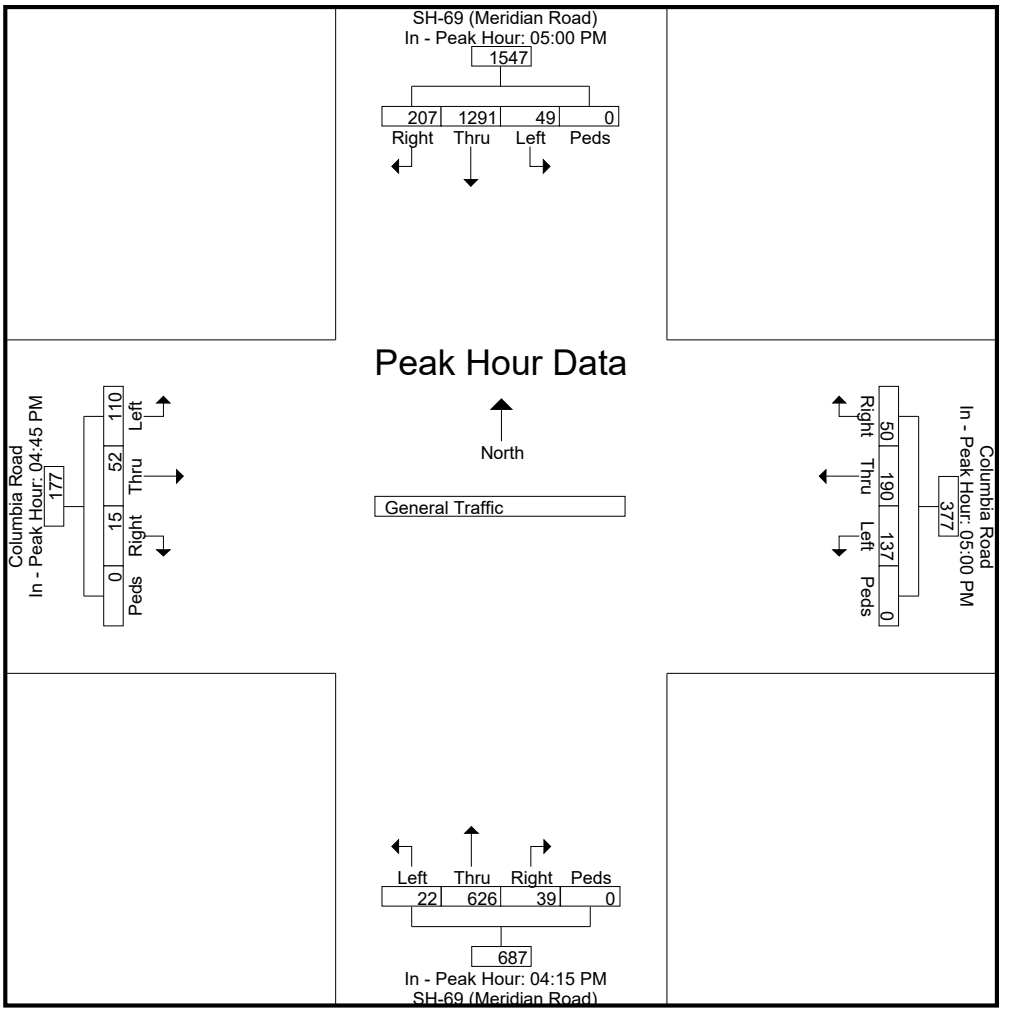
L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: THOM0167
Intersection: SH-69 / Columbia Road
City, State: Ada County, Idaho
Control: Signalized

File Name : SH-69 & Columbia Rd
Site Code : 00000000
Start Date : 7/11/2018
Page No : 6

	SH-69 (Meridian Road) From North					Columbia Road From East					SH-69 (Meridian Road) From South					Columbia Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	05:00 PM					05:00 PM					04:15 PM					04:45 PM					
+0 mins.	56	279	11	0	346	7	**60**	35	0	102	10	143	6	0	159	**7**	11	28	0	46	
+15 mins.	49	321	12	0	382	14	44	**55**	0	**113**	4	164	**8**	0	176	3	**17**	26	0	46	
+30 mins.	**57**	**363**	**13**	0	**433**	10	43	26	0	79	**14**	149	5	0	168	3	12	**32**	0	**47**	
+45 mins.	45	328	13	0	386	**19**	43	21	0	83	11	**170**	3	0	**184**	2	12	24	0	38	
Total Volume	207	1291	49	0	1547	50	190	137	0	377	39	626	22	0	687	15	52	110	0	177	
% App. Total	13.4	83.5	3.2	0		13.3	50.4	36.3	0		5.7	91.1	3.2	0		8.5	29.4	62.1	0		
PHF	.908	.889	.942	.000	.893	.658	.792	.623	.000	.834	.696	.921	.688	.000	.933	.536	.765	.859	.000	.941	



L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: HORR0038
Intersection: Locust Grove / Columbia Rd
City, State: Kuna, Idaho
Control: All Stop

File Name : Locust Grove Rd & Columbia Rd
Site Code : 00000000
Start Date : 10/18/2017
Page No : 1

Groups Printed- General Traffic

	Locust Grove Road From North					Columbia Road From East					Locust Grove Road From South					Columbia Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	1	0	1	3	24	0	0	27	3	2	3	0	8	0	43	2	0	45	81
07:15 AM	1	2	3	0	6	2	29	2	0	33	2	5	1	0	8	1	74	2	0	77	124
07:30 AM	2	1	2	0	5	6	37	0	0	43	3	9	1	0	13	3	70	6	0	79	140
07:45 AM	0	4	5	0	9	3	26	3	0	32	2	7	0	0	9	1	79	9	0	89	139
Total	3	7	11	0	21	14	116	5	0	135	10	23	5	0	38	5	266	19	0	290	484
08:00 AM	1	1	1	0	3	3	16	1	0	20	5	4	1	0	10	6	78	7	0	91	124
08:15 AM	3	3	0	0	6	1	12	1	0	14	4	4	0	0	8	2	38	3	0	43	71
08:30 AM	0	3	2	0	5	1	12	0	0	13	1	7	0	0	8	0	31	6	0	37	63
08:45 AM	2	5	2	0	9	3	14	0	0	17	2	2	0	0	4	1	29	3	0	33	63
Total	6	12	5	0	23	8	54	2	0	64	12	17	1	0	30	9	176	19	0	204	321

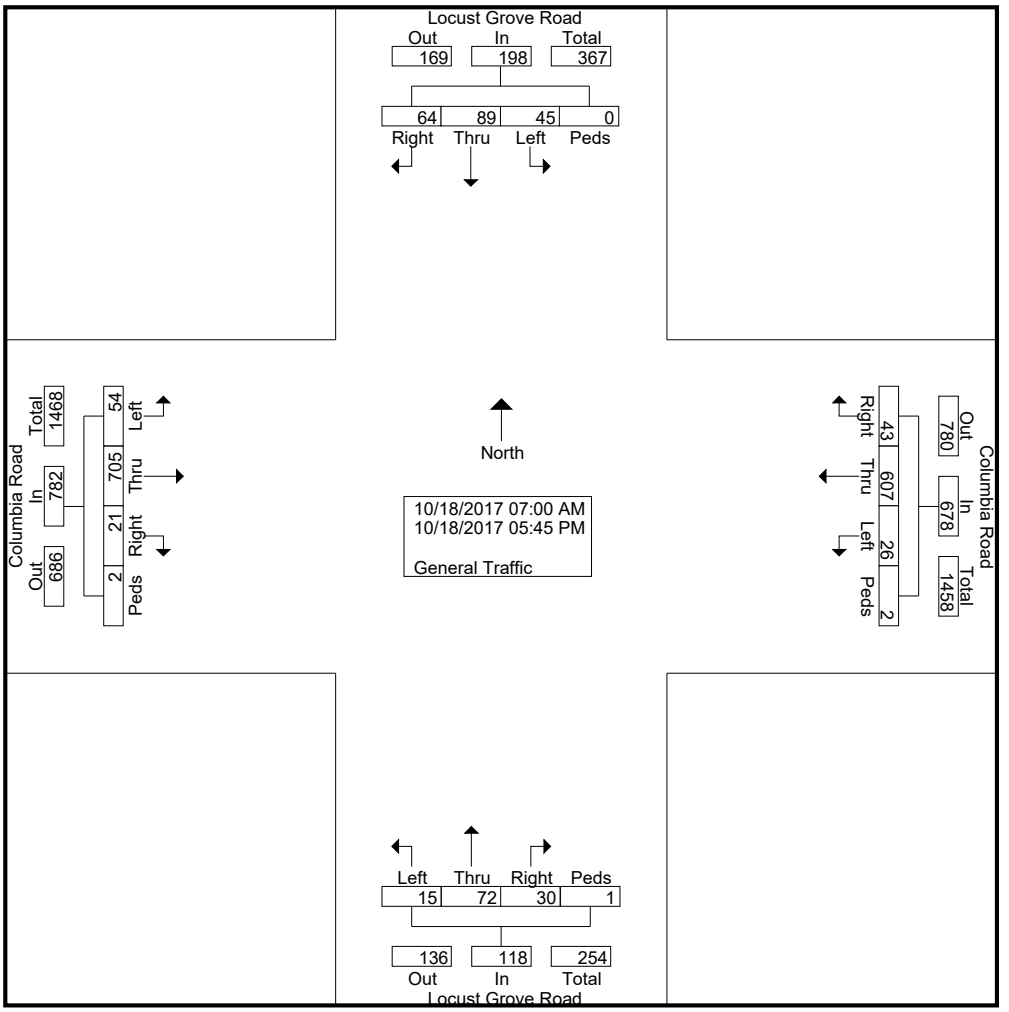
04:00 PM	5	9	5	0	19	4	33	1	0	38	1	5	1	0	7	3	27	2	1	33	97
04:15 PM	6	11	5	0	22	0	41	0	1	42	2	6	4	0	12	0	30	4	0	34	110
04:30 PM	2	5	3	0	10	5	52	2	0	59	3	4	2	0	9	1	28	0	0	29	107
04:45 PM	5	9	6	0	20	4	63	3	0	70	0	3	0	0	3	1	32	5	0	38	131
Total	18	34	19	0	71	13	189	6	1	209	6	18	7	0	31	5	117	11	1	134	445
05:00 PM	9	8	2	0	19	1	66	3	0	70	0	2	1	0	3	1	36	1	1	39	131
05:15 PM	10	12	5	0	27	2	72	5	1	80	1	4	0	0	5	0	32	1	0	33	145
05:30 PM	7	9	3	0	19	2	57	2	0	61	0	2	1	1	4	1	31	0	0	32	116
05:45 PM	11	7	0	0	18	3	53	3	0	59	1	6	0	0	7	0	47	3	0	50	134
Total	37	36	10	0	83	8	248	13	1	270	2	14	2	1	19	2	146	5	1	154	526
Grand Total	64	89	45	0	198	43	607	26	2	678	30	72	15	1	118	21	705	54	2	782	1776
Apprch %	32.3	44.9	22.7	0		6.3	89.5	3.8	0.3		25.4	61	12.7	0.8		2.7	90.2	6.9	0.3		
Total %	3.6	5	2.5	0	11.1	2.4	34.2	1.5	0.1	38.2	1.7	4.1	0.8	0.1	6.6	1.2	39.7	3	0.1	44	

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: HORR0038
Intersection: Locust Grove / Columbia Rd
City, State: Kuna, Idaho
Control: All Stop

File Name : Locust Grove Rd & Columbia Rd
Site Code : 00000000
Start Date : 10/18/2017
Page No : 2



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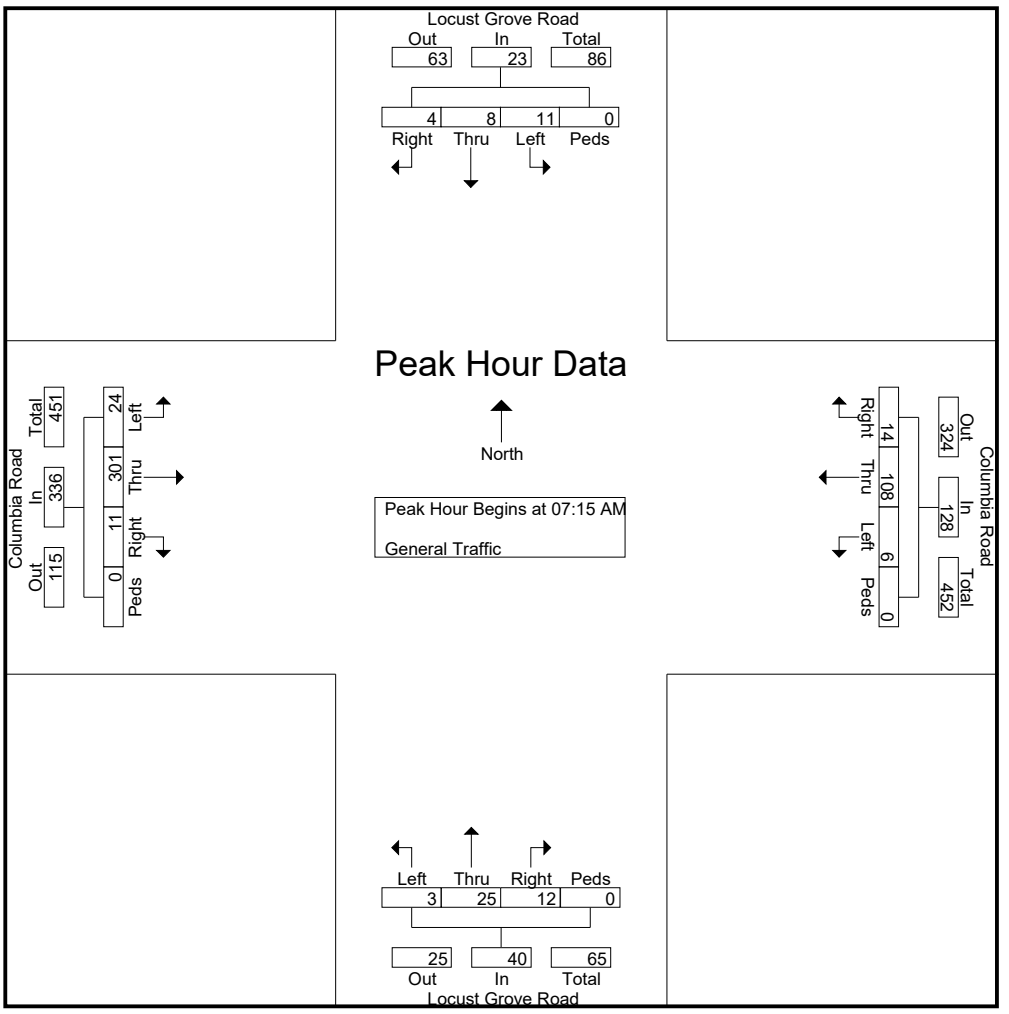
Study: HORR0038
Intersection: Locust Grove / Columbia Rd
City, State: Kuna, Idaho
Control: All Stop

File Name : Locust Grove Rd & Columbia Rd
Site Code : 00000000
Start Date : 10/18/2017
Page No : 3

	Locust Grove Road From North					Columbia Road From East					Locust Grove Road From South					Columbia Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	1	2	3	0	6	2	29	2	0	33	2	5	**1**	0	8	1	74	2	0	77	124
07:30 AM	**2**	1	2	0	5	**6**	**37**	0	0	**43**	3	**9**	1	0	**13**	3	70	6	0	79	**140**
07:45 AM	0	**4**	**5**	0	**9**	3	26	**3**	0	32	2	7	0	0	9	1	**79**	**9**	0	89	139
08:00 AM	1	1	1	0	3	3	16	1	0	20	**5**	4	1	0	10	**6**	78	7	0	**91**	124
Total Volume	4	8	11	0	23	14	108	6	0	128	12	25	3	0	40	11	301	24	0	336	527
% App. Total	17.4	34.8	47.8	0		10.9	84.4	4.7	0		30	62.5	7.5	0		3.3	89.6	7.1	0		
PHF	.500	.500	.550	.000	.639	.583	.730	.500	.000	.744	.600	.694	.750	.000	.769	.458	.953	.667	.000	.923	.941



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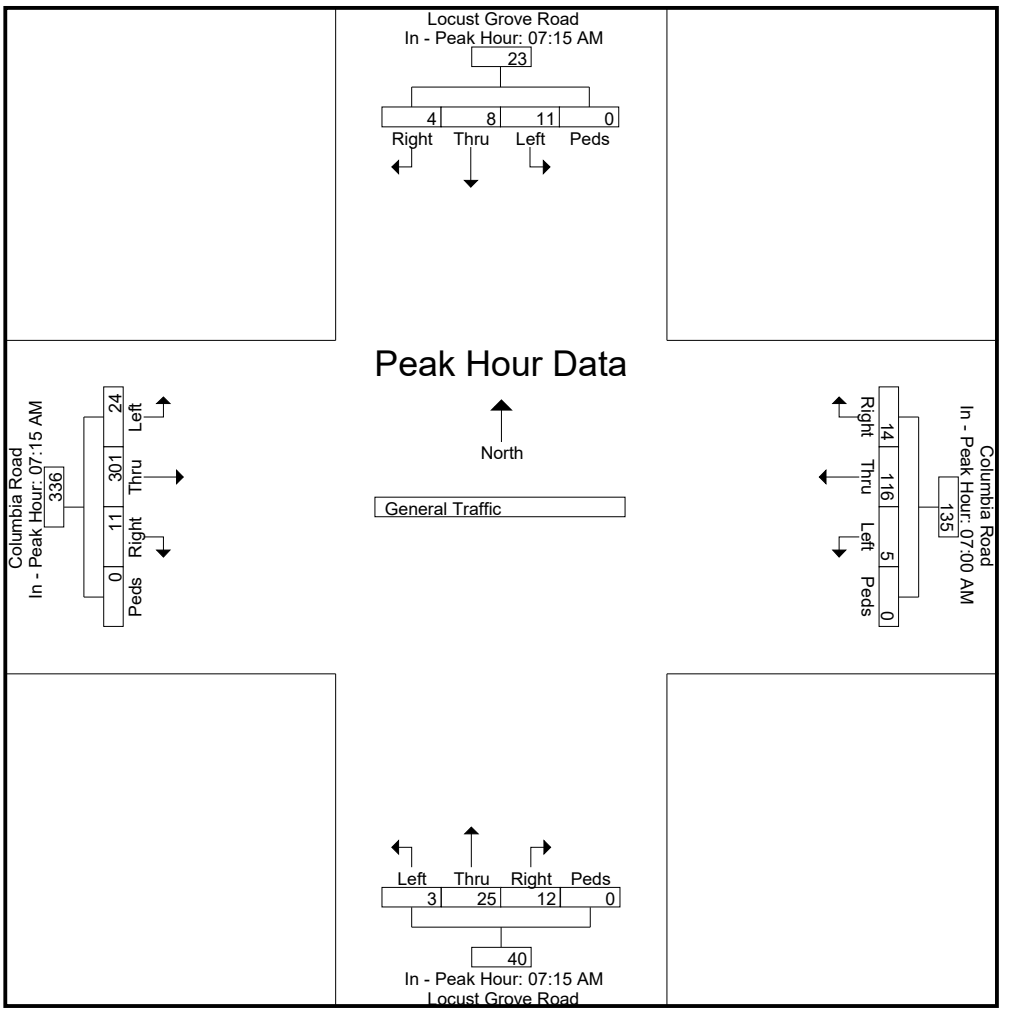
Study: HORR0038
Intersection: Locust Grove / Columbia Rd
City, State: Kuna, Idaho
Control: All Stop

File Name : Locust Grove Rd & Columbia Rd
Site Code : 00000000
Start Date : 10/18/2017
Page No : 4

	Locust Grove Road From North					Columbia Road From East					Locust Grove Road From South					Columbia Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:15 AM					07:00 AM					07:15 AM					07:15 AM					
+0 mins.	1	2	3	0	6	3	24	0	0	27	2	5	**1**	0	8	1	74	2	0	77	
+15 mins.	**2**	1	2	0	5	2	29	2	0	33	3	**9**	1	0	**13**	3	70	6	0	79	
+30 mins.	0	**4**	**5**	0	**9**	**6**	**37**	0	0	**43**	2	7	0	0	9	1	**79**	**9**	0	89	
+45 mins.	1	1	1	0	3	3	26	**3**	0	32	**5**	4	1	0	10	**6**	78	7	0	**91**	
Total Volume	4	8	11	0	23	14	116	5	0	135	12	25	3	0	40	11	301	24	0	336	
% App. Total	17.4	34.8	47.8	0		10.4	85.9	3.7	0		30	62.5	7.5	0		3.3	89.6	7.1	0		
PHF	.500	.500	.550	.000	.639	.583	.784	.417	.000	.785	.600	.694	.750	.000	.769	.458	.953	.667	.000	.923	



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Idaho (208) 860-7554 Utah (801) 413-2993

Study: HORR0038
Intersection: Locust Grove / Columbia Rd
City, State: Kuna, Idaho
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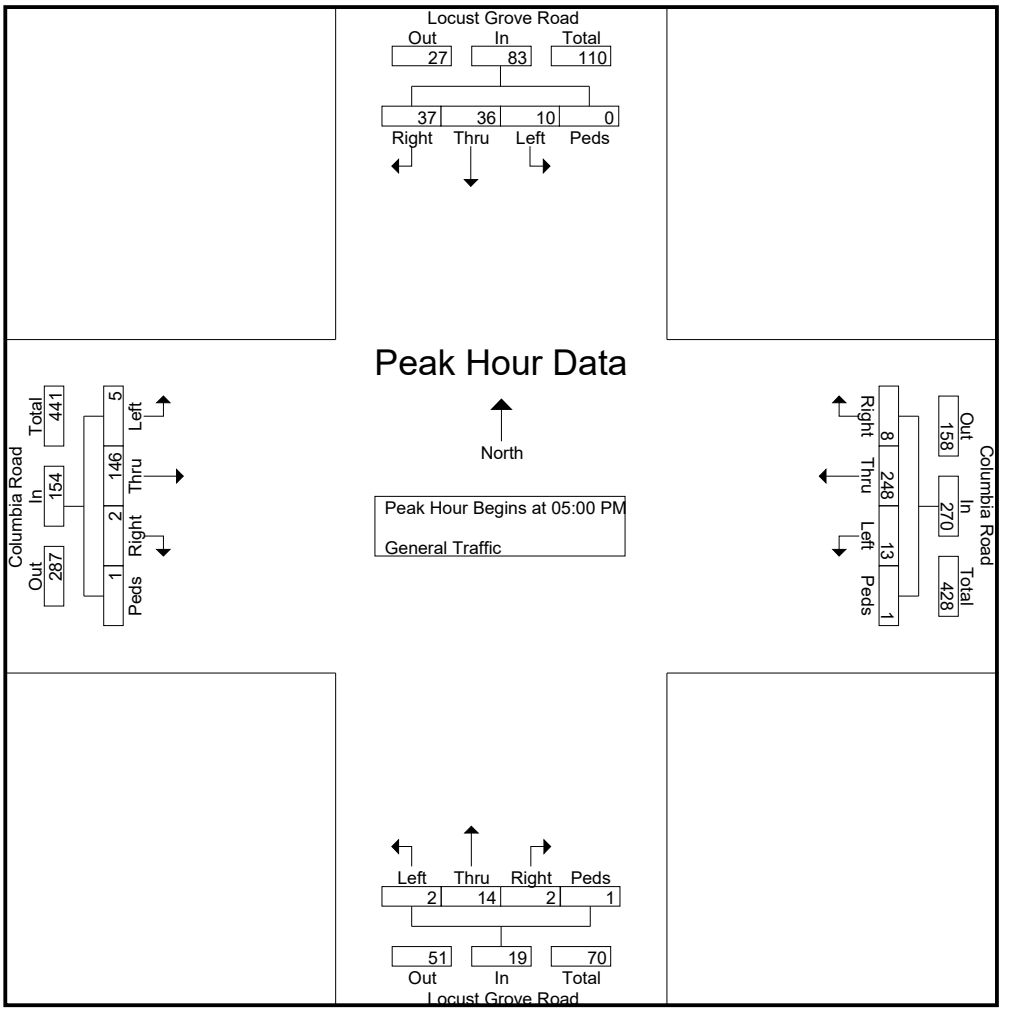
File Name : Locust Grove Rd & Columbia Rd
Site Code : 00000000
Start Date : 10/18/2017
Page No : 5

	Locust Grove Road From North					Columbia Road From East					Locust Grove Road From South					Columbia Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	9	8	2	0	19	1	66	3	0	70	0	2	**1**	0	3	**1**	36	1	**1**	39	131
05:15 PM	10	**12**	**5**	0	**27**	2	**72**	**5**	**1**	**80**	**1**	4	0	0	5	0	32	1	0	33	**145**
05:30 PM	7	9	3	0	19	2	57	2	0	61	0	2	1	**1**	4	1	31	0	0	32	116
05:45 PM	**11**	7	0	0	18	**3**	53	3	0	59	1	**6**	0	0	**7**	0	**47**	**3**	0	**50**	134
Total Volume	37	36	10	0	83	8	248	13	1	270	2	14	2	1	19	2	146	5	1	154	526
% App. Total	44.6	43.4	12	0		3	91.9	4.8	0.4		10.5	73.7	10.5	5.3		1.3	94.8	3.2	0.6		
PHF	.841	.750	.500	.000	.769	.667	.861	.650	.250	.844	.500	.583	.500	.250	.679	.500	.777	.417	.250	.770	.907



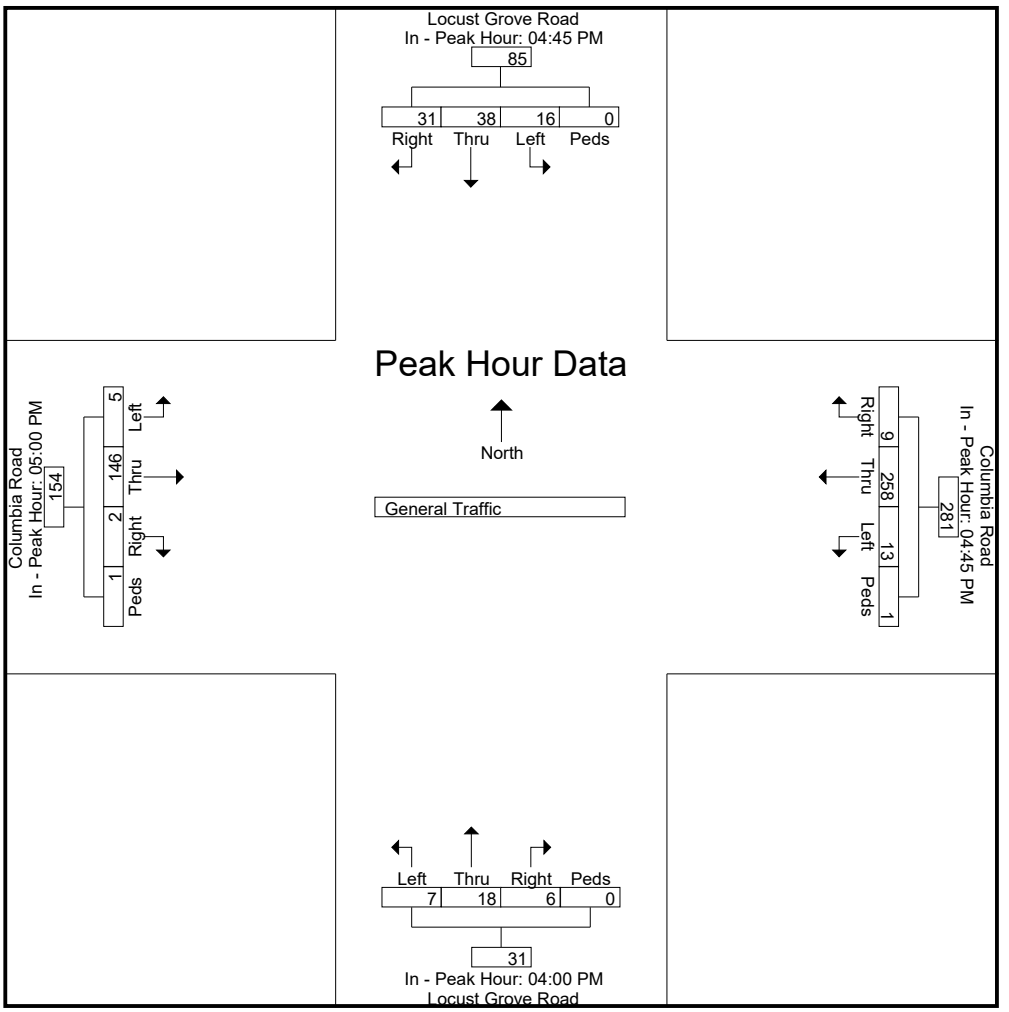
L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: HORR0038
Intersection: Locust Grove / Columbia Rd
City, State: Kuna, Idaho
Control: All Stop

File Name : Locust Grove Rd & Columbia Rd
Site Code : 00000000
Start Date : 10/18/2017
Page No : 6

	Locust Grove Road From North					Columbia Road From East					Locust Grove Road From South					Columbia Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	04:45 PM					04:45 PM					04:00 PM					05:00 PM					
+0 mins.	5	9	**6**	0	20	**4**	63	3	0	70	1	5	1	0	7	**1**	36	1	**1**	39	
+15 mins.	9	8	2	0	19	1	66	3	0	70	2	**6**	**4**	0	**12**	0	32	1	0	33	
+30 mins.	**10**	**12**	5	0	**27**	2	**72**	**5**	**1**	**80**	**3**	4	2	0	9	1	31	0	0	32	
+45 mins.	7	9	3	0	19	2	57	2	0	61	0	3	0	0	3	0	**47**	**3**	0	**50**	
Total Volume	31	38	16	0	85	9	258	13	1	281	6	18	7	0	31	2	146	5	1	154	
% App. Total	36.5	44.7	18.8	0		3.2	91.8	4.6	0.4		19.4	58.1	22.6	0		1.3	94.8	3.2	0.6		
PHF	.775	.792	.667	.000	.787	.563	.896	.650	.250	.878	.500	.750	.438	.000	.646	.500	.777	.417	.250	.770	



L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: HORR0038
Intersection: Eagle Rd / Columbia Rd
City, State: Kuna, Idaho
Control: All Stop

File Name : Eagle Rd & Columbia Rd
Site Code : 00000000
Start Date : 10/18/2017
Page No : 1

Groups Printed- General Traffic

	Eagle Road From North					Columbia Road From East					Eagle Road From South					Columbia Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	2	1	5	0	8	1	24	1	0	26	2	6	4	0	12	0	28	24	0	52	98
07:15 AM	3	0	2	0	5	8	28	0	0	36	0	4	3	0	7	0	40	35	0	75	123
07:30 AM	3	0	6	0	9	9	36	0	0	45	1	2	1	0	4	0	46	31	0	77	135
07:45 AM	6	3	7	0	16	14	26	0	0	40	0	3	1	0	4	2	48	28	0	78	138
Total	14	4	20	0	38	32	114	1	0	147	3	15	9	0	27	2	162	118	0	282	494
08:00 AM	3	4	2	0	9	8	14	0	0	22	0	4	2	0	6	2	51	29	0	82	119
08:15 AM	2	1	0	0	3	8	12	0	0	20	1	5	0	0	6	1	24	20	0	45	74
08:30 AM	5	3	4	0	12	4	10	0	0	14	1	7	0	0	8	1	20	17	0	38	72
08:45 AM	3	1	4	0	8	6	12	0	0	18	0	8	0	0	8	0	23	7	0	30	64
Total	13	9	10	0	32	26	48	0	0	74	2	24	2	0	28	4	118	73	0	195	329

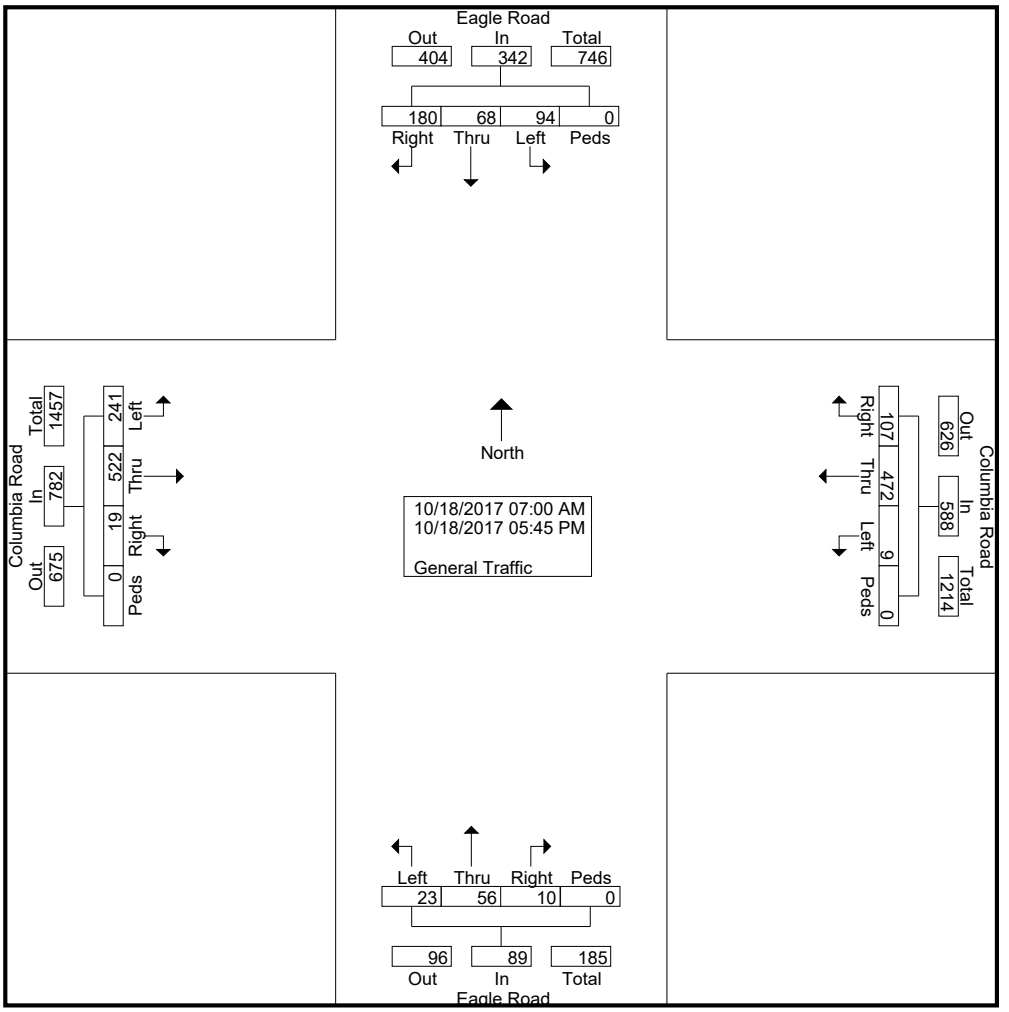
04:00 PM	13	8	3	0	24	7	22	0	0	29	2	3	1	0	6	1	28	4	0	33	92
04:15 PM	13	11	7	0	31	9	29	2	0	40	0	2	3	0	5	1	25	10	0	36	112
04:30 PM	14	5	15	0	34	8	39	1	0	48	1	1	3	0	5	1	33	5	0	39	126
04:45 PM	19	9	6	0	34	4	45	1	0	50	0	1	1	0	2	0	28	4	0	32	118
Total	59	33	31	0	123	28	135	4	0	167	3	7	8	0	18	3	114	23	0	140	448
05:00 PM	24	3	14	0	41	4	48	1	0	53	2	1	1	0	4	4	27	8	0	39	137
05:15 PM	28	6	4	0	38	7	45	1	0	53	0	3	0	0	3	4	25	8	0	37	131
05:30 PM	23	4	7	0	34	6	43	2	0	51	0	4	1	0	5	2	35	6	0	43	133
05:45 PM	19	9	8	0	36	4	39	0	0	43	0	2	2	0	4	0	41	5	0	46	129
Total	94	22	33	0	149	21	175	4	0	200	2	10	4	0	16	10	128	27	0	165	530
Grand Total	180	68	94	0	342	107	472	9	0	588	10	56	23	0	89	19	522	241	0	782	1801
Apprch %	52.6	19.9	27.5	0		18.2	80.3	1.5	0		11.2	62.9	25.8	0		2.4	66.8	30.8	0		
Total %	10	3.8	5.2	0	19	5.9	26.2	0.5	0	32.6	0.6	3.1	1.3	0	4.9	1.1	29	13.4	0	43.4	

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: HORR0038
Intersection: Eagle Rd / Columbia Rd
City, State: Kuna, Idaho
Control: All Stop

File Name : Eagle Rd & Columbia Rd
Site Code : 00000000
Start Date : 10/18/2017
Page No : 2



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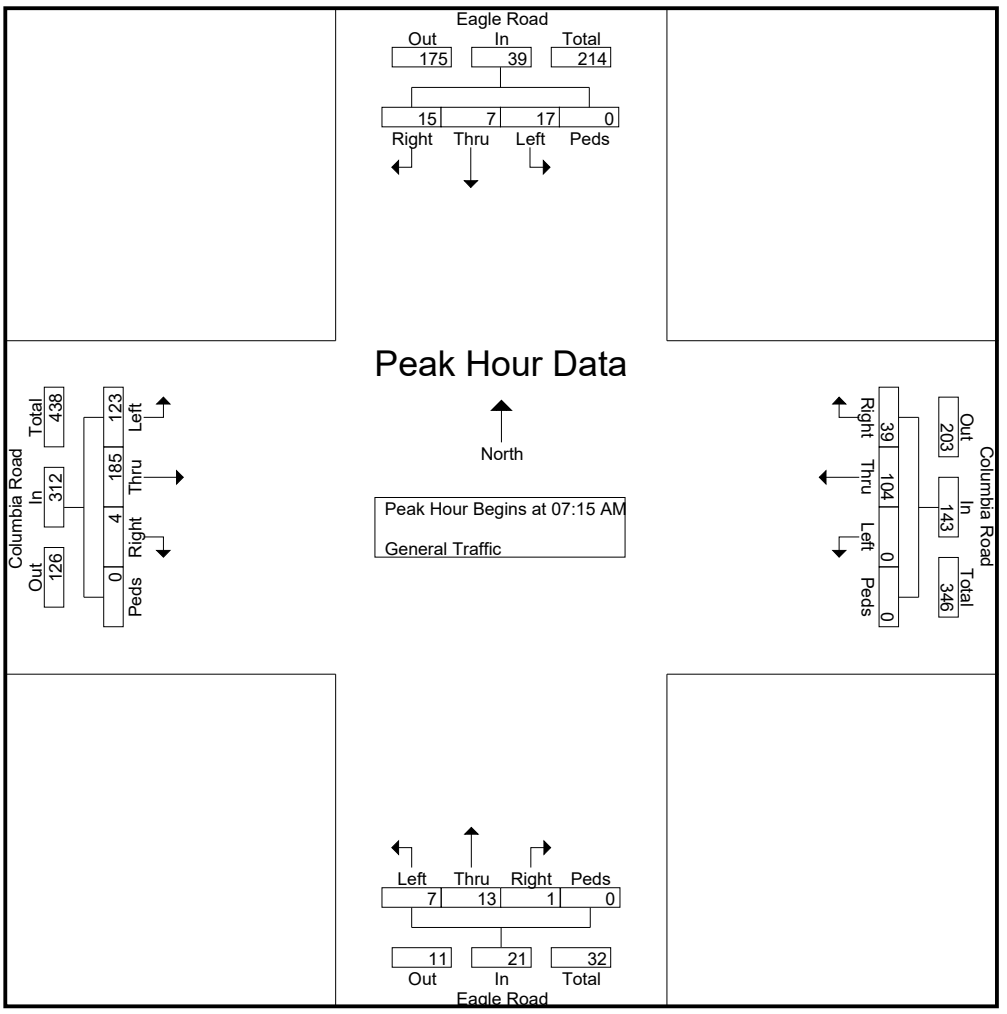
Study: HORR0038
Intersection: Eagle Rd / Columbia Rd
City, State: Kuna, Idaho
Control: All Stop

File Name : Eagle Rd & Columbia Rd
Site Code : 00000000
Start Date : 10/18/2017
Page No : 3

	Eagle Road From North					Columbia Road From East					Eagle Road From South					Columbia Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	3	0	2	0	5	8	28	0	0	36	0	**4**	**3**	0	**7**	0	40	**35**	0	75	123
07:30 AM	3	0	6	0	9	9	**36**	0	0	**45**	**1**	2	1	0	4	0	46	31	0	77	135
07:45 AM	**6**	3	**7**	0	**16**	**14**	26	0	0	40	0	3	1	0	4	**2**	48	28	0	78	**138**
08:00 AM	3	**4**	2	0	9	8	14	0	0	22	0	4	2	0	6	2	**51**	29	0	**82**	119
Total Volume	15	7	17	0	39	39	104	0	0	143	1	13	7	0	21	4	185	123	0	312	515
% App. Total	38.5	17.9	43.6	0		27.3	72.7	0	0		4.8	61.9	33.3	0		1.3	59.3	39.4	0		
PHF	.625	.438	.607	.000	.609	.696	.722	.000	.000	.794	.250	.813	.583	.000	.750	.500	.907	.879	.000	.951	.933



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Study: HORR0038
Intersection: Eagle Rd / Columbia Rd
City, State: Kuna, Idaho
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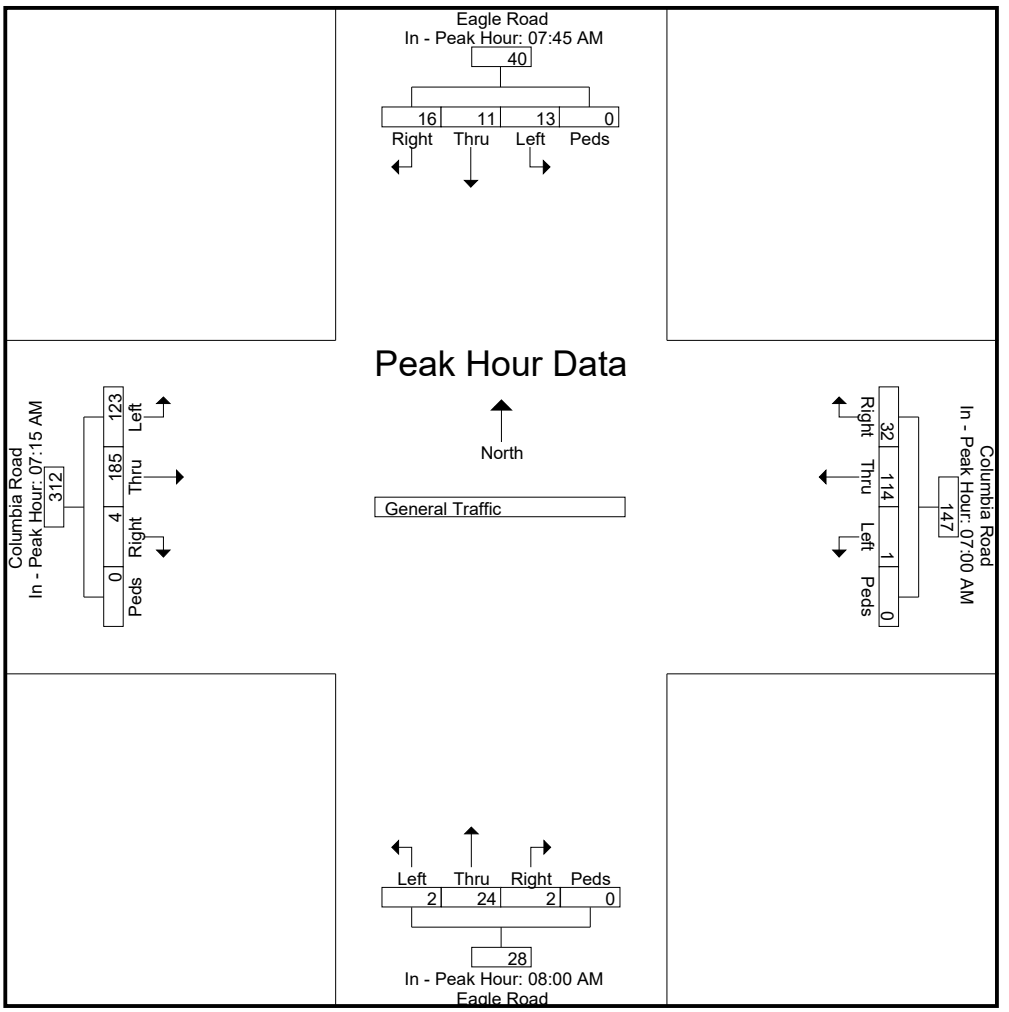
File Name : Eagle Rd & Columbia Rd
Site Code : 00000000
Start Date : 10/18/2017
Page No : 4

	Eagle Road From North					Columbia Road From East					Eagle Road From South					Columbia Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:45 AM					07:00 AM					08:00 AM					07:15 AM					
+0 mins.	**6**	3	**7**	0	**16**	1	24	**1**	0	26	0	4	**2**	0	6	0	40	**35**	0	75	
+15 mins.	3	**4**	2	0	9	8	28	0	0	36	**1**	5	0	0	6	0	46	31	0	77	
+30 mins.	2	1	0	0	3	9	**36**	0	0	**45**	1	7	0	0	**8**	**2**	48	28	0	78	
+45 mins.	5	3	4	0	12	**14**	26	0	0	40	0	**8**	0	0	8	2	**51**	29	0	**82**	
Total Volume	16	11	13	0	40	32	114	1	0	147	2	24	2	0	28	4	185	123	0	312	
% App. Total	40	27.5	32.5	0		21.8	77.6	0.7	0		7.1	85.7	7.1	0		1.3	59.3	39.4	0		
PHF	.667	.688	.464	.000	.625	.571	.792	.250	.000	.817	.500	.750	.250	.000	.875	.500	.907	.879	.000	.951	



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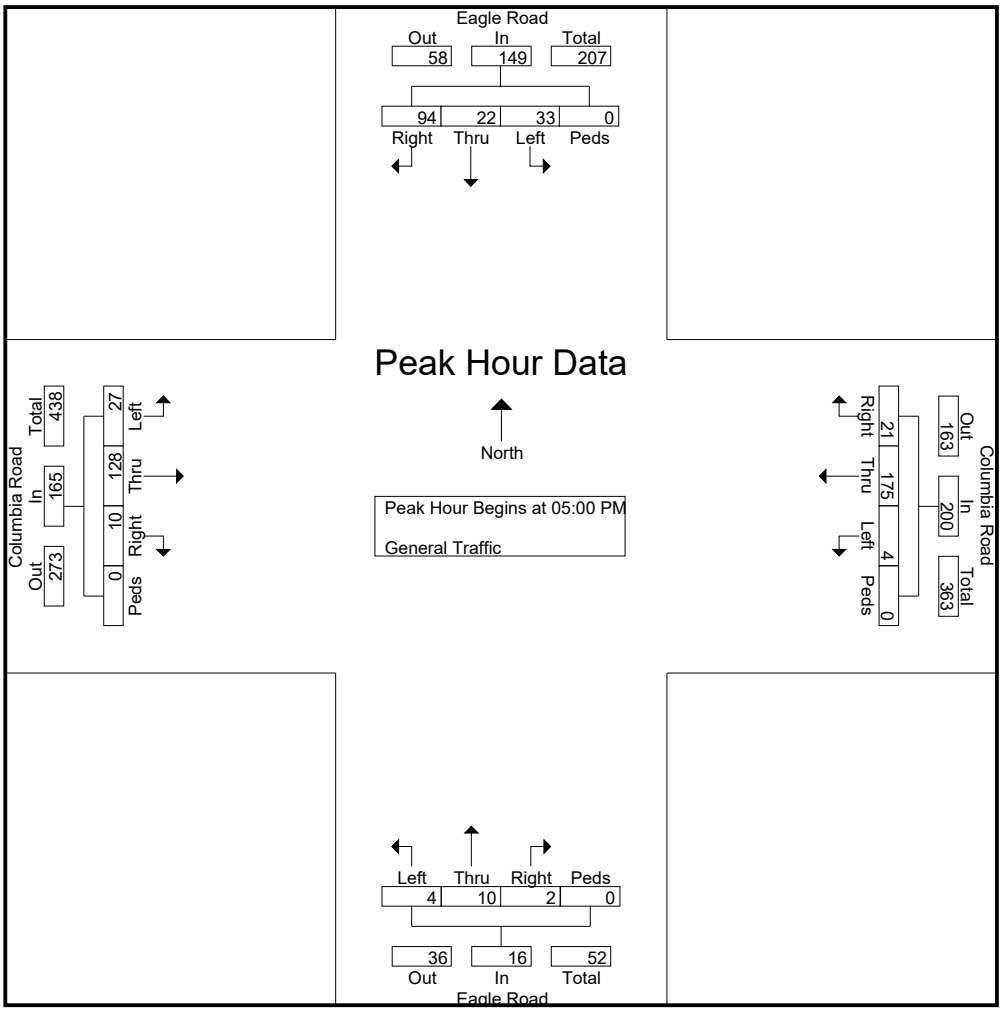
	Eagle Road From North					Columbia Road From East					Eagle Road From South					Columbia Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	24	3	**14**	0	**41**	4	**48**	1	0	**53**	**2**	1	1	0	4	**4**	27	**8**	0	39	**137**
05:15 PM	**28**	6	4	0	38	**7**	45	1	0	53	0	3	0	0	3	4	25	8	0	37	131
05:30 PM	23	4	7	0	34	6	43	**2**	0	51	0	**4**	1	0	**5**	2	35	6	0	43	133
05:45 PM	19	**9**	8	0	36	4	39	0	0	43	0	2	**2**	0	4	0	**41**	5	0	**46**	129
Total Volume	94	22	33	0	149	21	175	4	0	200	2	10	4	0	16	10	128	27	0	165	530
% App. Total	63.1	14.8	22.1	0		10.5	87.5	2	0		12.5	62.5	25	0		6.1	77.6	16.4	0		
PHF	.839	.611	.589	.000	.909	.750	.911	.500	.000	.943	.250	.625	.500	.000	.800	.625	.780	.844	.000	.897	.967



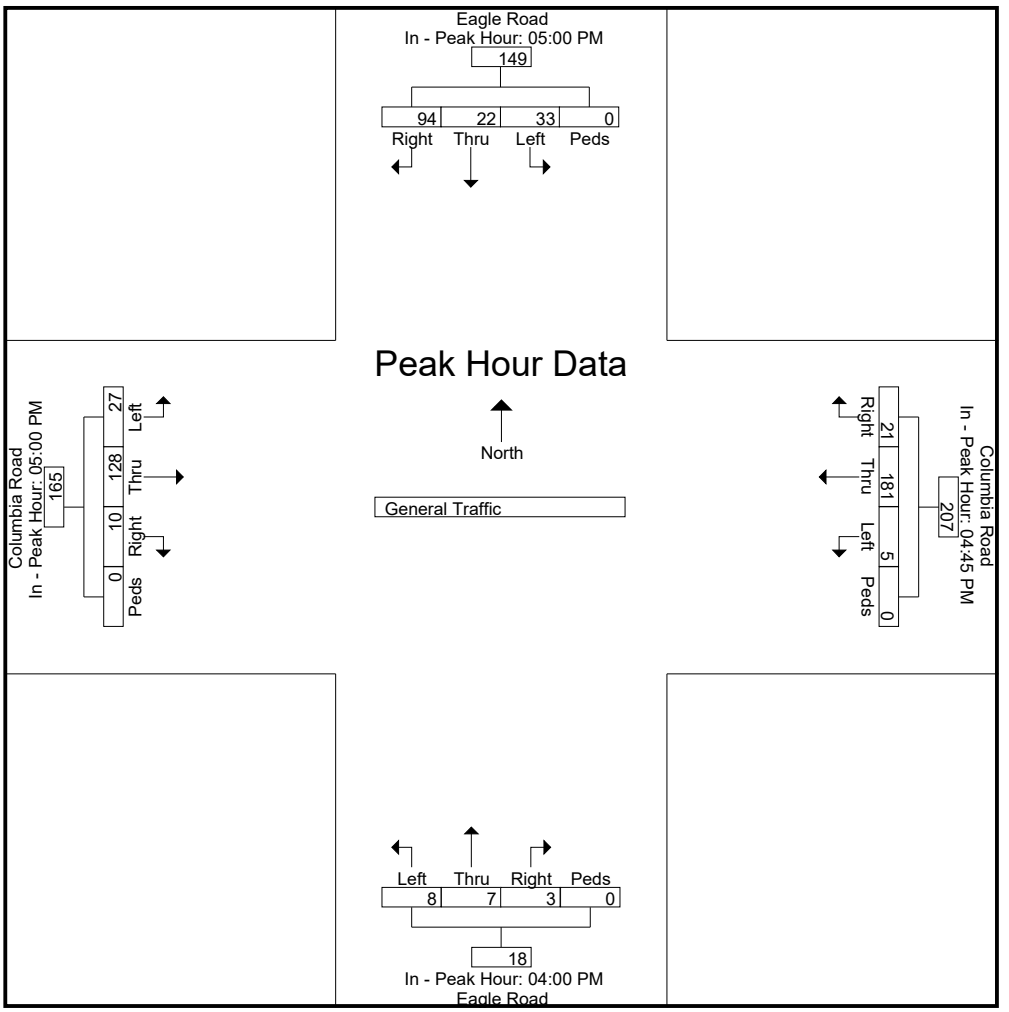
L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: HORR0038
Intersection: Eagle Rd / Columbia Rd
City, State: Kuna, Idaho
Control: All Stop

File Name : Eagle Rd & Columbia Rd
Site Code : 00000000
Start Date : 10/18/2017
Page No : 6

	Eagle Road From North					Columbia Road From East					Eagle Road From South					Columbia Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	05:00 PM					04:45 PM					04:00 PM					05:00 PM					
+0 mins.	24	3	**14**	0	**41**	4	45	1	0	50	**2**	**3**	1	0	**6**	**4**	27	**8**	0	39	
+15 mins.	**28**	6	4	0	38	4	**48**	1	0	**53**	0	2	**3**	0	5	4	25	8	0	37	
+30 mins.	23	4	7	0	34	**7**	45	1	0	53	1	1	3	0	5	2	35	6	0	43	
+45 mins.	19	**9**	8	0	36	6	43	**2**	0	51	0	1	1	0	2	0	**41**	5	0	**46**	
Total Volume	94	22	33	0	149	21	181	5	0	207	3	7	8	0	18	10	128	27	0	165	
% App. Total	63.1	14.8	22.1	0		10.1	87.4	2.4	0		16.7	38.9	44.4	0		6.1	77.6	16.4	0		
PHF	.839	.611	.589	.000	.909	.750	.943	.625	.000	.976	.375	.583	.667	.000	.750	.625	.780	.844	.000	.897	

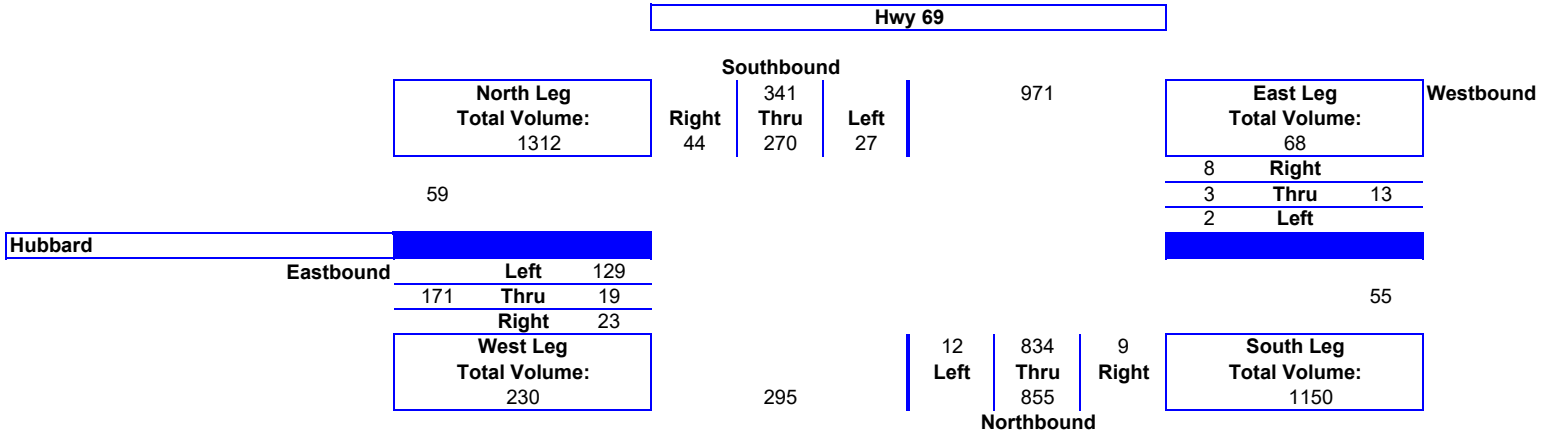


TRAFFIC COUNT SUMMARY

City: **Meridian**
N-S Street: **Hwy 69**
E-W Street: **Hubbard**
Date: **Thursday, June 14, 2018**
Begin Time: **07:00 AM**
Interval Length: **15 min**
Completed By: CJ

HORROCKS ENGINEERS

Time Interval		SB				WB				NB				EB				Total	Hourly
		Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	All Moves	Totals
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
07:00 AM	07:15 AM	10	44	8		0	0	0		3	181	1		28	4	1		280	
07:15 AM	07:30 AM	10	49	10		0	0	2		4	243	0		44	5	5		372	
07:30 AM	07:45 AM	7	57	15		0	0	3		3	225	2		37	6	3		358	
07:45 AM	08:00 AM	5	85	12		1	1	2		5	192	0		22	8	10		343	1353
08:00 AM	08:15 AM	5	79	7		1	2	1		0	174	7		26	0	5		307	1380
08:15 AM	08:30 AM	7	82	13		1	0	4		3	155	1		30	5	7		308	1316
08:30 AM	08:45 AM	2	74	15		2	2	6		6	177	0		35	2	6		327	1285
08:45 AM	09:00 AM	6	83	13		2	1	5		4	181	0		36	4	6		341	1283



OPTIONAL Adjustment Factors	
Monthly:	1.00
Daily:	1.00
Interval:	1.00
Count:	1.00
Total:	1

ADJUSTED PEAK HOUR TRAFFIC VOLUMES												
Southbound			Westbound			Northbound			Eastbound			
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
27	270	44	2	3	8	12	834	9	129	19	23	
341			13			855			171			
Trucks:		0%	Trucks:		0%	Trucks:		0%	Trucks:			0%
Peak Hour:		07:15 AM to 8:15 AM				Peak Vol:		1380	PHF:			0.93

TRAFFIC COUNT SUMMARY

City: **Meridian**
N-S Street: **Hwy 69**
E-W Street: **Hubbard**
Date: **Thursday, June 14, 2018**
Begin Time: **04:00 PM**
Interval Length: **15 min**

Completed By: CJ

For Use with Jamar PetraPro Software

HORROCKS ENGINEERS

Updated January 31, 2017

Time Interval		SB				WB				NB				EB					
		Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Left	Thru	Right	Trucks	Total	Hourly
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	All Moves	Totals
04:00 PM	04:15 PM	2	201	47		0	2	10		7	125	3		26	1	4		428	
04:15 PM	04:30 PM	2	202	52		1	1	4		11	122	0		15	3	5		418	
04:30 PM	04:45 PM	5	240	67		3	1	4		8	103	0		19	0	6		456	
04:45 PM	05:00 PM	2	210	73		2	3	3		7	105	0		10	1	4		420	1722
05:00 PM	05:15 PM	2	218	71		1	7	6		14	139	0		14	3	5		480	1774
05:15 PM	05:30 PM	1	259	78		2	0	4		7	151	1		14	0	4		521	1877
05:30 PM	05:45 PM	1	215	67		2	2	6		16	153	3		23	1	6		495	1916
05:45 PM	06:00 PM	5	264	63		3	0	11		13	126	1		17	1	8		512	2008

Hwy 69

Southbound

North Leg Total Volume: 1908

Right	**Thru**	**Left**
279	956	9

1244

664

East Leg Total Volume: 63

Westbound

27	**Right**	
9	**Thru**	44
8	**Left**	

338

Hubbard

Eastbound

	Left	68
96	**Thru**	5
	Right	23

19

West Leg Total Volume: 434

987

50	569	5
Left	**Thru**	**Right**
	624	

South Leg Total Volume: 1611

Northbound

OPTIONAL Adjustment Factors	
Monthly:	1.00
Daily:	1.00
Interval:	1.00
Count:	1.00
Total:	1

ADJUSTED PEAK HOUR TRAFFIC VOLUMES

Southbound			Westbound			Northbound			Eastbound		
Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
9	956	279	8	9	27	50	569	5	68	5	23
	1244			44			624			96	
Trucks:		0%	**Trucks:**		0%	**Trucks:**		0%	**Trucks:**		0%
Peak Hour:		05:00 PM to 6:00 PM				**Peak Vol:**		2008	**PHF:**		0.96

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: THOM0167
Intersection: Locust Grove / Hubbard Rd
City, State: Ada County, Idaho
Control: Stop Sign

File Name : Locust Grove Rd & Hubbard Rd
Site Code : 00000000
Start Date : 7/11/2018
Page No : 1

Groups Printed- General Traffic

	Locust Grove Road From North					Hubbard Road From East					Locust Grove Road From South					Hubbard Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	1	1	0	0	2	1	1	0	0	2	0	2	3	0	5	2	6	3	0	11	20
07:15 AM	1	2	1	0	4	0	2	0	0	2	1	8	0	0	9	1	11	4	0	16	31
07:30 AM	3	6	1	0	10	0	0	0	0	0	0	5	1	0	6	1	12	6	0	19	35
07:45 AM	4	3	0	0	7	0	1	0	0	1	1	4	2	0	7	3	2	9	0	14	29
Total	9	12	2	0	23	1	4	0	0	5	2	19	6	0	27	7	31	22	0	60	115
08:00 AM	0	4	0	0	4	0	0	1	0	1	0	5	2	0	7	4	9	1	0	14	26
08:15 AM	2	2	0	0	4	0	0	1	0	1	0	6	1	0	7	0	5	3	0	8	20
08:30 AM	0	2	0	0	2	0	3	0	0	3	0	4	0	0	4	2	3	3	0	8	17
08:45 AM	0	6	0	0	6	0	4	0	0	4	0	4	2	0	6	2	3	1	0	6	22
Total	2	14	0	0	16	0	7	2	0	9	0	19	5	0	24	8	20	8	0	36	85

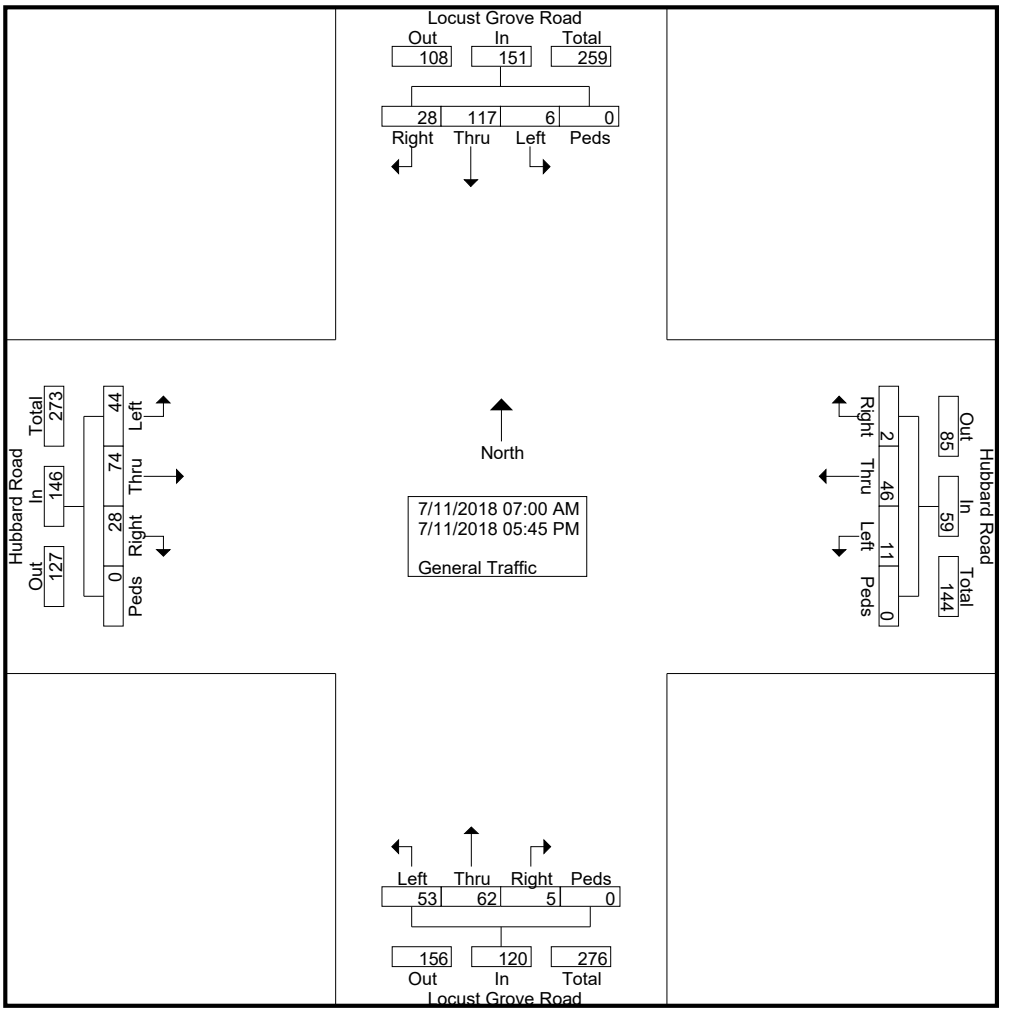
04:00 PM	2	10	0	0	12	1	5	0	0	6	2	6	2	0	10	2	1	2	0	5	33
04:15 PM	3	5	0	0	8	0	4	2	0	6	1	3	4	0	8	2	4	2	0	8	30
04:30 PM	1	15	0	0	16	0	1	1	0	2	0	4	8	0	12	1	2	1	0	4	34
04:45 PM	3	12	1	0	16	0	6	1	0	7	0	1	6	0	7	0	3	3	0	6	36
Total	9	42	1	0	52	1	16	4	0	21	3	14	20	0	37	5	10	8	0	23	133
05:00 PM	0	5	0	0	5	0	7	3	0	10	0	4	8	0	12	2	2	0	0	4	31
05:15 PM	4	10	1	0	15	0	5	1	0	6	0	0	3	0	3	2	4	5	0	11	35
05:30 PM	3	20	1	0	24	0	4	0	0	4	0	2	9	0	11	2	4	0	0	6	45
05:45 PM	1	14	1	0	16	0	3	1	0	4	0	4	2	0	6	2	3	1	0	6	32
Total	8	49	3	0	60	0	19	5	0	24	0	10	22	0	32	8	13	6	0	27	143
Grand Total	28	117	6	0	151	2	46	11	0	59	5	62	53	0	120	28	74	44	0	146	476
Apprch %	18.5	77.5	4	0		3.4	78	18.6	0		4.2	51.7	44.2	0		19.2	50.7	30.1	0		
Total %	5.9	24.6	1.3	0	31.7	0.4	9.7	2.3	0	12.4	1.1	13	11.1	0	25.2	5.9	15.5	9.2	0	30.7	

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: THOM0167
Intersection: Locust Grove / Hubbard Rd
City, State: Ada County, Idaho
Control: Stop Sign

File Name : Locust Grove Rd & Hubbard Rd
Site Code : 00000000
Start Date : 7/11/2018
Page No : 2



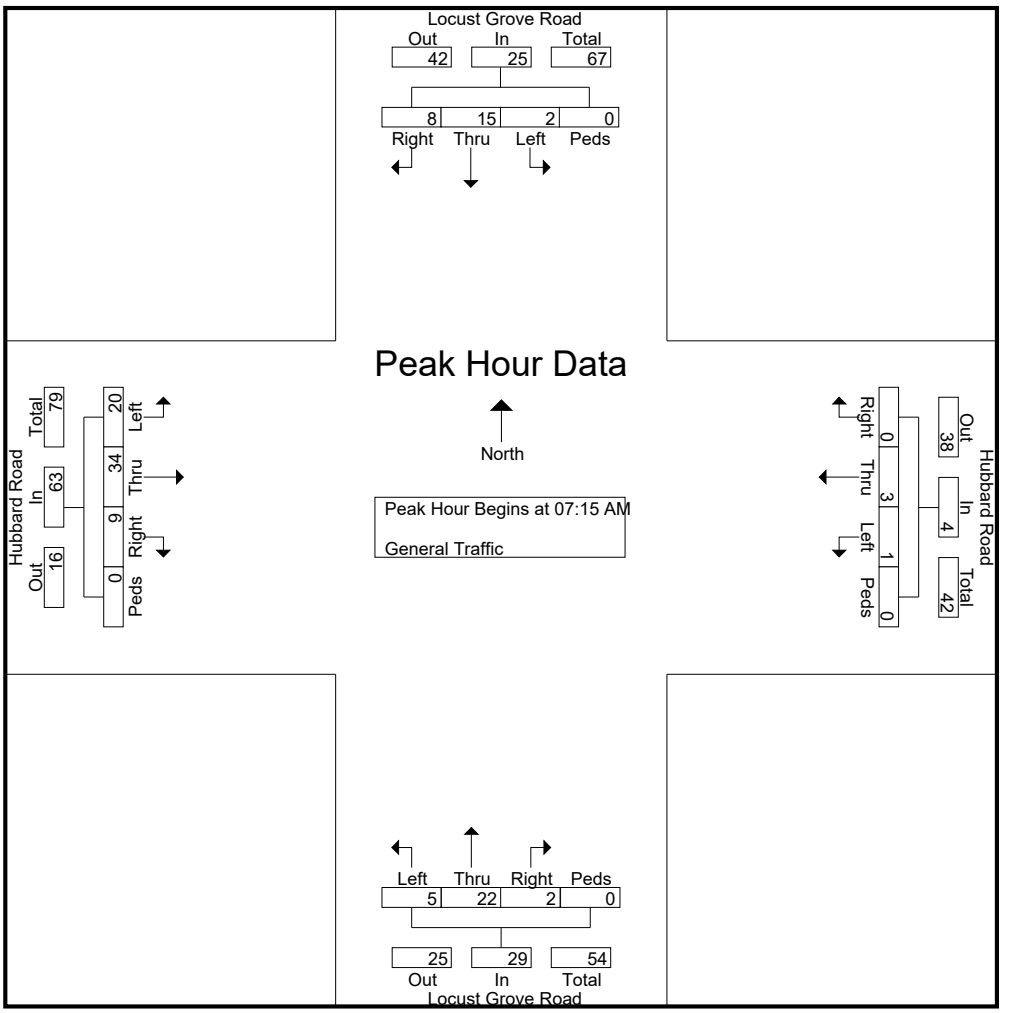
L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: THOM0167
Intersection: Locust Grove / Hubbard Rd
City, State: Ada County, Idaho
Control: Stop Sign

File Name : Locust Grove Rd & Hubbard Rd
Site Code : 00000000
Start Date : 7/11/2018
Page No : 3

	Locust Grove Road From North					Hubbard Road From East					Locust Grove Road From South					Hubbard Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	1	2	**1**	0	4	0	**2**	0	0	**2**	**1**	**8**	0	0	**9**	1	11	4	0	16	31
07:30 AM	3	**6**	1	0	**10**	0	0	0	0	0	0	5	1	0	6	1	**12**	6	0	**19**	**35**
07:45 AM	**4**	3	0	0	7	0	1	0	0	1	1	4	**2**	0	7	3	2	**9**	0	14	29
08:00 AM	0	4	0	0	4	0	0	**1**	0	1	0	5	2	0	7	**4**	9	1	0	14	26
Total Volume	8	15	2	0	25	0	3	1	0	4	2	22	5	0	29	9	34	20	0	63	121
% App. Total	32	60	8	0		0	75	25	0		6.9	75.9	17.2	0		14.3	54	31.7	0		
PHF	.500	.625	.500	.000	.625	.000	.375	.250	.000	.500	.500	.688	.625	.000	.806	.563	.708	.556	.000	.829	.864



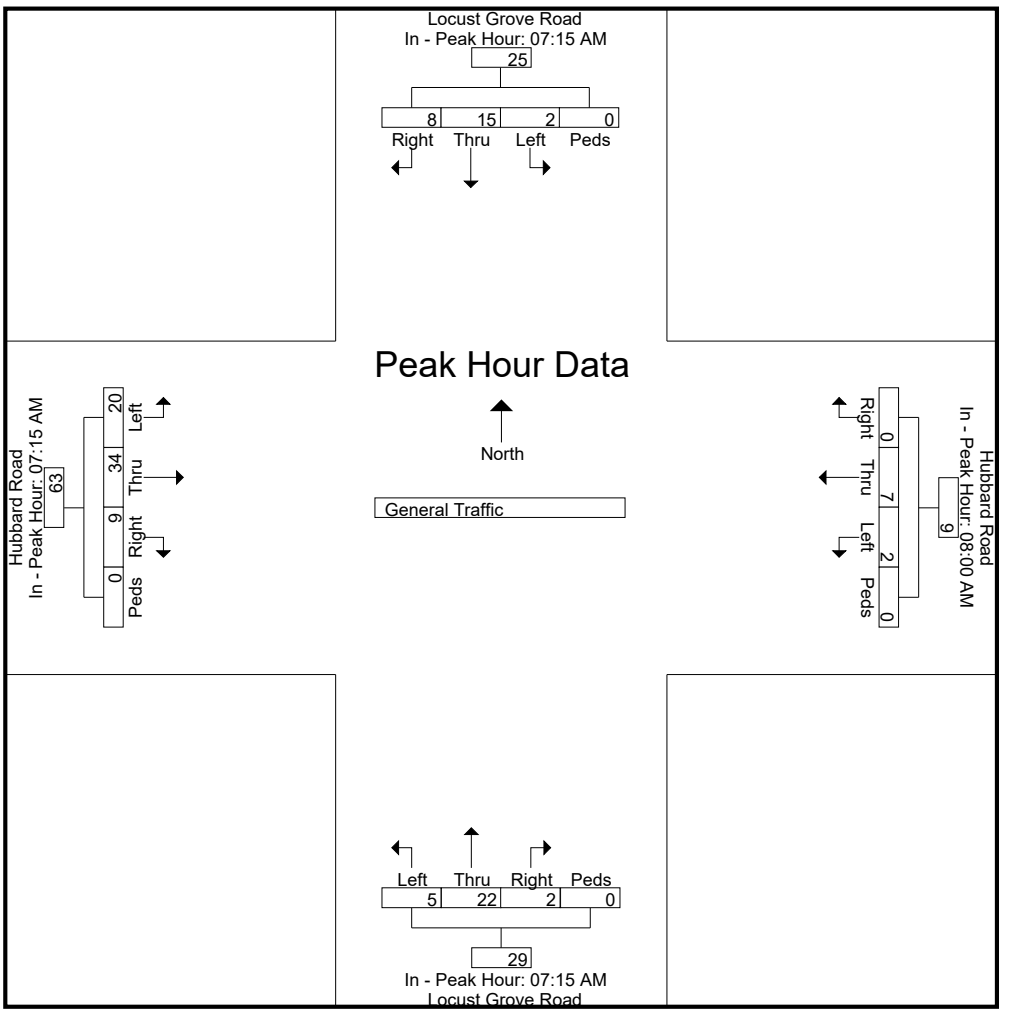
L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: THOM0167
Intersection: Locust Grove / Hubbard Rd
City, State: Ada County, Idaho
Control: Stop Sign

File Name : Locust Grove Rd & Hubbard Rd
Site Code : 00000000
Start Date : 7/11/2018
Page No : 4

	Locust Grove Road From North					Hubbard Road From East					Locust Grove Road From South					Hubbard Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:15 AM					08:00 AM					07:15 AM					07:15 AM					
+0 mins.	1	2	**1**	0	4	0	0	**1**	0	1	**1**	**8**	0	0	**9**	1	11	4	0	16	
+15 mins.	3	**6**	1	0	**10**	0	0	1	0	1	0	5	1	0	6	1	**12**	6	0	**19**	
+30 mins.	**4**	3	0	0	7	0	3	0	0	3	1	4	**2**	0	7	3	2	**9**	0	14	
+45 mins.	0	4	0	0	4	0	**4**	0	0	**4**	0	5	2	0	7	**4**	9	1	0	14	
Total Volume	8	15	2	0	25	0	7	2	0	9	2	22	5	0	29	9	34	20	0	63	
% App. Total	32	60	8	0		0	77.8	22.2	0		6.9	75.9	17.2	0		14.3	54	31.7	0		
PHF	.500	.625	.500	.000	.625	.000	.438	.500	.000	.563	.500	.688	.625	.000	.806	.563	.708	.556	.000	.829	



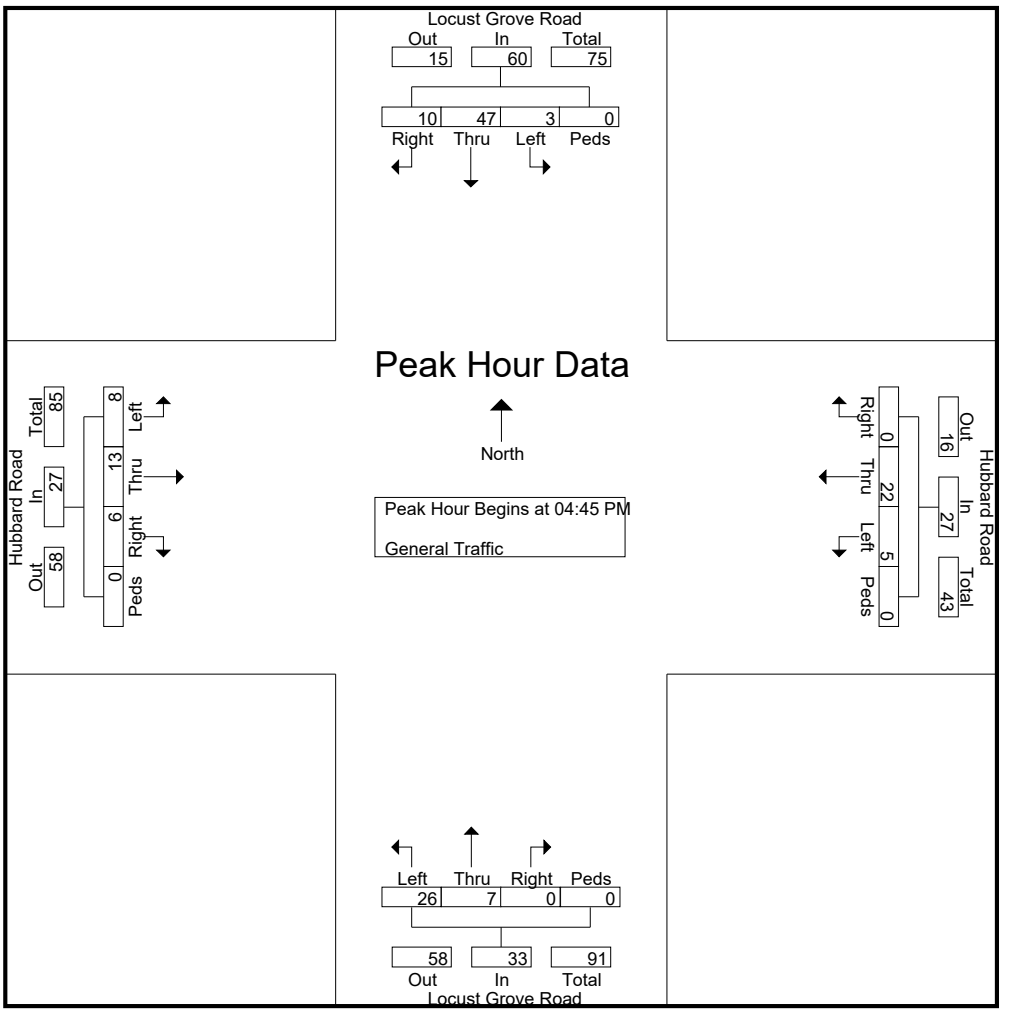
L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: THOM0167
Intersection: Locust Grove / Hubbard Rd
City, State: Ada County, Idaho
Control: Stop Sign

File Name : Locust Grove Rd & Hubbard Rd
Site Code : 00000000
Start Date : 7/11/2018
Page No : 5

	Locust Grove Road From North					Hubbard Road From East					Locust Grove Road From South					Hubbard Road From West					
Start Time	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Right**	**Thru**	**Left**	**Peds**	**App. Total**	**Int. Total**
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	3	12	**1**	0	16	0	6	1	0	7	0	1	6	0	7	0	3	3	0	6	36
05:00 PM	0	5	0	0	5	0	**7**	**3**	0	**10**	0	**4**	8	0	**12**	**2**	2	0	0	4	31
05:15 PM	**4**	10	1	0	15	0	5	1	0	6	0	0	3	0	3	2	**4**	**5**	0	**11**	35
05:30 PM	3	**20**	1	0	**24**	0	4	0	0	4	0	2	**9**	0	11	2	4	0	0	6	**45**
Total Volume	10	47	3	0	60	0	22	5	0	27	0	7	26	0	33	6	13	8	0	27	147
% App. Total	16.7	78.3	5	0		0	81.5	18.5	0		0	21.2	78.8	0		22.2	48.1	29.6	0		
PHF	.625	.588	.750	.000	.625	.000	.786	.417	.000	.675	.000	.438	.722	.000	.688	.750	.813	.400	.000	.614	.817



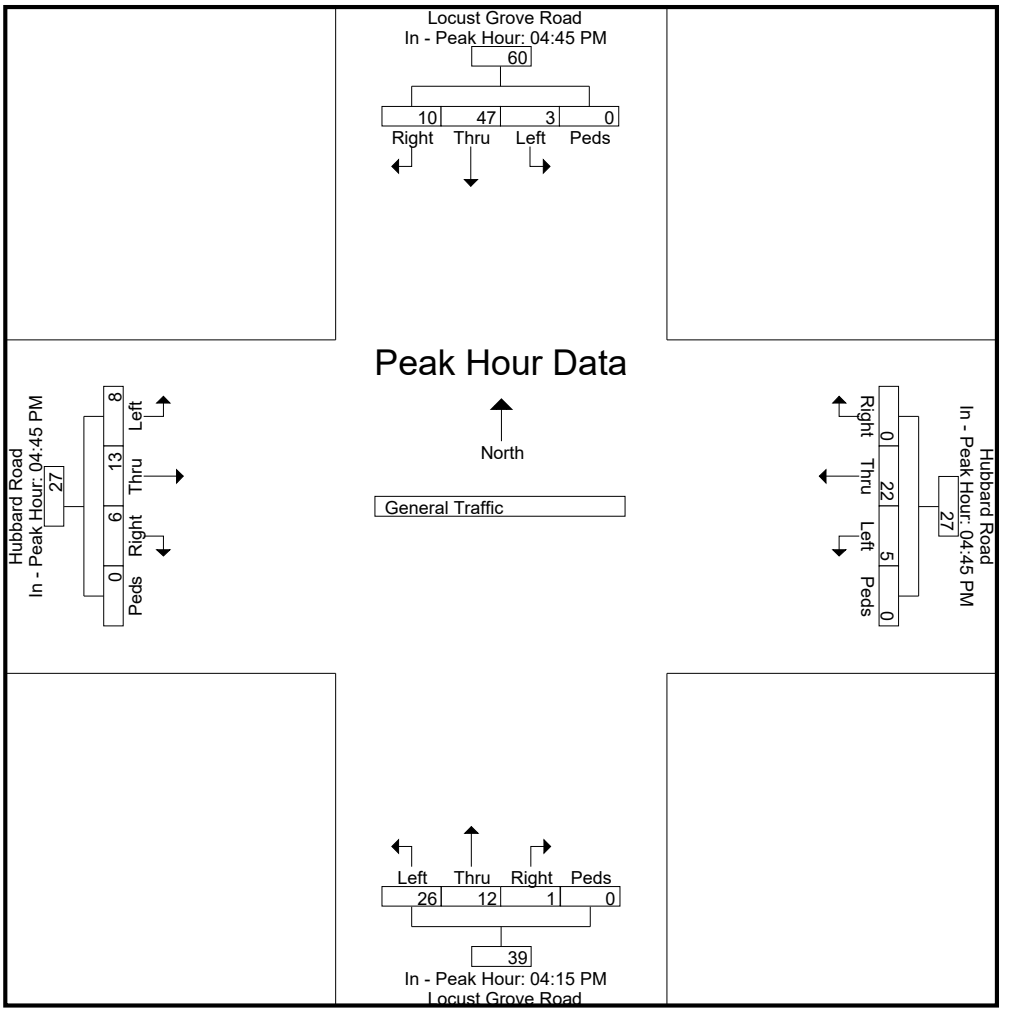
L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: THOM0167
Intersection: Locust Grove / Hubbard Rd
City, State: Ada County, Idaho
Control: Stop Sign

File Name : Locust Grove Rd & Hubbard Rd
Site Code : 00000000
Start Date : 7/11/2018
Page No : 6

	Locust Grove Road From North					Hubbard Road From East					Locust Grove Road From South					Hubbard Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	04:45 PM					04:45 PM					04:15 PM					04:45 PM					
+0 mins.	3	12	**1**	0	16	0	6	1	0	7	**1**	3	4	0	8	0	3	3	0	6	
+15 mins.	0	5	0	0	5	0	**7**	**3**	0	**10**	0	**4**	**8**	0	**12**	**2**	2	0	0	4	
+30 mins.	**4**	10	1	0	15	0	5	1	0	6	0	1	6	0	7	2	**4**	**5**	0	**11**	
+45 mins.	3	**20**	1	0	**24**	0	4	0	0	4	0	4	8	0	12	2	4	0	0	6	
Total Volume	10	47	3	0	60	0	22	5	0	27	1	12	26	0	39	6	13	8	0	27	
% App. Total	16.7	78.3	5	0		0	81.5	18.5	0		2.6	30.8	66.7	0		22.2	48.1	29.6	0		
PHF	.625	.588	.750	.000	.625	.000	.786	.417	.000	.675	.250	.750	.813	.000	.813	.750	.813	.400	.000	.614	



L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: HORR0038
Intersection: Eagle Rd / Hubbard Rd
City, State: Kuna, Idaho
Control: Stop Sign

File Name : Eagle Rd & Hubbard Rd
Site Code : 00000000
Start Date : 10/18/2017
Page No : 1

Groups Printed- General Traffic

	Eagle Road From North					Hubbard Road From East					Eagle Road From South					Hubbard Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	2	0	0	0	2	6	0	0	0	6	0	0	0	0	0	0	2	5	0	7	15
07:15 AM	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	2	3	0	5	9
07:30 AM	0	0	0	0	0	2	1	0	0	3	1	0	0	0	1	0	2	0	0	2	6
07:45 AM	0	0	3	0	3	1	1	0	0	2	0	0	0	0	0	0	5	3	0	8	13
Total	2	0	3	0	5	13	2	0	0	15	1	0	0	0	1	0	11	11	0	22	43
08:00 AM	2	0	5	0	7	2	0	0	0	2	0	1	0	0	1	0	2	0	0	2	12
08:15 AM	1	0	0	0	1	2	0	0	0	2	0	0	0	0	0	0	1	2	0	3	6
08:30 AM	1	1	2	0	4	8	0	0	0	8	0	0	0	0	0	0	1	2	0	3	15
08:45 AM	0	0	1	0	1	5	0	0	0	5	0	0	0	0	0	0	2	0	0	2	8
Total	4	1	8	0	13	17	0	0	0	17	0	1	0	0	1	0	6	4	0	10	41

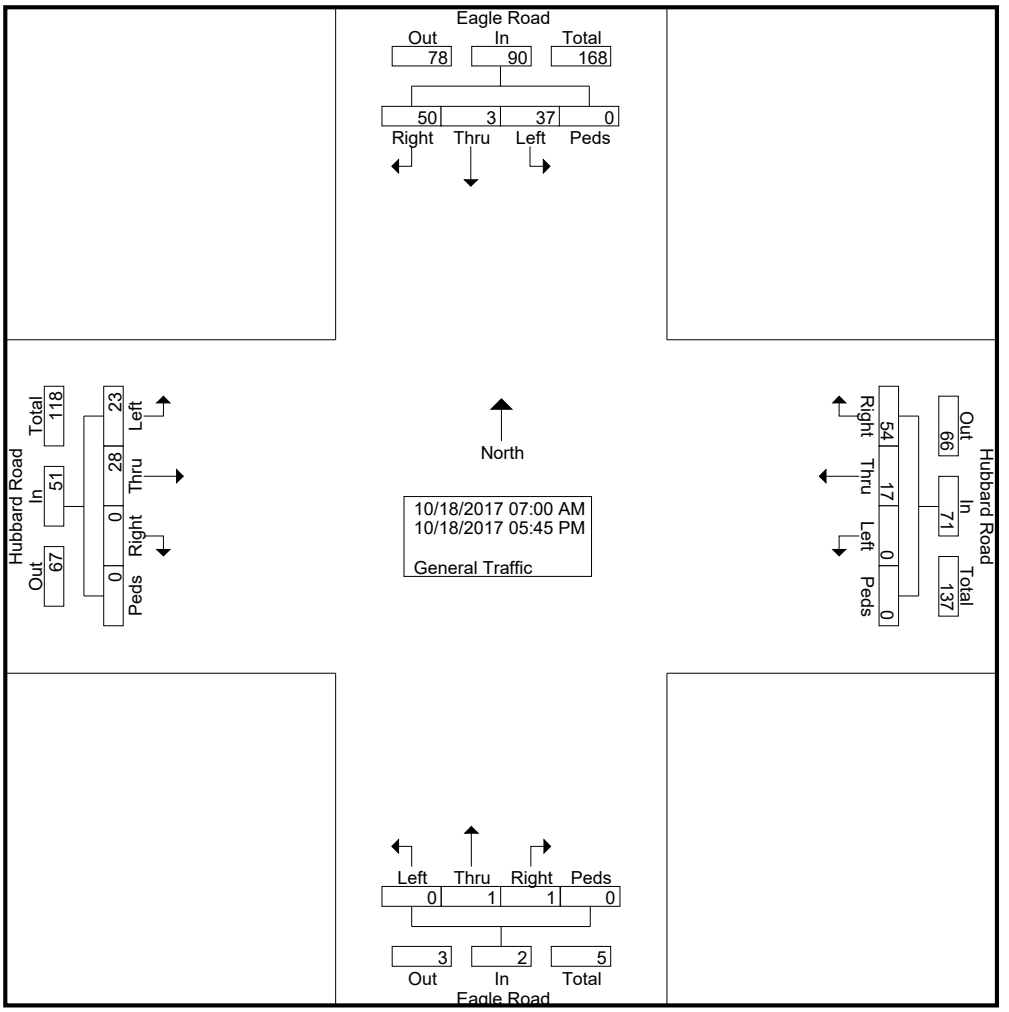
04:00 PM	4	0	4	0	8	3	1	0	0	4	0	0	0	0	0	0	5	2	0	7	19
04:15 PM	10	0	4	0	14	3	1	0	0	4	0	0	0	0	0	0	1	2	0	3	21
04:30 PM	3	0	4	0	7	1	0	0	0	1	0	0	0	0	0	0	2	2	0	4	12
04:45 PM	7	0	3	0	10	2	2	0	0	4	0	0	0	0	0	0	1	0	0	1	15
Total	24	0	15	0	39	9	4	0	0	13	0	0	0	0	0	0	9	6	0	15	67
05:00 PM	3	1	4	0	8	3	6	0	0	9	0	0	0	0	0	0	1	2	0	3	20
05:15 PM	5	0	3	0	8	4	3	0	0	7	0	0	0	0	0	0	0	0	0	0	15
05:30 PM	4	1	3	0	8	4	2	0	0	6	0	0	0	0	0	0	0	0	0	0	14
05:45 PM	8	0	1	0	9	4	0	0	0	4	0	0	0	0	0	0	1	0	0	1	14
Total	20	2	11	0	33	15	11	0	0	26	0	0	0	0	0	0	2	2	0	4	63
Grand Total	50	3	37	0	90	54	17	0	0	71	1	1	0	0	2	0	28	23	0	51	214
Apprch %	55.6	3.3	41.1	0		76.1	23.9	0	0		50	50	0	0		0	54.9	45.1	0		
Total %	23.4	1.4	17.3	0	42.1	25.2	7.9	0	0	33.2	0.5	0.5	0	0	0.9	0	13.1	10.7	0	23.8	

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: HORR0038
Intersection: Eagle Rd / Hubbard Rd
City, State: Kuna, Idaho
Control: Stop Sign

File Name : Eagle Rd & Hubbard Rd
Site Code : 00000000
Start Date : 10/18/2017
Page No : 2



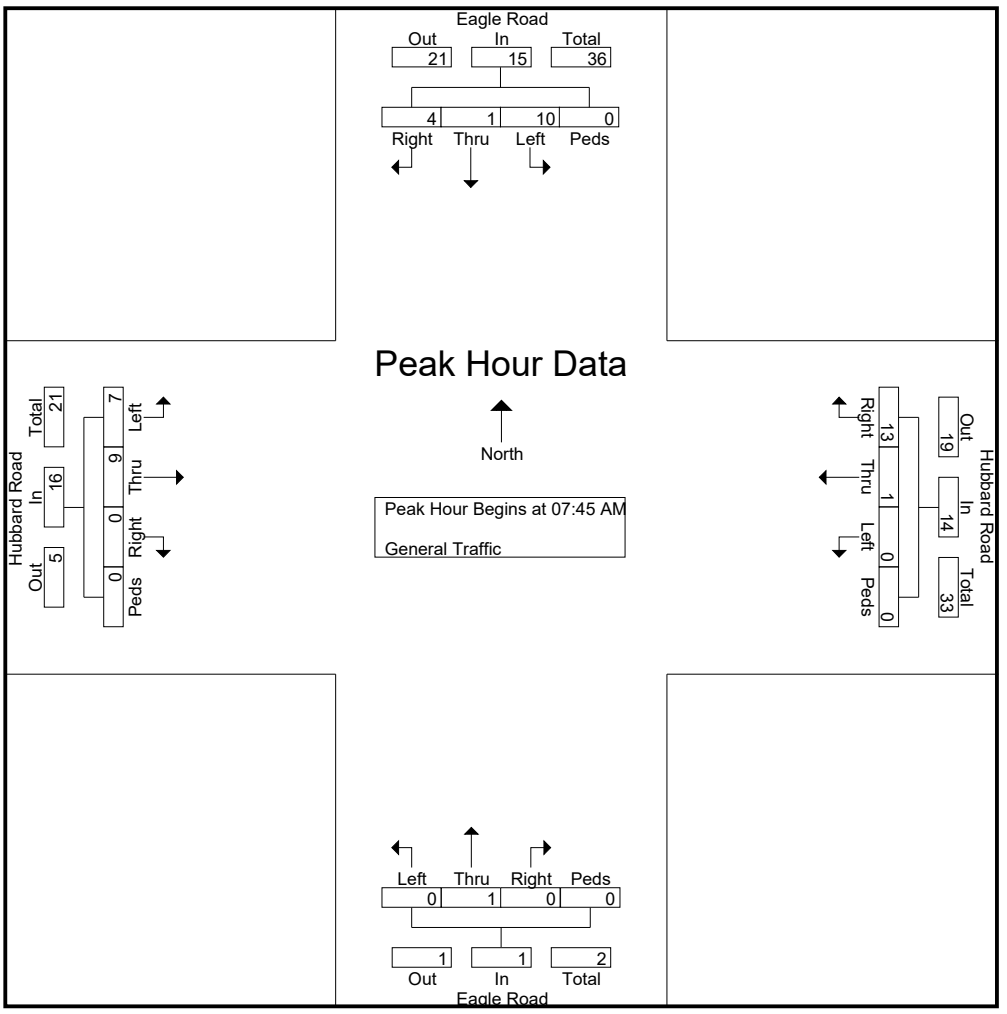
L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: HORR0038
Intersection: Eagle Rd / Hubbard Rd
City, State: Kuna, Idaho
Control: Stop Sign

File Name : Eagle Rd & Hubbard Rd
Site Code : 00000000
Start Date : 10/18/2017
Page No : 3

	Eagle Road From North					Hubbard Road From East					Eagle Road From South					Hubbard Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	0	3	0	3	1	**1**	0	0	2	0	0	0	0	0	0	**5**	**3**	0	**8**	13
08:00 AM	**2**	0	**5**	0	**7**	2	0	0	0	2	0	**1**	0	0	**1**	0	2	0	0	2	12
08:15 AM	1	0	0	0	1	2	0	0	0	2	0	0	0	0	0	0	1	2	0	3	6
08:30 AM	1	**1**	2	0	4	**8**	0	0	0	**8**	0	0	0	0	0	0	1	2	0	3	**15**
Total Volume	4	1	10	0	15	13	1	0	0	14	0	1	0	0	1	0	9	7	0	16	46
% App. Total	26.7	6.7	66.7	0		92.9	7.1	0	0		0	100	0	0		0	56.2	43.8	0		
PHF	.500	.250	.500	.000	.536	.406	.250	.000	.000	.438	.000	.250	.000	.000	.250	.000	.450	.583	.000	.500	.767



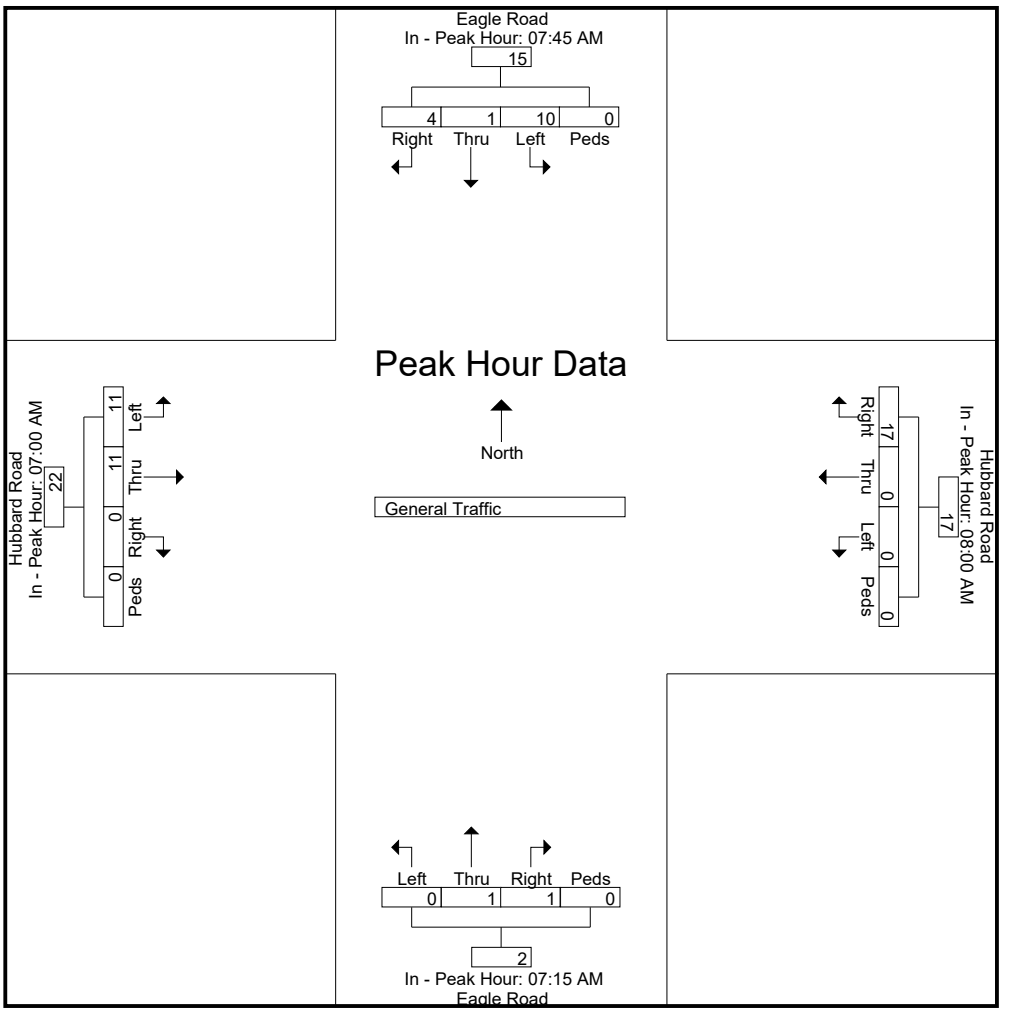
L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: HORR0038
Intersection: Eagle Rd / Hubbard Rd
City, State: Kuna, Idaho
Control: Stop Sign

File Name : Eagle Rd & Hubbard Rd
Site Code : 00000000
Start Date : 10/18/2017
Page No : 4

	Eagle Road From North					Hubbard Road From East					Eagle Road From South					Hubbard Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:45 AM					08:00 AM					07:15 AM					07:00 AM					
+0 mins.	0	0	3	0	3	2	0	0	0	2	0	0	0	0	0	0	2	**5**	0	7	
+15 mins.	**2**	0	**5**	0	**7**	2	0	0	0	2	**1**	0	0	0	**1**	0	2	3	0	5	
+30 mins.	1	0	0	0	1	**8**	0	0	0	**8**	0	0	0	0	0	0	2	0	0	2	
+45 mins.	1	**1**	2	0	4	5	0	0	0	5	0	**1**	0	0	1	0	**5**	3	0	**8**	
Total Volume	4	1	10	0	15	17	0	0	0	17	1	1	0	0	2	0	11	11	0	22	
% App. Total	26.7	6.7	66.7	0		100	0	0	0		50	50	0	0		0	50	50	0		
PHF	.500	.250	.500	.000	.536	.531	.000	.000	.000	.531	.250	.250	.000	.000	.500	.000	.550	.550	.000	.688	



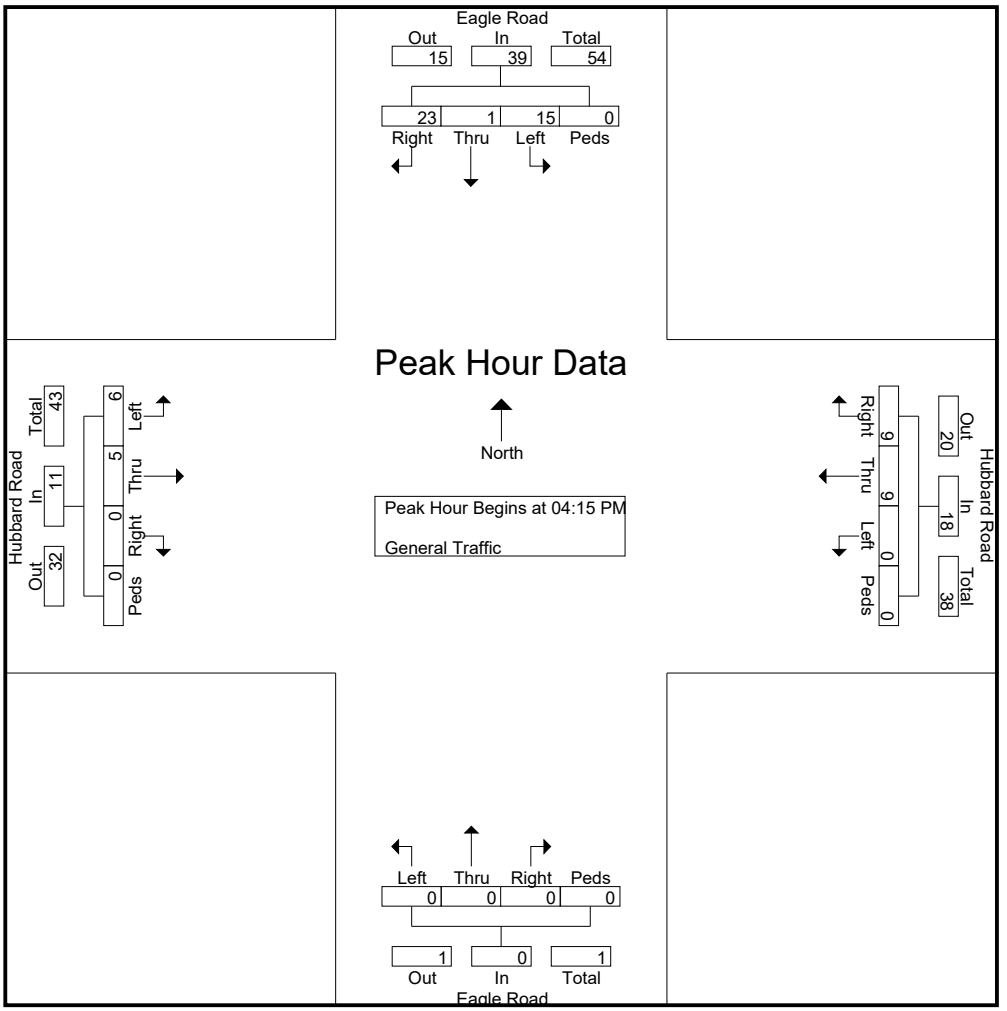
L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: HORR0038
Intersection: Eagle Rd / Hubbard Rd
City, State: Kuna, Idaho
Control: Stop Sign

File Name : Eagle Rd & Hubbard Rd
Site Code : 00000000
Start Date : 10/18/2017
Page No : 5

	Eagle Road From North					Hubbard Road From East					Eagle Road From South					Hubbard Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	**10**	0	**4**	0	**14**	**3**	1	0	0	4	0	0	0	0	0	0	1	**2**	0	3	**21**
04:30 PM	3	0	4	0	7	1	0	0	0	1	0	0	0	0	0	0	**2**	2	0	**4**	12
04:45 PM	7	0	3	0	10	2	2	0	0	4	0	0	0	0	0	0	1	0	0	1	15
05:00 PM	3	**1**	4	0	8	3	**6**	0	0	**9**	0	0	0	0	0	0	1	2	0	3	20
Total Volume	23	1	15	0	39	9	9	0	0	18	0	0	0	0	0	0	5	6	0	11	68
% App. Total	59	2.6	38.5	0		50	50	0	0		0	0	0	0		0	45.5	54.5	0		
PHF	.575	.250	.938	.000	.696	.750	.375	.000	.000	.500	.000	.000	.000	.000	.000	.000	.625	.750	.000	.688	.810



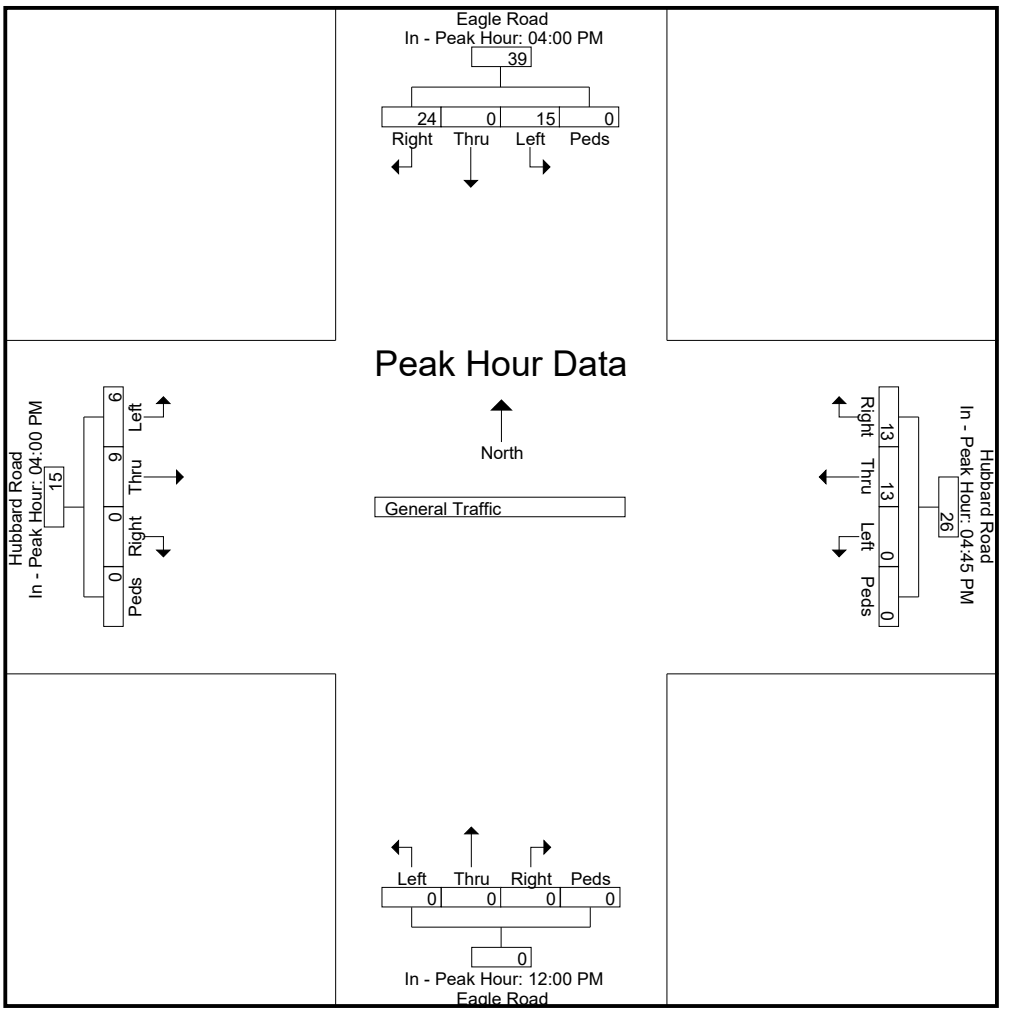
L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 413-2993

Study: HORR0038
Intersection: Eagle Rd / Hubbard Rd
City, State: Kuna, Idaho
Control: Stop Sign

File Name : Eagle Rd & Hubbard Rd
Site Code : 00000000
Start Date : 10/18/2017
Page No : 6

	Eagle Road From North					Hubbard Road From East					Eagle Road From South					Hubbard Road From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	04:00 PM					04:45 PM					12:00 PM					04:00 PM					
+0 mins.	4	0	**4**	0	8	2	2	0	0	4	0	0	0	0	0	0	**5**	**2**	0	**7**	
+15 mins.	**10**	0	4	0	**14**	3	**6**	0	0	**9**	0	0	0	0	0	0	1	2	0	3	
+30 mins.	3	0	4	0	7	**4**	3	0	0	7	0	0	0	0	0	0	2	2	0	4	
+45 mins.	7	0	3	0	10	4	2	0	0	6	0	0	0	0	0	0	1	0	0	1	
Total Volume	24	0	15	0	39	13	13	0	0	26	0	0	0	0	0	0	9	6	0	15	
% App. Total	61.5	0	38.5	0		50	50	0	0		0	0	0	0		0	60	40	0		
PHF	.600	.000	.938	.000	.696	.813	.542	.000	.000	.722	.000	.000	.000	.000	.000	.000	.450	.750	.000	.536	



L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: THOM0167
Type: Volume / Direction
Tech: Judd / Klaren
Count: Axle Hits / 2

Columbia Rd b Locust Grove Rd & Eagle Rd VOL
Date Start: 11-Jul-18
Date End: 12-Jul-18
Columbia Rd b Locust Grove Rd & Eagle Rd
Ada County, Idaho

Start Time	11-Jul-18 Wed	WB	EB							Total
12:00 AM		*	*							*
12:15		*	*							*
12:30		*	*							*
12:45		*	*							*
01:00		*	*							*
01:15		*	*							*
01:30		*	*							*
01:45		*	*							*
02:00		*	*							*
02:15		*	*							*
02:30		*	*							*
02:45		*	*							*
03:00		*	*							*
03:15		*	*							*
03:30		*	*							*
03:45		*	*							*
04:00		0	0							0
04:15		0	0							0
04:30		2	4							6
04:45		1	5							6
05:00		0	5							5
05:15		2	9							11
05:30		6	13							19
05:45		10	15							25
06:00		4	29							33
06:15		17	32							49
06:30		20	41							61
06:45		16	50							66
07:00		20	**52**							**72**
07:15		18	**73**							**91**
07:30		24	**68**							**92**
07:45		24	**66**							**90**
08:00		18	48							66
08:15		20	53							73
08:30		17	42							59
08:45		17	32							49
09:00		22	22							44
09:15		16	34							50
09:30		**20**	20							40
09:45		**29**	24							53
10:00		**22**	18							40
10:15		**24**	16							40
10:30		14	26							40
10:45		20	20							40
11:00		26	22							48
11:15		20	18							38
11:30		16	18							34
11:45		15	16							31
Total		480	891							1371
Percent		35.0%	65.0%							
Peak	-	09:30	07:00	-	-	-	-	-	-	07:00
Vol.	-	95	259	-	-	-	-	-	-	345
P.H.F.		0.819	0.887							0.938

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: THOM0167
Type: Volume / Direction
Tech: Judd / Klaren
Count: Axle Hits / 2

Columbia Rd b Locust Grove Rd & Eagle Rd VOL
Date Start: 11-Jul-18
Date End: 12-Jul-18
Columbia Rd b Locust Grove Rd & Eagle Rd
Ada County, Idaho

Start Time	11-Jul-18 Wed	WB	EB							Total
12:00 PM		20	16							36
12:15		21	22							43
12:30		23	22							45
12:45		28	28							56
01:00		26	21							47
01:15		27	20							47
01:30		17	24							41
01:45		30	22							52
02:00		18	22							40
02:15		26	20							46
02:30		41	16							57
02:45		39	13							52
03:00		32	20							52
03:15		28	17							45
03:30		35	32							67
03:45		48	24							72
04:00		46	27							73
04:15		55	22							77
04:30		58	**36**							94
04:45		63	**32**							95
05:00		**92**	**46**							**138**
05:15		**98**	**41**							**139**
05:30		**56**	34							**90**
05:45		**73**	31							**104**
06:00		53	27							80
06:15		52	31							83
06:30		30	25							55
06:45		41	28							69
07:00		34	24							58
07:15		24	14							38
07:30		16	16							32
07:45		14	15							29
08:00		22	16							38
08:15		22	16							38
08:30		12	16							28
08:45		24	18							42
09:00		24	13							37
09:15		18	6							24
09:30		22	18							40
09:45		16	11							27
10:00		12	11							23
10:15		10	8							18
10:30		11	7							18
10:45		10	3							13
11:00		8	5							13
11:15		4	4							8
11:30		5	2							7
11:45		4	5							9
Total		1488	947							2435
Percent		61.1%	38.9%							
Peak	-	17:00	16:30	-	-	-	-	-	-	17:00
Vol.	-	319	155	-	-	-	-	-	-	471
P.H.F.		0.814	0.842							0.847

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: THOM0167
Type: Volume / Direction
Tech: Judd / Klaren
Count: Axle Hits / 2

Columbia Rd b Locust Grove Rd & Eagle Rd VOL
Date Start: 11-Jul-18
Date End: 12-Jul-18
Columbia Rd b Locust Grove Rd & Eagle Rd
Ada County, Idaho

Start Time	12-Jul-18 Thu	WB	EB							Total
12:00 AM		**4**	**5**							**9**
12:15		**1**	**2**							**3**
12:30		**0**	**1**							**1**
12:45		**2**	**2**							**4**
01:00		3	0							3
01:15		0	1							1
01:30		1	1							2
01:45		0	0							0
02:00		1	4							5
02:15		0	1							1
02:30		0	1							1
02:45		1	2							3
03:00		1	0							1
03:15		0	0							0
03:30		0	0							0
03:45		1	1							2
04:00		*	*							*
04:15		*	*							*
04:30		*	*							*
04:45		*	*							*
05:00		*	*							*
05:15		*	*							*
05:30		*	*							*
05:45		*	*							*
06:00		*	*							*
06:15		*	*							*
06:30		*	*							*
06:45		*	*							*
07:00		*	*							*
07:15		*	*							*
07:30		*	*							*
07:45		*	*							*
08:00		*	*							*
08:15		*	*							*
08:30		*	*							*
08:45		*	*							*
09:00		*	*							*
09:15		*	*							*
09:30		*	*							*
09:45		*	*							*
10:00		*	*							*
10:15		*	*							*
10:30		*	*							*
10:45		*	*							*
11:00		*	*							*
11:15		*	*							*
11:30		*	*							*
11:45		*	*							*
Total		15	21							36
Percent		41.7%	58.3%							
Peak	-	12:00	12:00	-	-	-	-	-	-	12:00
Vol.	-	7	10	-	-	-	-	-	-	17
P.H.F.		0.438	0.500							0.472
Grand Total		1983	1859							3842
Percent		51.6%	48.4%							

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: THOM0167
Type: Volume / Direction
Tech: Judd / Klaren
Count: Axle Hits / 2

Columbia Rd b SH-69 & Locust Grove Rd VOL
Date Start: 11-Jul-18
Date End: 12-Jul-18
Columbian Rd between SH-69 &Locust Grove
Ada County, Idaho

Start Time	11-Jul-18 Wed	WB	EB							Total
12:00 AM		*	*							*
12:15		*	*							*
12:30		*	*							*
12:45		*	*							*
01:00		*	*							*
01:15		*	*							*
01:30		*	*							*
01:45		*	*							*
02:00		*	*							*
02:15		*	*							*
02:30		*	*							*
02:45		*	*							*
03:00		*	*							*
03:15		*	*							*
03:30		*	*							*
03:45		*	*							*
04:00		1	1							2
04:15		0	0							0
04:30		2	4							6
04:45		1	4							5
05:00		0	7							7
05:15		2	10							12
05:30		4	12							16
05:45		10	16							26
06:00		5	32							37
06:15		12	40							52
06:30		19	50							69
06:45		16	50							66
07:00		22	**60**							**82**
07:15		24	**96**							**120**
07:30		19	**77**							**96**
07:45		20	**70**							**90**
08:00		17	53							70
08:15		23	67							90
08:30		18	43							61
08:45		21	36							57
09:00		20	34							54
09:15		16	36							52
09:30		18	18							36
09:45		20	24							44
10:00		20	16							36
10:15		28	24							52
10:30		16	27							43
10:45		**26**	14							40
11:00		**24**	20							44
11:15		**18**	22							40
11:30		**30**	24							54
11:45		16	18							34
Total		488	1005							1493
Percent		32.7%	67.3%							
Peak	-	10:45	07:00	-	-	-	-	-	-	07:00
Vol.	-	98	303	-	-	-	-	-	-	388
P.H.F.		0.817	0.789							0.808

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: THOM0167
Type: Volume / Direction
Tech: Judd / Klaren
Count: Axle Hits / 2

Columbia Rd b SH-69 & Locust Grove Rd VOL
Date Start: 11-Jul-18
Date End: 12-Jul-18
Columbian Rd between SH-69 &Locust Grove
Ada County, Idaho

Start Time	11-Jul-18 Wed	WB	EB							Total
12:00 PM		22	11							33
12:15		19	26							45
12:30		24	24							48
12:45		26	27							53
01:00		21	20							41
01:15		32	24							56
01:30		20	28							48
01:45		46	23							69
02:00		26	24							50
02:15		28	21							49
02:30		43	21							64
02:45		42	16							58
03:00		40	18							58
03:15		26	22							48
03:30		38	36							74
03:45		44	28							72
04:00		45	20							65
04:15		68	31							99
04:30		52	25							77
04:45		62	27							89
05:00		**106**	**38**							**144**
05:15		**104**	**45**							**149**
05:30		**74**	**25**							**99**
05:45		**86**	**31**							**117**
06:00		58	30							88
06:15		58	27							85
06:30		32	24							56
06:45		46	26							72
07:00		36	21							57
07:15		34	12							46
07:30		11	16							27
07:45		19	17							36
08:00		26	20							46
08:15		23	16							39
08:30		15	20							35
08:45		22	20							42
09:00		24	14							38
09:15		18	10							28
09:30		23	16							39
09:45		14	8							22
10:00		12	14							26
10:15		12	6							18
10:30		10	4							14
10:45		10	2							12
11:00		8	6							14
11:15		3	5							8
11:30		5	3							8
11:45		5	5							10
Total		1618	953							2571
Percent		62.9%	37.1%							
Peak	-	17:00	17:00	-	-	-	-	-	-	17:00
Vol.	-	370	139	-	-	-	-	-	-	509
P.H.F.		0.873	0.772							0.854

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: THOM0167
Type: Volume / Direction
Tech: Judd / Klaren
Count: Axle Hits / 2

Columbia Rd b SH-69 & Locust Grove Rd VOL
Date Start: 11-Jul-18
Date End: 12-Jul-18
Columbian Rd between SH-69 &Locust Grove
Ada County, Idaho

Start Time	12-Jul-18 Thu	WB	EB	Total
12:00 AM		**5**	5	**10**
12:15		**1**	0	**1**
12:30		**1**	1	**2**
12:45		**2**	2	**4**
01:00		3	0	3
01:15		0	1	1
01:30		1	0	1
01:45		0	0	0
02:00		1	**5**	6
02:15		0	**1**	1
02:30		0	**2**	2
02:45		1	**1**	2
03:00		1	0	1
03:15		0	0	0
03:30		0	0	0
03:45		1	1	2
04:00		*	*	*
04:15		*	*	*
04:30		*	*	*
04:45		*	*	*
05:00		*	*	*
05:15		*	*	*
05:30		*	*	*
05:45		*	*	*
06:00		*	*	*
06:15		*	*	*
06:30		*	*	*
06:45		*	*	*
07:00		*	*	*
07:15		*	*	*
07:30		*	*	*
07:45		*	*	*
08:00		*	*	*
08:15		*	*	*
08:30		*	*	*
08:45		*	*	*
09:00		*	*	*
09:15		*	*	*
09:30		*	*	*
09:45		*	*	*
10:00		*	*	*
10:15		*	*	*
10:30		*	*	*
10:45		*	*	*
11:00		*	*	*
11:15		*	*	*
11:30		*	*	*
11:45		*	*	*
Total		17	19	36
Percent		47.2%	52.8%	
Peak	-	12:00	02:00	- - - - - - 12:00
Vol.	-	9	9	- - - - - - 17
P.H.F.		0.450	0.450	0.425
Grand Total		2123	1977	4100
Percent		51.8%	48.2%	

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: THOM0167
Type: Volume / Direction
Tech: Judd / Klaren
Count: Axle Hits / 2

Hubbard Rd b Locust Grove Rd & Eagle Rd VOL
Date Start: 11-Jul-18
Date End: 12-Jul-18
Hubbard Rd between Locust G & Eagle Rd
Ada County, Idaho

Start Time	11-Jul-18 Wed	WB	EB							Total
12:00 AM		*	*							*
12:15		*	*							*
12:30		*	*							*
12:45		*	*							*
01:00		*	*							*
01:15		*	*							*
01:30		*	*							*
01:45		*	*							*
02:00		*	*							*
02:15		*	*							*
02:30		*	*							*
02:45		*	*							*
03:00		*	*							*
03:15		*	*							*
03:30		*	*							*
03:45		*	*							*
04:00		0	2							2
04:15		0	3							3
04:30		0	5							5
04:45		0	3							3
05:00		0	1							1
05:15		2	6							8
05:30		1	13							14
05:45		0	6							6
06:00		4	6							**10**
06:15		2	**14**							**16**
06:30		2	**14**							**16**
06:45		2	**5**							**7**
07:00		0	**9**							9
07:15		2	8							10
07:30		2	4							6
07:45		2	2							4
08:00		6	2							8
08:15		1	2							3
08:30		3	2							5
08:45		4	3							7
09:00		4	1							5
09:15		1	2							3
09:30		**6**	4							10
09:45		**2**	5							7
10:00		**4**	4							8
10:15		**4**	2							6
10:30		2	4							6
10:45		0	2							2
11:00		1	2							3
11:15		2	3							5
11:30		5	6							11
11:45		2	2							4
Total		66	147							213
Percent		31.0%	69.0%							
Peak	-	09:30	06:15	-	-	-	-	-	-	06:00
Vol.	-	16	42	-	-	-	-	-	-	49
P.H.F.		0.667	0.750							0.766

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: THOM0167
Type: Volume / Direction
Tech: Judd / Klaren
Count: Axle Hits / 2

Hubbard Rd b Locust Grove Rd & Eagle Rd VOL
Date Start: 11-Jul-18
Date End: 12-Jul-18
Hubbard Rd between Locust G & Eagle Rd
Ada County, Idaho

Start Time	11-Jul-18 Wed	WB	EB	Total
12:00 PM		4	2	6
12:15		2	6	8
12:30		3	3	6
12:45		3	0	3
01:00		6	**5**	11
01:15		1	**10**	11
01:30		2	**8**	10
01:45		1	**4**	5
02:00		7	2	9
02:15		4	3	7
02:30		5	2	7
02:45		6	0	6
03:00		6	2	8
03:15		**6**	2	8
03:30		**2**	3	5
03:45		**8**	5	**13**
04:00		**11**	2	**13**
04:15		5	6	**11**
04:30		3	4	**7**
04:45		4	7	11
05:00		4	4	8
05:15		3	2	5
05:30		3	2	5
05:45		8	3	11
06:00		3	1	4
06:15		2	2	4
06:30		5	1	6
06:45		4	2	6
07:00		4	2	6
07:15		2	0	2
07:30		2	1	3
07:45		3	1	4
08:00		2	0	2
08:15		2	4	6
08:30		0	3	3
08:45		1	3	4
09:00		0	1	1
09:15		1	1	2
09:30		0	1	1
09:45		1	0	1
10:00		0	2	2
10:15		1	0	1
10:30		1	0	1
10:45		1	1	2
11:00		1	1	2
11:15		0	0	0
11:30		0	0	0
11:45		0	0	0
Total		143	114	257
Percent		55.6%	44.4%	
Peak	-	15:15	13:00	15:45
Vol.	-	27	27	44
P.H.F.		0.614	0.675	0.846

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: THOM0167
Type: Volume / Direction
Tech: Judd / Klaren
Count: Axle Hits / 2

Hubbard Rd b Locust Grove Rd & Eagle Rd VOL
Date Start: 11-Jul-18
Date End: 12-Jul-18
Hubbard Rd between Locust G & Eagle Rd
Ada County, Idaho

Start Time	12-Jul-18 Thu	WB	EB	Total
12:00 AM		**1**	0	**1**
12:15		**1**	0	**1**
12:30		**0**	1	**1**
12:45		**2**	0	**2**
01:00		1	0	1
01:15		0	0	0
01:30		1	0	1
01:45		0	0	0
02:00		0	0	0
02:15		0	0	0
02:30		0	0	0
02:45		0	**0**	0
03:00		0	**0**	0
03:15		0	**1**	1
03:30		0	**1**	1
03:45		0	0	0
04:00		*	*	*
04:15		*	*	*
04:30		*	*	*
04:45		*	*	*
05:00		*	*	*
05:15		*	*	*
05:30		*	*	*
05:45		*	*	*
06:00		*	*	*
06:15		*	*	*
06:30		*	*	*
06:45		*	*	*
07:00		*	*	*
07:15		*	*	*
07:30		*	*	*
07:45		*	*	*
08:00		*	*	*
08:15		*	*	*
08:30		*	*	*
08:45		*	*	*
09:00		*	*	*
09:15		*	*	*
09:30		*	*	*
09:45		*	*	*
10:00		*	*	*
10:15		*	*	*
10:30		*	*	*
10:45		*	*	*
11:00		*	*	*
11:15		*	*	*
11:30		*	*	*
11:45		*	*	*
Total		6	3	9
Percent		66.7%	33.3%	
Peak	-	12:00	02:45	12:00
Vol.	-	4	2	5
P.H.F.		0.500	0.500	0.625
Grand Total		215	264	479
Percent		44.9%	55.1%	

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: THOM0167
Type: Volume / Direction
Tech: Judd / Klaren
Count: Axle Hits / 2

Hubbard Rd b SH-69 & Locust Grove Rd VOL
Date Start: 11-Jul-18
Date End: 12-Jul-18
Hubbard between SH-69 & Locust Grove Rd
Ada County, Idaho

Start Time	11-Jul-18 Wed	WB	EB							Total
12:00 AM		*	*							*
12:15		*	*							*
12:30		*	*							*
12:45		*	*							*
01:00		*	*							*
01:15		*	*							*
01:30		*	*							*
01:45		*	*							*
02:00		*	*							*
02:15		*	*							*
02:30		*	*							*
02:45		*	*							*
03:00		*	*							*
03:15		*	*							*
03:30		*	*							*
03:45		*	*							*
04:00		1	0							1
04:15		0	1							1
04:30		0	2							2
04:45		0	0							0
05:00		2	4							6
05:15		2	2							4
05:30		0	5							5
05:45		1	6							7
06:00		0	1							1
06:15		3	11							14
06:30		4	19							23
06:45		0	10							10
07:00		6	**14**							**20**
07:15		4	**14**							**18**
07:30		4	**20**							**24**
07:45		8	**14**							**22**
08:00		2	14							16
08:15		6	8							14
08:30		4	10							14
08:45		7	8							15
09:00		9	5							14
09:15		6	4							10
09:30		**8**	8							16
09:45		**14**	6							20
10:00		**7**	6							13
10:15		**10**	16							26
10:30		6	4							10
10:45		6	10							16
11:00		4	9							13
11:15		12	2							14
11:30		6	18							24
11:45		6	6							12
Total		148	257							405
Percent		36.5%	63.5%							
Peak	-	09:30	07:00	-	-	-	-	-	-	07:00
Vol.	-	39	62	-	-	-	-	-	-	84
P.H.F.		0.696	0.775							0.875

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: THOM0167
Type: Volume / Direction
Tech: Judd / Klaren
Count: Axle Hits / 2

Hubbard Rd b SH-69 & Locust Grove Rd VOL
Date Start: 11-Jul-18
Date End: 12-Jul-18
Hubbard between SH-69 & Locust Grove Rd
Ada County, Idaho

Start Time	11-Jul-18 Wed	WB	EB							Total
12:00 PM		6	10							16
12:15		7	6							13
12:30		4	4							8
12:45		4	5							9
01:00		6	7							13
01:15		5	8							13
01:30		7	5							12
01:45		4	4							8
02:00		10	**8**							18
02:15		7	**14**							21
02:30		9	**12**							21
02:45		8	**5**							13
03:00		9	6							15
03:15		8	4							12
03:30		7	8							15
03:45		7	2							9
04:00		9	6							15
04:15		13	8							21
04:30		10	4							14
04:45		**18**	8							**26**
05:00		**16**	5							**21**
05:15		**12**	12							**24**
05:30		**14**	6							**20**
05:45		8	8							16
06:00		11	10							21
06:15		9	6							15
06:30		8	5							13
06:45		10	6							16
07:00		12	3							15
07:15		5	7							12
07:30		7	2							9
07:45		10	4							14
08:00		6	4							10
08:15		5	2							7
08:30		1	3							4
08:45		4	4							8
09:00		1	0							1
09:15		0	3							3
09:30		2	2							4
09:45		0	6							6
10:00		3	2							5
10:15		1	4							5
10:30		2	2							4
10:45		3	3							6
11:00		3	0							3
11:15		0	0							0
11:30		1	0							1
11:45		1	3							4
Total		313	246							559
Percent		56.0%	44.0%							
Peak	-	16:45	14:00	-	-	-	-	-	-	16:45
Vol.	-	60	39	-	-	-	-	-	-	91
P.H.F.		0.833	0.696							0.875

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: THOM0167
Type: Volume / Direction
Tech: Judd / Klaren
Count: Axle Hits / 2

Hubbard Rd b SH-69 & Locust Grove Rd VOL
Date Start: 11-Jul-18
Date End: 12-Jul-18
Hubbard between SH-69 & Locust Grove Rd
Ada County, Idaho

Start Time	12-Jul-18 Thu	WB	EB	Total
12:00 AM		2	2	4
12:15		0	0	0
12:30		0	0	0
12:45		0	**0**	0
01:00		**2**	**1**	**3**
01:15		**0**	**0**	**0**
01:30		**0**	**2**	**2**
01:45		**2**	0	**2**
02:00		1	0	1
02:15		0	0	0
02:30		1	0	1
02:45		0	0	0
03:00		1	0	1
03:15		0	0	0
03:30		0	0	0
03:45		0	0	0
04:00		*	*	*
04:15		*	*	*
04:30		*	*	*
04:45		*	*	*
05:00		*	*	*
05:15		*	*	*
05:30		*	*	*
05:45		*	*	*
06:00		*	*	*
06:15		*	*	*
06:30		*	*	*
06:45		*	*	*
07:00		*	*	*
07:15		*	*	*
07:30		*	*	*
07:45		*	*	*
08:00		*	*	*
08:15		*	*	*
08:30		*	*	*
08:45		*	*	*
09:00		*	*	*
09:15		*	*	*
09:30		*	*	*
09:45		*	*	*
10:00		*	*	*
10:15		*	*	*
10:30		*	*	*
10:45		*	*	*
11:00		*	*	*
11:15		*	*	*
11:30		*	*	*
11:45		*	*	*
Total		9	5	14
Percent		64.3%	35.7%	
Peak	-	01:00	00:45	01:00
Vol.	-	4	3	7
P.H.F.		0.500	0.375	0.583
Grand Total		470	508	978
Percent		48.1%	51.9%	

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: THOM0167
Type: Volume / Class
Tech: Judd / Klaren
Count: Axle Hits / 2

Locust Grove Rd N of Columbia Rd VOL
Date Start: 11-Jul-18
Date End: 12-Jul-18
Locust Grove Rd north of Columbia Rd
Ada County, Idaho

Start Time	11-Jul-18 Wed	SB	NB							Total
12:00 AM		*	*							*
12:15		*	*							*
12:30		*	*							*
12:45		*	*							*
01:00		*	*							*
01:15		*	*							*
01:30		*	*							*
01:45		*	*							*
02:00		*	*							*
02:15		*	*							*
02:30		*	*							*
02:45		*	*							*
03:00		*	*							*
03:15		*	*							*
03:30		*	*							*
03:45		*	*							*
04:00		0	1							1
04:15		0	0							0
04:30		1	0							1
04:45		0	0							0
05:00		2	2							4
05:15		1	2							3
05:30		4	6							10
05:45		3	5							8
06:00		4	4							8
06:15		4	13							17
06:30		6	16							22
06:45		5	13							18
07:00		6	16							22
07:15		14	**34**							**48**
07:30		18	**30**							**48**
07:45		2	**24**							**26**
08:00		13	**18**							**31**
08:15		6	28							34
08:30		8	17							25
08:45		8	13							21
09:00		10	20							30
09:15		8	12							20
09:30		12	12							24
09:45		14	14							28
10:00		9	11							20
10:15		8	13							21
10:30		13	20							33
10:45		11	10							21
11:00		**16**	10							26
11:15		**6**	11							17
11:30		**15**	14							29
11:45		**14**	8							22
Total		241	397							638
Percent		37.8%	62.2%							
Peak	-	11:00	07:15	-	-	-	-	-	-	07:15
Vol.	-	51	106	-	-	-	-	-	-	153
P.H.F.		0.797	0.779							0.797

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: THOM0167
Type: Volume / Class
Tech: Judd / Klaren
Count: Axle Hits / 2

Locust Grove Rd N of Columbia Rd VOL
Date Start: 11-Jul-18
Date End: 12-Jul-18
Locust Grove Rd north of Columbia Rd
Ada County, Idaho

Start Time	11-Jul-18 Wed	SB	NB	Total
12:00 PM		9	12	21
12:15		11	8	19
12:30		9	14	23
12:45		10	5	15
01:00		10	11	21
01:15		14	10	24
01:30		13	10	23
01:45		16	16	32
02:00		18	12	30
02:15		21	14	35
02:30		18	12	30
02:45		20	12	32
03:00		12	10	22
03:15		20	12	32
03:30		14	13	27
03:45		26	14	40
04:00		22	18	40
04:15		29	18	47
04:30		**36**	10	**46**
04:45		**30**	**14**	**44**
05:00		**31**	**18**	**49**
05:15		**46**	**20**	**66**
05:30		32	**12**	44
05:45		28	14	42
06:00		18	10	28
06:15		19	6	25
06:30		22	8	30
06:45		8	3	11
07:00		18	8	26
07:15		8	6	14
07:30		6	6	12
07:45		11	4	15
08:00		10	6	16
08:15		7	4	11
08:30		6	6	12
08:45		7	6	13
09:00		6	5	11
09:15		4	7	11
09:30		10	8	18
09:45		7	5	12
10:00		2	2	4
10:15		3	5	8
10:30		3	3	6
10:45		4	2	6
11:00		4	1	5
11:15		2	3	5
11:30		1	1	2
11:45		2	0	2
Total		683	424	1107
Percent		61.7%	38.3%	
Peak	-	16:30	16:45	16:30
Vol.	-	143	64	205
P.H.F.		0.777	0.800	0.777

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: THOM0167
Type: Volume / Class
Tech: Judd / Klaren
Count: Axle Hits / 2

Locust Grove Rd N of Columbia Rd VOL
Date Start: 11-Jul-18
Date End: 12-Jul-18
Locust Grove Rd north of Columbia Rd
Ada County, Idaho

Start Time	12-Jul-18 Thu	SB	NB	Total
12:00 AM		**2**	1	**3**
12:15		**1**	0	**1**
12:30		**1**	0	**1**
12:45		**1**	**0**	**1**
01:00		1	**0**	1
01:15		1	**1**	2
01:30		0	**1**	1
01:45		0	0	0
02:00		0	0	0
02:15		1	0	1
02:30		0	0	0
02:45		0	0	0
03:00		0	0	0
03:15		0	0	0
03:30		0	0	0
03:45		0	0	0
04:00		*	*	*
04:15		*	*	*
04:30		*	*	*
04:45		*	*	*
05:00		*	*	*
05:15		*	*	*
05:30		*	*	*
05:45		*	*	*
06:00		*	*	*
06:15		*	*	*
06:30		*	*	*
06:45		*	*	*
07:00		*	*	*
07:15		*	*	*
07:30		*	*	*
07:45		*	*	*
08:00		*	*	*
08:15		*	*	*
08:30		*	*	*
08:45		*	*	*
09:00		*	*	*
09:15		*	*	*
09:30		*	*	*
09:45		*	*	*
10:00		*	*	*
10:15		*	*	*
10:30		*	*	*
10:45		*	*	*
11:00		*	*	*
11:15		*	*	*
11:30		*	*	*
11:45		*	*	*
Total		8	3	11
Percent		72.7%	27.3%	
Peak	-	12:00	00:45	12:00
Vol.	-	5	2	6
P.H.F.		0.625	0.500	0.500
Grand Total		932	824	1756
Percent		53.1%	46.9%	

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: THOM0167
Type: Volume / Direction
Tech: Judd / Klaren
Count: Axle Hits / 2

Locust Grove Rd N of Hubbard Rd VOL
Date Start: 11-Jul-18
Date End: 12-Jul-18
Locust Grove N of Hubbard Road
Ada County, Idaho

Start Time	11-Jul-18 Wed	SB	NB							Total
12:00 AM		*	*							*
12:15		*	*							*
12:30		*	*							*
12:45		*	*							*
01:00		*	*							*
01:15		*	*							*
01:30		*	*							*
01:45		*	*							*
02:00		*	*							*
02:15		*	*							*
02:30		*	*							*
02:45		*	*							*
03:00		*	*							*
03:15		*	*							*
03:30		*	*							*
03:45		*	*							*
04:00		0	1							1
04:15		0	0							0
04:30		1	0							1
04:45		0	0							0
05:00		1	0							1
05:15		2	1							3
05:30		2	4							6
05:45		1	1							2
06:00		2	2							4
06:15		6	4							10
06:30		3	7							10
06:45		4	8							12
07:00		3	6							9
07:15		4	**14**							**18**
07:30		12	**11**							**23**
07:45		5	**9**							**14**
08:00		7	**8**							**15**
08:15		4	13							17
08:30		2	8							10
08:45		7	6							13
09:00		**6**	6							12
09:15		**8**	5							13
09:30		**10**	8							18
09:45		**12**	7							19
10:00		6	8							14
10:15		8	10							18
10:30		2	13							15
10:45		8	10							18
11:00		12	6							18
11:15		5	6							11
11:30		6	10							16
11:45		7	4							11
Total		156	196							352
Percent		44.3%	55.7%							
Peak	-	09:00	07:15	-	-	-	-	-	-	07:15
Vol.	-	36	42	-	-	-	-	-	-	70
P.H.F.		0.750	0.750							0.761

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: THOM0167
Type: Volume / Direction
Tech: Judd / Klaren
Count: Axle Hits / 2

Locust Grove Rd N of Hubbard Rd VOL
Date Start: 11-Jul-18
Date End: 12-Jul-18
Locust Grove N of Hubbard Road
Ada County, Idaho

Start Time	11-Jul-18 Wed	SB	NB	Total
12:00 PM		6	11	17
12:15		4	1	5
12:30		8	4	12
12:45		1	3	4
01:00		7	5	12
01:15		6	2	8
01:30		4	4	8
01:45		8	7	15
02:00		6	2	8
02:15		10	**9**	19
02:30		11	**10**	21
02:45		10	**6**	16
03:00		10	**8**	18
03:15		12	4	16
03:30		6	6	12
03:45		9	6	15
04:00		13	10	**23**
04:15		10	6	**16**
04:30		22	8	**30**
04:45		13	8	**21**
05:00		4	5	9
05:15		**16**	5	21
05:30		**24**	4	28
05:45		**14**	6	20
06:00		**11**	4	15
06:15		8	7	15
06:30		13	1	14
06:45		6	3	9
07:00		11	1	12
07:15		4	5	9
07:30		2	1	3
07:45		3	4	7
08:00		5	2	7
08:15		3	3	6
08:30		4	1	5
08:45		4	4	8
09:00		1	0	1
09:15		2	0	2
09:30		9	3	12
09:45		3	6	9
10:00		2	0	2
10:15		3	4	7
10:30		3	2	5
10:45		3	1	4
11:00		4	0	4
11:15		1	1	2
11:30		0	0	0
11:45		1	0	1
Total		340	193	533
Percent		63.8%	36.2%	
Peak	-	17:15	14:15	16:00
Vol.	-	65	33	90
P.H.F.		0.677	0.825	0.750

L2 Data Collection

L2DataCollection.com
Idaho (208) 860-7554 Utah (801) 431-2993

Study: THOM0167
Type: Volume / Direction
Tech: Judd / Klaren
Count: Axle Hits / 2

Locust Grove Rd N of Hubbard Rd VOL
Date Start: 11-Jul-18
Date End: 12-Jul-18
Locust Grove N of Hubbard Road
Ada County, Idaho

Start Time	12-Jul-18 Thu	SB	NB	Total
12:00 AM		**1**	1	2
12:15		**0**	0	0
12:30		**0**	0	0
12:45		**1**	**0**	**1**
01:00		1	**1**	**2**
01:15		0	**1**	**1**
01:30		0	**1**	**1**
01:45		0	0	0
02:00		0	0	0
02:15		1	0	1
02:30		0	0	0
02:45		0	0	0
03:00		0	0	0
03:15		0	0	0
03:30		0	0	0
03:45		0	0	0
04:00		*	*	*
04:15		*	*	*
04:30		*	*	*
04:45		*	*	*
05:00		*	*	*
05:15		*	*	*
05:30		*	*	*
05:45		*	*	*
06:00		*	*	*
06:15		*	*	*
06:30		*	*	*
06:45		*	*	*
07:00		*	*	*
07:15		*	*	*
07:30		*	*	*
07:45		*	*	*
08:00		*	*	*
08:15		*	*	*
08:30		*	*	*
08:45		*	*	*
09:00		*	*	*
09:15		*	*	*
09:30		*	*	*
09:45		*	*	*
10:00		*	*	*
10:15		*	*	*
10:30		*	*	*
10:45		*	*	*
11:00		*	*	*
11:15		*	*	*
11:30		*	*	*
11:45		*	*	*
Total		4	4	8
Percent		50.0%	50.0%	
Peak	-	12:00	00:45	00:45
Vol.	-	2	3	5
P.H.F.		0.500	0.750	0.625
Grand Total		500	393	893
Percent		56.0%	44.0%	

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	57	4	3	131	41	0	59	6	21	21	6
Future Vol, veh/h	7	57	4	3	131	41	0	59	6	21	21	6
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	67	5	4	154	48	0	69	7	25	25	7
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8	8.5	8.1	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	10%	2%	44%
Vol Thru, %	91%	84%	75%	44%
Vol Right, %	9%	6%	23%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	65	68	175	48
LT Vol	0	7	3	21
Through Vol	59	57	131	21
RT Vol	6	4	41	6
Lane Flow Rate	76	80	206	56
Geometry Grp	1	1	1	1
Degree of Util (X)	0.097	0.099	0.24	0.073
Departure Headway (Hd)	4.581	4.451	4.203	4.672
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	784	807	856	768
Service Time	2.6	2.467	2.215	2.692
HCM Lane V/C Ratio	0.097	0.099	0.241	0.073
HCM Control Delay	8.1	8	8.5	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.3	0.9	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	265	178	18	26	16	48	10	1083	99	21	321	31
Future Volume (veh/h)	265	178	18	26	16	48	10	1083	99	21	321	31
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1765	1765	1765	1765
Adj Flow Rate, veh/h	327	220	22	32	20	59	12	1259	115	23	349	34
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.86	0.86	0.86	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	362	278	28	182	264	225	578	1739	778	213	1772	793
Arrive On Green	0.06	0.18	0.18	0.03	0.15	0.15	0.01	0.52	0.52	0.02	0.53	0.53
Sat Flow, veh/h	1681	1579	158	1681	1765	1500	1681	3353	1500	1681	3353	1500
Grp Volume(v), veh/h	327	0	242	32	20	59	12	1259	115	23	349	34
Grp Sat Flow(s),veh/h/ln	1681	0	1737	1681	1765	1500	1681	1676	1500	1681	1676	1500
Q Serve(g_s), s	5.0	0.0	11.7	1.4	0.9	3.1	0.3	25.4	3.5	0.6	4.8	1.0
Cycle Q Clear(g_c), s	5.0	0.0	11.7	1.4	0.9	3.1	0.3	25.4	3.5	0.6	4.8	1.0
Prop In Lane	1.00		0.09	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	362	0	305	182	264	225	578	1739	778	213	1772	793
V/C Ratio(X)	0.90	0.00	0.79	0.18	0.08	0.26	0.02	0.72	0.15	0.11	0.20	0.04
Avail Cap(c_a), veh/h	362	0	869	226	883	751	650	2823	1263	268	2823	1263
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.8	0.0	34.7	30.6	32.1	33.1	9.7	16.3	11.0	13.2	10.9	10.0
Incr Delay (d2), s/veh	24.7	0.0	1.8	0.2	0.0	0.2	0.0	0.8	0.1	0.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.1	0.0	9.7	1.2	0.8	2.3	0.2	17.6	2.7	0.5	4.0	0.7
LnGrp Delay(d),s/veh	60.5	0.0	36.5	30.8	32.2	33.3	9.7	17.1	11.2	13.3	11.0	10.0
LnGrp LOS	E		D	C	C	C	A	B	B	B	B	B
Approach Vol, veh/h		569			111			1386			406	
Approach Delay, s/veh		50.3			32.4			16.6			11.0	
Approach LOS		D			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	19.2	6.3	52.5	7.7	21.5	7.1	51.6
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	5.0	44.0	5.0	74.0	5.0	44.0	5.0	74.0
Max Q Clear Time (g_c+I1), s	8.0	6.1	3.3	7.8	4.4	14.7	3.6	28.4
Green Ext Time (p_c), s	0.0	0.1	0.0	3.3	0.0	0.7	0.0	17.1

Intersection Summary	
HCM 2010 Ctrl Delay	24.1
HCM 2010 LOS	C

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	301	11	6	108	14	3	25	12	11	8	4
Future Vol, veh/h	24	301	11	6	108	14	3	25	12	11	8	4
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	320	12	6	115	15	3	27	13	12	9	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.3	8.3	8.2	8.3
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	7%	5%	48%
Vol Thru, %	62%	90%	84%	35%
Vol Right, %	30%	3%	11%	17%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	40	336	128	23
LT Vol	3	24	6	11
Through Vol	25	301	108	8
RT Vol	12	11	14	4
Lane Flow Rate	43	357	136	24
Geometry Grp	1	1	1	1
Degree of Util (X)	0.058	0.422	0.167	0.034
Departure Headway (Hd)	4.883	4.254	4.408	5.066
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	733	851	816	707
Service Time	2.913	2.254	2.426	3.098
HCM Lane V/C Ratio	0.059	0.42	0.167	0.034
HCM Control Delay	8.2	10.3	8.3	8.3
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.2	2.1	0.6	0.1

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	123	185	4	0	104	39	7	13	1	17	7	15
Future Vol, veh/h	123	185	4	0	104	39	7	13	1	17	7	15
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	132	199	4	0	112	42	8	14	1	18	8	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.2	8.3	8.3	8.2
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	33%	39%	0%	44%
Vol Thru, %	62%	59%	73%	18%
Vol Right, %	5%	1%	27%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	21	312	143	39
LT Vol	7	123	0	17
Through Vol	13	185	104	7
RT Vol	1	4	39	15
Lane Flow Rate	23	335	154	42
Geometry Grp	1	1	1	1
Degree of Util (X)	0.032	0.404	0.183	0.057
Departure Headway (Hd)	5.108	4.338	4.277	4.897
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	701	835	840	731
Service Time	3.138	2.338	2.296	2.926
HCM Lane V/C Ratio	0.033	0.401	0.183	0.057
HCM Control Delay	8.3	10.2	8.3	8.2
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.1	2	0.7	0.2

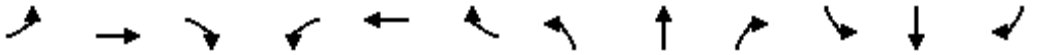
Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	129	19	23	2	3	8	12	834	9	27	270	44
Future Vol, veh/h	129	19	23	2	3	8	12	834	9	27	270	44
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	100	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	139	20	25	2	3	9	13	897	10	29	290	47

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	848	1305	169	1141	1323	454	337	0	0	907	0	0
Stage 1	372	372	-	928	928	-	-	-	-	-	-	-
Stage 2	476	933	-	213	395	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	255	159	845	156	155	553	1219	-	-	746	-	-
Stage 1	621	617	-	288	345	-	-	-	-	-	-	-
Stage 2	539	343	-	769	603	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	238	151	845	131	147	553	1219	-	-	746	-	-
Mov Cap-2 Maneuver	238	151	-	131	147	-	-	-	-	-	-	-
Stage 1	614	593	-	285	341	-	-	-	-	-	-	-
Stage 2	520	339	-	693	579	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	34.7	19.4	0.1	0.8
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1219	-	-	238	274	131	315	746	-	-
HCM Lane V/C Ratio	0.011	-	-	0.583	0.165	0.016	0.038	0.039	-	-
HCM Control Delay (s)	8	-	-	39.3	20.7	32.9	16.9	10	-	-
HCM Lane LOS	A	-	-	E	C	D	C	B	-	-
HCM 95th %tile Q(veh)	0	-	-	3.3	0.6	0.1	0.1	0.1	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	19	23	2	3	8	12	834	9	27	270	44
Future Volume (veh/h)	129	19	23	2	3	8	12	834	9	27	270	44
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	163	24	29	2	4	10	14	959	10	32	321	52
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.79	0.79	0.79	0.81	0.81	0.81	0.87	0.87	0.87	0.84	0.84	0.84
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	507	173	209	470	106	265	572	1539	16	323	1311	210
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	1394	729	881	1346	448	1119	1005	3399	35	578	2895	464
Grp Volume(v), veh/h	163	0	53	2	0	14	14	473	496	32	184	189
Grp Sat Flow(s),veh/h/ln	1394	0	1609	1346	0	1567	1005	1676	1758	578	1676	1683
Q Serve(g_s), s	3.9	0.0	1.0	0.0	0.0	0.3	0.3	8.3	8.3	1.7	2.6	2.7
Cycle Q Clear(g_c), s	4.2	0.0	1.0	1.1	0.0	0.3	3.0	8.3	8.3	10.1	2.6	2.7
Prop In Lane	1.00		0.55	1.00		0.71	1.00		0.02	1.00		0.28
Lane Grp Cap(c), veh/h	507	0	382	470	0	372	572	759	796	323	759	762
V/C Ratio(X)	0.32	0.00	0.14	0.00	0.00	0.04	0.02	0.62	0.62	0.10	0.24	0.25
Avail Cap(c_a), veh/h	2050	0	2163	1960	0	2106	2351	3726	3908	1346	3726	3740
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.0	0.0	11.6	12.1	0.0	11.4	7.5	8.1	8.1	11.9	6.5	6.5
Incr Delay (d2), s/veh	0.4	0.0	0.2	0.0	0.0	0.0	0.0	0.8	0.8	0.1	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.8	0.0	0.8	0.0	0.0	0.2	0.2	7.2	7.5	0.5	2.2	2.2
LnGrp Delay(d),s/veh	13.3	0.0	11.8	12.1	0.0	11.4	7.5	8.9	8.9	12.0	6.7	6.7
LnGrp LOS	B		B	B		B	A	A	A	B	A	A
Approach Vol, veh/h		216			16			983			405	
Approach Delay, s/veh		13.0			11.5			8.9			7.1	
Approach LOS		B			B			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		15.2		23.5		15.2		23.5
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s		52.0		86.0		52.0		86.0
Max Q Clear Time (g_c+I1), s		4.1		13.1		7.2		11.3
Green Ext Time (p_c), s		0.0		2.3		0.7		6.2

Intersection Summary	
HCM 2010 Ctrl Delay	9.0
HCM 2010 LOS	A

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	34	9	1	3	0	5	22	2	2	15	8
Future Vol, veh/h	20	34	9	1	3	0	5	22	2	2	15	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	40	10	1	3	0	6	26	2	2	17	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	3	0	0	50	0	0	109	96	45	110	101	3
Stage 1	-	-	-	-	-	-	91	91	-	5	5	-
Stage 2	-	-	-	-	-	-	18	5	-	105	96	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1619	-	-	1557	-	-	870	794	1025	868	789	1081
Stage 1	-	-	-	-	-	-	916	820	-	1017	892	-
Stage 2	-	-	-	-	-	-	1001	892	-	901	815	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1619	-	-	1557	-	-	838	781	1025	834	776	1081
Mov Cap-2 Maneuver	-	-	-	-	-	-	838	781	-	834	776	-
Stage 1	-	-	-	-	-	-	902	808	-	1002	891	-
Stage 2	-	-	-	-	-	-	972	891	-	857	803	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.3	1.8	9.7	9.3
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	804	1619	-	-	1557	-	-	858
HCM Lane V/C Ratio	0.042	0.014	-	-	0.001	-	-	0.034
HCM Control Delay (s)	9.7	7.3	0	-	7.3	0	-	9.3
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	9	1	13	10	4
Future Vol, veh/h	7	9	1	13	10	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	12	1	17	13	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	18	0	-	0	40	10
Stage 1	-	-	-	-	10	-
Stage 2	-	-	-	-	30	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1599	-	-	-	972	1071
Stage 1	-	-	-	-	1013	-
Stage 2	-	-	-	-	993	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1599	-	-	-	966	1071
Mov Cap-2 Maneuver	-	-	-	-	966	-
Stage 1	-	-	-	-	1007	-
Stage 2	-	-	-	-	993	-

Approach	EB	WB	SB
HCM Control Delay, s	3.2	0	8.7
HCM LOS			A

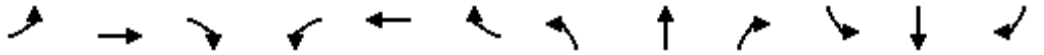
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1599	-	-	-	994
HCM Lane V/C Ratio	0.006	-	-	-	0.018
HCM Control Delay (s)	7.3	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	148	2	8	145	35	1	27	3	61	80	11
Future Vol, veh/h	5	148	2	8	145	35	1	27	3	61	80	11
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	170	2	9	167	40	1	31	3	70	92	13
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.2	9.3	8.4	9.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	3%	4%	40%
Vol Thru, %	87%	95%	77%	53%
Vol Right, %	10%	1%	19%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	31	155	188	152
LT Vol	1	5	8	61
Through Vol	27	148	145	80
RT Vol	3	2	35	11
Lane Flow Rate	36	178	216	175
Geometry Grp	1	1	1	1
Degree of Util (X)	0.05	0.233	0.274	0.239
Departure Headway (Hd)	5.034	4.713	4.573	4.926
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	707	759	782	727
Service Time	3.098	2.757	2.615	2.977
HCM Lane V/C Ratio	0.051	0.235	0.276	0.241
HCM Control Delay	8.4	9.2	9.3	9.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.9	1.1	0.9



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	53	10	137	190	50	20	575	32	49	1291	207
Future Volume (veh/h)	101	53	10	137	190	50	20	575	32	49	1291	207
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1765	1765	1765	1765
Adj Flow Rate, veh/h	116	61	11	165	229	60	24	676	38	55	1451	233
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.87	0.87	0.87	0.83	0.83	0.83	0.85	0.85	0.85	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	245	44	332	281	239	167	1807	809	438	1852	829
Arrive On Green	0.06	0.17	0.17	0.05	0.16	0.16	0.02	0.54	0.54	0.04	0.55	0.55
Sat Flow, veh/h	1681	1456	263	1681	1765	1500	1681	3353	1500	1681	3353	1500
Grp Volume(v), veh/h	116	0	72	165	229	60	24	676	38	55	1451	233
Grp Sat Flow(s),veh/h/ln	1681	0	1718	1681	1765	1500	1681	1676	1500	1681	1676	1500
Q Serve(g_s), s	6.3	0.0	4.0	6.0	13.7	3.8	0.7	12.8	1.3	1.6	37.4	9.0
Cycle Q Clear(g_c), s	6.3	0.0	4.0	6.0	13.7	3.8	0.7	12.8	1.3	1.6	37.4	9.0
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	210	0	290	332	281	239	167	1807	809	438	1852	829
V/C Ratio(X)	0.55	0.00	0.25	0.50	0.81	0.25	0.14	0.37	0.05	0.13	0.78	0.28
Avail Cap(c_a), veh/h	210	0	627	332	628	534	204	2355	1054	452	2355	1054
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.5	0.0	39.6	38.7	44.5	40.3	17.1	14.6	12.0	11.0	19.4	13.0
Incr Delay (d2), s/veh	1.9	0.0	0.2	0.4	2.2	0.2	0.1	0.2	0.0	0.0	1.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.4	0.0	3.4	3.2	11.1	2.9	0.6	10.0	1.0	1.3	24.4	6.8
LnGrp Delay(d),s/veh	38.3	0.0	39.7	39.1	46.7	40.5	17.2	14.8	12.0	11.0	21.0	13.3
LnGrp LOS	D		D	D	D	D	B	B	B	B	C	B
Approach Vol, veh/h		188			454			738			1739	
Approach Delay, s/veh		38.9			43.1			14.7			19.6	
Approach LOS		D			D			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	23.5	7.6	66.6	11.0	24.5	9.1	65.1
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	7.0	39.0	5.0	77.0	6.0	40.0	5.0	77.0
Max Q Clear Time (g_c+I1), s	9.3	16.7	3.7	40.4	9.0	7.0	4.6	15.8
Green Ext Time (p_c), s	0.0	0.7	0.0	20.1	0.0	0.2	0.0	7.0

Intersection Summary	
HCM 2010 Ctrl Delay	23.0
HCM 2010 LOS	C

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	146	2	13	248	8	2	14	2	10	36	37
Future Vol, veh/h	5	146	2	13	248	8	2	14	2	10	36	37
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	160	2	14	273	9	2	15	2	11	40	41
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.8	9.9	8.2	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	3%	5%	12%
Vol Thru, %	78%	95%	92%	43%
Vol Right, %	11%	1%	3%	45%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	18	153	269	83
LT Vol	2	5	13	10
Through Vol	14	146	248	36
RT Vol	2	2	8	37
Lane Flow Rate	20	168	296	91
Geometry Grp	1	1	1	1
Degree of Util (X)	0.028	0.211	0.36	0.12
Departure Headway (Hd)	5.053	4.518	4.38	4.751
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	707	795	822	753
Service Time	3.095	2.545	2.404	2.788
HCM Lane V/C Ratio	0.028	0.211	0.36	0.121
HCM Control Delay	8.2	8.8	9.9	8.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.8	1.6	0.4

Intersection	
Intersection Delay, s/veh	8.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	27	128	10	4	175	21	4	10	2	33	22	94
Future Vol, veh/h	27	128	10	4	175	21	4	10	2	33	22	94
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	132	10	4	180	22	4	10	2	34	23	97
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.8	9	8.1	8.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	25%	16%	2%	22%
Vol Thru, %	62%	78%	88%	15%
Vol Right, %	12%	6%	10%	63%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	16	165	200	149
LT Vol	4	27	4	33
Through Vol	10	128	175	22
RT Vol	2	10	21	94
Lane Flow Rate	16	170	206	154
Geometry Grp	1	1	1	1
Degree of Util (X)	0.023	0.215	0.255	0.191
Departure Headway (Hd)	4.961	4.552	4.46	4.476
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	720	788	804	802
Service Time	3.001	2.584	2.491	2.506
HCM Lane V/C Ratio	0.022	0.216	0.256	0.192
HCM Control Delay	8.1	8.8	9	8.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.8	1	0.7

Intersection	
Int Delay, s/veh	12.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	68	5	23	8	9	27	50	569	5	9	956	279
Future Vol, veh/h	68	5	23	8	9	27	50	569	5	9	956	279
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	100	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	71	5	24	8	9	28	52	593	5	9	996	291

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1565	1862	644	1219	2005	299	1287	0	0	598	0	0
Stage 1	1160	1160	-	700	700	-	-	-	-	-	-	-
Stage 2	405	702	-	519	1305	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	75	72	416	136	59	697	535	-	-	975	-	-
Stage 1	208	268	-	396	440	-	-	-	-	-	-	-
Stage 2	593	439	-	508	228	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 57	64	416	111	53	697	535	-	-	975	-	-
Mov Cap-2 Maneuver	~ 57	64	-	111	53	-	-	-	-	-	-	-
Stage 1	188	266	-	358	397	-	-	-	-	-	-	-
Stage 2	502	396	-	465	226	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	232.9	33	1	0.1
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	535	-	-	57	210	111	173	975	-	-
HCM Lane V/C Ratio	0.097	-	-	1.243	0.139	0.075	0.217	0.01	-	-
HCM Control Delay (s)	12.5	-	-	$ 318.5	24.9	40	31.5	8.7	-	-
HCM Lane LOS	B	-	-	F	C	E	D	A	-	-
HCM 95th %tile Q(veh)	0.3	-	-	6.1	0.5	0.2	0.8	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	5	23	8	9	27	50	569	5	9	956	279
Future Volume (veh/h)	68	5	23	8	9	27	50	569	5	9	956	279
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	85	6	29	10	11	34	55	625	5	10	1039	303
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.80	0.80	0.80	0.79	0.79	0.79	0.91	0.91	0.91	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	360	48	234	369	70	215	260	1963	16	526	1478	428
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.58	0.58	0.58	0.58	0.58	0.58
Sat Flow, veh/h	1356	264	1276	1368	381	1176	406	3409	27	793	2567	743
Grp Volume(v), veh/h	85	0	35	10	0	45	55	307	323	10	676	666
Grp Sat Flow(s),veh/h/ln	1356	0	1540	1368	0	1557	406	1676	1760	793	1676	1634
Q Serve(g_s), s	2.8	0.0	0.9	0.3	0.0	1.2	5.6	4.7	4.7	0.3	14.3	14.5
Cycle Q Clear(g_c), s	4.0	0.0	0.9	1.3	0.0	1.2	20.1	4.7	4.7	5.1	14.3	14.5
Prop In Lane	1.00		0.83	1.00		0.76	1.00		0.02	1.00		0.46
Lane Grp Cap(c), veh/h	360	0	282	369	0	285	260	965	1013	526	965	941
V/C Ratio(X)	0.24	0.00	0.12	0.03	0.00	0.16	0.21	0.32	0.32	0.02	0.70	0.71
Avail Cap(c_a), veh/h	1256	0	1300	1273	0	1314	809	3234	3395	1599	3234	3152
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.8	0.0	17.0	17.5	0.0	17.1	14.8	5.5	5.5	6.8	7.5	7.6
Incr Delay (d2), s/veh	0.3	0.0	0.2	0.0	0.0	0.3	0.4	0.2	0.2	0.0	0.9	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.9	0.0	0.7	0.2	0.0	1.0	1.2	3.9	4.1	0.1	10.9	11.0
LnGrp Delay(d),s/veh	19.1	0.0	17.2	17.5	0.0	17.4	15.2	5.7	5.7	6.8	8.4	8.6
LnGrp LOS	B		B	B		B	B	A	A	A	A	A
Approach Vol, veh/h		120			55			685			1352	
Approach Delay, s/veh		18.6			17.4			6.4			8.5	
Approach LOS		B			B			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		15.1		34.6		15.1		34.6
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s		42.0		96.0		42.0		96.0
Max Q Clear Time (g_c+I1), s		4.3		17.5		7.0		23.1
Green Ext Time (p_c), s		0.2		11.1		0.4		4.6

Intersection Summary	
HCM 2010 Ctrl Delay	8.6
HCM 2010 LOS	A

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	8	13	6	5	22	0	26	7	0	3	47	10
Future Vol, veh/h	8	13	6	5	22	0	26	7	0	3	47	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	82	82	82	82	82	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	16	7	6	27	0	32	9	0	4	57	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	27	0	0	23	0	0	114	79	20	83	82	27
Stage 1	-	-	-	-	-	-	40	40	-	39	39	-
Stage 2	-	-	-	-	-	-	74	39	-	44	43	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1587	-	-	1592	-	-	863	811	1058	904	808	1048
Stage 1	-	-	-	-	-	-	975	862	-	976	862	-
Stage 2	-	-	-	-	-	-	935	862	-	970	859	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1587	-	-	1592	-	-	800	803	1058	890	800	1048
Mov Cap-2 Maneuver	-	-	-	-	-	-	800	803	-	890	800	-
Stage 1	-	-	-	-	-	-	969	857	-	970	859	-
Stage 2	-	-	-	-	-	-	859	859	-	955	854	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.2	1.3	9.7	9.7
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	801	1587	-	-	1592	-	-	837
HCM Lane V/C Ratio	0.05	0.006	-	-	0.004	-	-	0.087
HCM Control Delay (s)	9.7	7.3	0	-	7.3	0	-	9.7
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	5.6

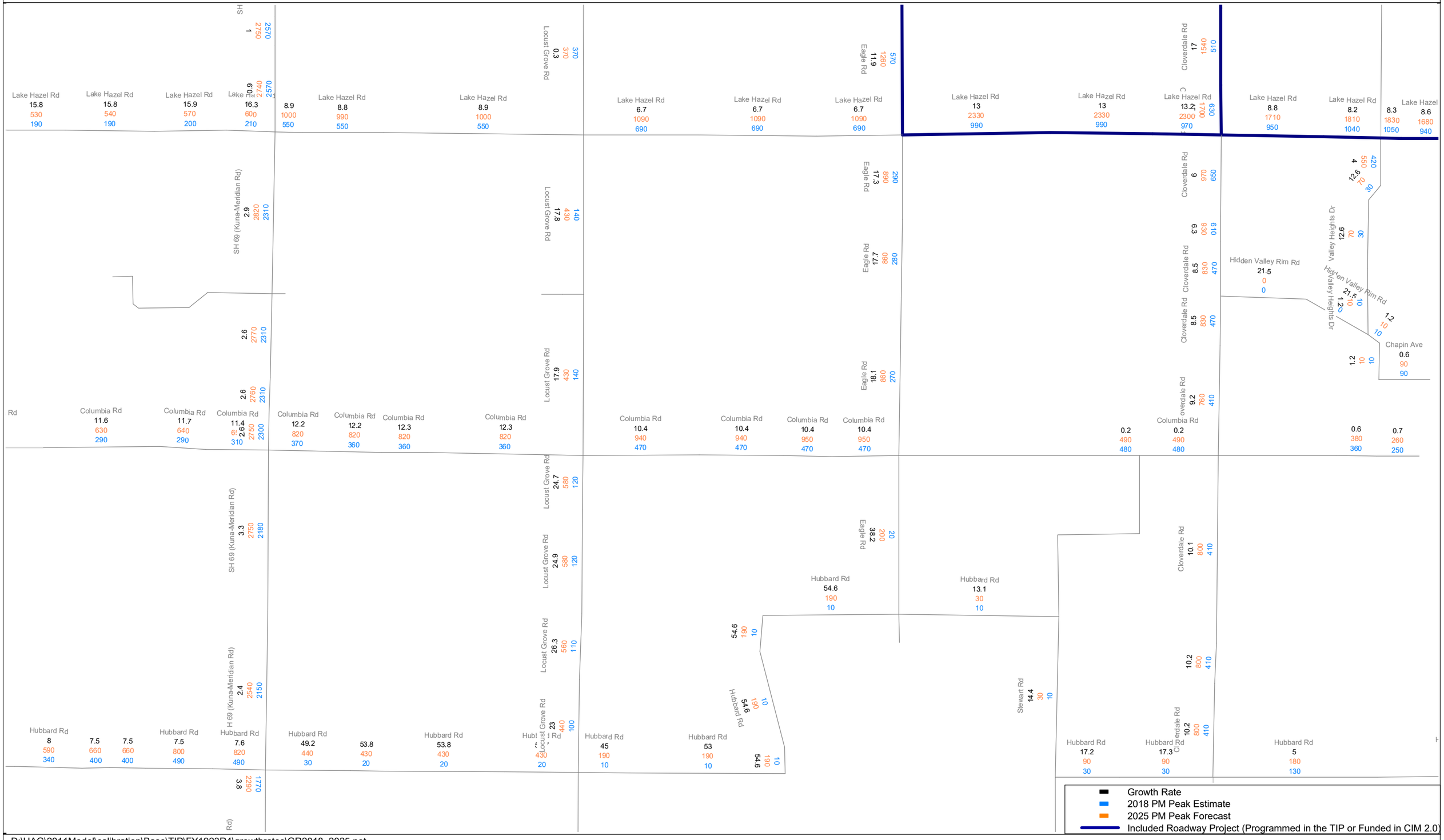
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	5	9	9	15	23
Future Vol, veh/h	6	5	9	9	15	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	81	81	81	81	81	81
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	6	11	11	19	28

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	22	0	-	0	37	17
Stage 1	-	-	-	-	17	-
Stage 2	-	-	-	-	20	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1593	-	-	-	975	1062
Stage 1	-	-	-	-	1006	-
Stage 2	-	-	-	-	1003	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1593	-	-	-	971	1062
Mov Cap-2 Maneuver	-	-	-	-	971	-
Stage 1	-	-	-	-	1002	-
Stage 2	-	-	-	-	1003	-

Approach	EB	WB	SB
HCM Control Delay, s	4	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1593	-	-	-	1024
HCM Lane V/C Ratio	0.005	-	-	-	0.046
HCM Control Delay (s)	7.3	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

2018 Peak Hour to 2025 Peak Hour Compounded Annual Growth Rates
10/31/2018



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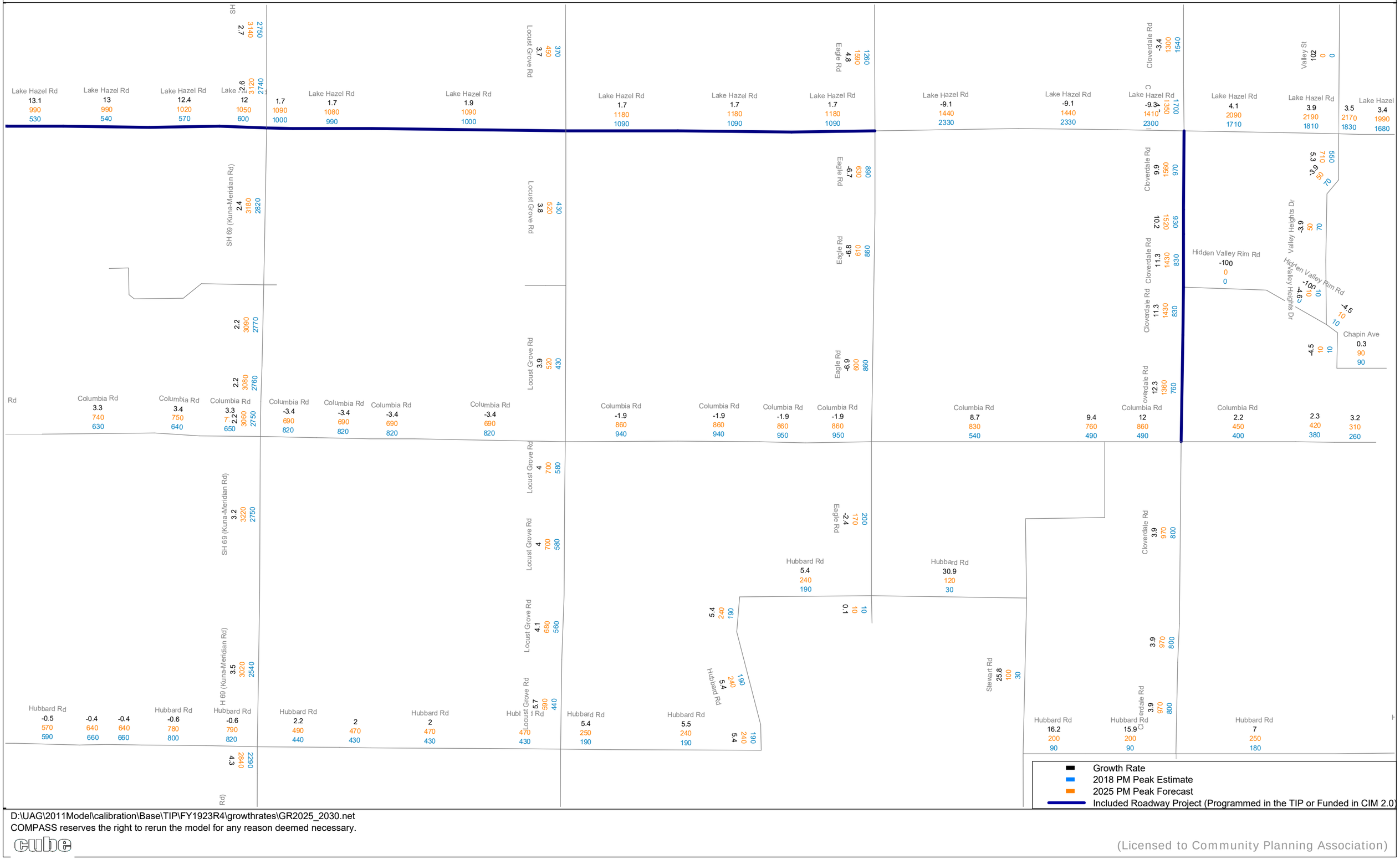
2025 Peak Hour to 2030 Peak Hour Compounded Annual Growth Rates
10/31/2018



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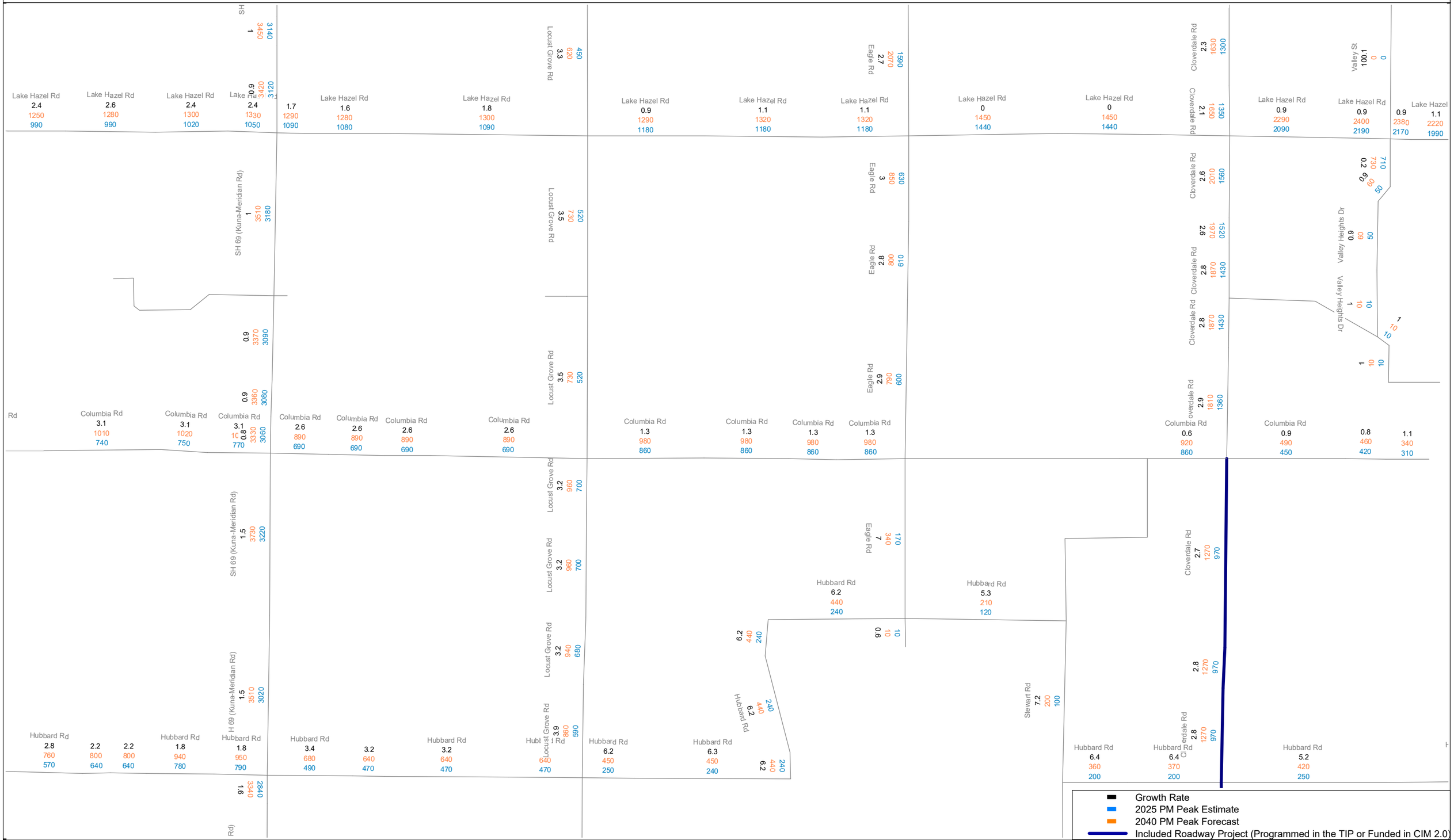
2030 Peak Hour to 2040 Peak Hour Growth Rates
10/31/2018



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Thompson Traffic and Civil Engineers Inc.

Patagonia Subdivision
Kuna, Idaho

COMPASS Growth Rates Summary

Roadway	COMPASS % Annual Growth Rate			% Annual Growth Rate Proposed to Highway Districts			% Annual Growth Rate Used in the TIS (ACHD & ITD Recommended)		
	2018-2025	2025-2030	2030-2040	2018-2025	2025-2030	2030-2040	2018-2025	2025-2030	2030-2040
Lake Hazel Road				**4.0%**	**2.0%**	**2.0%**	**10.0%**	**2.0%**	**2.0%**
West of SH 69	16.3	12.0	2.4						
West of Locust Grove	8.9	1.9	1.8						
West of Eagle Rd	6.7	1.7	1.1						
East of Eagle Rd	13.0	-9.1	0.0						
COMPASS Average	11.2	1.6	1.3						
Columbia Road				**4.0%**	**2.0%**	**2.0%**	**10.0%**	**2.0%**	**2.0%**
West of SH 69	11.4	3.3	3.1						
West of Locust Grove	12.3	-3.4	2.6						
West of Eagle Rd	10.4	-1.9	1.3						
East of Eagle Rd	0.2	8.7	0.6						
COMPASS Average	8.6	1.7	1.9						
Hubbard Road				**4.0%**	**4.0%**	**4.0%**	**10.0%**	**4.0%**	**4.0%**
West of SH 69	7.6	-0.6	1.8						
West of Locust Grove	53.8	2.0	3.2						
West of Eagle Rd	54.6	5.4	6.2						
East of Eagle Rd	13.1	30.9	5.3						
COMPASS Average	32.3	9.4	4.1						
Locust Grove Road				**4.0%**	**4.0%**	**4.0%**	**10.0%**	**4.0%**	**4.0%**
North of Lake Hazel	0.3	3.7	3.3						
North of Columbia	17.9	3.9	3.5						
North of Hubbard	23.0	5.7	3.9						
COMPASS Average	13.7	4.4	3.6						
Eagle Road				**4.0%**	**2.0%**	**2.0%**	**10.0%**	**2.0%**	**2.0%**
North of Lake Hazel	11.9	4.8	2.7						
North of Columbia	18.1	-6.9	2.9						
North of Hubbard	38.2	-2.4	7.0						
COMPASS Average	22.7	-1.5	4.2						
Meridian Road (SH 69)				**4.0%**	**3.0%**	**1.5%**	**4.0%**	**3.0%**	**1.5%**
South of Lake Hazel	2.9	2.4	1.0						
South of Columbia	3.3	3.2	1.5						
South of Hubbard	3.8	4.3	1.6						
COMPASS Average	3.3	3.3	1.4						

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	101	7	5	232	73	0	105	11	37	37	11
Future Vol, veh/h	12	101	7	5	232	73	0	105	11	37	37	11
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	112	8	6	258	81	0	117	12	41	41	12
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.1	11.1	9.3	9.2
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	10%	2%	44%
Vol Thru, %	91%	84%	75%	44%
Vol Right, %	9%	6%	24%	13%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	116	120	310	85
LT Vol	0	12	5	37
Through Vol	105	101	232	37
RT Vol	11	7	73	11
Lane Flow Rate	129	133	344	94
Geometry Grp	1	1	1	1
Degree of Util (X)	0.183	0.181	0.434	0.137
Departure Headway (Hd)	5.113	4.894	4.533	5.23
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	696	728	789	679
Service Time	3.189	2.961	2.585	3.31
HCM Lane V/C Ratio	0.185	0.183	0.436	0.138
HCM Control Delay	9.3	9.1	11.1	9.2
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.7	0.7	2.2	0.5



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	427	287	32	45	26	77	20	1357	128	26	404	38
Future Volume (veh/h)	427	287	32	45	26	77	20	1357	128	26	404	38
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1765	1765	1765	1765
Adj Flow Rate, veh/h	474	319	36	50	29	86	22	1508	142	28	439	41
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	452	369	42	159	255	217	499	1712	766	137	1724	771
Arrive On Green	0.13	0.24	0.24	0.03	0.14	0.14	0.02	0.51	0.51	0.03	0.51	0.51
Sat Flow, veh/h	1681	1558	176	1681	1765	1500	1681	3353	1500	1681	3353	1500
Grp Volume(v), veh/h	474	0	355	50	29	86	22	1508	142	28	439	41
Grp Sat Flow(s),veh/h/ln	1681	0	1734	1681	1765	1500	1681	1676	1500	1681	1676	1500
Q Serve(g_s), s	16.0	0.0	23.4	3.0	1.7	6.2	0.7	47.6	6.1	0.9	8.7	1.6
Cycle Q Clear(g_c), s	16.0	0.0	23.4	3.0	1.7	6.2	0.7	47.6	6.1	0.9	8.7	1.6
Prop In Lane	1.00		0.10	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	452	0	411	159	255	217	499	1712	766	137	1724	771
V/C Ratio(X)	1.05	0.00	0.86	0.32	0.11	0.40	0.04	0.88	0.19	0.21	0.25	0.05
Avail Cap(c_a), veh/h	452	0	714	159	564	479	533	1946	870	165	1946	870
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	0.0	43.5	42.1	44.2	46.2	13.5	25.9	15.7	23.5	16.1	14.4
Incr Delay (d2), s/veh	55.4	0.0	5.5	1.1	0.2	1.2	0.0	4.6	0.1	0.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	25.9	0.0	17.4	2.6	1.5	4.8	0.6	30.7	4.5	0.8	7.3	1.2
LnGrp Delay(d),s/veh	97.9	0.0	49.0	43.2	44.4	47.3	13.5	30.5	15.8	24.2	16.2	14.5
LnGrp LOS	F		D	D	D	D	B	C	B	C	B	B
Approach Vol, veh/h		829			165			1672			508	
Approach Delay, s/veh		77.0			45.6			29.0			16.5	
Approach LOS		E			D			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	23.2	7.6	67.1	10.0	34.2	8.0	66.7
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	6.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	16.0	38.0	5.0	69.0	4.0	49.0	5.0	69.0
Max Q Clear Time (g_c+I1), s	19.0	9.2	3.7	11.7	6.0	26.4	3.9	50.6
Green Ext Time (p_c), s	0.0	0.4	0.0	2.8	0.0	1.8	0.0	10.1

Intersection Summary	
HCM 2010 Ctrl Delay	40.4
HCM 2010 LOS	D

Notes

Intersection	
Intersection Delay, s/veh	18.5
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	533	19	11	191	25	5	44	21	19	14	7
Future Vol, veh/h	43	533	19	11	191	25	5	44	21	19	14	7
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	46	567	20	12	203	27	5	47	22	20	15	7
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	23.2	10.4	9.7	9.6
HCM LOS	C	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	7%	5%	47%
Vol Thru, %	63%	90%	84%	35%
Vol Right, %	30%	3%	11%	17%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	70	595	227	40
LT Vol	5	43	11	19
Through Vol	44	533	191	14
RT Vol	21	19	25	7
Lane Flow Rate	74	633	241	43
Geometry Grp	1	1	1	1
Degree of Util (X)	0.122	0.799	0.329	0.073
Departure Headway (Hd)	5.907	4.545	4.907	6.143
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	610	791	724	586
Service Time	3.91	2.61	2.993	4.146
HCM Lane V/C Ratio	0.121	0.8	0.333	0.073
HCM Control Delay	9.7	23.2	10.4	9.6
HCM Lane LOS	A	C	B	A
HCM 95th-tile Q	0.4	8.4	1.4	0.2

Intersection	
Intersection Delay, s/veh	17.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	218	328	7	0	184	69	12	31	2	30	15	27
Future Vol, veh/h	218	328	7	0	184	69	12	31	2	30	15	27
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	234	353	8	0	198	74	13	33	2	32	16	29
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	22	10.7	9.8	9.8
HCM LOS	C	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	27%	39%	0%	42%
Vol Thru, %	69%	59%	73%	21%
Vol Right, %	4%	1%	27%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	45	553	253	72
LT Vol	12	218	0	30
Through Vol	31	328	184	15
RT Vol	2	7	69	27
Lane Flow Rate	48	595	272	77
Geometry Grp	1	1	1	1
Degree of Util (X)	0.083	0.773	0.363	0.128
Departure Headway (Hd)	6.194	4.677	4.806	5.952
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	582	767	740	605
Service Time	4.199	2.752	2.898	3.956
HCM Lane V/C Ratio	0.082	0.776	0.368	0.127
HCM Control Delay	9.8	22	10.7	9.8
HCM Lane LOS	A	C	B	A
HCM 95th-tile Q	0.3	7.6	1.7	0.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	34	37	11	13	67	15	1015	14	51	328	54
Future Volume (veh/h)	208	34	37	11	13	67	15	1015	14	51	328	54
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	231	38	41	12	14	74	17	1128	16	57	364	60
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	457	223	240	468	70	370	528	1627	23	248	1387	227
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.48	0.48	0.48	0.48	0.48	0.48
Sat Flow, veh/h	1304	778	839	1314	244	1292	959	3385	48	490	2886	472
Grp Volume(v), veh/h	231	0	79	12	0	88	17	559	585	57	210	214
Grp Sat Flow(s),veh/h/ln	1304	0	1617	1314	0	1537	959	1676	1756	490	1676	1681
Q Serve(g_s), s	8.4	0.0	1.9	0.4	0.0	2.2	0.6	13.4	13.4	5.3	3.8	3.9
Cycle Q Clear(g_c), s	10.6	0.0	1.9	2.2	0.0	2.2	4.5	13.4	13.4	18.7	3.8	3.9
Prop In Lane	1.00		0.52	1.00		0.84	1.00		0.03	1.00		0.28
Lane Grp Cap(c), veh/h	457	0	463	468	0	440	528	806	844	248	806	808
V/C Ratio(X)	0.51	0.00	0.17	0.03	0.00	0.20	0.03	0.69	0.69	0.23	0.26	0.26
Avail Cap(c_a), veh/h	1527	0	1790	1547	0	1701	1577	2638	2763	783	2638	2646
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.9	0.0	13.8	14.6	0.0	13.9	9.3	10.4	10.4	17.7	7.9	8.0
Incr Delay (d2), s/veh	0.9	0.0	0.2	0.0	0.0	0.2	0.0	1.1	1.0	0.5	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.6	0.0	1.5	0.2	0.0	1.7	0.3	10.4	10.8	1.3	3.2	3.3
LnGrp Delay(d),s/veh	18.8	0.0	14.0	14.6	0.0	14.1	9.3	11.5	11.5	18.2	8.1	8.1
LnGrp LOS	B		B	B		B	A	B	B	B	A	A
Approach Vol, veh/h		310			100			1161			481	
Approach Delay, s/veh		17.6			14.2			11.4			9.3	
Approach LOS		B			B			B			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		20.7		30.7		20.7		30.7
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s		57.0		81.0		57.0		81.0
Max Q Clear Time (g_c+I1), s		5.2		21.7		13.6		16.4
Green Ext Time (p_c), s		0.5		3.1		1.2		8.0

Intersection Summary		
HCM 2010 Ctrl Delay		12.0
HCM 2010 LOS		B

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	32	63	14	2	8	0	8	35	3	3	24	13
Future Vol, veh/h	32	63	14	2	8	0	8	35	3	3	24	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	70	16	2	9	0	9	39	3	3	27	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	9	0	0	86	0	0	184	163	78	184	171	9
Stage 1	-	-	-	-	-	-	150	150	-	13	13	-
Stage 2	-	-	-	-	-	-	34	13	-	171	158	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1611	-	-	1510	-	-	777	729	983	777	722	1073
Stage 1	-	-	-	-	-	-	853	773	-	1007	885	-
Stage 2	-	-	-	-	-	-	982	885	-	831	767	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1611	-	-	1510	-	-	730	711	983	728	704	1073
Mov Cap-2 Maneuver	-	-	-	-	-	-	730	711	-	728	704	-
Stage 1	-	-	-	-	-	-	833	754	-	983	884	-
Stage 2	-	-	-	-	-	-	939	884	-	767	749	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.1	1.5	10.3	9.8
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	727	1611	-	-	1510	-	-	795
HCM Lane V/C Ratio	0.07	0.022	-	-	0.001	-	-	0.056
HCM Control Delay (s)	10.3	7.3	0	-	7.4	0	-	9.8
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	16	2	23	18	10
Future Vol, veh/h	20	16	2	23	18	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	18	2	26	20	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	28	0	-	0	77	15
Stage 1	-	-	-	-	15	-
Stage 2	-	-	-	-	62	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1585	-	-	-	926	1065
Stage 1	-	-	-	-	1008	-
Stage 2	-	-	-	-	961	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1585	-	-	-	913	1065
Mov Cap-2 Maneuver	-	-	-	-	913	-
Stage 1	-	-	-	-	994	-
Stage 2	-	-	-	-	961	-

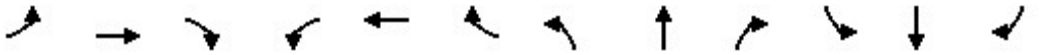
Approach	EB	WB	SB
HCM Control Delay, s	4.1	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1585	-	-	-	962
HCM Lane V/C Ratio	0.014	-	-	-	0.032
HCM Control Delay (s)	7.3	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	427	287	32	45	26	77	20	1357	128	26	404	38
Future Volume (veh/h)	427	287	32	45	26	77	20	1357	128	26	404	38
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1765	1765	1765	1765
Adj Flow Rate, veh/h	474	319	36	50	29	86	22	1508	142	28	439	41
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	563	468	53	176	135	115	461	1633	731	110	1643	735
Arrive On Green	0.26	0.30	0.30	0.03	0.08	0.08	0.02	0.49	0.49	0.02	0.49	0.49
Sat Flow, veh/h	1681	1558	176	1681	1765	1500	1681	3353	1500	1681	3353	1500
Grp Volume(v), veh/h	474	0	355	50	29	86	22	1508	142	28	439	41
Grp Sat Flow(s),veh/h/ln	1681	0	1734	1681	1765	1500	1681	1676	1500	1681	1676	1500
Q Serve(g_s), s	36.1	0.0	25.7	3.9	2.2	8.0	0.9	59.9	7.7	1.2	11.0	2.0
Cycle Q Clear(g_c), s	36.1	0.0	25.7	3.9	2.2	8.0	0.9	59.9	7.7	1.2	11.0	2.0
Prop In Lane	1.00		0.10	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	563	0	521	176	135	115	461	1633	731	110	1643	735
V/C Ratio(X)	0.84	0.00	0.68	0.28	0.21	0.75	0.05	0.92	0.19	0.25	0.27	0.06
Avail Cap(c_a), veh/h	563	0	546	176	161	136	486	1713	766	130	1713	766
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.4	0.0	44.0	59.0	61.9	64.6	18.0	34.2	20.8	31.3	21.4	19.1
Incr Delay (d2), s/veh	11.0	0.0	3.3	0.9	0.8	16.9	0.0	8.6	0.1	1.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	25.3	0.0	18.7	3.3	2.0	6.9	0.8	38.5	5.7	1.0	8.8	1.5
LnGrp Delay(d),s/veh	52.4	0.0	47.2	59.9	62.7	81.6	18.0	42.8	20.9	32.5	21.5	19.1
LnGrp LOS	D		D	E	E	F	B	D	C	C	C	B
Approach Vol, veh/h		829			165			1672			508	
Approach Delay, s/veh		50.2			71.7			40.6			21.9	
Approach LOS		D			E			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	42.0	17.0	7.9	76.0	10.0	49.0	8.4	75.6
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	6.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	37.0	13.0	5.0	73.0	4.0	45.0	5.0	73.0
Max Q Clear Time (g_c+I1), s	39.1	11.0	3.9	14.0	6.9	28.7	4.2	62.9
Green Ext Time (p_c), s	0.0	0.1	0.0	2.8	0.0	1.6	0.0	6.7

Intersection Summary	
HCM 2010 Ctrl Delay	41.7
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	427	287	32	45	26	77	20	1357	128	26	404	38
Future Volume (veh/h)	427	287	32	45	26	77	20	1357	128	26	404	38
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1765	1765	1765	1765
Adj Flow Rate, veh/h	474	319	36	50	29	86	22	1508	142	28	439	41
Adj No. of Lanes	2	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	545	369	42	74	216	183	488	1676	750	131	1688	755
Arrive On Green	0.17	0.24	0.24	0.04	0.12	0.12	0.02	0.50	0.50	0.03	0.50	0.50
Sat Flow, veh/h	3261	1558	176	1681	1765	1500	1681	3353	1500	1681	3353	1500
Grp Volume(v), veh/h	474	0	355	50	29	86	22	1508	142	28	439	41
Grp Sat Flow(s),veh/h/ln	1630	0	1734	1681	1765	1500	1681	1676	1500	1681	1676	1500
Q Serve(g_s), s	16.8	0.0	23.3	3.5	1.7	6.3	0.8	48.6	6.2	1.0	8.9	1.7
Cycle Q Clear(g_c), s	16.8	0.0	23.3	3.5	1.7	6.3	0.8	48.6	6.2	1.0	8.9	1.7
Prop In Lane	1.00		0.10	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	545	0	411	74	216	183	488	1676	750	131	1688	755
V/C Ratio(X)	0.87	0.00	0.86	0.67	0.13	0.47	0.05	0.90	0.19	0.21	0.26	0.05
Avail Cap(c_a), veh/h	549	0	701	142	579	493	522	1807	808	159	1807	808
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.2	0.0	43.5	55.9	46.5	48.5	14.1	27.0	16.4	24.6	16.8	15.0
Incr Delay (d2), s/veh	13.9	0.0	5.8	10.1	0.3	1.9	0.0	6.3	0.1	0.8	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.4	0.0	17.4	3.3	1.6	4.9	0.6	31.9	4.7	0.8	7.4	1.2
LnGrp Delay(d),s/veh	62.1	0.0	49.3	66.0	46.8	50.4	14.1	33.3	16.5	25.4	16.9	15.1
LnGrp LOS	E		D	E	D	D	B	C	B	C	B	B
Approach Vol, veh/h		829			165			1672			508	
Approach Delay, s/veh		56.6			54.5			31.6			17.2	
Approach LOS		E			D			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.9	20.5	7.6	65.8	11.3	34.1	8.0	65.4
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	6.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	20.0	39.0	5.0	64.0	10.0	48.0	5.0	64.0
Max Q Clear Time (g_c+I1), s	19.8	9.3	3.8	11.9	6.5	26.3	4.0	51.6
Green Ext Time (p_c), s	0.0	0.4	0.0	2.8	0.0	1.8	0.0	7.8

Intersection Summary	
HCM 2010 Ctrl Delay	37.0
HCM 2010 LOS	D

Notes

Intersection	
Intersection Delay, s/veh	14.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	262	4	14	257	62	2	48	5	108	142	19
Future Vol, veh/h	9	262	4	14	257	62	2	48	5	108	142	19
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	291	4	16	286	69	2	53	6	120	158	21
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.9	15.3	10.3	14.7
HCM LOS	B	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	3%	4%	40%
Vol Thru, %	87%	95%	77%	53%
Vol Right, %	9%	1%	19%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	55	275	333	269
LT Vol	2	9	14	108
Through Vol	48	262	257	142
RT Vol	5	4	62	19
Lane Flow Rate	61	306	370	299
Geometry Grp	1	1	1	1
Degree of Util (X)	0.109	0.479	0.561	0.492
Departure Headway (Hd)	6.401	5.647	5.455	5.927
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	555	636	659	604
Service Time	4.499	3.717	3.52	3.995
HCM Lane V/C Ratio	0.11	0.481	0.561	0.495
HCM Control Delay	10.3	13.9	15.3	14.7
HCM Lane LOS	B	B	C	B
HCM 95th-tile Q	0.4	2.6	3.5	2.7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	163	85	24	229	306	81	29	724	44	60	1610	252
Future Volume (veh/h)	163	85	24	229	306	81	29	724	44	60	1610	252
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1765	1765	1765	1765
Adj Flow Rate, veh/h	181	94	27	254	340	90	32	804	49	67	1789	280
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	163	293	84	330	380	323	102	1813	811	367	1848	827
Arrive On Green	0.05	0.22	0.22	0.04	0.22	0.22	0.03	0.54	0.54	0.04	0.55	0.55
Sat Flow, veh/h	1681	1319	379	1681	1765	1500	1681	3353	1500	1681	3353	1500
Grp Volume(v), veh/h	181	0	121	254	340	90	32	804	49	67	1789	280
Grp Sat Flow(s),veh/h/ln	1681	0	1698	1681	1765	1500	1681	1676	1500	1681	1676	1500
Q Serve(g_s), s	7.0	0.0	8.3	6.0	26.1	7.0	1.2	20.2	2.2	2.4	71.6	14.4
Cycle Q Clear(g_c), s	7.0	0.0	8.3	6.0	26.1	7.0	1.2	20.2	2.2	2.4	71.6	14.4
Prop In Lane	1.00		0.22	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	163	0	378	330	380	323	102	1813	811	367	1848	827
V/C Ratio(X)	1.11	0.00	0.32	0.77	0.90	0.28	0.31	0.44	0.06	0.18	0.97	0.34
Avail Cap(c_a), veh/h	163	0	487	330	494	420	120	1852	829	367	1852	829
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.0	0.0	45.4	51.3	53.2	45.7	33.1	19.3	15.2	14.6	30.1	17.3
Incr Delay (d2), s/veh	103.8	0.0	0.2	9.6	13.4	0.2	0.6	0.2	0.0	0.1	14.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	17.2	0.0	7.1	12.2	20.3	5.2	1.2	14.5	1.6	2.0	46.6	10.1
LnGrp Delay(d),s/veh	155.9	0.0	45.6	60.9	66.6	45.8	33.8	19.6	15.2	14.7	44.2	17.6
LnGrp LOS	F		D	E	E	D	C	B	B	B	D	B
Approach Vol, veh/h		302			684			885			2136	
Approach Delay, s/veh		111.7			61.8			19.8			39.8	
Approach LOS		F			E			B			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	36.0	8.6	82.8	11.0	37.0	10.0	81.4
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	7.0	39.0	5.0	77.0	6.0	40.0	5.0	77.0
Max Q Clear Time (g_c+I1), s	10.0	29.1	4.2	74.6	9.0	11.3	5.4	23.2
Green Ext Time (p_c), s	0.0	0.9	0.0	2.3	0.0	0.3	0.0	8.8

Intersection Summary	
HCM 2010 Ctrl Delay	44.6
HCM 2010 LOS	D

Notes

Intersection	
Intersection Delay, s/veh	15.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	259	4	23	439	14	4	25	4	18	64	66
Future Vol, veh/h	9	259	4	23	439	14	4	25	4	18	64	66
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	285	4	25	482	15	4	27	4	20	70	73
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.3	19.7	9.8	10.9
HCM LOS	B	C	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	3%	5%	12%
Vol Thru, %	76%	95%	92%	43%
Vol Right, %	12%	1%	3%	45%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	33	272	476	148
LT Vol	4	9	23	18
Through Vol	25	259	439	64
RT Vol	4	4	14	66
Lane Flow Rate	36	299	523	163
Geometry Grp	1	1	1	1
Degree of Util (X)	0.064	0.435	0.72	0.262
Departure Headway (Hd)	6.304	5.238	4.956	5.795
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	566	687	732	620
Service Time	4.362	3.273	2.985	3.839
HCM Lane V/C Ratio	0.064	0.435	0.714	0.263
HCM Control Delay	9.8	12.3	19.7	10.9
HCM Lane LOS	A	B	C	B
HCM 95th-tile Q	0.2	2.2	6.2	1

Intersection	
Intersection Delay, s/veh	13.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	48	227	18	7	310	37	7	23	4	58	47	167
Future Vol, veh/h	48	227	18	7	310	37	7	23	4	58	47	167
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	234	19	7	320	38	7	24	4	60	48	172
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.8	14.1	9.7	12.4
HCM LOS	B	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	21%	16%	2%	21%
Vol Thru, %	68%	77%	88%	17%
Vol Right, %	12%	6%	10%	61%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	34	293	354	272
LT Vol	7	48	7	58
Through Vol	23	227	310	47
RT Vol	4	18	37	167
Lane Flow Rate	35	302	365	280
Geometry Grp	1	1	1	1
Degree of Util (X)	0.061	0.451	0.531	0.421
Departure Headway (Hd)	6.223	5.379	5.241	5.406
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	573	668	686	665
Service Time	4.292	3.424	3.283	3.454
HCM Lane V/C Ratio	0.061	0.452	0.532	0.421
HCM Control Delay	9.7	12.8	14.1	12.4
HCM Lane LOS	A	B	B	B
HCM 95th-tile Q	0.2	2.3	3.1	2.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	16	37	18	19	77	61	692	14	66	1163	339
Future Volume (veh/h)	110	16	37	18	19	77	61	692	14	66	1163	339
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	122	18	41	20	21	86	67	760	15	72	1264	368
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.91	0.91	0.91	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	262	94	213	308	59	242	185	2208	44	474	1692	482
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.66	0.66	0.66	0.66	0.66	0.66
Sat Flow, veh/h	1281	480	1092	1338	303	1242	307	3363	66	693	2578	734
Grp Volume(v), veh/h	122	0	59	20	0	107	67	379	396	72	812	820
Grp Sat Flow(s),veh/h/ln	1281	0	1572	1338	0	1545	307	1676	1753	693	1676	1635
Q Serve(g_s), s	7.4	0.0	2.5	1.0	0.0	4.8	15.6	8.1	8.1	4.2	26.1	27.9
Cycle Q Clear(g_c), s	12.2	0.0	2.5	3.6	0.0	4.8	43.5	8.1	8.1	12.3	26.1	27.9
Prop In Lane	1.00		0.69	1.00		0.80	1.00		0.04	1.00		0.45
Lane Grp Cap(c), veh/h	262	0	307	308	0	302	185	1101	1151	474	1101	1073
V/C Ratio(X)	0.47	0.00	0.19	0.06	0.00	0.35	0.36	0.34	0.34	0.15	0.74	0.76
Avail Cap(c_a), veh/h	567	0	681	627	0	669	374	2136	2234	902	2136	2083
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.4	0.0	27.2	28.7	0.0	28.1	24.5	6.2	6.2	8.9	9.3	9.6
Incr Delay (d2), s/veh	1.3	0.0	0.3	0.1	0.0	0.7	1.2	0.2	0.2	0.1	1.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.9	0.0	2.0	0.7	0.0	3.8	2.5	6.7	7.0	1.4	17.7	18.5
LnGrp Delay(d),s/veh	34.7	0.0	27.5	28.8	0.0	28.8	25.7	6.3	6.3	9.0	10.2	10.7
LnGrp LOS	C		C	C		C	C	A	A	A	B	B
Approach Vol, veh/h		181			127			842			1704	
Approach Delay, s/veh		32.3			28.8			7.9			10.4	
Approach LOS		C			C			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		21.8		59.1		21.8		59.1
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s		35.0		103.0		35.0		103.0
Max Q Clear Time (g_c+I1), s		7.8		30.9		15.2		46.5
Green Ext Time (p_c), s		0.6		18.0		0.6		6.6

Intersection Summary		
HCM 2010 Ctrl Delay		11.9
HCM 2010 LOS		B

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	13	26	10	8	43	0	42	11	0	5	76	16
Future Vol, veh/h	13	26	10	8	43	0	42	11	0	5	76	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	29	11	9	48	0	47	12	0	6	84	18

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	48	0	0	40	0	0	180	129	35	135	134	48
Stage 1	-	-	-	-	-	-	63	63	-	66	66	-
Stage 2	-	-	-	-	-	-	117	66	-	69	68	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1559	-	-	1570	-	-	782	762	1038	836	757	1021
Stage 1	-	-	-	-	-	-	948	842	-	945	840	-
Stage 2	-	-	-	-	-	-	888	840	-	941	838	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1559	-	-	1570	-	-	694	751	1038	816	746	1021
Mov Cap-2 Maneuver	-	-	-	-	-	-	694	751	-	816	746	-
Stage 1	-	-	-	-	-	-	939	834	-	936	835	-
Stage 2	-	-	-	-	-	-	780	835	-	919	830	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	1.1	10.6	10.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	705	1559	-	-	1570	-	-	784
HCM Lane V/C Ratio	0.084	0.009	-	-	0.006	-	-	0.137
HCM Control Delay (s)	10.6	7.3	0	-	7.3	0	-	10.3
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.5

Intersection	
Int Delay, s/veh	6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	16	9	16	16	27	49
Future Vol, veh/h	16	9	16	16	27	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	10	18	18	30	54

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	36	0	-	0	73	27
Stage 1	-	-	-	-	27	-
Stage 2	-	-	-	-	46	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1575	-	-	-	931	1048
Stage 1	-	-	-	-	996	-
Stage 2	-	-	-	-	976	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1575	-	-	-	921	1048
Mov Cap-2 Maneuver	-	-	-	-	921	-
Stage 1	-	-	-	-	985	-
Stage 2	-	-	-	-	976	-

Approach	EB	WB	SB
HCM Control Delay, s	4.7	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1575	-	-	-	999
HCM Lane V/C Ratio	0.011	-	-	-	0.085
HCM Control Delay (s)	7.3	0	-	-	8.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	163	85	24	229	306	81	29	724	44	60	1610	252
Future Volume (veh/h)	163	85	24	229	306	81	29	724	44	60	1610	252
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1765	1765	1765	1765
Adj Flow Rate, veh/h	181	94	27	254	340	90	32	804	49	67	1789	280
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	188	325	93	346	374	318	96	1789	801	356	1821	815
Arrive On Green	0.07	0.25	0.25	0.03	0.21	0.21	0.02	0.53	0.53	0.03	0.54	0.54
Sat Flow, veh/h	1681	1319	379	1681	1765	1500	1681	3353	1500	1681	3353	1500
Grp Volume(v), veh/h	181	0	121	254	340	90	32	804	49	67	1789	280
Grp Sat Flow(s),veh/h/ln	1681	0	1698	1681	1765	1500	1681	1676	1500	1681	1676	1500
Q Serve(g_s), s	10.0	0.0	8.4	5.0	27.4	7.3	1.2	21.4	2.3	2.6	76.0	15.3
Cycle Q Clear(g_c), s	10.0	0.0	8.4	5.0	27.4	7.3	1.2	21.4	2.3	2.6	76.0	15.3
Prop In Lane	1.00		0.22	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	188	0	418	346	374	318	96	1789	801	356	1821	815
V/C Ratio(X)	0.96	0.00	0.29	0.73	0.91	0.28	0.34	0.45	0.06	0.19	0.98	0.34
Avail Cap(c_a), veh/h	188	0	455	346	412	351	111	1821	815	356	1821	815
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.7	0.0	44.5	52.8	55.9	48.0	35.0	20.8	16.4	15.9	32.6	18.7
Incr Delay (d2), s/veh	54.6	0.0	0.1	7.0	21.4	0.2	0.8	0.3	0.0	0.1	17.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.3	0.0	7.2	12.8	22.0	5.5	1.3	15.2	1.7	2.2	49.6	10.6
LnGrp Delay(d),s/veh	102.3	0.0	44.6	59.7	77.3	48.2	35.7	21.1	16.4	16.0	49.6	19.0
LnGrp LOS	F		D	E	E	D	D	C	B	B	D	B
Approach Vol, veh/h		302			684			885			2136	
Approach Delay, s/veh		79.2			67.0			21.3			44.6	
Approach LOS		E			E			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	36.8	8.6	85.0	10.0	41.8	10.0	83.6
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	10.0	34.0	5.0	79.0	5.0	39.0	5.0	79.0
Max Q Clear Time (g_c+I1), s	13.0	30.4	4.2	79.0	8.0	11.4	5.6	24.4
Green Ext Time (p_c), s	0.0	0.5	0.0	0.0	0.0	0.3	0.0	8.9

Intersection Summary	
HCM 2010 Ctrl Delay	45.9
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	163	85	24	229	306	81	29	724	44	60	1610	252
Future Volume (veh/h)	163	85	24	229	306	81	29	724	44	60	1610	252
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1765	1765	1765	1765
Adj Flow Rate, veh/h	181	94	27	254	340	90	32	804	49	67	1789	280
Adj No. of Lanes	2	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	253	216	62	222	386	328	101	1655	740	336	1696	759
Arrive On Green	0.08	0.16	0.16	0.13	0.22	0.22	0.03	0.49	0.49	0.04	0.51	0.51
Sat Flow, veh/h	3261	1319	379	1681	1765	1500	1681	3353	1500	1681	3353	1500
Grp Volume(v), veh/h	181	0	121	254	340	90	32	804	49	67	1789	280
Grp Sat Flow(s),veh/h/ln	1630	0	1698	1681	1765	1500	1681	1676	1500	1681	1676	1500
Q Serve(g_s), s	7.0	0.0	8.2	17.0	24.0	6.4	1.2	20.5	2.2	2.5	65.0	14.6
Cycle Q Clear(g_c), s	7.0	0.0	8.2	17.0	24.0	6.4	1.2	20.5	2.2	2.5	65.0	14.6
Prop In Lane	1.00		0.22	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	253	0	278	222	386	328	101	1655	740	336	1696	759
V/C Ratio(X)	0.71	0.00	0.43	1.14	0.88	0.27	0.32	0.49	0.07	0.20	1.05	0.37
Avail Cap(c_a), veh/h	279	0	542	222	646	549	121	1670	747	350	1696	759
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.9	0.0	48.3	55.7	48.6	41.7	30.7	21.7	17.0	16.5	31.7	19.3
Incr Delay (d2), s/veh	6.0	0.0	0.4	104.0	4.2	0.2	0.7	0.3	0.1	0.1	37.9	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.0	0.0	7.0	25.7	17.9	4.8	1.0	14.6	1.7	2.1	69.9	10.2
LnGrp Delay(d),s/veh	63.9	0.0	48.7	159.7	52.7	41.9	31.4	22.0	17.1	16.6	69.6	19.7
LnGrp LOS	E		D	F	D	D	C	C	B	B	F	B
Approach Vol, veh/h		302			684			885			2136	
Approach Delay, s/veh		57.8			91.0			22.1			61.4	
Approach LOS		E			F			C			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	34.1	8.4	71.0	22.0	27.1	10.0	69.4
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	11.0	47.0	5.0	65.0	17.0	41.0	6.0	64.0
Max Q Clear Time (g_c+I1), s	10.0	27.0	4.2	68.0	20.0	11.2	5.5	23.5
Green Ext Time (p_c), s	0.0	1.1	0.0	0.0	0.0	0.3	0.0	8.5

Intersection Summary	
HCM 2010 Ctrl Delay	57.5
HCM 2010 LOS	E

Notes

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	101	11	9	232	73	11	111	22	37	39	11
Future Vol, veh/h	12	101	11	9	232	73	11	111	22	37	39	11
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	112	12	10	258	81	12	123	24	41	43	12
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.3	11.5	9.8	9.3
HCM LOS	A	B	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	10%	3%	43%
Vol Thru, %	77%	81%	74%	45%
Vol Right, %	15%	9%	23%	13%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	144	124	314	87
LT Vol	11	12	9	37
Through Vol	111	101	232	39
RT Vol	22	11	73	11
Lane Flow Rate	160	138	349	97
Geometry Grp	1	1	1	1
Degree of Util (X)	0.228	0.191	0.449	0.143
Departure Headway (Hd)	5.133	4.981	4.633	5.313
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	691	712	771	667
Service Time	3.223	3.065	2.7	3.411
HCM Lane V/C Ratio	0.232	0.194	0.453	0.145
HCM Control Delay	9.8	9.3	11.5	9.3
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.9	0.7	2.3	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	427	288	33	45	29	92	23	1375	128	31	410	38
Future Volume (veh/h)	427	288	33	45	29	92	23	1375	128	31	410	38
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1765	1765	1765	1765
Adj Flow Rate, veh/h	474	320	37	50	32	102	26	1528	142	34	446	41
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	552	464	54	189	144	122	465	1650	738	112	1661	743
Arrive On Green	0.25	0.30	0.30	0.03	0.08	0.08	0.02	0.49	0.49	0.03	0.50	0.50
Sat Flow, veh/h	1681	1553	180	1681	1765	1500	1681	3353	1500	1681	3353	1500
Grp Volume(v), veh/h	474	0	357	50	32	102	26	1528	142	34	446	41
Grp Sat Flow(s),veh/h/ln	1681	0	1733	1681	1765	1500	1681	1676	1500	1681	1676	1500
Q Serve(g_s), s	37.0	0.0	26.8	4.0	2.5	9.9	1.1	62.6	7.8	1.5	11.4	2.1
Cycle Q Clear(g_c), s	37.0	0.0	26.8	4.0	2.5	9.9	1.1	62.6	7.8	1.5	11.4	2.1
Prop In Lane	1.00		0.10	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	552	0	518	189	144	122	465	1650	738	112	1661	743
V/C Ratio(X)	0.86	0.00	0.69	0.26	0.22	0.83	0.06	0.93	0.19	0.30	0.27	0.06
Avail Cap(c_a), veh/h	552	0	518	189	144	122	484	1686	754	126	1686	754
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.1	0.0	45.5	59.3	63.2	66.6	18.1	34.9	21.0	32.5	21.6	19.3
Incr Delay (d2), s/veh	12.2	0.0	3.2	0.3	0.3	34.9	0.0	9.3	0.2	0.6	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	26.1	0.0	19.2	3.4	2.2	9.0	0.9	40.1	5.9	1.2	9.1	1.6
LnGrp Delay(d),s/veh	55.3	0.0	48.8	59.6	63.5	101.5	18.1	44.2	21.2	33.1	21.7	19.3
LnGrp LOS	E		D	E	E	F	B	D	C	C	C	B
Approach Vol, veh/h		831			184			1696			521	
Approach Delay, s/veh		52.5			83.5			41.9			22.3	
Approach LOS		D			F			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	42.0	18.0	8.3	78.9	10.0	50.0	8.8	78.4
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	37.0	12.0	5.0	74.0	5.0	44.0	5.0	74.0
Max Q Clear Time (g_c+I1), s	40.0	12.9	4.1	14.4	7.0	29.8	4.5	65.6
Green Ext Time (p_c), s	0.0	0.0	0.0	4.3	0.0	1.0	0.0	6.8

Intersection Summary	
HCM 2010 Ctrl Delay	43.8
HCM 2010 LOS	D

Intersection	
Intersection Delay, s/veh	23.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	533	25	15	191	25	23	72	31	19	24	7
Future Vol, veh/h	43	533	25	15	191	25	23	72	31	19	24	7
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	46	567	27	16	203	27	24	77	33	20	26	7
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	31.5	11.4	11	10.2
HCM LOS	D	B	B	B

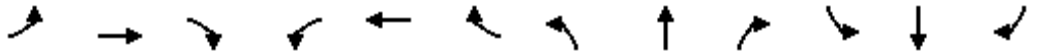
Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	7%	6%	38%
Vol Thru, %	57%	89%	83%	48%
Vol Right, %	25%	4%	11%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	126	601	231	50
LT Vol	23	43	15	19
Through Vol	72	533	191	24
RT Vol	31	25	25	7
Lane Flow Rate	134	639	246	53
Geometry Grp	1	1	1	1
Degree of Util (X)	0.228	0.871	0.363	0.095
Departure Headway (Hd)	6.121	4.903	5.322	6.441
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	584	742	676	554
Service Time	4.181	2.903	3.366	4.509
HCM Lane V/C Ratio	0.229	0.861	0.364	0.096
HCM Control Delay	11	31.5	11.4	10.2
HCM Lane LOS	B	D	B	B
HCM 95th-tile Q	0.9	10.7	1.7	0.3

Intersection	
Intersection Delay, s/veh	19.5
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	225	331	7	1	185	69	12	40	5	30	18	30
Future Vol, veh/h	225	331	7	1	185	69	12	40	5	30	18	30
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	242	356	8	1	199	74	13	43	5	32	19	32
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	25.5	11.1	10	10.1
HCM LOS	D	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	21%	40%	0%	38%
Vol Thru, %	70%	59%	73%	23%
Vol Right, %	9%	1%	27%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	57	563	255	78
LT Vol	12	225	1	30
Through Vol	40	331	185	18
RT Vol	5	7	69	30
Lane Flow Rate	61	605	274	84
Geometry Grp	1	1	1	1
Degree of Util (X)	0.106	0.815	0.38	0.141
Departure Headway (Hd)	6.237	4.844	4.993	6.037
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	574	751	721	593
Service Time	4.285	2.844	3.023	4.081
HCM Lane V/C Ratio	0.106	0.806	0.38	0.142
HCM Control Delay	10	25.5	11.1	10.1
HCM Lane LOS	A	D	B	B
HCM 95th-tile Q	0.4	8.8	1.8	0.5



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	208	35	37	17	18	88	15	1015	16	58	328	54
Future Volume (veh/h)	208	35	37	17	18	88	15	1015	16	58	328	54
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	231	39	41	19	20	98	17	1128	18	64	364	60
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	437	238	250	476	79	385	522	1639	26	239	1400	229
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	1269	789	829	1313	261	1278	959	3378	54	489	2886	472
Grp Volume(v), veh/h	231	0	80	19	0	118	17	560	586	64	210	214
Grp Sat Flow(s),veh/h/ln	1269	0	1618	1313	0	1539	959	1676	1755	489	1676	1681
Q Serve(g_s), s	9.5	0.0	2.0	0.6	0.0	3.3	0.6	14.5	14.5	6.5	4.1	4.2
Cycle Q Clear(g_c), s	12.7	0.0	2.0	2.6	0.0	3.3	4.8	14.5	14.5	21.0	4.1	4.2
Prop In Lane	1.00		0.51	1.00		0.83	1.00		0.03	1.00		0.28
Lane Grp Cap(c), veh/h	437	0	487	476	0	463	522	813	851	239	813	816
V/C Ratio(X)	0.53	0.00	0.16	0.04	0.00	0.25	0.03	0.69	0.69	0.27	0.26	0.26
Avail Cap(c_a), veh/h	1321	0	1615	1391	0	1536	1458	2449	2564	716	2449	2457
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.7	0.0	14.4	15.4	0.0	14.8	9.9	11.2	11.2	19.3	8.5	8.5
Incr Delay (d2), s/veh	1.0	0.0	0.2	0.0	0.0	0.3	0.0	1.0	1.0	0.6	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.1	0.0	1.7	0.4	0.0	2.5	0.3	11.0	11.4	1.6	3.4	3.5
LnGrp Delay(d),s/veh	20.7	0.0	14.6	15.4	0.0	15.1	10.0	12.2	12.2	19.9	8.7	8.7
LnGrp LOS	C		B	B		B	A	B	B	B	A	A
Approach Vol, veh/h		311			137			1163			488	
Approach Delay, s/veh		19.1			15.2			12.2			10.2	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		22.9		33.2		22.9		33.2
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s		56.0		82.0		56.0		82.0
Max Q Clear Time (g_c+I1), s		6.3		24.0		15.7		17.5
Green Ext Time (p_c), s		0.7		3.2		1.2		8.1

Intersection Summary	
HCM 2010 Ctrl Delay	12.9
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	32	71	18	5	33	13	12	39	4	9	26	14
Future Vol, veh/h	32	71	18	5	33	13	12	39	4	9	26	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	79	20	6	37	14	13	43	4	10	29	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	51	0	0	99	0	0	240	224	89	241	227	44
Stage 1	-	-	-	-	-	-	161	161	-	56	56	-
Stage 2	-	-	-	-	-	-	79	63	-	185	171	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1555	-	-	1494	-	-	714	675	969	713	672	1026
Stage 1	-	-	-	-	-	-	841	765	-	956	848	-
Stage 2	-	-	-	-	-	-	930	842	-	817	757	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1555	-	-	1494	-	-	665	655	969	659	653	1026
Mov Cap-2 Maneuver	-	-	-	-	-	-	665	655	-	659	653	-
Stage 1	-	-	-	-	-	-	820	746	-	932	845	-
Stage 2	-	-	-	-	-	-	881	839	-	747	738	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	0.7	10.9	10.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	673	1555	-	-	1494	-	-	730
HCM Lane V/C Ratio	0.091	0.023	-	-	0.004	-	-	0.075
HCM Control Delay (s)	10.9	7.4	0	-	7.4	0	-	10.3
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	33	21	3	23	18	14
Future Vol, veh/h	33	21	3	23	18	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	23	3	26	20	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	29	0	-	0	113	16
Stage 1	-	-	-	-	16	-
Stage 2	-	-	-	-	97	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1584	-	-	-	884	1063
Stage 1	-	-	-	-	1007	-
Stage 2	-	-	-	-	927	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1584	-	-	-	863	1063
Mov Cap-2 Maneuver	-	-	-	-	863	-
Stage 1	-	-	-	-	983	-
Stage 2	-	-	-	-	927	-

Approach	EB	WB	SB
HCM Control Delay, s	4.5	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1584	-	-	-	940
HCM Lane V/C Ratio	0.023	-	-	-	0.038
HCM Control Delay (s)	7.3	0	-	-	9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	11	112	0	4	60
Future Vol, veh/h	0	11	112	0	4	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	12	124	0	4	67

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	199	124	0	0	124	0
Stage 1	124	-	-	-	-	-
Stage 2	75	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	790	927	-	-	1463	-
Stage 1	902	-	-	-	-	-
Stage 2	948	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	788	927	-	-	1463	-
Mov Cap-2 Maneuver	788	-	-	-	-	-
Stage 1	899	-	-	-	-	-
Stage 2	948	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	0.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	927	1463	-
HCM Lane V/C Ratio	-	-	0.013	0.003	-
HCM Control Delay (s)	-	-	8.9	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	18	0	0	3	0	11	0	83	1	4	50	6
Future Vol, veh/h	18	0	0	3	0	11	0	83	1	4	50	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	0	0	3	0	12	0	92	1	4	56	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	167	161	60	161	164	93	63	0	0	93	0	0
Stage 1	68	68	-	93	93	-	-	-	-	-	-	-
Stage 2	99	93	-	68	71	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	797	731	1005	804	729	964	1540	-	-	1501	-	-
Stage 1	942	838	-	914	818	-	-	-	-	-	-	-
Stage 2	907	818	-	942	836	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	785	729	1005	802	727	964	1540	-	-	1501	-	-
Mov Cap-2 Maneuver	785	729	-	802	727	-	-	-	-	-	-	-
Stage 1	942	835	-	914	818	-	-	-	-	-	-	-
Stage 2	896	818	-	939	833	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.7	9	0	0.5
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1540	-	-	785	924	1501	-	-
HCM Lane V/C Ratio	-	-	-	0.025	0.017	0.003	-	-
HCM Control Delay (s)	0	-	-	9.7	9	7.4	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	118	59	0	3	2
Future Vol, veh/h	1	118	59	0	3	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	131	66	0	3	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	66	0	-	0	199	66
Stage 1	-	-	-	-	66	-
Stage 2	-	-	-	-	133	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1536	-	-	-	790	998
Stage 1	-	-	-	-	957	-
Stage 2	-	-	-	-	893	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	1536	-	-	-	789	998
Mov Cap-2 Maneuver	-	-	-	-	789	-
Stage 1	-	-	-	-	956	-
Stage 2	-	-	-	-	893	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1536	-	-	-	861
HCM Lane V/C Ratio	0.001	-	-	-	0.006
HCM Control Delay (s)	7.3	0	-	-	9.2
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	83	0	1	44	0	5	0	4	0	0	2
Future Vol, veh/h	1	83	0	1	44	0	5	0	4	0	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	92	0	1	49	0	6	0	4	0	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	49	0	0	92	0	0	146	145	92	147	145	49
Stage 1	-	-	-	-	-	-	94	94	-	51	51	-
Stage 2	-	-	-	-	-	-	52	51	-	96	94	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1558	-	-	1503	-	-	823	746	965	821	746	1020
Stage 1	-	-	-	-	-	-	913	817	-	962	852	-
Stage 2	-	-	-	-	-	-	961	852	-	911	817	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1558	-	-	1503	-	-	820	745	965	816	745	1020
Mov Cap-2 Maneuver	-	-	-	-	-	-	820	745	-	816	745	-
Stage 1	-	-	-	-	-	-	912	816	-	961	851	-
Stage 2	-	-	-	-	-	-	958	851	-	906	816	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	9.1	8.5
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	879	1558	-	-	1503	-	-	1020
HCM Lane V/C Ratio	0.011	0.001	-	-	0.001	-	-	0.002
HCM Control Delay (s)	9.1	7.3	0	-	7.4	0	-	8.5
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	76	11	4	11	34	11
Future Vol, veh/h	76	11	4	11	34	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	12	4	12	38	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	96	0	110	90
Stage 1	-	-	-	-	90	-
Stage 2	-	-	-	-	20	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1498	-	887	968
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	1003	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1498	-	884	968
Mov Cap-2 Maneuver	-	-	-	-	884	-
Stage 1	-	-	-	-	931	-
Stage 2	-	-	-	-	1003	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	903	-	-	1498	-
HCM Lane V/C Ratio	0.055	-	-	0.003	-
HCM Control Delay (s)	9.2	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	6	53	0	4	49
Future Vol, veh/h	1	6	53	0	4	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	7	59	0	4	54

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	121	59	0	0	59	0
Stage 1	59	-	-	-	-	-
Stage 2	62	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	874	1007	-	-	1545	-
Stage 1	964	-	-	-	-	-
Stage 2	961	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	871	1007	-	-	1545	-
Mov Cap-2 Maneuver	871	-	-	-	-	-
Stage 1	961	-	-	-	-	-
Stage 2	961	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	0.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	985	1545	-
HCM Lane V/C Ratio	-	-	0.008	0.003	-
HCM Control Delay (s)	-	-	8.7	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Intersection Delay, s/veh	15.5
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	262	17	26	257	62	9	52	12	108	149	19
Future Vol, veh/h	9	262	17	26	257	62	9	52	12	108	149	19
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	291	19	29	286	69	10	58	13	120	166	21
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	14.9	16.9	10.8	15.7
HCM LOS	B	C	B	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	3%	8%	39%
Vol Thru, %	71%	91%	74%	54%
Vol Right, %	16%	6%	18%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	73	288	345	276
LT Vol	9	9	26	108
Through Vol	52	262	257	149
RT Vol	12	17	62	19
Lane Flow Rate	81	320	383	307
Geometry Grp	1	1	1	1
Degree of Util (X)	0.15	0.514	0.599	0.519
Departure Headway (Hd)	6.665	5.785	5.623	6.09
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	541	618	636	586
Service Time	4.665	3.881	3.714	4.183
HCM Lane V/C Ratio	0.15	0.518	0.602	0.524
HCM Control Delay	10.8	14.9	16.9	15.7
HCM Lane LOS	B	B	C	C
HCM 95th-tile Q	0.5	2.9	4	3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	163	88	27	229	308	90	31	736	44	77	1630	252
Future Volume (veh/h)	163	88	27	229	308	90	31	736	44	77	1630	252
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1765	1765	1765	1765
Adj Flow Rate, veh/h	181	98	30	254	342	100	34	818	49	86	1811	280
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	187	321	98	341	376	319	93	1765	790	356	1817	813
Arrive On Green	0.07	0.25	0.25	0.03	0.21	0.21	0.03	0.53	0.53	0.04	0.54	0.54
Sat Flow, veh/h	1681	1297	397	1681	1765	1500	1681	3353	1500	1681	3353	1500
Grp Volume(v), veh/h	181	0	128	254	342	100	34	818	49	86	1811	280
Grp Sat Flow(s),veh/h/ln	1681	0	1695	1681	1765	1500	1681	1676	1500	1681	1676	1500
Q Serve(g_s), s	10.0	0.0	9.0	5.0	27.6	8.2	1.3	22.3	2.3	3.4	78.4	15.3
Cycle Q Clear(g_c), s	10.0	0.0	9.0	5.0	27.6	8.2	1.3	22.3	2.3	3.4	78.4	15.3
Prop In Lane	1.00		0.23	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	187	0	419	341	376	319	93	1765	790	356	1817	813
V/C Ratio(X)	0.97	0.00	0.31	0.75	0.91	0.31	0.36	0.46	0.06	0.24	1.00	0.34
Avail Cap(c_a), veh/h	187	0	453	341	412	350	108	1794	803	356	1817	813
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.8	0.0	44.7	53.2	56.0	48.4	35.1	21.6	16.9	16.3	33.3	18.8
Incr Delay (d2), s/veh	55.8	0.0	0.2	7.7	21.7	0.2	0.9	0.3	0.0	0.1	20.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.4	0.0	7.6	13.0	22.3	6.2	1.3	15.7	1.8	2.8	51.9	10.6
LnGrp Delay(d),s/veh	103.6	0.0	44.8	61.0	77.7	48.6	36.0	21.9	17.0	16.4	53.6	19.2
LnGrp LOS	F		D	E	E	D	D	C	B	B	D	B
Approach Vol, veh/h		309			696			901			2177	
Approach Delay, s/veh		79.3			67.4			22.2			47.7	
Approach LOS		E			E			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	37.0	8.7	85.0	10.0	42.0	11.0	82.7
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	10.0	34.0	5.0	79.0	5.0	39.0	6.0	78.0
Max Q Clear Time (g_c+I1), s	12.0	30.6	4.3	81.4	8.0	12.0	6.4	25.3
Green Ext Time (p_c), s	0.0	0.5	0.0	0.0	0.0	0.4	0.0	9.0

Intersection Summary		
HCM 2010 Ctrl Delay		47.8
HCM 2010 LOS		D

Intersection	
Intersection Delay, s/veh	19.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	259	24	35	439	14	15	43	11	18	96	66
Future Vol, veh/h	9	259	24	35	439	14	15	43	11	18	96	66
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	285	26	38	482	15	16	47	12	20	105	73
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	14.1	25.7	10.8	12.4
HCM LOS	B	D	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	22%	3%	7%	10%
Vol Thru, %	62%	89%	90%	53%
Vol Right, %	16%	8%	3%	37%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	69	292	488	180
LT Vol	15	9	35	18
Through Vol	43	259	439	96
RT Vol	11	24	14	66
Lane Flow Rate	76	321	536	198
Geometry Grp	1	1	1	1
Degree of Util (X)	0.142	0.498	0.792	0.338
Departure Headway (Hd)	6.737	5.584	5.317	6.15
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	535	642	676	580
Service Time	4.737	3.66	3.381	4.238
HCM Lane V/C Ratio	0.142	0.5	0.793	0.341
HCM Control Delay	10.8	14.1	25.7	12.4
HCM Lane LOS	B	B	D	B
HCM 95th-tile Q	0.5	2.8	7.9	1.5

Intersection	
Intersection Delay, s/veh	13.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	53	229	18	10	313	37	7	29	6	58	57	176
Future Vol, veh/h	53	229	18	10	313	37	7	29	6	58	57	176
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	55	236	19	10	323	38	7	30	6	60	59	181
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.5	14.9	9.9	13.2
HCM LOS	B	B	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	18%	3%	20%
Vol Thru, %	69%	76%	87%	20%
Vol Right, %	14%	6%	10%	60%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	42	300	360	291
LT Vol	7	53	10	58
Through Vol	29	229	313	57
RT Vol	6	18	37	176
Lane Flow Rate	43	309	371	300
Geometry Grp	1	1	1	1
Degree of Util (X)	0.076	0.473	0.554	0.458
Departure Headway (Hd)	6.331	5.51	5.369	5.498
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	562	653	668	654
Service Time	4.415	3.565	3.42	3.554
HCM Lane V/C Ratio	0.077	0.473	0.555	0.459
HCM Control Delay	9.9	13.5	14.9	13.2
HCM Lane LOS	A	B	B	B
HCM 95th-tile Q	0.2	2.5	3.4	2.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	22	37	22	22	91	61	692	20	89	1163	339
Future Volume (veh/h)	110	22	37	22	22	91	61	692	20	89	1163	339
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	122	24	41	24	24	101	67	760	22	97	1264	368
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.91	0.91	0.91	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	255	120	205	312	61	256	179	2177	63	464	1687	480
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.65	0.65	0.65	0.65	0.65	0.65
Sat Flow, veh/h	1261	586	1002	1331	297	1248	307	3328	96	688	2578	734
Grp Volume(v), veh/h	122	0	65	24	0	125	67	383	399	97	812	820
Grp Sat Flow(s),veh/h/ln	1261	0	1588	1331	0	1544	307	1676	1748	688	1676	1635
Q Serve(g_s), s	7.9	0.0	2.9	1.3	0.0	6.0	16.5	8.7	8.7	6.3	27.7	29.6
Cycle Q Clear(g_c), s	13.9	0.0	2.9	4.2	0.0	6.0	46.1	8.7	8.7	15.0	27.7	29.6
Prop In Lane	1.00		0.63	1.00		0.81	1.00		0.06	1.00		0.45
Lane Grp Cap(c), veh/h	255	0	325	312	0	317	179	1097	1144	464	1097	1070
V/C Ratio(X)	0.48	0.00	0.20	0.08	0.00	0.39	0.38	0.35	0.35	0.21	0.74	0.77
Avail Cap(c_a), veh/h	514	0	652	586	0	634	348	2025	2111	846	2025	1975
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.3	0.0	28.1	29.8	0.0	29.3	26.2	6.6	6.6	10.0	9.9	10.2
Incr Delay (d2), s/veh	1.4	0.0	0.3	0.1	0.0	0.8	1.3	0.2	0.2	0.2	1.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	5.1	0.0	2.3	0.9	0.0	4.7	2.6	7.2	7.5	2.2	18.8	19.6
LnGrp Delay(d),s/veh	36.7	0.0	28.4	29.9	0.0	30.1	27.5	6.8	6.8	10.2	10.9	11.4
LnGrp LOS	D		C	C		C	C	A	A	B	B	B
Approach Vol, veh/h		187			149			849			1729	
Approach Delay, s/veh		33.8			30.1			8.4			11.1	
Approach LOS		C			C			A			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		23.5		61.8		23.5		61.8
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s		35.0		103.0		35.0		103.0
Max Q Clear Time (g_c+I1), s		9.0		32.6		16.9		49.1
Green Ext Time (p_c), s		0.7		18.5		0.6		6.6

Intersection Summary	
HCM 2010 Ctrl Delay	12.7
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	13	52	19	10	60	8	46	15	2	19	81	17
Future Vol, veh/h	13	52	19	10	60	8	46	15	2	19	81	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	58	21	11	67	9	51	17	2	21	90	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	76	0	0	79	0	0	245	195	69	200	201	72
Stage 1	-	-	-	-	-	-	97	97	-	94	94	-
Stage 2	-	-	-	-	-	-	148	98	-	106	107	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1523	-	-	1519	-	-	709	700	994	759	695	990
Stage 1	-	-	-	-	-	-	910	815	-	913	817	-
Stage 2	-	-	-	-	-	-	855	814	-	900	807	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1523	-	-	1519	-	-	617	687	994	733	682	990
Mov Cap-2 Maneuver	-	-	-	-	-	-	617	687	-	733	682	-
Stage 1	-	-	-	-	-	-	901	807	-	904	810	-
Stage 2	-	-	-	-	-	-	740	807	-	871	799	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0.9	11.3	11.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	640	1523	-	-	1519	-	-	723
HCM Lane V/C Ratio	0.109	0.009	-	-	0.007	-	-	0.18
HCM Control Delay (s)	11.3	7.4	0	-	7.4	0	-	11.1
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.7

Intersection	
Int Delay, s/veh	6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	24	13	22	16	27	62
Future Vol, veh/h	24	13	22	16	27	62
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	14	24	18	30	69

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	42	0	-	0	101	33
Stage 1	-	-	-	-	33	-
Stage 2	-	-	-	-	68	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1567	-	-	-	898	1041
Stage 1	-	-	-	-	989	-
Stage 2	-	-	-	-	955	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1567	-	-	-	883	1041
Mov Cap-2 Maneuver	-	-	-	-	883	-
Stage 1	-	-	-	-	972	-
Stage 2	-	-	-	-	955	-

Approach	EB	WB	SB
HCM Control Delay, s	4.8	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1567	-	-	-	987
HCM Lane V/C Ratio	0.017	-	-	-	0.1
HCM Control Delay (s)	7.3	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	7	53	0	13	157
Future Vol, veh/h	0	7	53	0	13	157
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	8	59	0	14	174

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	261	59	0	0	59	0
Stage 1	59	-	-	-	-	-
Stage 2	202	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	728	1007	-	-	1545	-
Stage 1	964	-	-	-	-	-
Stage 2	832	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	721	1007	-	-	1545	-
Mov Cap-2 Maneuver	721	-	-	-	-	-
Stage 1	954	-	-	-	-	-
Stage 2	832	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	0.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1007	1545	-
HCM Lane V/C Ratio	-	-	0.008	0.009	-
HCM Control Delay (s)	-	-	8.6	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	11	0	0	2	0	8	0	34	2	13	124	20
Future Vol, veh/h	11	0	0	2	0	8	0	34	2	13	124	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	0	0	2	0	9	0	38	2	14	138	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	221	217	149	216	227	39	160	0	0	40	0	0
Stage 1	177	177	-	39	39	-	-	-	-	-	-	-
Stage 2	44	40	-	177	188	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	735	681	898	740	672	1033	1419	-	-	1570	-	-
Stage 1	825	753	-	976	862	-	-	-	-	-	-	-
Stage 2	970	862	-	825	745	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	723	674	898	734	665	1033	1419	-	-	1570	-	-
Mov Cap-2 Maneuver	723	674	-	734	665	-	-	-	-	-	-	-
Stage 1	825	745	-	976	862	-	-	-	-	-	-	-
Stage 2	962	862	-	817	738	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.1	8.8	0	0.6
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1419	-	-	723	955	1570	-	-
HCM Lane V/C Ratio	-	-	-	0.017	0.012	0.009	-	-
HCM Control Delay (s)	0	-	-	10.1	8.8	7.3	0	-
HCM Lane LOS	A	-	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	82	121	2	2	1
Future Vol, veh/h	2	82	121	2	2	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	91	134	2	2	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	136	0	-	0	230	135
Stage 1	-	-	-	-	135	-
Stage 2	-	-	-	-	95	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1448	-	-	-	758	914
Stage 1	-	-	-	-	891	-
Stage 2	-	-	-	-	929	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1448	-	-	-	757	914
Mov Cap-2 Maneuver	-	-	-	-	757	-
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	929	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1448	-	-	-	803
HCM Lane V/C Ratio	0.002	-	-	-	0.004
HCM Control Delay (s)	7.5	0	-	-	9.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	3	70	0	4	79	2	3	0	3	0	0	1
Future Vol, veh/h	3	70	0	4	79	2	3	0	3	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	78	0	4	88	2	3	0	3	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	90	0	0	78	0	0	182	182	78	183	181	89
Stage 1	-	-	-	-	-	-	84	84	-	97	97	-
Stage 2	-	-	-	-	-	-	98	98	-	86	84	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1505	-	-	1520	-	-	779	712	983	778	713	969
Stage 1	-	-	-	-	-	-	924	825	-	910	815	-
Stage 2	-	-	-	-	-	-	908	814	-	922	825	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1505	-	-	1520	-	-	775	708	983	773	709	969
Mov Cap-2 Maneuver	-	-	-	-	-	-	775	708	-	773	709	-
Stage 1	-	-	-	-	-	-	922	823	-	908	813	-
Stage 2	-	-	-	-	-	-	904	812	-	917	823	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.3	9.2	8.7
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	867	1505	-	-	1520	-	-	969
HCM Lane V/C Ratio	0.008	0.002	-	-	0.003	-	-	0.001
HCM Control Delay (s)	9.2	7.4	0	-	7.4	0	-	8.7
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	36	37	12	63	22	7
Future Vol, veh/h	36	37	12	63	22	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	41	13	70	24	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	81	0	157	61
Stage 1	-	-	-	-	61	-
Stage 2	-	-	-	-	96	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1517	-	834	1004
Stage 1	-	-	-	-	962	-
Stage 2	-	-	-	-	928	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1517	-	826	1004
Mov Cap-2 Maneuver	-	-	-	-	826	-
Stage 1	-	-	-	-	953	-
Stage 2	-	-	-	-	928	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	863	-	-	1517	-
HCM Lane V/C Ratio	0.037	-	-	0.009	-
HCM Control Delay (s)	9.3	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	5	63	1	13	106
Future Vol, veh/h	1	5	63	1	13	106
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	6	70	1	14	118

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	217	71	0	0	71	0
Stage 1	71	-	-	-	-	-
Stage 2	146	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	771	991	-	-	1529	-
Stage 1	952	-	-	-	-	-
Stage 2	881	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	763	991	-	-	1529	-
Mov Cap-2 Maneuver	763	-	-	-	-	-
Stage 1	942	-	-	-	-	-
Stage 2	881	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	944	1529	-
HCM Lane V/C Ratio	-	-	0.007	0.009	-
HCM Control Delay (s)	-	-	8.8	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Intersection Delay, s/veh	11.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	112	12	10	256	81	11	134	24	45	47	13
Future Vol, veh/h	13	112	12	10	256	81	11	134	24	45	47	13
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	124	13	11	284	90	12	149	27	50	52	14
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.9	13.3	10.6	10
HCM LOS	A	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	9%	3%	43%
Vol Thru, %	79%	82%	74%	45%
Vol Right, %	14%	9%	23%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	169	137	347	105
LT Vol	11	13	10	45
Through Vol	134	112	256	47
RT Vol	24	12	81	13
Lane Flow Rate	188	152	386	117
Geometry Grp	1	1	1	1
Degree of Util (X)	0.284	0.225	0.527	0.183
Departure Headway (Hd)	5.446	5.317	4.922	5.656
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	659	674	736	633
Service Time	3.487	3.352	2.922	3.7
HCM Lane V/C Ratio	0.285	0.226	0.524	0.185
HCM Control Delay	10.6	9.9	13.3	10
HCM Lane LOS	B	A	B	A
HCM 95th-tile Q	1.2	0.9	3.1	0.7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	471	318	38	51	32	100	33	1716	163	37	512	47
Future Volume (veh/h)	471	318	38	51	32	100	33	1716	163	37	512	47
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1765	1765	1765	1765
Adj Flow Rate, veh/h	523	353	42	57	36	111	37	1907	181	40	557	51
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	429	457	54	128	142	121	479	1890	845	94	1893	847
Arrive On Green	0.18	0.30	0.30	0.08	0.08	0.08	0.03	0.56	0.56	0.03	0.56	0.56
Sat Flow, veh/h	1681	1548	184	985	1765	1500	1681	3353	1500	1681	3353	1500
Grp Volume(v), veh/h	523	0	395	57	36	111	37	1907	181	40	557	51
Grp Sat Flow(s),veh/h/ln	1681	0	1732	985	1765	1500	1681	1676	1500	1681	1676	1500
Q Serve(g_s), s	27.0	0.0	31.0	8.4	2.9	11.0	1.4	84.0	8.9	1.5	12.9	2.3
Cycle Q Clear(g_c), s	27.0	0.0	31.0	8.4	2.9	11.0	1.4	84.0	8.9	1.5	12.9	2.3
Prop In Lane	1.00		0.11	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	429	0	511	128	142	121	479	1890	845	94	1893	847
V/C Ratio(X)	1.22	0.00	0.77	0.45	0.25	0.92	0.08	1.01	0.21	0.43	0.29	0.06
Avail Cap(c_a), veh/h	429	0	511	128	142	121	491	1890	845	105	1893	847
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.5	0.0	48.0	66.9	64.3	68.0	13.4	32.5	16.1	36.5	17.0	14.6
Incr Delay (d2), s/veh	118.6	0.0	6.5	0.9	0.3	56.5	0.0	23.0	0.2	1.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	25.4	0.0	22.2	4.2	2.5	10.6	1.1	80.3	6.7	1.7	10.0	1.7
LnGrp Delay(d),s/veh	172.0	0.0	54.5	67.8	64.7	124.5	13.4	55.5	16.3	37.6	17.1	14.7
LnGrp LOS	F		D	E	E	F	B	F	B	D	B	B
Approach Vol, veh/h		918			204			2125			648	
Approach Delay, s/veh		121.5			98.1			51.4			18.2	
Approach LOS		F			F			D			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4		6	7	8
Phs Duration (G+Y+Rc), s	32.0	18.0	8.9	90.1		50.0	9.0	90.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0		6.0	5.0	6.0
Max Green Setting (Gmax), s	27.0	12.0	5.0	84.0		44.0	5.0	84.0
Max Q Clear Time (g_c+I1), s	30.0	14.0	4.4	15.9		34.0	4.5	87.0
Green Ext Time (p_c), s	0.0	0.0	0.0	5.7		0.9	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	64.8
HCM 2010 LOS	E

Notes

Intersection	
Intersection Delay, s/veh	36.4
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	47	588	27	16	211	28	24	82	36	23	27	9
Future Vol, veh/h	47	588	27	16	211	28	24	82	36	23	27	9
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	50	626	29	17	224	30	26	87	38	24	29	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	53.1	12.7	11.9	10.8
HCM LOS	F	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	7%	6%	39%
Vol Thru, %	58%	89%	83%	46%
Vol Right, %	25%	4%	11%	15%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	142	662	255	59
LT Vol	24	47	16	23
Through Vol	82	588	211	27
RT Vol	36	27	28	9
Lane Flow Rate	151	704	271	63
Geometry Grp	1	1	1	1
Degree of Util (X)	0.27	0.988	0.42	0.119
Departure Headway (Hd)	6.431	5.052	5.578	6.802
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	556	718	643	523
Service Time	4.506	3.098	3.641	4.892
HCM Lane V/C Ratio	0.272	0.981	0.421	0.12
HCM Control Delay	11.9	53.1	12.7	10.8
HCM Lane LOS	B	F	B	B
HCM 95th-tile Q	1.1	15.7	2.1	0.4

Intersection	
Intersection Delay, s/veh	28
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	248	365	8	1	204	76	13	50	5	33	21	33
Future Vol, veh/h	248	365	8	1	204	76	13	50	5	33	21	33
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	267	392	9	1	219	82	14	54	5	35	23	35
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	39.5	12.3	10.6	10.7
HCM LOS	E	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	19%	40%	0%	38%
Vol Thru, %	74%	59%	73%	24%
Vol Right, %	7%	1%	27%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	68	621	281	87
LT Vol	13	248	1	33
Through Vol	50	365	204	21
RT Vol	5	8	76	33
Lane Flow Rate	73	668	302	94
Geometry Grp	1	1	1	1
Degree of Util (X)	0.133	0.923	0.437	0.165
Departure Headway (Hd)	6.552	4.975	5.206	6.347
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	545	728	692	563
Service Time	4.615	3.006	3.247	4.408
HCM Lane V/C Ratio	0.134	0.918	0.436	0.167
HCM Control Delay	10.6	39.5	12.3	10.7
HCM Lane LOS	B	E	B	B
HCM 95th-tile Q	0.5	12.7	2.2	0.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	253	44	45	26	26	144	18	1248	21	83	403	66
Future Volume (veh/h)	253	44	45	26	26	144	18	1248	21	83	403	66
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	281	49	50	29	29	160	20	1387	23	92	448	73
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	353	277	282	442	81	449	452	1543	26	198	1645	267
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.46	0.46	0.46	0.07	0.57	0.57
Sat Flow, veh/h	1189	802	818	1291	236	1300	877	3375	56	1681	2890	468
Grp Volume(v), veh/h	281	0	99	29	0	189	20	689	721	92	259	262
Grp Sat Flow(s),veh/h/ln	1189	0	1620	1291	0	1535	877	1676	1755	1681	1676	1682
Q Serve(g_s), s	32.4	0.0	6.0	2.2	0.0	12.9	1.8	53.1	53.2	3.7	11.0	11.2
Cycle Q Clear(g_c), s	45.3	0.0	6.0	8.2	0.0	12.9	1.8	53.1	53.2	3.7	11.0	11.2
Prop In Lane	1.00		0.51	1.00		0.85	1.00		0.03	1.00		0.28
Lane Grp Cap(c), veh/h	353	0	559	442	0	530	452	766	802	198	954	957
V/C Ratio(X)	0.80	0.00	0.18	0.07	0.00	0.36	0.04	0.90	0.90	0.47	0.27	0.27
Avail Cap(c_a), veh/h	358	0	566	447	0	536	508	873	913	201	1064	1068
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.2	0.0	32.0	34.9	0.0	34.3	21.1	35.1	35.1	29.5	15.4	15.4
Incr Delay (d2), s/veh	11.8	0.0	0.1	0.1	0.0	0.4	0.0	11.2	10.9	1.7	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	17.4	0.0	4.8	1.5	0.0	9.4	0.8	35.4	36.8	3.3	8.9	9.0
LnGrp Delay(d),s/veh	63.0	0.0	32.2	34.9	0.0	34.7	21.2	46.2	45.9	31.2	15.5	15.6
LnGrp LOS	E		C	C		C	C	D	D	C	B	B
Approach Vol, veh/h		380			218			1430			613	
Approach Delay, s/veh		54.9			34.7			45.7			17.9	
Approach LOS		D			C			D			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6	7	8
Phs Duration (G+Y+Rc), s		54.4		85.8		54.4	15.7	70.1
Change Period (Y+Rc), s		6.0		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		49.0		89.0		49.0	10.0	73.0
Max Q Clear Time (g_c+I1), s		15.9		14.2		48.3	6.7	56.2
Green Ext Time (p_c), s		1.2		2.8		0.1	0.0	7.9

Intersection Summary	
HCM 2010 Ctrl Delay	39.7
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	39	91	21	5	36	13	14	47	5	10	31	17
Future Vol, veh/h	39	91	21	5	36	13	14	47	5	10	31	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	101	23	6	40	14	16	52	6	11	34	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	54	0	0	124	0	0	285	265	113	287	269	47
Stage 1	-	-	-	-	-	-	199	199	-	59	59	-
Stage 2	-	-	-	-	-	-	86	66	-	228	210	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1551	-	-	1463	-	-	667	640	940	665	637	1022
Stage 1	-	-	-	-	-	-	803	736	-	953	846	-
Stage 2	-	-	-	-	-	-	922	840	-	775	728	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1551	-	-	1463	-	-	610	618	940	602	615	1022
Mov Cap-2 Maneuver	-	-	-	-	-	-	610	618	-	602	615	-
Stage 1	-	-	-	-	-	-	779	714	-	924	843	-
Stage 2	-	-	-	-	-	-	865	837	-	693	706	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	0.7	11.4	10.7
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	633	1551	-	-	1463	-	-	693
HCM Lane V/C Ratio	0.116	0.028	-	-	0.004	-	-	0.093
HCM Control Delay (s)	11.4	7.4	0	-	7.5	0	-	10.7
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0	-	-	0.3

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	44	24	3	28	20	17
Future Vol, veh/h	44	24	3	28	20	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	27	3	31	22	19

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	34	0	-	0	144	19
Stage 1	-	-	-	-	19	-
Stage 2	-	-	-	-	125	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1578	-	-	-	849	1059
Stage 1	-	-	-	-	1004	-
Stage 2	-	-	-	-	901	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1578	-	-	-	822	1059
Mov Cap-2 Maneuver	-	-	-	-	822	-
Stage 1	-	-	-	-	972	-
Stage 2	-	-	-	-	901	-

Approach	EB	WB	SB
HCM Control Delay, s	4.8	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1578	-	-	-	916
HCM Lane V/C Ratio	0.031	-	-	-	0.045
HCM Control Delay (s)	7.4	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	11	127	0	4	70
Future Vol, veh/h	0	11	127	0	4	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	12	141	0	4	78

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	227	141	0	0	141	0
Stage 1	141	-	-	-	-	-
Stage 2	86	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	761	907	-	-	1442	-
Stage 1	886	-	-	-	-	-
Stage 2	937	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	759	907	-	-	1442	-
Mov Cap-2 Maneuver	759	-	-	-	-	-
Stage 1	883	-	-	-	-	-
Stage 2	937	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	0.4
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	907	1442	-
HCM Lane V/C Ratio	-	-	0.013	0.003	-
HCM Control Delay (s)	-	-	9	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	18	0	0	3	0	11	0	98	1	4	60	6
Future Vol, veh/h	18	0	0	3	0	11	0	98	1	4	60	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	0	0	3	0	12	0	109	1	4	67	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	195	189	71	189	192	110	74	0	0	110	0	0
Stage 1	79	79	-	110	110	-	-	-	-	-	-	-
Stage 2	116	110	-	79	82	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	764	706	991	771	703	943	1526	-	-	1480	-	-
Stage 1	930	829	-	895	804	-	-	-	-	-	-	-
Stage 2	889	804	-	930	827	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	753	704	991	769	701	943	1526	-	-	1480	-	-
Mov Cap-2 Maneuver	753	704	-	769	701	-	-	-	-	-	-	-
Stage 1	930	827	-	895	804	-	-	-	-	-	-	-
Stage 2	877	804	-	927	825	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.9	9.1	0	0.4
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1526	-	-	753	899	1480	-	-
HCM Lane V/C Ratio	-	-	-	0.027	0.017	0.003	-	-
HCM Control Delay (s)	0	-	-	9.9	9.1	7.4	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	148	67	0	3	2
Future Vol, veh/h	1	148	67	0	3	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	164	74	0	3	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	74	0	-	0	240	74
Stage 1	-	-	-	-	74	-
Stage 2	-	-	-	-	166	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1526	-	-	-	748	988
Stage 1	-	-	-	-	949	-
Stage 2	-	-	-	-	863	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1526	-	-	-	747	988
Mov Cap-2 Maneuver	-	-	-	-	747	-
Stage 1	-	-	-	-	948	-
Stage 2	-	-	-	-	863	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1526	-	-	-	828
HCM Lane V/C Ratio	0.001	-	-	-	0.007
HCM Control Delay (s)	7.4	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	1	105	0	1	47	0	5	0	4	0	0	2
Future Vol, veh/h	1	105	0	1	47	0	5	0	4	0	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	117	0	1	52	0	6	0	4	0	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	52	0	0	117	0	0	174	173	117	175	173	52
Stage 1	-	-	-	-	-	-	119	119	-	54	54	-
Stage 2	-	-	-	-	-	-	55	54	-	121	119	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1554	-	-	1471	-	-	789	720	935	788	720	1016
Stage 1	-	-	-	-	-	-	885	797	-	958	850	-
Stage 2	-	-	-	-	-	-	957	850	-	883	797	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1554	-	-	1471	-	-	786	719	935	783	719	1016
Mov Cap-2 Maneuver	-	-	-	-	-	-	786	719	-	783	719	-
Stage 1	-	-	-	-	-	-	884	796	-	957	849	-
Stage 2	-	-	-	-	-	-	954	849	-	878	796	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	9.3	8.6
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	846	1554	-	-	1471	-	-	1016
HCM Lane V/C Ratio	0.012	0.001	-	-	0.001	-	-	0.002
HCM Control Delay (s)	9.3	7.3	0	-	7.4	0	-	8.6
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	2.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	98	11	4	14	34	11
Future Vol, veh/h	98	11	4	14	34	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	109	12	4	16	38	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	121	0	139	115
Stage 1	-	-	-	-	115	-
Stage 2	-	-	-	-	24	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1467	-	854	937
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	999	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1467	-	851	937
Mov Cap-2 Maneuver	-	-	-	-	851	-
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	999	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	871	-	-	1467	-
HCM Lane V/C Ratio	0.057	-	-	0.003	-
HCM Control Delay (s)	9.4	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	6	64	0	4	59
Future Vol, veh/h	1	6	64	0	4	59
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	7	71	0	4	66

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	145	71	0	0	71	0
Stage 1	71	-	-	-	-	-
Stage 2	74	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	847	991	-	-	1529	-
Stage 1	952	-	-	-	-	-
Stage 2	949	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	844	991	-	-	1529	-
Mov Cap-2 Maneuver	844	-	-	-	-	-
Stage 1	949	-	-	-	-	-
Stage 2	949	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	967	1529	-
HCM Lane V/C Ratio	-	-	0.008	0.003	-
HCM Control Delay (s)	-	-	8.8	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Intersection Delay, s/veh	21.7
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	289	17	27	284	68	9	62	13	131	180	23
Future Vol, veh/h	10	289	17	27	284	68	9	62	13	131	180	23
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	321	19	30	316	76	10	69	14	146	200	26
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	19.8	24.4	12.3	22.7
HCM LOS	C	C	B	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	3%	7%	39%
Vol Thru, %	74%	91%	75%	54%
Vol Right, %	15%	5%	18%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	84	316	379	334
LT Vol	9	10	27	131
Through Vol	62	289	284	180
RT Vol	13	17	68	23
Lane Flow Rate	93	351	421	371
Geometry Grp	1	1	1	1
Degree of Util (X)	0.194	0.627	0.729	0.681
Departure Headway (Hd)	7.472	6.429	6.229	6.604
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	483	558	577	546
Service Time	5.472	4.51	4.304	4.676
HCM Lane V/C Ratio	0.193	0.629	0.73	0.679
HCM Control Delay	12.3	19.8	24.4	22.7
HCM Lane LOS	B	C	C	C
HCM 95th-tile Q	0.7	4.3	6.1	5.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	97	36	260	340	98	41	921	58	91	2030	310
Future Volume (veh/h)	180	97	36	260	340	98	41	921	58	91	2030	310
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1765	1765	1765	1765
Adj Flow Rate, veh/h	200	108	40	289	378	109	46	1023	64	101	2256	344
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	155	306	113	326	414	352	99	1730	774	287	1792	875
Arrive On Green	0.05	0.25	0.25	0.03	0.23	0.23	0.03	0.52	0.52	0.05	0.53	0.53
Sat Flow, veh/h	1681	1229	455	1681	1765	1500	1681	3353	1500	1681	3353	1500
Grp Volume(v), veh/h	200	0	148	289	378	109	46	1023	64	101	2256	344
Grp Sat Flow(s),veh/h/ln	1681	0	1684	1681	1765	1500	1681	1676	1500	1681	1676	1500
Q Serve(g_s), s	7.0	0.0	10.4	5.0	30.0	8.6	1.8	30.6	3.1	4.0	77.0	17.9
Cycle Q Clear(g_c), s	7.0	0.0	10.4	5.0	30.0	8.6	1.8	30.6	3.1	4.0	77.0	17.9
Prop In Lane	1.00		0.27	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	155	0	419	326	414	352	99	1730	774	287	1792	875
V/C Ratio(X)	1.29	0.00	0.35	0.89	0.91	0.31	0.46	0.59	0.08	0.35	1.26	0.39
Avail Cap(c_a), veh/h	155	0	479	326	478	406	108	1730	774	312	1792	875
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.1	0.0	44.6	55.1	53.7	45.5	34.5	24.3	17.6	18.5	33.5	16.2
Incr Delay (d2), s/veh	168.6	0.0	0.2	23.4	18.8	0.2	1.3	0.7	0.1	0.3	121.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	18.4	0.0	8.5	16.8	23.6	6.5	1.8	20.4	2.4	3.3	118.3	11.9
LnGrp Delay(d),s/veh	220.7	0.0	44.7	78.5	72.4	45.6	35.7	24.9	17.7	18.8	154.6	16.6
LnGrp LOS	F		D	E	E	D	D	C	B	B	F	B
Approach Vol, veh/h		348			776			1133			2701	
Approach Delay, s/veh		145.9			70.9			24.9			131.9	
Approach LOS		F			E			C			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	39.8	9.2	83.0	10.0	41.8	11.9	80.3
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	7.0	39.0	5.0	77.0	5.0	41.0	9.0	73.0
Max Q Clear Time (g_c+I1), s	10.0	33.0	4.8	80.0	8.0	13.4	7.0	33.6
Green Ext Time (p_c), s	0.0	0.8	0.0	0.0	0.0	0.4	0.0	11.8

Intersection Summary		
HCM 2010 Ctrl Delay	98.9	
HCM 2010 LOS	F	

Intersection	
Intersection Delay, s/veh	30.2
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	286	24	37	485	15	16	48	12	22	110	80
Future Vol, veh/h	10	286	24	37	485	15	16	48	12	22	110	80
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	314	26	41	533	16	18	53	13	24	121	88
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	17.6	46.5	11.9	14.6
HCM LOS	C	E	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	21%	3%	7%	10%
Vol Thru, %	63%	89%	90%	52%
Vol Right, %	16%	7%	3%	38%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	76	320	537	212
LT Vol	16	10	37	22
Through Vol	48	286	485	110
RT Vol	12	24	15	80
Lane Flow Rate	84	352	590	233
Geometry Grp	1	1	1	1
Degree of Util (X)	0.169	0.591	0.941	0.429
Departure Headway (Hd)	7.29	6.055	5.741	6.623
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	489	594	637	543
Service Time	5.372	4.112	3.741	4.686
HCM Lane V/C Ratio	0.172	0.593	0.926	0.429
HCM Control Delay	11.9	17.6	46.5	14.6
HCM Lane LOS	B	C	E	B
HCM 95th-tile Q	0.6	3.8	12.7	2.1

Intersection	
Intersection Delay, s/veh	16.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	58	253	20	11	345	41	8	36	6	64	69	193
Future Vol, veh/h	58	253	20	11	345	41	8	36	6	64	69	193
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	60	261	21	11	356	42	8	37	6	66	71	199
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	15.9	18.4	10.7	15.5
HCM LOS	C	C	B	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	18%	3%	20%
Vol Thru, %	72%	76%	87%	21%
Vol Right, %	12%	6%	10%	59%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	50	331	397	326
LT Vol	8	58	11	64
Through Vol	36	253	345	69
RT Vol	6	20	41	193
Lane Flow Rate	52	341	409	336
Geometry Grp	1	1	1	1
Degree of Util (X)	0.099	0.55	0.642	0.54
Departure Headway (Hd)	6.9	5.805	5.647	5.783
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	523	614	634	618
Service Time	4.9	3.896	3.732	3.872
HCM Lane V/C Ratio	0.099	0.555	0.645	0.544
HCM Control Delay	10.7	15.9	18.4	15.5
HCM Lane LOS	B	C	C	C
HCM 95th-tile Q	0.3	3.3	4.6	3.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	31	45	29	29	133	75	851	29	146	1430	417
Future Volume (veh/h)	134	31	45	29	29	133	75	851	29	146	1430	417
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	149	34	50	32	32	148	82	935	32	159	1554	453
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.91	0.91	0.91	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	206	151	222	298	64	296	104	1950	67	392	1591	442
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.03	0.59	0.59	0.06	0.61	0.61
Sat Flow, veh/h	1199	646	951	1308	274	1267	1681	3308	113	1681	2593	721
Grp Volume(v), veh/h	149	0	84	32	0	180	82	474	493	159	978	1029
Grp Sat Flow(s),veh/h/ln	1199	0	1597	1308	0	1541	1681	1676	1745	1681	1676	1638
Q Serve(g_s), s	18.5	0.0	6.4	3.0	0.0	15.2	2.9	24.3	24.3	5.5	81.2	92.0
Cycle Q Clear(g_c), s	33.7	0.0	6.4	9.4	0.0	15.2	2.9	24.3	24.3	5.5	81.2	92.0
Prop In Lane	1.00		0.60	1.00		0.82	1.00		0.06	1.00		0.44
Lane Grp Cap(c), veh/h	206	0	373	298	0	360	104	988	1028	392	1028	1004
V/C Ratio(X)	0.72	0.00	0.23	0.11	0.00	0.50	0.79	0.48	0.48	0.41	0.95	1.02
Avail Cap(c_a), veh/h	206	0	373	298	0	360	104	988	1028	430	1028	1004
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.5	0.0	46.5	50.3	0.0	49.9	37.5	17.6	17.6	13.0	26.9	29.0
Incr Delay (d2), s/veh	11.7	0.0	0.3	0.2	0.0	1.1	32.2	0.4	0.3	0.7	17.5	34.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.1	0.0	5.1	2.0	0.0	10.8	7.7	16.8	17.4	4.6	52.9	91.8
LnGrp Delay(d),s/veh	76.3	0.0	46.8	50.5	0.0	51.0	69.7	18.0	18.0	13.6	44.4	63.9
LnGrp LOS	E		D	D		D	E	B	B	B	D	F
Approach Vol, veh/h		233			212			1049			2166	
Approach Delay, s/veh		65.7			50.9			22.0			51.4	
Approach LOS		E			D			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		41.0	11.0	98.0		41.0	14.6	94.4
Change Period (Y+Rc), s		6.0	6.0	6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		35.0	5.0	92.0		35.0	12.0	85.0
Max Q Clear Time (g_c+I1), s		18.2	5.9	95.0		36.7	8.5	27.3
Green Ext Time (p_c), s		0.9	0.0	0.0		0.0	0.1	6.1

Intersection Summary	
HCM 2010 Ctrl Delay	43.8
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	16	62	21	12	76	8	55	17	2	20	97	20
Future Vol, veh/h	16	62	21	12	76	8	55	17	2	20	97	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	69	23	13	84	9	61	19	2	22	108	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	93	0	0	92	0	0	297	236	81	242	243	89
Stage 1	-	-	-	-	-	-	117	117	-	115	115	-
Stage 2	-	-	-	-	-	-	180	119	-	127	128	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1501	-	-	1503	-	-	655	665	979	712	659	969
Stage 1	-	-	-	-	-	-	888	799	-	890	800	-
Stage 2	-	-	-	-	-	-	822	797	-	877	790	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1501	-	-	1503	-	-	549	650	979	683	645	969
Mov Cap-2 Maneuver	-	-	-	-	-	-	549	650	-	683	645	-
Stage 1	-	-	-	-	-	-	876	789	-	878	793	-
Stage 2	-	-	-	-	-	-	688	790	-	843	780	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.9	12.3	11.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	576	1501	-	-	1503	-	-	684
HCM Lane V/C Ratio	0.143	0.012	-	-	0.009	-	-	0.223
HCM Control Delay (s)	12.3	7.4	0	-	7.4	0	-	11.8
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.5	0	-	-	0	-	-	0.8

Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	31	15	25	19	30	74
Future Vol, veh/h	31	15	25	19	30	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	17	28	21	33	82

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	49	0	-	0	124	39
Stage 1	-	-	-	-	39	-
Stage 2	-	-	-	-	85	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1558	-	-	-	871	1033
Stage 1	-	-	-	-	983	-
Stage 2	-	-	-	-	938	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1558	-	-	-	852	1033
Mov Cap-2 Maneuver	-	-	-	-	852	-
Stage 1	-	-	-	-	961	-
Stage 2	-	-	-	-	938	-

Approach	EB	WB	SB
HCM Control Delay, s	5	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1558	-	-	-	973
HCM Lane V/C Ratio	0.022	-	-	-	0.119
HCM Control Delay (s)	7.4	0	-	-	9.2
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	7	58	0	13	180
Future Vol, veh/h	0	7	58	0	13	180
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	8	64	0	14	200

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	292	64	0	0	64	0
Stage 1	64	-	-	-	-	-
Stage 2	228	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	699	1000	-	-	1538	-
Stage 1	959	-	-	-	-	-
Stage 2	810	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	692	1000	-	-	1538	-
Mov Cap-2 Maneuver	692	-	-	-	-	-
Stage 1	949	-	-	-	-	-
Stage 2	810	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	0.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1000	1538	-
HCM Lane V/C Ratio	-	-	0.008	0.009	-
HCM Control Delay (s)	-	-	8.6	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	11	0	0	2	0	8	0	39	2	13	147	20
Future Vol, veh/h	11	0	0	2	0	8	0	39	2	13	147	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	0	0	2	0	9	0	43	2	14	163	22

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	251	247	174	246	257	44	185	0	0	45	0	0
Stage 1	202	202	-	44	44	-	-	-	-	-	-	-
Stage 2	49	45	-	202	213	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	702	655	869	708	647	1026	1390	-	-	1563	-	-
Stage 1	800	734	-	970	858	-	-	-	-	-	-	-
Stage 2	964	857	-	800	726	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	691	648	869	702	641	1026	1390	-	-	1563	-	-
Mov Cap-2 Maneuver	691	648	-	702	641	-	-	-	-	-	-	-
Stage 1	800	727	-	970	858	-	-	-	-	-	-	-
Stage 2	956	857	-	792	719	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.3	8.9	0	0.5
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1390	-	-	691	939	1563	-	-
HCM Lane V/C Ratio	-	-	-	0.018	0.012	0.009	-	-
HCM Control Delay (s)	0	-	-	10.3	8.9	7.3	0	-
HCM Lane LOS	A	-	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	97	149	2	2	1
Future Vol, veh/h	2	97	149	2	2	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	108	166	2	2	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	168	0	-	0	279	167
Stage 1	-	-	-	-	167	-
Stage 2	-	-	-	-	112	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1410	-	-	-	711	877
Stage 1	-	-	-	-	863	-
Stage 2	-	-	-	-	913	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1410	-	-	-	710	877
Mov Cap-2 Maneuver	-	-	-	-	710	-
Stage 1	-	-	-	-	861	-
Stage 2	-	-	-	-	913	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1410	-	-	-	758
HCM Lane V/C Ratio	0.002	-	-	-	0.004
HCM Control Delay (s)	7.6	0	-	-	9.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	3	81	0	4	92	2	3	0	3	0	0	1
Future Vol, veh/h	3	81	0	4	92	2	3	0	3	0	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	90	0	4	102	2	3	0	3	0	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	104	0	0	90	0	0	208	208	90	209	207	103
Stage 1	-	-	-	-	-	-	96	96	-	111	111	-
Stage 2	-	-	-	-	-	-	112	112	-	98	96	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1488	-	-	1505	-	-	749	689	968	748	690	952
Stage 1	-	-	-	-	-	-	911	815	-	894	804	-
Stage 2	-	-	-	-	-	-	893	803	-	908	815	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1488	-	-	1505	-	-	745	686	968	743	687	952
Mov Cap-2 Maneuver	-	-	-	-	-	-	745	686	-	743	687	-
Stage 1	-	-	-	-	-	-	909	813	-	892	802	-
Stage 2	-	-	-	-	-	-	889	801	-	903	813	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.3	9.3	8.8
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	842	1488	-	-	1505	-	-	952
HCM Lane V/C Ratio	0.008	0.002	-	-	0.003	-	-	0.001
HCM Control Delay (s)	9.3	7.4	0	-	7.4	0	-	8.8
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	47	37	12	64	22	7
Future Vol, veh/h	47	37	12	64	22	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	41	13	71	24	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	93	0	170	73
Stage 1	-	-	-	-	73	-
Stage 2	-	-	-	-	97	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1501	-	820	989
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	927	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1501	-	813	989
Mov Cap-2 Maneuver	-	-	-	-	813	-
Stage 1	-	-	-	-	941	-
Stage 2	-	-	-	-	927	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	849	-	-	1501	-
HCM Lane V/C Ratio	0.038	-	-	0.009	-
HCM Control Delay (s)	9.4	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	5	76	1	13	128
Future Vol, veh/h	1	5	76	1	13	128
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	6	84	1	14	142

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	255	85	0	0	85	0
Stage 1	85	-	-	-	-	-
Stage 2	170	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	734	974	-	-	1512	-
Stage 1	938	-	-	-	-	-
Stage 2	860	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	727	974	-	-	1512	-
Mov Cap-2 Maneuver	727	-	-	-	-	-
Stage 1	929	-	-	-	-	-
Stage 2	860	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	0.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	922	1512	-
HCM Lane V/C Ratio	-	-	0.007	0.01	-
HCM Control Delay (s)	-	-	8.9	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	471	318	38	51	32	100	33	1716	163	37	512	47
Future Volume (veh/h)	471	318	38	51	32	100	33	1716	163	37	512	47
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1765	1765	1765	1765
Adj Flow Rate, veh/h	523	353	42	57	36	111	37	1907	181	40	557	51
Adj No. of Lanes	2	1	0	2	1	1	1	2	1	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	601	383	46	111	172	146	458	1812	811	95	1815	812
Arrive On Green	0.18	0.25	0.25	0.03	0.10	0.10	0.03	0.54	0.54	0.03	0.54	0.54
Sat Flow, veh/h	3261	1548	184	3261	1765	1500	1681	3353	1500	1681	3353	1500
Grp Volume(v), veh/h	523	0	395	57	36	111	37	1907	181	40	557	51
Grp Sat Flow(s),veh/h/ln	1630	0	1732	1630	1765	1500	1681	1676	1500	1681	1676	1500
Q Serve(g_s), s	22.8	0.0	32.5	2.5	2.7	10.5	1.4	79.0	9.2	1.5	13.4	2.4
Cycle Q Clear(g_c), s	22.8	0.0	32.5	2.5	2.7	10.5	1.4	79.0	9.2	1.5	13.4	2.4
Prop In Lane	1.00		0.11	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	601	0	429	111	172	146	458	1812	811	95	1815	812
V/C Ratio(X)	0.87	0.00	0.92	0.51	0.21	0.76	0.08	1.05	0.22	0.42	0.31	0.06
Avail Cap(c_a), veh/h	736	0	462	112	172	146	471	1812	811	107	1815	812
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.9	0.0	53.6	69.4	60.8	64.3	14.6	33.6	17.6	35.3	18.4	15.9
Incr Delay (d2), s/veh	9.5	0.0	23.0	3.9	0.6	20.6	0.1	36.4	0.1	2.9	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	16.5	0.0	25.3	2.1	2.5	9.0	1.2	82.2	6.9	1.7	10.3	1.8
LnGrp Delay(d),s/veh	67.4	0.0	76.6	73.4	61.4	84.9	14.7	70.0	17.7	38.2	18.5	15.9
LnGrp LOS	E		E	E	E	F	B	F	B	D	B	B
Approach Vol, veh/h		918			204			2125			648	
Approach Delay, s/veh		71.3			77.5			64.6			19.5	
Approach LOS		E			E			E			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	31.9	20.2	8.9	85.1	10.0	42.2	9.0	85.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	33.0	11.0	5.0	79.0	5.0	39.0	5.0	79.0
Max Q Clear Time (g_c+I1), s	25.8	13.5	4.4	16.4	5.5	35.5	4.5	82.0
Green Ext Time (p_c), s	1.2	0.0	0.0	3.7	0.0	0.7	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	59.4
HCM 2010 LOS	E

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	471	318	38	51	32	100	33	1716	163	37	512	47
Future Volume (veh/h)	471	318	38	51	32	100	33	1716	163	37	512	47
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1800	1765	1765	1765
Adj Flow Rate, veh/h	523	353	42	57	36	111	37	1907	181	40	557	51
Adj No. of Lanes	1	1	0	1	1	1	1	3	0	1	3	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	552	466	55	188	145	123	55	2150	203	57	2319	722
Arrive On Green	0.25	0.30	0.30	0.03	0.08	0.08	0.03	0.48	0.48	0.03	0.48	0.48
Sat Flow, veh/h	1681	1548	184	1681	1765	1500	1681	4479	423	1681	4818	1500
Grp Volume(v), veh/h	523	0	395	57	36	111	37	1364	724	40	557	51
Grp Sat Flow(s),veh/h/ln	1681	0	1732	1681	1765	1500	1681	1606	1690	1681	1606	1500
Q Serve(g_s), s	37.0	0.0	30.2	4.5	2.8	10.7	3.2	56.1	56.9	3.4	9.9	2.7
Cycle Q Clear(g_c), s	37.0	0.0	30.2	4.5	2.8	10.7	3.2	56.1	56.9	3.4	9.9	2.7
Prop In Lane	1.00		0.11	1.00		1.00	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	552	0	521	188	145	123	55	1542	811	57	2319	722
V/C Ratio(X)	0.95	0.00	0.76	0.30	0.25	0.90	0.67	0.88	0.89	0.70	0.24	0.07
Avail Cap(c_a), veh/h	552	0	521	188	145	123	57	1626	856	57	2439	759
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.2	0.0	46.3	59.1	62.9	66.5	69.9	34.3	34.6	69.8	22.2	20.3
Incr Delay (d2), s/veh	25.6	0.0	6.3	0.9	0.9	52.0	24.9	6.0	11.3	30.6	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	30.5	0.0	21.8	3.8	2.5	10.3	3.4	34.5	37.9	3.8	7.8	2.0
LnGrp Delay(d),s/veh	70.8	0.0	52.6	60.0	63.7	118.5	94.8	40.4	45.8	100.4	22.3	20.4
LnGrp LOS	E		D	E	E	F	F	D	D	F	C	C
Approach Vol, veh/h		918			204			2125			648	
Approach Delay, s/veh		62.9			92.5			43.2			27.0	
Approach LOS		E			F			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	42.0	18.0	9.8	76.4	10.0	50.0	10.0	76.2
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	37.0	12.0	5.0	74.0	5.0	44.0	5.0	74.0
Max Q Clear Time (g_c+I1), s	40.0	13.7	6.2	12.9	7.5	33.2	6.4	59.9
Green Ext Time (p_c), s	0.0	0.0	0.0	3.7	0.0	1.5	0.0	10.3

Intersection Summary	
HCM 2010 Ctrl Delay	47.7
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	471	318	38	51	32	100	33	1716	163	37	512	47
Future Volume (veh/h)	471	318	38	51	32	100	33	1716	163	37	512	47
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1800	1765	1765	1765
Adj Flow Rate, veh/h	523	353	42	57	36	111	37	1907	181	40	557	51
Adj No. of Lanes	2	1	0	2	1	1	1	3	0	1	3	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	615	395	47	114	180	153	56	2263	214	60	2446	762
Arrive On Green	0.19	0.26	0.26	0.04	0.10	0.10	0.03	0.51	0.51	0.04	0.51	0.51
Sat Flow, veh/h	3261	1548	184	3261	1765	1500	1681	4479	423	1681	4818	1500
Grp Volume(v), veh/h	523	0	395	57	36	111	37	1364	724	40	557	51
Grp Sat Flow(s),veh/h/ln	1630	0	1732	1630	1765	1500	1681	1606	1690	1681	1606	1500
Q Serve(g_s), s	20.2	0.0	28.7	2.2	2.4	9.3	2.8	47.6	48.2	3.1	8.4	2.3
Cycle Q Clear(g_c), s	20.2	0.0	28.7	2.2	2.4	9.3	2.8	47.6	48.2	3.1	8.4	2.3
Prop In Lane	1.00		0.11	1.00		1.00	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	615	0	442	114	180	153	56	1622	854	60	2446	762
V/C Ratio(X)	0.85	0.00	0.89	0.50	0.20	0.73	0.67	0.84	0.85	0.67	0.23	0.07
Avail Cap(c_a), veh/h	826	0	572	125	203	173	77	1825	960	77	2738	852
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.1	0.0	46.8	61.7	53.6	56.7	62.3	27.7	27.9	62.0	17.8	16.3
Incr Delay (d2), s/veh	6.5	0.0	13.7	3.3	0.5	12.5	12.9	3.4	6.6	13.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.7	0.0	21.8	1.9	2.2	7.9	2.7	29.5	32.1	3.0	6.7	1.7
LnGrp Delay(d),s/veh	57.5	0.0	60.5	65.0	54.2	69.3	75.1	31.1	34.4	75.5	17.9	16.4
LnGrp LOS	E		E	E	D	E	E	C	C	E	B	B
Approach Vol, veh/h		918			204			2125			648	
Approach Delay, s/veh		58.8			65.4			33.0			21.3	
Approach LOS		E			E			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	29.6	19.3	9.3	72.1	9.6	39.2	9.6	71.8
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	33.0	15.0	6.0	74.0	5.0	43.0	6.0	74.0
Max Q Clear Time (g_c+I1), s	23.2	12.3	5.8	11.4	5.2	31.7	6.1	51.2
Green Ext Time (p_c), s	1.4	0.1	0.0	3.7	0.0	1.6	0.0	14.5

Intersection Summary	
HCM 2010 Ctrl Delay	38.8
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	253	44	45	26	26	144	18	1248	21	83	403	66
Future Volume (veh/h)	253	44	45	26	26	144	18	1248	21	83	403	66
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1765
Adj Flow Rate, veh/h	281	49	50	29	29	160	20	1387	23	92	448	73
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	365	282	287	454	83	456	461	1560	26	170	1866	835
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.46	0.46	0.46	0.05	0.56	0.56
Sat Flow, veh/h	1189	802	818	1291	236	1300	877	3375	56	1681	3353	1500
Grp Volume(v), veh/h	281	0	99	29	0	189	20	689	721	92	448	73
Grp Sat Flow(s),veh/h/ln	1189	0	1620	1291	0	1535	877	1676	1755	1681	1676	1500
Q Serve(g_s), s	29.8	0.0	5.5	2.1	0.0	11.9	1.6	48.8	48.9	3.5	8.9	3.0
Cycle Q Clear(g_c), s	41.6	0.0	5.5	7.6	0.0	11.9	1.6	48.8	48.9	3.5	8.9	3.0
Prop In Lane	1.00		0.51	1.00		0.85	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	365	0	569	454	0	539	461	775	811	170	1866	835
V/C Ratio(X)	0.77	0.00	0.17	0.06	0.00	0.35	0.04	0.89	0.89	0.54	0.24	0.09
Avail Cap(c_a), veh/h	440	0	672	536	0	637	527	901	944	191	2164	968
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.6	0.0	29.2	31.8	0.0	31.2	19.3	32.0	32.0	28.3	14.8	13.5
Incr Delay (d2), s/veh	6.7	0.0	0.1	0.1	0.0	0.4	0.0	9.8	9.5	2.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	15.7	0.0	4.4	1.3	0.0	8.8	0.7	32.8	34.1	3.1	7.4	2.2
LnGrp Delay(d),s/veh	53.4	0.0	29.3	31.9	0.0	31.6	19.3	41.7	41.5	31.0	14.8	13.5
LnGrp LOS	D		C	C		C	B	D	D	C	B	B
Approach Vol, veh/h		380			218			1430			613	
Approach Delay, s/veh		47.1			31.7			41.3			17.1	
Approach LOS		D			C			D			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6	7	8
Phs Duration (G+Y+Rc), s		51.7		78.5		51.7	12.3	66.2
Change Period (Y+Rc), s		6.0		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		54.0		84.0		54.0	8.0	70.0
Max Q Clear Time (g_c+I1), s		14.9		11.9		44.6	6.5	51.9
Green Ext Time (p_c), s		1.2		3.0		1.1	0.0	8.3

Intersection Summary	
HCM 2010 Ctrl Delay	35.7
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	97	36	260	340	98	41	921	58	91	2030	310
Future Volume (veh/h)	180	97	36	260	340	98	41	921	58	91	2030	310
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1765	1765	1765	1765
Adj Flow Rate, veh/h	200	108	40	289	378	109	46	1023	64	101	2256	344
Adj No. of Lanes	2	1	0	2	1	1	1	2	1	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	229	294	109	229	422	359	100	1629	729	269	1698	865
Arrive On Green	0.07	0.24	0.24	0.07	0.24	0.24	0.03	0.49	0.49	0.05	0.51	0.51
Sat Flow, veh/h	3261	1229	455	3261	1765	1500	1681	3353	1500	1681	3353	1500
Grp Volume(v), veh/h	200	0	148	289	378	109	46	1023	64	101	2256	344
Grp Sat Flow(s),veh/h/ln	1630	0	1684	1630	1765	1500	1681	1676	1500	1681	1676	1500
Q Serve(g_s), s	8.6	0.0	10.4	10.0	29.5	8.5	1.9	32.1	3.3	4.2	72.0	17.9
Cycle Q Clear(g_c), s	8.6	0.0	10.4	10.0	29.5	8.5	1.9	32.1	3.3	4.2	72.0	17.9
Prop In Lane	1.00		0.27	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	229	0	403	229	422	359	100	1629	729	269	1698	865
V/C Ratio(X)	0.87	0.00	0.37	1.26	0.90	0.30	0.46	0.63	0.09	0.38	1.33	0.40
Avail Cap(c_a), veh/h	229	0	486	229	509	432	110	1629	729	303	1698	865
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.5	0.0	45.1	66.1	52.4	44.4	34.0	27.0	19.6	20.6	35.1	16.5
Incr Delay (d2), s/veh	28.6	0.0	0.6	147.4	16.2	0.5	3.3	0.8	0.1	0.9	152.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.4	0.0	8.5	16.5	22.9	6.4	1.8	21.3	2.5	3.6	124.4	11.9
LnGrp Delay(d),s/veh	94.1	0.0	45.7	213.5	68.6	44.8	37.2	27.8	19.7	21.5	187.3	16.8
LnGrp LOS	F		D	F	E	D	D	C	B	C	F	B
Approach Vol, veh/h		348			776			1133			2701	
Approach Delay, s/veh		73.5			119.2			27.7			159.4	
Approach LOS		E			F			C			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	40.0	9.2	78.0	15.0	40.0	12.1	75.1
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	10.0	41.0	5.0	72.0	10.0	41.0	10.0	67.0
Max Q Clear Time (g_c+I1), s	11.6	32.5	4.9	75.0	13.0	13.4	7.2	35.1
Green Ext Time (p_c), s	0.0	1.5	0.0	0.0	0.0	0.7	0.0	7.5

Intersection Summary	
HCM 2010 Ctrl Delay	117.0
HCM 2010 LOS	F

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	97	36	260	340	98	41	921	58	91	2030	310
Future Volume (veh/h)	180	97	36	260	340	98	41	921	58	91	2030	310
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1800	1765	1765	1765
Adj Flow Rate, veh/h	200	108	40	289	378	109	46	1023	64	101	2256	344
Adj No. of Lanes	1	1	0	1	1	1	1	3	0	1	3	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	327	121	386	420	357	68	2062	129	133	2329	851
Arrive On Green	0.08	0.27	0.27	0.06	0.24	0.24	0.04	0.44	0.44	0.08	0.48	0.48
Sat Flow, veh/h	1681	1229	455	1681	1765	1500	1681	4636	290	1681	4818	1500
Grp Volume(v), veh/h	200	0	148	289	378	109	46	708	379	101	2256	344
Grp Sat Flow(s),veh/h/ln	1681	0	1684	1681	1765	1500	1681	1606	1714	1681	1606	1500
Q Serve(g_s), s	12.0	0.0	10.1	8.0	29.6	8.5	3.9	22.4	22.5	8.4	64.9	18.3
Cycle Q Clear(g_c), s	12.0	0.0	10.1	8.0	29.6	8.5	3.9	22.4	22.5	8.4	64.9	18.3
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.17	1.00		1.00
Lane Grp Cap(c), veh/h	219	0	448	386	420	357	68	1429	762	133	2329	851
V/C Ratio(X)	0.91	0.00	0.33	0.75	0.90	0.31	0.68	0.50	0.50	0.76	0.97	0.40
Avail Cap(c_a), veh/h	219	0	508	386	483	410	94	1429	762	189	2331	852
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.4	0.0	42.1	47.9	52.7	44.7	67.5	28.2	28.2	64.3	35.8	17.3
Incr Delay (d2), s/veh	37.9	0.0	0.4	7.9	18.3	0.5	11.3	0.3	0.5	10.7	12.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.9	0.0	8.3	12.5	23.3	6.4	3.6	15.2	16.1	7.7	40.4	12.2
LnGrp Delay(d),s/veh	79.2	0.0	42.6	55.8	71.0	45.1	78.8	28.5	28.7	75.0	47.9	17.6
LnGrp LOS	E		D	E	E	D	E	C	C	E	D	B
Approach Vol, veh/h		348			776			1133			2701	
Approach Delay, s/veh		63.6			61.7			30.6			45.1	
Approach LOS		E			E			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	39.9	10.7	74.9	13.0	43.9	16.3	69.4
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	12.0	39.0	8.0	69.0	8.0	43.0	16.0	61.0
Max Q Clear Time (g_c+I1), s	15.0	32.6	6.9	67.9	11.0	13.1	11.4	25.5
Green Ext Time (p_c), s	0.0	1.3	0.0	1.1	0.0	0.7	0.1	7.2

Intersection Summary	
HCM 2010 Ctrl Delay	45.7
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	97	36	260	340	98	41	921	58	91	2030	310
Future Volume (veh/h)	180	97	36	260	340	98	41	921	58	91	2030	310
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1800	1765	1765	1765
Adj Flow Rate, veh/h	200	108	40	289	378	109	46	1023	64	101	2256	344
Adj No. of Lanes	2	1	0	2	1	1	1	3	0	1	3	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	253	278	103	299	423	360	59	2078	130	133	2370	854
Arrive On Green	0.08	0.23	0.23	0.09	0.24	0.24	0.04	0.45	0.45	0.08	0.49	0.49
Sat Flow, veh/h	3261	1229	455	3261	1765	1500	1681	4636	290	1681	4818	1500
Grp Volume(v), veh/h	200	0	148	289	378	109	46	708	379	101	2256	344
Grp Sat Flow(s),veh/h/ln	1630	0	1684	1630	1765	1500	1681	1606	1714	1681	1606	1500
Q Serve(g_s), s	8.5	0.0	10.6	12.5	29.4	8.4	3.8	22.1	22.2	8.3	63.4	18.2
Cycle Q Clear(g_c), s	8.5	0.0	10.6	12.5	29.4	8.4	3.8	22.1	22.2	8.3	63.4	18.2
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.17	1.00		1.00
Lane Grp Cap(c), veh/h	253	0	380	299	423	360	59	1439	768	133	2370	854
V/C Ratio(X)	0.79	0.00	0.39	0.97	0.89	0.30	0.78	0.49	0.49	0.76	0.95	0.40
Avail Cap(c_a), veh/h	253	0	475	299	523	444	59	1439	768	190	2379	857
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.2	0.0	46.6	64.2	52.1	44.1	67.8	27.7	27.7	64.0	34.4	17.0
Incr Delay (d2), s/veh	15.5	0.0	0.6	42.8	15.2	0.5	46.6	0.3	0.5	10.4	9.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.8	0.0	8.7	11.9	22.6	6.4	4.6	15.0	16.0	7.6	39.1	12.0
LnGrp Delay(d),s/veh	79.7	0.0	47.2	107.0	67.3	44.6	114.4	27.9	28.2	74.4	44.0	17.3
LnGrp LOS	E		D	F	E	D	F	C	C	E	D	B
Approach Vol, veh/h		348			776			1133			2701	
Approach Delay, s/veh		65.9			78.9			31.5			41.7	
Approach LOS		E			E			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	40.0	10.0	75.7	18.0	38.0	16.2	69.5
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	11.0	42.0	5.0	70.0	13.0	40.0	16.0	59.0
Max Q Clear Time (g_c+I1), s	11.5	32.4	6.8	66.4	15.5	13.6	11.3	25.2
Green Ext Time (p_c), s	0.0	1.6	0.0	3.3	0.0	0.7	0.1	7.2

Intersection Summary	
HCM 2010 Ctrl Delay	46.9
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	31	45	29	29	133	75	851	29	146	1430	417
Future Volume (veh/h)	134	31	45	29	29	133	75	851	29	146	1430	417
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1765
Adj Flow Rate, veh/h	149	34	50	32	32	148	82	935	32	159	1554	453
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.91	0.91	0.91	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	242	162	238	334	69	317	171	1750	60	374	1854	829
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.04	0.53	0.53	0.07	0.55	0.55
Sat Flow, veh/h	1199	646	951	1308	274	1267	1681	3308	113	1681	3353	1500
Grp Volume(v), veh/h	149	0	84	32	0	180	82	474	493	159	1554	453
Grp Sat Flow(s),veh/h/ln	1199	0	1597	1308	0	1541	1681	1676	1745	1681	1676	1500
Q Serve(g_s), s	14.2	0.0	4.9	2.3	0.0	11.7	2.6	21.9	21.9	5.0	45.6	22.8
Cycle Q Clear(g_c), s	25.9	0.0	4.9	7.3	0.0	11.7	2.6	21.9	21.9	5.0	45.6	22.8
Prop In Lane	1.00		0.60	1.00		0.82	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	242	0	400	334	0	386	171	887	923	374	1854	829
V/C Ratio(X)	0.62	0.00	0.21	0.10	0.00	0.47	0.48	0.53	0.53	0.42	0.84	0.55
Avail Cap(c_a), veh/h	338	0	527	439	0	509	225	1150	1197	431	2385	1067
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.6	0.0	35.0	37.9	0.0	37.6	23.6	18.3	18.3	13.4	22.0	16.9
Incr Delay (d2), s/veh	2.5	0.0	0.3	0.1	0.0	0.9	2.1	0.5	0.5	0.8	2.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.5	0.0	4.0	1.5	0.0	8.8	2.7	15.5	16.0	4.2	29.1	14.6
LnGrp Delay(d),s/veh	51.1	0.0	35.3	38.0	0.0	38.5	25.6	18.8	18.7	14.1	24.2	17.5
LnGrp LOS	D		D	D		D	C	B	B	B	C	B
Approach Vol, veh/h		233			212			1049			2166	
Approach Delay, s/veh		45.4			38.4			19.3			22.1	
Approach LOS		D			D			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		35.6	11.2	71.3		35.6	14.1	68.5
Change Period (Y+Rc), s		6.0	6.0	6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		39.0	9.0	84.0		39.0	12.0	81.0
Max Q Clear Time (g_c+I1), s		14.7	5.6	48.6		28.9	8.0	24.9
Green Ext Time (p_c), s		1.0	0.0	16.7		0.6	0.1	6.1

Intersection Summary	
HCM 2010 Ctrl Delay	23.7
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	471	319	39	51	35	115	36	1734	163	42	518	47
Future Volume (veh/h)	471	319	39	51	35	115	36	1734	163	42	518	47
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1765	1765	1765	1765
Adj Flow Rate, veh/h	523	354	43	57	39	128	40	1927	181	46	563	51
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	470	497	60	127	142	121	451	1797	804	96	1802	806
Arrive On Green	0.21	0.32	0.32	0.08	0.08	0.08	0.03	0.54	0.54	0.03	0.54	0.54
Sat Flow, veh/h	1681	1544	188	983	1765	1500	1681	3353	1500	1681	3353	1500
Grp Volume(v), veh/h	523	0	397	57	39	128	40	1927	181	46	563	51
Grp Sat Flow(s),veh/h/ln	1681	0	1732	983	1765	1500	1681	1676	1500	1681	1676	1500
Q Serve(g_s), s	31.0	0.0	30.1	8.4	3.1	12.0	1.6	80.0	9.5	1.8	13.9	2.4
Cycle Q Clear(g_c), s	31.0	0.0	30.1	8.4	3.1	12.0	1.6	80.0	9.5	1.8	13.9	2.4
Prop In Lane	1.00		0.11	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	470	0	557	127	142	121	451	1797	804	96	1802	806
V/C Ratio(X)	1.11	0.00	0.71	0.45	0.27	1.06	0.09	1.07	0.23	0.48	0.31	0.06
Avail Cap(c_a), veh/h	470	0	557	127	142	121	462	1797	804	105	1802	806
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.3	0.0	44.6	67.0	64.5	68.6	15.3	34.6	18.3	36.0	19.2	16.5
Incr Delay (d2), s/veh	76.3	0.0	3.7	0.9	0.4	99.4	0.0	43.6	0.2	1.4	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	58.1	0.0	21.4	4.2	2.8	14.9	1.3	86.1	7.2	1.9	10.6	1.8
LnGrp Delay(d),s/veh	127.6	0.0	48.2	67.9	64.9	168.2	15.3	78.2	18.5	37.4	19.3	16.6
LnGrp LOS	F		D	E	E	F	B	F	B	D	B	B
Approach Vol, veh/h		920			224			2148			660	
Approach Delay, s/veh		93.3			124.7			72.0			20.4	
Approach LOS		F			F			E			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4		6	7	8
Phs Duration (G+Y+Rc), s	36.0	18.0	9.0	86.2		54.0	9.3	86.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0		6.0	5.0	6.0
Max Green Setting (Gmax), s	31.0	12.0	5.0	80.0		48.0	5.0	80.0
Max Q Clear Time (g_c+I1), s	34.0	15.0	4.6	16.9		33.1	4.8	83.0
Green Ext Time (p_c), s	0.0	0.0	0.0	5.7		1.1	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	71.3
HCM 2010 LOS	E

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	253	45	45	32	31	165	18	1248	23	90	403	66
Future Volume (veh/h)	253	45	45	32	31	165	18	1248	23	90	403	66
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	281	50	50	36	34	183	20	1387	26	100	448	73
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	336	289	289	258	39	210	447	1527	29	188	1622	263
Arrive On Green	0.15	0.36	0.36	0.16	0.16	0.16	0.45	0.45	0.45	0.07	0.56	0.56
Sat Flow, veh/h	1681	811	811	1290	241	1295	877	3367	63	1681	2890	468
Grp Volume(v), veh/h	281	0	100	36	0	217	20	690	723	100	259	262
Grp Sat Flow(s),veh/h/ln	1681	0	1622	1290	0	1536	877	1676	1754	1681	1676	1682
Q Serve(g_s), s	19.6	0.0	6.2	3.5	0.0	20.3	1.9	56.2	56.3	4.3	11.8	11.9
Cycle Q Clear(g_c), s	19.6	0.0	6.2	3.5	0.0	20.3	1.9	56.2	56.3	4.3	11.8	11.9
Prop In Lane	1.00		0.50	1.00		0.84	1.00		0.04	1.00		0.28
Lane Grp Cap(c), veh/h	336	0	579	258	0	249	447	761	796	188	941	944
V/C Ratio(X)	0.84	0.00	0.17	0.14	0.00	0.87	0.04	0.91	0.91	0.53	0.27	0.28
Avail Cap(c_a), veh/h	351	0	640	295	0	293	491	844	883	190	1026	1030
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.1	0.0	32.4	53.1	0.0	60.1	22.5	37.3	37.3	31.6	16.7	16.8
Incr Delay (d2), s/veh	15.5	0.0	0.1	0.2	0.0	21.5	0.0	12.7	12.4	2.8	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	15.8	0.0	5.0	2.3	0.0	15.3	0.8	37.3	39.0	3.8	9.4	9.5
LnGrp Delay(d),s/veh	56.6	0.0	32.5	53.4	0.0	81.7	22.5	50.0	49.7	34.4	16.9	16.9
LnGrp LOS	E		C	D		F	C	D	D	C	B	B
Approach Vol, veh/h		381			253			1433			621	
Approach Delay, s/veh		50.3			77.7			49.5			19.7	
Approach LOS		D			E			D			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6	7	8
Phs Duration (G+Y+Rc), s	28.7	29.8		88.5		58.5	15.8	72.7
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s	24.0	28.0		90.0		58.0	10.0	74.0
Max Q Clear Time (g_c+I1), s	22.6	23.3		14.9		9.2	7.3	59.3
Green Ext Time (p_c), s	0.1	0.5		2.8		0.5	0.0	7.4

Intersection Summary	
HCM 2010 Ctrl Delay	45.4
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	100	39	260	342	107	43	933	58	108	2050	310
Future Volume (veh/h)	180	100	39	260	342	107	43	933	58	108	2050	310
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1765	1765	1765	1765
Adj Flow Rate, veh/h	200	111	43	289	380	119	48	1037	64	120	2278	344
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	201	333	129	352	390	331	98	1646	736	273	1728	904
Arrive On Green	0.09	0.27	0.27	0.03	0.22	0.22	0.03	0.49	0.49	0.05	0.52	0.52
Sat Flow, veh/h	1681	1212	470	1681	1765	1500	1681	3353	1500	1681	3353	1500
Grp Volume(v), veh/h	200	0	154	289	380	119	48	1037	64	120	2278	344
Grp Sat Flow(s),veh/h/ln	1681	0	1682	1681	1765	1500	1681	1676	1500	1681	1676	1500
Q Serve(g_s), s	13.0	0.0	10.9	5.0	31.9	10.0	2.1	34.1	3.4	5.1	77.0	17.7
Cycle Q Clear(g_c), s	13.0	0.0	10.9	5.0	31.9	10.0	2.1	34.1	3.4	5.1	77.0	17.7
Prop In Lane	1.00		0.28	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	201	0	462	352	390	331	98	1646	736	273	1728	904
V/C Ratio(X)	1.00	0.00	0.33	0.82	0.97	0.36	0.49	0.63	0.09	0.44	1.32	0.38
Avail Cap(c_a), veh/h	201	0	462	352	390	331	104	1646	736	295	1728	904
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.6	0.0	43.3	55.0	57.8	49.3	35.7	28.0	20.2	21.4	36.2	15.3
Incr Delay (d2), s/veh	62.4	0.0	0.2	13.6	38.7	0.2	1.4	0.9	0.1	0.4	147.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.7	0.0	8.8	16.1	27.1	7.5	1.8	22.4	2.6	4.3	127.6	11.9
LnGrp Delay(d),s/veh	106.0	0.0	43.5	68.6	96.5	49.5	37.1	28.9	20.3	21.9	183.6	15.7
LnGrp LOS	F		D	E	F	D	D	C	C	C	F	B
Approach Vol, veh/h		354			788			1149			2742	
Approach Delay, s/veh		78.8			79.2			28.8			155.5	
Approach LOS		E			E			C			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	39.0	9.4	83.0	10.0	47.0	13.1	79.3
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	13.0	33.0	5.0	77.0	5.0	41.0	10.0	72.0
Max Q Clear Time (g_c+I1), s	16.0	34.9	5.1	80.0	8.0	13.9	8.1	37.1
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.4	0.0	11.6

Intersection Summary	
HCM 2010 Ctrl Delay	109.2
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	37	45	33	32	147	75	851	35	169	1430	417
Future Volume (veh/h)	134	37	45	33	32	147	75	851	35	169	1430	417
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	149	41	50	37	36	163	82	935	38	184	1554	453
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.91	0.91	0.91	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	189	169	206	292	65	295	104	1914	78	395	1591	442
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.03	0.58	0.58	0.06	0.61	0.61
Sat Flow, veh/h	1179	725	884	1300	279	1263	1681	3284	133	1681	2593	721
Grp Volume(v), veh/h	149	0	91	37	0	199	82	477	496	184	978	1029
Grp Sat Flow(s),veh/h/ln	1179	0	1609	1300	0	1542	1681	1676	1741	1681	1676	1638
Q Serve(g_s), s	18.0	0.0	6.9	3.6	0.0	17.0	3.0	24.9	24.9	6.3	81.2	92.0
Cycle Q Clear(g_c), s	35.0	0.0	6.9	10.5	0.0	17.0	3.0	24.9	24.9	6.3	81.2	92.0
Prop In Lane	1.00		0.55	1.00		0.82	1.00		0.08	1.00		0.44
Lane Grp Cap(c), veh/h	189	0	375	292	0	360	104	977	1015	395	1028	1004
V/C Ratio(X)	0.79	0.00	0.24	0.13	0.00	0.55	0.79	0.49	0.49	0.47	0.95	1.02
Avail Cap(c_a), veh/h	189	0	375	292	0	360	104	977	1015	467	1028	1004
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	66.5	0.0	46.7	51.0	0.0	50.6	37.1	18.2	18.2	13.3	26.9	29.0
Incr Delay (d2), s/veh	19.6	0.0	0.3	0.2	0.0	1.8	32.2	0.4	0.4	0.9	17.5	34.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	11.6	0.0	5.6	2.3	0.0	11.9	5.2	17.2	17.8	5.3	52.9	91.8
LnGrp Delay(d),s/veh	86.1	0.0	47.1	51.2	0.0	52.5	69.3	18.6	18.6	14.2	44.4	63.9
LnGrp LOS	F		D	D		D	E	B	B	B	D	F
Approach Vol, veh/h		240			236			1055			2191	
Approach Delay, s/veh		71.3			52.3			22.5			51.0	
Approach LOS		E			D			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		41.0	11.0	98.0		41.0	15.6	93.4
Change Period (Y+Rc), s		6.0	6.0	6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		35.0	5.0	92.0		35.0	16.0	81.0
Max Q Clear Time (g_c+I1), s		20.0	6.0	95.0		38.0	9.3	27.9
Green Ext Time (p_c), s		1.0	0.0	0.0		0.0	0.2	6.1

Intersection Summary	
HCM 2010 Ctrl Delay	44.3
HCM 2010 LOS	D

Intersection	
Intersection Delay, s/veh	12.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	112	16	14	256	81	22	140	35	45	49	13
Future Vol, veh/h	13	112	16	14	256	81	22	140	35	45	49	13
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	124	18	16	284	90	24	156	39	50	54	14
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.2	13.9	11.3	10.2
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	9%	4%	42%
Vol Thru, %	71%	79%	73%	46%
Vol Right, %	18%	11%	23%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	197	141	351	107
LT Vol	22	13	14	45
Through Vol	140	112	256	49
RT Vol	35	16	81	13
Lane Flow Rate	219	157	390	119
Geometry Grp	1	1	1	1
Degree of Util (X)	0.334	0.237	0.544	0.191
Departure Headway (Hd)	5.493	5.435	5.018	5.771
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	652	660	718	621
Service Time	3.538	3.48	3.053	3.821
HCM Lane V/C Ratio	0.336	0.238	0.543	0.192
HCM Control Delay	11.3	10.2	13.9	10.2
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.5	0.9	3.3	0.7



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	471	319	39	51	35	115	36	1734	163	42	518	47
Future Volume (veh/h)	471	319	39	51	35	115	36	1734	163	42	518	47
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1800	1765	1765	1765
Adj Flow Rate, veh/h	523	354	43	57	39	128	40	1927	181	46	563	51
Adj No. of Lanes	2	1	0	2	1	1	1	3	0	1	3	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	596	392	48	113	186	158	60	2293	214	68	2488	775
Arrive On Green	0.18	0.25	0.25	0.03	0.11	0.11	0.04	0.51	0.51	0.04	0.52	0.52
Sat Flow, veh/h	3261	1544	188	3261	1765	1500	1681	4484	419	1681	4818	1500
Grp Volume(v), veh/h	523	0	397	57	39	128	40	1377	731	46	563	51
Grp Sat Flow(s),veh/h/ln	1630	0	1732	1630	1765	1500	1681	1606	1691	1681	1606	1500
Q Serve(g_s), s	21.5	0.0	30.5	2.4	2.8	11.5	3.2	50.4	51.2	3.7	8.8	2.3
Cycle Q Clear(g_c), s	21.5	0.0	30.5	2.4	2.8	11.5	3.2	50.4	51.2	3.7	8.8	2.3
Prop In Lane	1.00		0.11	1.00		1.00	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	596	0	439	113	186	158	60	1643	865	68	2488	775
V/C Ratio(X)	0.88	0.00	0.90	0.51	0.21	0.81	0.67	0.84	0.85	0.68	0.23	0.07
Avail Cap(c_a), veh/h	758	0	529	119	192	164	73	1728	910	86	2627	818
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.7	0.0	49.7	65.3	56.3	60.2	65.5	28.7	28.9	65.1	18.2	16.7
Incr Delay (d2), s/veh	8.1	0.0	15.4	1.3	0.2	22.9	9.5	3.9	7.5	7.9	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	15.6	0.0	23.1	2.0	2.5	9.7	3.0	31.2	33.8	3.4	7.1	1.8
LnGrp Delay(d),s/veh	62.8	0.0	65.1	66.6	56.5	83.1	75.0	32.6	36.4	73.0	18.3	16.7
LnGrp LOS	E		E	E	E	F	E	C	D	E	B	B
Approach Vol, veh/h		920			224			2148			660	
Approach Delay, s/veh		63.8			74.3			34.7			22.0	
Approach LOS		E			E			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	30.2	20.5	9.9	77.0	9.8	40.9	10.6	76.4
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	32.6	15.0	6.0	75.0	5.0	42.0	7.0	74.0
Max Q Clear Time (g_c+I1), s	24.5	14.5	6.2	11.8	5.4	33.5	6.7	54.2
Green Ext Time (p_c), s	0.7	0.0	0.0	5.8	0.0	0.9	0.0	16.2

Intersection Summary	
HCM 2010 Ctrl Delay	41.6
HCM 2010 LOS	D

Notes

Intersection	
Intersection Delay, s/veh	47.3
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	47	588	33	20	211	28	42	110	46	23	37	9
Future Vol, veh/h	47	588	33	20	211	28	42	110	46	23	37	9
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	50	626	35	21	224	30	45	117	49	24	39	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	73.9	13.9	13.8	11.5
HCM LOS	F	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	21%	7%	8%	33%
Vol Thru, %	56%	88%	81%	54%
Vol Right, %	23%	5%	11%	13%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	198	668	259	69
LT Vol	42	47	20	23
Through Vol	110	588	211	37
RT Vol	46	33	28	9
Lane Flow Rate	211	711	276	73
Geometry Grp	1	1	1	1
Degree of Util (X)	0.381	1.058	0.449	0.143
Departure Headway (Hd)	6.739	5.362	6.052	7.29
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	537	675	598	495
Service Time	4.739	3.408	4.052	5.29
HCM Lane V/C Ratio	0.393	1.053	0.462	0.147
HCM Control Delay	13.8	73.9	13.9	11.5
HCM Lane LOS	B	F	B	B
HCM 95th-tile Q	1.8	18.8	2.3	0.5

Intersection	
Intersection Delay, s/veh	31.7
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	255	368	8	2	205	76	13	59	8	33	24	36
Future Vol, veh/h	255	368	8	2	205	76	13	59	8	33	24	36
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	274	396	9	2	220	82	14	63	9	35	26	39
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	45.9	12.7	10.9	10.9
HCM LOS	E	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	40%	1%	35%
Vol Thru, %	74%	58%	72%	26%
Vol Right, %	10%	1%	27%	39%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	80	631	283	93
LT Vol	13	255	2	33
Through Vol	59	368	205	24
RT Vol	8	8	76	36
Lane Flow Rate	86	678	304	100
Geometry Grp	1	1	1	1
Degree of Util (X)	0.158	0.955	0.45	0.179
Departure Headway (Hd)	6.62	5.065	5.324	6.447
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	538	712	676	554
Service Time	4.696	3.102	3.375	4.52
HCM Lane V/C Ratio	0.16	0.952	0.45	0.181
HCM Control Delay	10.9	45.9	12.7	10.9
HCM Lane LOS	B	E	B	B
HCM 95th-tile Q	0.6	14	2.3	0.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	253	45	45	32	31	165	18	1248	23	90	403	66
Future Volume (veh/h)	253	45	45	32	31	165	18	1248	23	90	403	66
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1765
Adj Flow Rate, veh/h	281	50	50	36	34	183	20	1387	26	100	448	73
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	350	295	295	465	88	471	443	1497	28	184	1666	745
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.02	0.44	0.44	0.07	0.50	0.50
Sat Flow, veh/h	1160	811	811	1290	241	1295	1681	3367	63	1681	3353	1500
Grp Volume(v), veh/h	281	0	100	36	0	217	20	690	723	100	448	73
Grp Sat Flow(s),veh/h/ln	1160	0	1622	1290	0	1536	1681	1676	1754	1681	1676	1500
Q Serve(g_s), s	34.4	0.0	6.1	2.8	0.0	15.2	0.9	56.5	56.6	4.3	11.3	3.7
Cycle Q Clear(g_c), s	49.6	0.0	6.1	8.9	0.0	15.2	0.9	56.5	56.6	4.3	11.3	3.7
Prop In Lane	1.00		0.50	1.00		0.84	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	350	0	590	465	0	559	443	745	780	184	1666	745
V/C Ratio(X)	0.80	0.00	0.17	0.08	0.00	0.39	0.05	0.93	0.93	0.54	0.27	0.10
Avail Cap(c_a), veh/h	359	0	603	475	0	571	464	785	821	186	1708	764
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.6	0.0	31.3	34.3	0.0	34.2	21.5	38.1	38.1	31.7	21.2	19.3
Incr Delay (d2), s/veh	12.1	0.0	0.1	0.1	0.0	0.4	0.0	16.4	16.0	3.1	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	17.9	0.0	4.9	1.8	0.0	10.7	0.8	38.4	39.9	3.8	9.0	2.8
LnGrp Delay(d),s/veh	64.7	0.0	31.5	34.4	0.0	34.7	21.5	54.5	54.2	34.9	21.3	19.4
LnGrp LOS	E		C	C		C	C	D	D	C	C	B
Approach Vol, veh/h		381			253			1433			621	
Approach Delay, s/veh		56.0			34.6			53.9			23.3	
Approach LOS		E			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		58.9	8.2	78.2		58.9	15.8	70.6
Change Period (Y+Rc), s		6.0	6.0	6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		54.0	4.0	74.0		54.0	10.0	68.0
Max Q Clear Time (g_c+I1), s		18.2	3.9	14.3		52.6	7.3	59.6
Green Ext Time (p_c), s		1.4	0.0	2.9		0.2	0.0	5.0

Intersection Summary	
HCM 2010 Ctrl Delay	45.3
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	39	99	25	8	61	26	18	51	6	16	33	18
Future Vol, veh/h	39	99	25	8	61	26	18	51	6	16	33	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	110	28	9	68	29	20	57	7	18	37	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	97	0	0	138	0	0	339	325	124	343	325	83
Stage 1	-	-	-	-	-	-	210	210	-	101	101	-
Stage 2	-	-	-	-	-	-	129	115	-	242	224	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1496	-	-	1446	-	-	615	593	927	611	593	976
Stage 1	-	-	-	-	-	-	792	728	-	905	811	-
Stage 2	-	-	-	-	-	-	875	800	-	762	718	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1496	-	-	1446	-	-	557	570	927	544	570	976
Mov Cap-2 Maneuver	-	-	-	-	-	-	557	570	-	544	570	-
Stage 1	-	-	-	-	-	-	767	705	-	877	805	-
Stage 2	-	-	-	-	-	-	812	794	-	674	696	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.8	0.6	12.2	11.4
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	585	1496	-	-	1446	-	-	634
HCM Lane V/C Ratio	0.142	0.029	-	-	0.006	-	-	0.117
HCM Control Delay (s)	12.2	7.5	0	-	7.5	0	-	11.4
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0	-	-	0.4

Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	57	29	4	28	20	21
Future Vol, veh/h	57	29	4	28	20	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	63	32	4	31	22	23

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	35	0	-	0	178	20
Stage 1	-	-	-	-	20	-
Stage 2	-	-	-	-	158	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1576	-	-	-	812	1058
Stage 1	-	-	-	-	1003	-
Stage 2	-	-	-	-	871	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1576	-	-	-	779	1058
Mov Cap-2 Maneuver	-	-	-	-	779	-
Stage 1	-	-	-	-	962	-
Stage 2	-	-	-	-	871	-

Approach	EB	WB	SB
HCM Control Delay, s	4.9	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1576	-	-	-	901
HCM Lane V/C Ratio	0.04	-	-	-	0.051
HCM Control Delay (s)	7.4	0	-	-	9.2
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	22	172	0	8	86
Future Vol, veh/h	0	22	172	0	8	86
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	24	191	0	9	96

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	305	191	0	0	191	0
Stage 1	191	-	-	-	-	-
Stage 2	114	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	687	851	-	-	1383	-
Stage 1	841	-	-	-	-	-
Stage 2	911	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	682	851	-	-	1383	-
Mov Cap-2 Maneuver	682	-	-	-	-	-
Stage 1	835	-	-	-	-	-
Stage 2	911	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.4	0	0.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	851	1383	-
HCM Lane V/C Ratio	-	-	0.029	0.006	-
HCM Control Delay (s)	-	-	9.4	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	36	0	0	6	0	22	0	114	2	8	66	12
Future Vol, veh/h	36	0	0	6	0	22	0	114	2	8	66	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	40	0	0	7	0	24	0	127	2	9	73	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	238	227	80	226	232	128	86	0	0	129	0	0
Stage 1	98	98	-	128	128	-	-	-	-	-	-	-
Stage 2	140	129	-	98	104	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	716	672	980	729	668	922	1510	-	-	1457	-	-
Stage 1	908	814	-	876	790	-	-	-	-	-	-	-
Stage 2	863	789	-	908	809	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	694	668	980	725	664	922	1510	-	-	1457	-	-
Mov Cap-2 Maneuver	694	668	-	725	664	-	-	-	-	-	-	-
Stage 1	908	809	-	876	790	-	-	-	-	-	-	-
Stage 2	840	789	-	903	804	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.5	9.3	0	0.7
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1510	-	-	694	871	1457	-	-
HCM Lane V/C Ratio	-	-	-	0.058	0.036	0.006	-	-
HCM Control Delay (s)	0	-	-	10.5	9.3	7.5	0	-
HCM Lane LOS	A	-	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	157	97	0	6	4
Future Vol, veh/h	2	157	97	0	6	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	174	108	0	7	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	108	0	-	0	286	108
Stage 1	-	-	-	-	108	-
Stage 2	-	-	-	-	178	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1483	-	-	-	704	946
Stage 1	-	-	-	-	916	-
Stage 2	-	-	-	-	853	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1483	-	-	-	703	946
Mov Cap-2 Maneuver	-	-	-	-	703	-
Stage 1	-	-	-	-	915	-
Stage 2	-	-	-	-	853	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1483	-	-	-	784
HCM Lane V/C Ratio	0.001	-	-	-	0.014
HCM Control Delay (s)	7.4	0	-	-	9.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	2	119	0	2	81	0	10	0	8	0	0	4
Future Vol, veh/h	2	119	0	2	81	0	10	0	8	0	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	132	0	2	90	0	11	0	9	0	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	90	0	0	132	0	0	232	230	132	235	230	90
Stage 1	-	-	-	-	-	-	136	136	-	94	94	-
Stage 2	-	-	-	-	-	-	96	94	-	141	136	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1505	-	-	1453	-	-	723	670	917	720	670	968
Stage 1	-	-	-	-	-	-	867	784	-	913	817	-
Stage 2	-	-	-	-	-	-	911	817	-	862	784	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1505	-	-	1453	-	-	719	669	917	712	669	968
Mov Cap-2 Maneuver	-	-	-	-	-	-	719	669	-	712	669	-
Stage 1	-	-	-	-	-	-	866	783	-	912	816	-
Stage 2	-	-	-	-	-	-	906	816	-	853	783	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	9.6	8.7
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	795	1505	-	-	1453	-	-	968
HCM Lane V/C Ratio	0.025	0.001	-	-	0.002	-	-	0.005
HCM Control Delay (s)	9.6	7.4	0	-	7.5	0	-	8.7
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	3.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	105	22	8	15	68	22
Future Vol, veh/h	105	22	8	15	68	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	117	24	9	17	76	24

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	141	0	164	129
Stage 1	-	-	-	-	129	-
Stage 2	-	-	-	-	35	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1442	-	827	921
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	987	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1442	-	822	921
Mov Cap-2 Maneuver	-	-	-	-	822	-
Stage 1	-	-	-	-	892	-
Stage 2	-	-	-	-	987	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.6	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	844	-	-	1442	-
HCM Lane V/C Ratio	0.118	-	-	0.006	-
HCM Control Delay (s)	9.8	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	12	66	0	8	64
Future Vol, veh/h	2	12	66	0	8	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	13	73	0	9	71

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	162	73	0	0	73	0
Stage 1	73	-	-	-	-	-
Stage 2	89	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	829	989	-	-	1527	-
Stage 1	950	-	-	-	-	-
Stage 2	934	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	824	989	-	-	1527	-
Mov Cap-2 Maneuver	824	-	-	-	-	-
Stage 1	944	-	-	-	-	-
Stage 2	934	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	961	1527	-
HCM Lane V/C Ratio	-	-	0.016	0.006	-
HCM Control Delay (s)	-	-	8.8	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Intersection Delay, s/veh	25.8
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	289	30	39	284	68	16	66	20	131	187	23
Future Vol, veh/h	10	289	30	39	284	68	16	66	20	131	187	23
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	321	33	43	316	76	18	73	22	146	208	26
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	23.4	30.4	13.3	26.7
HCM LOS	C	D	B	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	3%	10%	38%
Vol Thru, %	65%	88%	73%	55%
Vol Right, %	20%	9%	17%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	102	329	391	341
LT Vol	16	10	39	131
Through Vol	66	289	284	187
RT Vol	20	30	68	23
Lane Flow Rate	113	366	434	379
Geometry Grp	1	1	1	1
Degree of Util (X)	0.244	0.687	0.794	0.731
Departure Headway (Hd)	7.761	6.765	6.578	6.947
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	461	534	552	519
Service Time	5.835	4.808	4.618	4.987
HCM Lane V/C Ratio	0.245	0.685	0.786	0.73
HCM Control Delay	13.3	23.4	30.4	26.7
HCM Lane LOS	B	C	D	D
HCM 95th-tile Q	0.9	5.3	7.5	6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	100	39	260	342	107	43	933	58	108	2050	310
Future Volume (veh/h)	180	100	39	260	342	107	43	933	58	108	2050	310
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1800	1765	1765	1765
Adj Flow Rate, veh/h	200	111	43	289	380	119	48	1037	64	120	2278	344
Adj No. of Lanes	2	1	0	2	1	1	1	3	0	1	3	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	264	275	107	295	417	355	59	2035	125	152	2381	741
Arrive On Green	0.08	0.23	0.23	0.09	0.24	0.24	0.03	0.44	0.44	0.09	0.49	0.49
Sat Flow, veh/h	3261	1212	470	3261	1765	1500	1681	4640	286	1681	4818	1500
Grp Volume(v), veh/h	200	0	154	289	380	119	48	717	384	120	2278	344
Grp Sat Flow(s),veh/h/ln	1630	0	1682	1630	1765	1500	1681	1606	1714	1681	1606	1500
Q Serve(g_s), s	8.6	0.0	11.2	12.7	30.1	9.4	4.1	23.2	23.2	10.0	65.1	21.6
Cycle Q Clear(g_c), s	8.6	0.0	11.2	12.7	30.1	9.4	4.1	23.2	23.2	10.0	65.1	21.6
Prop In Lane	1.00		0.28	1.00		1.00	1.00		0.17	1.00		1.00
Lane Grp Cap(c), veh/h	264	0	382	295	417	355	59	1409	752	152	2381	741
V/C Ratio(X)	0.76	0.00	0.40	0.98	0.91	0.34	0.82	0.51	0.51	0.79	0.96	0.46
Avail Cap(c_a), veh/h	273	0	457	295	492	418	59	1409	752	223	2384	742
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.5	0.0	47.2	65.1	53.3	45.4	68.8	29.1	29.1	63.9	34.8	23.8
Incr Delay (d2), s/veh	9.9	0.0	0.3	46.1	17.7	0.2	55.4	0.4	0.8	6.3	10.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.6	0.0	9.0	12.1	23.4	7.1	5.0	15.6	16.6	8.6	40.1	14.0
LnGrp Delay(d),s/veh	74.5	0.0	47.4	111.2	71.0	45.6	124.2	29.5	29.9	70.2	45.1	24.5
LnGrp LOS	E		D	F	E	D	F	C	C	E	D	C
Approach Vol, veh/h		354			788			1149			2742	
Approach Delay, s/veh		62.7			81.9			33.6			43.6	
Approach LOS		E			F			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.6	39.9	10.0	76.9	18.0	38.6	18.0	68.9
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	12.6	40.0	5.0	71.0	13.0	39.0	19.0	57.0
Max Q Clear Time (g_c+I1), s	11.6	33.1	7.1	68.1	15.7	14.2	13.0	26.2
Green Ext Time (p_c), s	0.0	0.9	0.0	2.8	0.0	0.4	0.1	10.6

Intersection Summary	
HCM 2010 Ctrl Delay	48.7
HCM 2010 LOS	D

Intersection	
Intersection Delay, s/veh	43.4
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	286	44	49	485	15	27	66	19	22	142	80
Future Vol, veh/h	10	286	44	49	485	15	27	66	19	22	142	80
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	314	48	54	533	16	30	73	21	24	156	88
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	22.3	73.9	13.7	17.7
HCM LOS	C	F	B	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	24%	3%	9%	9%
Vol Thru, %	59%	84%	88%	58%
Vol Right, %	17%	13%	3%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	112	340	549	244
LT Vol	27	10	49	22
Through Vol	66	286	485	142
RT Vol	19	44	15	80
Lane Flow Rate	123	374	603	268
Geometry Grp	1	1	1	1
Degree of Util (X)	0.262	0.674	1.043	0.516
Departure Headway (Hd)	7.923	6.651	6.223	7.222
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	457	545	585	501
Service Time	5.923	4.651	4.245	5.222
HCM Lane V/C Ratio	0.269	0.686	1.031	0.535
HCM Control Delay	13.7	22.3	73.9	17.7
HCM Lane LOS	B	C	F	C
HCM 95th-tile Q	1	5	16.6	2.9

Intersection	
Intersection Delay, s/veh	18.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	63	255	20	14	348	41	8	42	8	64	79	202
Future Vol, veh/h	63	255	20	14	348	41	8	42	8	64	79	202
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	65	263	21	14	359	42	8	43	8	66	81	208
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	17.4	20.6	11.1	17.4
HCM LOS	C	C	B	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	19%	3%	19%
Vol Thru, %	72%	75%	86%	23%
Vol Right, %	14%	6%	10%	59%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	58	338	403	345
LT Vol	8	63	14	64
Through Vol	42	255	348	79
RT Vol	8	20	41	202
Lane Flow Rate	60	348	415	356
Geometry Grp	1	1	1	1
Degree of Util (X)	0.117	0.586	0.68	0.591
Departure Headway (Hd)	7.064	6.057	5.889	5.987
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	506	596	615	601
Service Time	5.129	4.098	3.927	4.026
HCM Lane V/C Ratio	0.119	0.584	0.675	0.592
HCM Control Delay	11.1	17.4	20.6	17.4
HCM Lane LOS	B	C	C	C
HCM 95th-tile Q	0.4	3.8	5.2	3.8



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	37	45	33	32	147	75	851	35	169	1430	417
Future Volume (veh/h)	134	37	45	33	32	147	75	851	35	169	1430	417
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1765
Adj Flow Rate, veh/h	149	41	50	37	36	163	82	935	38	184	1554	453
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.91	0.91	0.91	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	239	190	231	342	73	331	166	1693	69	372	1833	820
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.04	0.52	0.52	0.08	0.55	0.55
Sat Flow, veh/h	1179	725	884	1300	279	1263	1681	3284	133	1681	3353	1500
Grp Volume(v), veh/h	149	0	91	37	0	199	82	477	496	184	1554	453
Grp Sat Flow(s),veh/h/ln	1179	0	1609	1300	0	1542	1681	1676	1741	1681	1676	1500
Q Serve(g_s), s	15.0	0.0	5.4	2.8	0.0	13.4	2.8	23.6	23.6	6.0	47.9	24.0
Cycle Q Clear(g_c), s	28.4	0.0	5.4	8.2	0.0	13.4	2.8	23.6	23.6	6.0	47.9	24.0
Prop In Lane	1.00		0.55	1.00		0.82	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	239	0	421	342	0	404	166	864	897	372	1833	820
V/C Ratio(X)	0.62	0.00	0.22	0.11	0.00	0.49	0.49	0.55	0.55	0.50	0.85	0.55
Avail Cap(c_a), veh/h	325	0	539	437	0	517	202	1042	1082	451	2275	1018
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.3	0.0	35.3	38.5	0.0	38.3	24.9	20.1	20.1	14.7	23.4	18.0
Incr Delay (d2), s/veh	2.7	0.0	0.3	0.1	0.0	0.9	2.2	0.6	0.5	1.0	2.7	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.8	0.0	4.4	1.8	0.0	9.7	2.8	16.4	17.0	5.3	30.5	15.3
LnGrp Delay(d),s/veh	53.0	0.0	35.6	38.7	0.0	39.2	27.1	20.6	20.6	15.7	26.1	18.6
LnGrp LOS	D		D	D		D	C	C	C	B	C	B
Approach Vol, veh/h		240			236			1055			2191	
Approach Delay, s/veh		46.4			39.1			21.1			23.7	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		38.0	11.4	72.9		38.0	15.3	69.0
Change Period (Y+Rc), s		6.0	6.0	6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		41.0	8.0	83.0		41.0	15.0	76.0
Max Q Clear Time (g_c+I1), s		16.4	5.8	50.9		31.4	9.0	26.6
Green Ext Time (p_c), s		1.2	0.0	16.0		0.6	0.2	6.1

Intersection Summary	
HCM 2010 Ctrl Delay	25.4
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	16	88	30	14	93	16	59	21	4	34	102	21
Future Vol, veh/h	16	88	30	14	93	16	59	21	4	34	102	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	98	33	16	103	18	66	23	4	38	113	23

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	121	0	0	131	0	0	363	304	115	308	311	112
Stage 1	-	-	-	-	-	-	151	151	-	144	144	-
Stage 2	-	-	-	-	-	-	212	153	-	164	167	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1467	-	-	1454	-	-	593	609	937	644	604	941
Stage 1	-	-	-	-	-	-	851	772	-	859	778	-
Stage 2	-	-	-	-	-	-	790	771	-	838	760	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1467	-	-	1454	-	-	484	594	937	610	589	941
Mov Cap-2 Maneuver	-	-	-	-	-	-	484	594	-	610	589	-
Stage 1	-	-	-	-	-	-	840	762	-	848	769	-
Stage 2	-	-	-	-	-	-	649	762	-	798	750	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.9	13.4	13
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	520	1467	-	-	1454	-	-	625
HCM Lane V/C Ratio	0.179	0.012	-	-	0.011	-	-	0.279
HCM Control Delay (s)	13.4	7.5	0	-	7.5	0	-	13
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.6	0	-	-	0	-	-	1.1

Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	39	19	31	19	30	87
Future Vol, veh/h	39	19	31	19	30	87
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	43	21	34	21	33	97

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	55	0	-	0	152	45
Stage 1	-	-	-	-	45	-
Stage 2	-	-	-	-	107	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1550	-	-	-	840	1025
Stage 1	-	-	-	-	977	-
Stage 2	-	-	-	-	917	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1550	-	-	-	816	1025
Mov Cap-2 Maneuver	-	-	-	-	816	-
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	917	-

Approach	EB	WB	SB
HCM Control Delay, s	5	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1550	-	-	-	962
HCM Lane V/C Ratio	0.028	-	-	-	0.135
HCM Control Delay (s)	7.4	0	-	-	9.3
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	14	87	0	26	231
Future Vol, veh/h	0	14	87	0	26	231
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	16	97	0	29	257

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	412	97	0	0	97	0
Stage 1	97	-	-	-	-	-
Stage 2	315	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	596	959	-	-	1496	-
Stage 1	927	-	-	-	-	-
Stage 2	740	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	582	959	-	-	1496	-
Mov Cap-2 Maneuver	582	-	-	-	-	-
Stage 1	906	-	-	-	-	-
Stage 2	740	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	959	1496	-
HCM Lane V/C Ratio	-	-	0.016	0.019	-
HCM Control Delay (s)	-	-	8.8	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0.1	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	22	0	0	4	0	16	0	49	4	26	165	40
Future Vol, veh/h	22	0	0	4	0	16	0	49	4	26	165	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	0	0	4	0	18	0	54	4	29	183	44

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	328	321	205	319	341	56	227	0	0	58	0	0
Stage 1	263	263	-	56	56	-	-	-	-	-	-	-
Stage 2	65	58	-	263	285	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	625	596	836	634	581	1011	1341	-	-	1546	-	-
Stage 1	742	691	-	956	848	-	-	-	-	-	-	-
Stage 2	946	847	-	742	676	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	604	583	836	623	568	1011	1341	-	-	1546	-	-
Mov Cap-2 Maneuver	604	583	-	623	568	-	-	-	-	-	-	-
Stage 1	742	676	-	956	848	-	-	-	-	-	-	-
Stage 2	929	847	-	726	661	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.2	9.1	0	0.8
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1341	-	-	604	899	1546	-	-
HCM Lane V/C Ratio	-	-	-	0.04	0.025	0.019	-	-
HCM Control Delay (s)	0	-	-	11.2	9.1	7.4	0	-
HCM Lane LOS	A	-	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	130	169	4	4	2
Future Vol, veh/h	4	130	169	4	4	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	144	188	4	4	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	192	0	-	0	342	190
Stage 1	-	-	-	-	190	-
Stage 2	-	-	-	-	152	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1381	-	-	-	654	852
Stage 1	-	-	-	-	842	-
Stage 2	-	-	-	-	876	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1381	-	-	-	652	852
Mov Cap-2 Maneuver	-	-	-	-	652	-
Stage 1	-	-	-	-	839	-
Stage 2	-	-	-	-	876	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1381	-	-	-	707
HCM Lane V/C Ratio	0.003	-	-	-	0.009
HCM Control Delay (s)	7.6	0	-	-	10.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	120	0	8	115	4	6	0	6	0	0	2
Future Vol, veh/h	6	120	0	8	115	4	6	0	6	0	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	133	0	9	128	4	7	0	7	0	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	132	0	0	133	0	0	296	297	133	299	295	130
Stage 1	-	-	-	-	-	-	147	147	-	148	148	-
Stage 2	-	-	-	-	-	-	149	150	-	151	147	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1453	-	-	1452	-	-	656	615	916	653	616	920
Stage 1	-	-	-	-	-	-	856	775	-	855	775	-
Stage 2	-	-	-	-	-	-	854	773	-	851	775	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1453	-	-	1452	-	-	648	608	916	643	609	920
Mov Cap-2 Maneuver	-	-	-	-	-	-	648	608	-	643	609	-
Stage 1	-	-	-	-	-	-	852	771	-	851	770	-
Stage 2	-	-	-	-	-	-	846	768	-	841	771	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.5	9.8	8.9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	759	1453	-	-	1452	-	-	920
HCM Lane V/C Ratio	0.018	0.005	-	-	0.006	-	-	0.002
HCM Control Delay (s)	9.8	7.5	0	-	7.5	0	-	8.9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	2.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	52	74	24	71	44	14
Future Vol, veh/h	52	74	24	71	44	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	58	82	27	79	49	16

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	140	0	232	99
Stage 1	-	-	-	-	99	-
Stage 2	-	-	-	-	133	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1443	-	756	957
Stage 1	-	-	-	-	925	-
Stage 2	-	-	-	-	893	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1443	-	741	957
Mov Cap-2 Maneuver	-	-	-	-	741	-
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	893	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.9	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	784	-	-	1443	-
HCM Lane V/C Ratio	0.082	-	-	0.018	-
HCM Control Delay (s)	10	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	10	81	2	26	131
Future Vol, veh/h	2	10	81	2	26	131
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	11	90	2	29	146

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	295	91	0	0	92	0
Stage 1	91	-	-	-	-	-
Stage 2	204	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	696	967	-	-	1503	-
Stage 1	933	-	-	-	-	-
Stage 2	830	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	681	967	-	-	1503	-
Mov Cap-2 Maneuver	681	-	-	-	-	-
Stage 1	913	-	-	-	-	-
Stage 2	830	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	1.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	904	1503	-
HCM Lane V/C Ratio	-	-	0.015	0.019	-
HCM Control Delay (s)	-	-	9	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0.1	-

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	711	275	211	73
Demand Flow Rate, veh/h	726	280	215	74
Vehicles Circulating, veh/h	85	216	714	295
Vehicles Exiting, veh/h	284	713	97	201
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	9.6	5.7	9.7	4.2
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	726	280	215	74
Cap Entry Lane, veh/h	1265	1107	666	1021
Entry HV Adj Factor	0.980	0.980	0.980	0.989
Flow Entry, veh/h	711	275	211	73
Cap Entry, veh/h	1240	1085	653	1011
V/C Ratio	0.574	0.253	0.323	0.072
Control Delay, s/veh	9.6	5.7	9.7	4.2
LOS	A	A	A	A
95th %tile Queue, veh	4	1	1	0

Intersection	
Intersection Delay, s/veh	8.0
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	373	603	124	268
Demand Flow Rate, veh/h	380	615	126	273
Vehicles Circulating, veh/h	238	116	355	630
Vehicles Exiting, veh/h	665	365	263	101
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.0	8.5	5.1	10.0
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	380	615	126	273
Cap Entry Lane, veh/h	1082	1226	961	726
Entry HV Adj Factor	0.981	0.981	0.981	0.981
Flow Entry, veh/h	373	603	124	268
Cap Entry, veh/h	1062	1203	942	712
V/C Ratio	0.351	0.502	0.131	0.376
Control Delay, s/veh	7.0	8.5	5.1	10.0
LOS	A	A	A	A
95th %tile Queue, veh	2	3	0	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	588	33	20	211	28	42	110	46	23	37	9
Future Volume (veh/h)	47	588	33	20	211	28	42	110	46	23	37	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	50	626	35	21	224	30	45	117	49	24	39	10
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	656	834	47	343	767	103	403	217	91	302	249	64
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1121	1656	93	771	1525	204	1351	1182	495	1215	1356	348
Grp Volume(v), veh/h	50	0	661	21	0	254	45	0	166	24	0	49
Grp Sat Flow(s),veh/h/ln	1121	0	1748	771	0	1729	1351	0	1677	1215	0	1703
Q Serve(g_s), s	1.0	0.0	11.6	0.9	0.0	3.3	1.1	0.0	3.4	0.7	0.0	0.9
Cycle Q Clear(g_c), s	4.3	0.0	11.6	12.4	0.0	3.3	2.0	0.0	3.4	4.1	0.0	0.9
Prop In Lane	1.00		0.05	1.00		0.12	1.00		0.30	1.00		0.20
Lane Grp Cap(c), veh/h	656	0	880	343	0	870	403	0	308	302	0	313
V/C Ratio(X)	0.08	0.00	0.75	0.06	0.00	0.29	0.11	0.00	0.54	0.08	0.00	0.16
Avail Cap(c_a), veh/h	3075	0	4653	2006	0	4600	1424	0	1575	1220	0	1600
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.8	0.0	7.6	12.6	0.0	5.5	14.0	0.0	14.2	16.1	0.0	13.2
Incr Delay (d2), s/veh	0.0	0.0	1.3	0.1	0.0	0.2	0.1	0.0	1.5	0.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	0.0	9.8	0.3	0.0	2.9	0.8	0.0	3.0	0.4	0.0	0.8
LnGrp Delay(d),s/veh	6.8	0.0	8.9	12.6	0.0	5.7	14.1	0.0	15.6	16.2	0.0	13.4
LnGrp LOS	A		A	B		A	B		B	B		B
Approach Vol, veh/h		711			275			211			73	
Approach Delay, s/veh		8.8			6.3			15.3			14.3	
Approach LOS		A			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		13.0		25.3		13.0		25.3
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s		36.0		102.0		36.0		102.0
Max Q Clear Time (g_c+I1), s		6.4		14.6		7.1		15.4
Green Ext Time (p_c), s		0.9		4.7		0.3		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	9.6
HCM 2010 LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	286	44	49	485	15	27	66	19	22	142	80
Future Volume (veh/h)	10	286	44	49	485	15	27	66	19	22	142	80
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	11	318	49	54	539	17	30	73	21	24	158	89
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	341	655	101	479	746	24	318	324	93	451	261	147
Arrive On Green	0.44	0.44	0.44	0.44	0.44	0.44	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	849	1494	230	1011	1702	54	1128	1318	379	1297	1061	598
Grp Volume(v), veh/h	11	0	367	54	0	556	30	0	94	24	0	247
Grp Sat Flow(s),veh/h/ln	849	0	1724	1011	0	1755	1128	0	1698	1297	0	1659
Q Serve(g_s), s	0.4	0.0	5.8	1.5	0.0	9.9	0.9	0.0	1.7	0.6	0.0	5.0
Cycle Q Clear(g_c), s	10.3	0.0	5.8	7.3	0.0	9.9	5.9	0.0	1.7	2.3	0.0	5.0
Prop In Lane	1.00		0.13	1.00		0.03	1.00		0.22	1.00		0.36
Lane Grp Cap(c), veh/h	341	0	756	479	0	770	318	0	418	451	0	408
V/C Ratio(X)	0.03	0.00	0.49	0.11	0.00	0.72	0.09	0.00	0.23	0.05	0.00	0.61
Avail Cap(c_a), veh/h	1955	0	4033	2400	0	4106	1493	0	2186	1802	0	2137
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.0	0.0	7.6	10.2	0.0	8.8	15.3	0.0	11.5	12.3	0.0	12.7
Incr Delay (d2), s/veh	0.0	0.0	0.5	0.1	0.0	1.3	0.1	0.0	0.3	0.0	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	0.0	5.0	0.8	0.0	8.5	0.5	0.0	1.5	0.4	0.0	4.4
LnGrp Delay(d),s/veh	13.0	0.0	8.1	10.3	0.0	10.1	15.5	0.0	11.7	12.4	0.0	14.2
LnGrp LOS	B		A	B		B	B		B	B		B
Approach Vol, veh/h		378			610			124			271	
Approach Delay, s/veh		8.2			10.1			12.6			14.0	
Approach LOS		A			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		15.4		22.7		15.4		22.7
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s		49.0		89.0		49.0		89.0
Max Q Clear Time (g_c+I1), s		8.9		13.3		8.0		12.9
Green Ext Time (p_c), s		0.6		2.2		1.4		3.8

Intersection Summary	
HCM 2010 Ctrl Delay	10.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	575	388	46	62	41	134	38	1939	181	46	579	53
Future Volume (veh/h)	575	388	46	62	41	134	38	1939	181	46	579	53
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1765	1765	1765	1765
Adj Flow Rate, veh/h	639	431	51	69	46	149	42	2154	201	50	629	58
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	411	487	58	94	295	251	425	1818	813	97	1824	816
Arrive On Green	0.11	0.31	0.31	0.17	0.17	0.17	0.03	0.54	0.54	0.03	0.54	0.54
Sat Flow, veh/h	1681	1549	183	909	1765	1500	1681	3353	1500	1681	3353	1500
Grp Volume(v), veh/h	639	0	482	69	46	149	42	2154	201	50	629	58
Grp Sat Flow(s),veh/h/ln	1681	0	1732	909	1765	1500	1681	1676	1500	1681	1676	1500
Q Serve(g_s), s	17.0	0.0	39.5	7.5	3.3	13.7	1.6	81.0	10.6	2.0	15.7	2.7
Cycle Q Clear(g_c), s	17.0	0.0	39.5	25.0	3.3	13.7	1.6	81.0	10.6	2.0	15.7	2.7
Prop In Lane	1.00		0.11	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	411	0	545	94	295	251	425	1818	813	97	1824	816
V/C Ratio(X)	1.55	0.00	0.88	0.73	0.16	0.59	0.10	1.18	0.25	0.51	0.34	0.07
Avail Cap(c_a), veh/h	411	0	545	94	295	251	434	1818	813	104	1824	816
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.2	0.0	48.6	72.2	53.2	57.5	15.0	34.2	18.1	36.1	19.1	16.2
Incr Delay (d2), s/veh	261.2	0.0	15.3	22.6	0.1	2.6	0.0	89.0	0.2	1.6	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	94.8	0.0	28.8	6.2	2.9	9.8	1.4	107.7	7.9	2.1	11.7	2.1
LnGrp Delay(d),s/veh	314.4	0.0	63.9	94.7	53.3	60.1	15.1	123.2	18.3	37.6	19.3	16.2
LnGrp LOS	F		E	F	D	E	B	F	B	D	B	B
Approach Vol, veh/h		1121			264			2397			737	
Approach Delay, s/veh		206.7			68.0			112.5			20.3	
Approach LOS		F			E			F			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4		6	7	8
Phs Duration (G+Y+Rc), s	22.0	31.0	9.1	87.2		53.0	9.4	87.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0		6.0	5.0	6.0
Max Green Setting (Gmax), s	17.0	25.0	5.0	81.0		47.0	5.0	81.0
Max Q Clear Time (g_c+I1), s	20.0	28.0	4.6	18.7		42.5	5.0	84.0
Green Ext Time (p_c), s	0.0	0.0	0.0	6.6		0.8	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	118.2
HCM 2010 LOS	F

Notes

Intersection	
Intersection Delay, s/veh	123.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	58	717	38	23	257	34	45	135	58	34	45	13
Future Vol, veh/h	58	717	38	23	257	34	45	135	58	34	45	13
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	62	763	40	24	273	36	48	144	62	36	48	14
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	208	18.8	17.4	13.5
HCM LOS	F	C	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	19%	7%	7%	37%
Vol Thru, %	57%	88%	82%	49%
Vol Right, %	24%	5%	11%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	238	813	314	92
LT Vol	45	58	23	34
Through Vol	135	717	257	45
RT Vol	58	38	34	13
Lane Flow Rate	253	865	334	98
Geometry Grp	1	1	1	1
Degree of Util (X)	0.477	1.401	0.578	0.202
Departure Headway (Hd)	7.642	5.831	6.859	8.423
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	476	623	531	429
Service Time	5.642	3.891	4.859	6.423
HCM Lane V/C Ratio	0.532	1.388	0.629	0.228
HCM Control Delay	17.4	208	18.8	13.5
HCM Lane LOS	C	F	C	B
HCM 95th-tile Q	2.5	38.9	3.6	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	375	63	67	33	34	172	21	1406	24	95	454	75
Future Volume (veh/h)	375	63	67	33	34	172	21	1406	24	95	454	75
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	417	70	74	37	38	191	23	1562	27	106	504	83
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	359	297	314	257	43	216	406	1462	25	161	1560	256
Arrive On Green	0.17	0.38	0.38	0.17	0.17	0.17	0.43	0.43	0.43	0.07	0.54	0.54
Sat Flow, veh/h	1681	787	831	1239	255	1283	825	3373	58	1681	2885	473
Grp Volume(v), veh/h	417	0	144	37	0	229	23	776	813	106	292	295
Grp Sat Flow(s),veh/h/ln	1681	0	1618	1239	0	1538	825	1676	1754	1681	1676	1681
Q Serve(g_s), s	25.0	0.0	9.0	3.8	0.0	21.5	2.4	64.0	64.0	4.8	14.3	14.4
Cycle Q Clear(g_c), s	25.0	0.0	9.0	3.8	0.0	21.5	2.4	64.0	64.0	4.8	14.3	14.4
Prop In Lane	1.00		0.51	1.00		0.83	1.00		0.03	1.00		0.28
Lane Grp Cap(c), veh/h	359	0	611	257	0	258	406	727	760	161	907	909
V/C Ratio(X)	1.16	0.00	0.24	0.14	0.00	0.89	0.06	1.07	1.07	0.66	0.32	0.32
Avail Cap(c_a), veh/h	359	0	635	275	0	281	406	727	760	163	908	911
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.8	0.0	31.4	52.7	0.0	60.1	24.4	41.8	41.8	33.3	18.9	18.9
Incr Delay (d2), s/veh	99.1	0.0	0.2	0.3	0.0	25.6	0.1	52.9	53.0	9.2	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	39.1	0.0	7.3	2.4	0.0	16.4	1.0	72.2	75.6	4.7	10.9	11.0
LnGrp Delay(d),s/veh	140.8	0.0	31.6	52.9	0.0	85.7	24.4	94.7	94.8	42.5	19.1	19.1
LnGrp LOS	F		C	D		F	C	F	F	D	B	B
Approach Vol, veh/h		561			266			1612			693	
Approach Delay, s/veh		112.8			81.1			93.8			22.7	
Approach LOS		F			F			F			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6	7	8
Phs Duration (G+Y+Rc), s	31.0	30.8		85.9		61.8	15.9	70.0
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s	25.0	27.0		80.0		58.0	10.0	64.0
Max Q Clear Time (g_c+I1), s	28.0	24.5		17.4		12.0	7.8	67.0
Green Ext Time (p_c), s	0.0	0.3		3.2		0.8	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	80.4
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	219	120	43	313	416	127	46	1042	64	117	2295	349
Future Volume (veh/h)	219	120	43	313	416	127	46	1042	64	117	2295	349
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1765	1765	1765	1765
Adj Flow Rate, veh/h	243	133	48	348	462	141	51	1158	71	130	2550	388
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	172	348	125	348	436	371	101	1589	711	235	1680	862
Arrive On Green	0.07	0.28	0.28	0.04	0.25	0.25	0.03	0.47	0.47	0.06	0.50	0.50
Sat Flow, veh/h	1681	1239	447	1681	1765	1500	1681	3353	1500	1681	3353	1500
Grp Volume(v), veh/h	243	0	181	348	462	141	51	1158	71	130	2550	388
Grp Sat Flow(s),veh/h/ln	1681	0	1686	1681	1765	1500	1681	1676	1500	1681	1676	1500
Q Serve(g_s), s	11.0	0.0	13.0	6.0	37.0	11.7	2.3	41.5	3.9	5.7	75.0	22.2
Cycle Q Clear(g_c), s	11.0	0.0	13.0	6.0	37.0	11.7	2.3	41.5	3.9	5.7	75.0	22.2
Prop In Lane	1.00		0.27	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	172	0	473	348	436	371	101	1589	711	235	1680	862
V/C Ratio(X)	1.42	0.00	0.38	1.00	1.06	0.38	0.51	0.73	0.10	0.55	1.52	0.45
Avail Cap(c_a), veh/h	172	0	473	348	436	371	104	1589	711	305	1680	862
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.1	0.0	43.4	57.4	56.3	46.8	35.7	31.6	21.7	25.6	37.3	18.3
Incr Delay (d2), s/veh	217.9	0.0	0.2	48.2	59.6	0.2	1.5	1.9	0.1	0.8	236.1	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	28.0	0.0	10.1	8.4	45.3	8.5	2.0	26.8	2.9	4.8	161.3	14.2
LnGrp Delay(d),s/veh	259.9	0.0	43.6	105.6	115.9	47.1	37.2	33.5	21.8	26.4	273.4	18.8
LnGrp LOS	F		D	F	F	D	D	C	C	C	F	B
Approach Vol, veh/h		424			951			1280			3068	
Approach Delay, s/veh		167.6			102.0			33.0			230.8	
Approach LOS		F			F			C			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	43.0	9.7	81.0	11.0	48.0	13.7	77.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	11.0	37.0	5.0	75.0	6.0	42.0	15.0	65.0
Max Q Clear Time (g_c+I1), s	14.0	40.0	5.3	78.0	9.0	16.0	8.7	44.5
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.5	0.1	10.4

Intersection Summary	
HCM 2010 Ctrl Delay	160.5
HCM 2010 LOS	F

Intersection	
Intersection Delay, s/veh	127
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	349	45	55	591	19	29	81	21	32	179	119
Future Vol, veh/h	12	349	45	55	591	19	29	81	21	32	179	119
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	384	49	60	649	21	32	89	23	35	197	131
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	49.8	241.8	18.2	33.6
HCM LOS	E	F	C	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	22%	3%	8%	10%
Vol Thru, %	62%	86%	89%	54%
Vol Right, %	16%	11%	3%	36%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	131	406	665	330
LT Vol	29	12	55	32
Through Vol	81	349	591	179
RT Vol	21	45	19	119
Lane Flow Rate	144	446	731	363
Geometry Grp	1	1	1	1
Degree of Util (X)	0.346	0.897	1.468	0.756
Departure Headway (Hd)	9.969	8.148	7.232	8.537
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	363	451	504	428
Service Time	7.969	6.148	5.317	6.537
HCM Lane V/C Ratio	0.397	0.989	1.45	0.848
HCM Control Delay	18.2	49.8	241.8	33.6
HCM Lane LOS	C	E	F	D
HCM 95th-tile Q	1.5	9.7	36.3	6.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	198	41	67	40	40	172	85	959	36	170	1611	470
Future Volume (veh/h)	198	41	67	40	40	172	85	959	36	170	1611	470
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	220	46	74	44	44	191	93	1054	40	185	1751	511
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.91	0.91	0.91	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	184	155	249	292	73	318	104	1846	70	341	1538	428
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.03	0.56	0.56	0.07	0.59	0.59
Sat Flow, veh/h	1141	610	981	1266	289	1254	1681	3294	125	1681	2593	721
Grp Volume(v), veh/h	220	0	120	44	0	235	93	536	558	185	1102	1160
Grp Sat Flow(s),veh/h/ln	1141	0	1592	1266	0	1543	1681	1676	1743	1681	1676	1637
Q Serve(g_s), s	17.9	0.0	9.1	4.4	0.0	20.1	4.0	31.0	31.0	6.7	89.0	89.0
Cycle Q Clear(g_c), s	38.0	0.0	9.1	13.5	0.0	20.1	4.0	31.0	31.0	6.7	89.0	89.0
Prop In Lane	1.00		0.62	1.00		0.81	1.00		0.07	1.00		0.44
Lane Grp Cap(c), veh/h	184	0	403	292	0	391	104	939	976	341	995	972
V/C Ratio(X)	1.20	0.00	0.30	0.15	0.00	0.60	0.89	0.57	0.57	0.54	1.11	1.19
Avail Cap(c_a), veh/h	184	0	403	292	0	391	104	939	976	431	995	972
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	68.4	0.0	45.2	50.7	0.0	49.3	39.5	21.3	21.3	16.6	30.5	30.5
Incr Delay (d2), s/veh	128.9	0.0	0.4	0.2	0.0	2.6	56.0	0.8	0.8	1.3	62.9	97.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	25.6	0.0	7.3	2.8	0.0	13.7	9.3	20.8	21.5	5.7	104.9	119.3
LnGrp Delay(d),s/veh	197.3	0.0	45.6	50.9	0.0	51.9	95.5	22.2	22.1	18.0	93.4	128.0
LnGrp LOS	F		D	D		D	F	C	C	B	F	F
Approach Vol, veh/h		340			279			1187			2447	
Approach Delay, s/veh		143.8			51.7			27.9			104.1	
Approach LOS		F			D			C			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		44.0	11.0	95.0		44.0	16.0	90.0
Change Period (Y+Rc), s		6.0	6.0	6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		38.0	5.0	89.0		38.0	18.0	76.0
Max Q Clear Time (g_c+I1), s		23.1	7.0	92.0		41.0	9.7	34.0
Green Ext Time (p_c), s		1.2	0.0	0.0		0.0	0.3	7.2

Intersection Summary	
HCM 2010 Ctrl Delay	82.6
HCM 2010 LOS	F

Intersection	
Intersection Delay, s/veh	18.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	136	17	15	312	98	22	201	42	67	71	20
Future Vol, veh/h	16	136	17	15	312	98	22	201	42	67	71	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	151	19	17	347	109	24	223	47	74	79	22
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.6	24.2	15.7	12.8
HCM LOS	B	C	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	9%	4%	42%
Vol Thru, %	76%	80%	73%	45%
Vol Right, %	16%	10%	23%	13%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	265	169	425	158
LT Vol	22	16	15	67
Through Vol	201	136	312	71
RT Vol	42	17	98	20
Lane Flow Rate	294	188	472	176
Geometry Grp	1	1	1	1
Degree of Util (X)	0.512	0.333	0.752	0.323
Departure Headway (Hd)	6.26	6.38	5.734	6.632
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	574	561	633	541
Service Time	4.308	4.434	3.775	4.689
HCM Lane V/C Ratio	0.512	0.335	0.746	0.325
HCM Control Delay	15.7	12.6	24.2	12.8
HCM Lane LOS	C	B	C	B
HCM 95th-tile Q	2.9	1.5	6.7	1.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	575	388	46	62	41	134	38	1939	181	46	579	53
Future Volume (veh/h)	575	388	46	62	41	134	38	1939	181	46	579	53
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1800	1765	1765	1765
Adj Flow Rate, veh/h	639	431	51	69	46	149	42	2154	201	50	629	58
Adj No. of Lanes	2	1	0	2	1	1	1	3	0	1	3	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	698	454	54	109	198	168	56	2216	205	56	2378	741
Arrive On Green	0.21	0.29	0.29	0.03	0.11	0.11	0.03	0.49	0.49	0.03	0.49	0.49
Sat Flow, veh/h	3261	1549	183	3261	1765	1500	1681	4489	414	1681	4818	1500
Grp Volume(v), veh/h	639	0	482	69	46	149	42	1534	821	50	629	58
Grp Sat Flow(s),veh/h/ln	1630	0	1732	1630	1765	1500	1681	1606	1692	1681	1606	1500
Q Serve(g_s), s	28.7	0.0	40.9	3.1	3.6	14.7	3.7	69.4	71.5	4.4	11.4	3.1
Cycle Q Clear(g_c), s	28.7	0.0	40.9	3.1	3.6	14.7	3.7	69.4	71.5	4.4	11.4	3.1
Prop In Lane	1.00		0.11	1.00		1.00	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	698	0	507	109	198	168	56	1586	835	56	2378	741
V/C Ratio(X)	0.92	0.00	0.95	0.63	0.23	0.89	0.75	0.97	0.98	0.89	0.26	0.08
Avail Cap(c_a), veh/h	740	0	509	109	198	168	56	1586	835	56	2378	741
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.6	0.0	51.9	71.5	60.7	65.6	71.8	36.8	37.3	72.2	22.1	20.0
Incr Delay (d2), s/veh	15.0	0.0	27.5	8.9	0.2	38.1	38.5	15.6	26.9	80.1	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	20.6	0.0	31.4	2.8	3.1	12.5	4.2	43.7	49.8	6.0	8.8	2.3
LnGrp Delay(d),s/veh	72.5	0.0	79.4	80.5	60.9	103.7	110.3	52.4	64.2	152.3	22.2	20.0
LnGrp LOS	E		E	F	E	F	F	D	E	F	C	C
Approach Vol, veh/h		1121			264			2397			737	
Approach Delay, s/veh		75.5			90.2			57.5			30.8	
Approach LOS		E			F			E			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	37.1	22.8	10.0	80.0	10.0	49.9	10.0	80.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	34.6	15.0	5.0	74.0	5.0	44.0	5.0	74.0
Max Q Clear Time (g_c+I1), s	31.7	17.7	6.7	14.4	6.1	43.9	7.4	74.5
Green Ext Time (p_c), s	0.4	0.0	0.0	6.6	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	59.5
HCM 2010 LOS	E

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	717	38	23	257	34	45	135	58	34	45	13
Future Volume (veh/h)	58	717	38	23	257	34	45	135	58	34	45	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	63	779	41	26	286	38	50	150	64	38	50	14
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	625	940	49	256	864	115	373	246	105	244	278	78
Arrive On Green	0.57	0.57	0.57	0.57	0.57	0.57	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	1052	1662	87	664	1526	203	1332	1175	501	1163	1327	372
Grp Volume(v), veh/h	63	0	820	26	0	324	50	0	214	38	0	64
Grp Sat Flow(s),veh/h/ln	1052	0	1749	664	0	1729	1332	0	1676	1163	0	1699
Q Serve(g_s), s	1.8	0.0	20.5	1.8	0.0	5.3	1.7	0.0	6.2	1.6	0.0	1.7
Cycle Q Clear(g_c), s	7.2	0.0	20.5	22.2	0.0	5.3	3.4	0.0	6.2	7.8	0.0	1.7
Prop In Lane	1.00		0.05	1.00		0.12	1.00		0.30	1.00		0.22
Lane Grp Cap(c), veh/h	625	0	990	256	0	978	373	0	351	244	0	356
V/C Ratio(X)	0.10	0.00	0.83	0.10	0.00	0.33	0.13	0.00	0.61	0.16	0.00	0.18
Avail Cap(c_a), veh/h	2059	0	3375	1162	0	3336	967	0	1099	763	0	1114
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.1	0.0	9.5	18.6	0.0	6.2	18.7	0.0	19.1	22.7	0.0	17.3
Incr Delay (d2), s/veh	0.1	0.0	1.9	0.2	0.0	0.2	0.2	0.0	1.7	0.3	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.0	0.0	15.3	0.6	0.0	4.6	1.2	0.0	5.4	1.0	0.0	1.4
LnGrp Delay(d),s/veh	8.2	0.0	11.3	18.7	0.0	6.4	18.9	0.0	20.8	23.0	0.0	17.6
LnGrp LOS	A		B	B		A	B		C	C		B
Approach Vol, veh/h		883			350			264			102	
Approach Delay, s/veh		11.1			7.3			20.5			19.6	
Approach LOS		B			A			C			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		17.2		36.2		17.2		36.2
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s		35.0		103.0		35.0		103.0
Max Q Clear Time (g_c+I1), s		9.2		23.5		10.8		25.2
Green Ext Time (p_c), s		1.2		6.8		0.4		2.1

Intersection Summary		
HCM 2010 Ctrl Delay		12.4
HCM 2010 LOS		B

Intersection	
Intersection Delay, s/veh	81.8
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	307	447	9	2	250	93	16	65	9	40	27	42
Future Vol, veh/h	307	447	9	2	250	93	16	65	9	40	27	42
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	330	481	10	2	269	100	17	70	10	43	29	45
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	129.7	16.1	12.1	12.2
HCM LOS	F	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	40%	1%	37%
Vol Thru, %	72%	59%	72%	25%
Vol Right, %	10%	1%	27%	39%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	90	763	345	109
LT Vol	16	307	2	40
Through Vol	65	447	250	27
RT Vol	9	9	93	42
Lane Flow Rate	97	820	371	117
Geometry Grp	1	1	1	1
Degree of Util (X)	0.185	1.216	0.566	0.218
Departure Headway (Hd)	7.422	5.337	5.806	7.21
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	487	681	627	502
Service Time	5.422	3.364	3.806	5.21
HCM Lane V/C Ratio	0.199	1.204	0.592	0.233
HCM Control Delay	12.1	129.7	16.1	12.2
HCM Lane LOS	B	F	C	B
HCM 95th-tile Q	0.7	28.8	3.5	0.8



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	375	63	67	33	34	172	21	1406	24	95	454	75
Future Volume (veh/h)	375	63	67	33	34	172	21	1406	24	95	454	75
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1765
Adj Flow Rate, veh/h	417	70	74	37	38	191	23	1562	27	106	504	83
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	370	302	320	257	43	216	394	1551	27	117	1599	715
Arrive On Green	0.18	0.38	0.38	0.17	0.17	0.17	0.02	0.46	0.46	0.04	0.48	0.48
Sat Flow, veh/h	1681	787	831	1239	255	1283	1681	3373	58	1681	3353	1500
Grp Volume(v), veh/h	417	0	144	37	0	229	23	776	813	106	504	83
Grp Sat Flow(s),veh/h/ln	1681	0	1618	1239	0	1538	1681	1676	1754	1681	1676	1500
Q Serve(g_s), s	26.0	0.0	8.9	3.8	0.0	21.5	1.1	68.0	68.0	5.0	13.7	4.5
Cycle Q Clear(g_c), s	26.0	0.0	8.9	3.8	0.0	21.5	1.1	68.0	68.0	5.0	13.7	4.5
Prop In Lane	1.00		0.51	1.00		0.83	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	370	0	622	257	0	258	394	771	807	117	1599	715
V/C Ratio(X)	1.13	0.00	0.23	0.14	0.00	0.89	0.06	1.01	1.01	0.91	0.32	0.12
Avail Cap(c_a), veh/h	370	0	646	275	0	281	411	771	807	117	1599	715
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.2	0.0	30.7	52.7	0.0	60.1	20.9	39.9	39.9	35.6	23.8	21.4
Incr Delay (d2), s/veh	85.8	0.0	0.2	0.3	0.0	25.7	0.1	33.8	33.7	55.2	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	37.9	0.0	7.2	2.4	0.0	16.4	0.9	69.7	72.9	10.1	10.4	3.4
LnGrp Delay(d),s/veh	127.0	0.0	30.9	53.0	0.0	85.8	21.0	73.7	73.6	90.8	23.9	21.5
LnGrp LOS	F		C	D		F	C	F	F	F	C	C
Approach Vol, veh/h		561			266			1612			693	
Approach Delay, s/veh		102.4			81.2			72.9			33.8	
Approach LOS		F			F			E			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4		6	7	8
Phs Duration (G+Y+Rc), s	32.0	30.8	8.5	76.5		62.8	11.0	74.0
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0		6.0	5.0	6.0
Max Green Setting (Gmax), s	26.0	27.0	4.0	69.0		59.0	6.0	68.0
Max Q Clear Time (g_c+I1), s	29.0	24.5	4.1	16.7		11.9	8.0	71.0
Green Ext Time (p_c), s	0.0	0.3	0.0	3.4		0.8	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	70.2
HCM 2010 LOS	E

Notes

Intersection	
Int Delay, s/veh	6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	58	131	33	10	64	26	22	71	7	17	47	25
Future Vol, veh/h	58	131	33	10	64	26	22	71	7	17	47	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	64	146	37	11	71	29	24	79	8	19	52	28

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	100	0	0	183	0	0	441	415	165	444	419	86
Stage 1	-	-	-	-	-	-	293	293	-	108	108	-
Stage 2	-	-	-	-	-	-	148	122	-	336	311	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1493	-	-	1392	-	-	527	528	879	524	525	973
Stage 1	-	-	-	-	-	-	715	670	-	897	806	-
Stage 2	-	-	-	-	-	-	855	795	-	678	658	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1493	-	-	1392	-	-	451	498	879	438	496	973
Mov Cap-2 Maneuver	-	-	-	-	-	-	451	498	-	438	496	-
Stage 1	-	-	-	-	-	-	681	638	-	854	800	-
Stage 2	-	-	-	-	-	-	770	789	-	561	626	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2	0.8	14.2	12.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	502	1493	-	-	1392	-	-	559
HCM Lane V/C Ratio	0.221	0.043	-	-	0.008	-	-	0.177
HCM Control Delay (s)	14.2	7.5	0	-	7.6	0	-	12.8
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.8	0.1	-	-	0	-	-	0.6

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	64	39	6	41	24	22
Future Vol, veh/h	64	39	6	41	24	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	71	43	7	46	27	24

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	53	0	-	0	215	30
Stage 1	-	-	-	-	30	-
Stage 2	-	-	-	-	185	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1553	-	-	-	773	1044
Stage 1	-	-	-	-	993	-
Stage 2	-	-	-	-	847	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1553	-	-	-	737	1044
Mov Cap-2 Maneuver	-	-	-	-	737	-
Stage 1	-	-	-	-	946	-
Stage 2	-	-	-	-	847	-

Approach	EB	WB	SB
HCM Control Delay, s	4.6	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1553	-	-	-	858
HCM Lane V/C Ratio	0.046	-	-	-	0.06
HCM Control Delay (s)	7.4	0	-	-	9.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	22	211	0	8	111
Future Vol, veh/h	0	22	211	0	8	111
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	24	234	0	9	123

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	375	234	0	0	234	0
Stage 1	234	-	-	-	-	-
Stage 2	141	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	626	805	-	-	1333	-
Stage 1	805	-	-	-	-	-
Stage 2	886	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	622	805	-	-	1333	-
Mov Cap-2 Maneuver	622	-	-	-	-	-
Stage 1	799	-	-	-	-	-
Stage 2	886	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	0.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	805	1333	-
HCM Lane V/C Ratio	-	-	0.03	0.007	-
HCM Control Delay (s)	-	-	9.6	7.7	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	36	0	0	6	0	22	0	153	2	8	91	12
Future Vol, veh/h	36	0	0	6	0	22	0	153	2	8	91	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	40	0	0	7	0	24	0	170	2	9	101	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	309	298	108	297	303	171	114	0	0	172	0	0
Stage 1	126	126	-	171	171	-	-	-	-	-	-	-
Stage 2	183	172	-	126	132	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	643	614	946	655	610	873	1475	-	-	1405	-	-
Stage 1	878	792	-	831	757	-	-	-	-	-	-	-
Stage 2	819	756	-	878	787	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	622	610	946	652	606	873	1475	-	-	1405	-	-
Mov Cap-2 Maneuver	622	610	-	652	606	-	-	-	-	-	-	-
Stage 1	878	786	-	831	757	-	-	-	-	-	-	-
Stage 2	796	756	-	872	781	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.2	9.6	0	0.5
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1475	-	-	622	814	1405	-	-
HCM Lane V/C Ratio	-	-	-	0.064	0.038	0.006	-	-
HCM Control Delay (s)	0	-	-	11.2	9.6	7.6	0	-
HCM Lane LOS	A	-	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	2	216	112	0	6	4
Future Vol, veh/h	2	216	112	0	6	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	240	124	0	7	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	124	0	-	0	368	124
Stage 1	-	-	-	-	124	-
Stage 2	-	-	-	-	244	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1463	-	-	-	632	927
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	797	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1463	-	-	-	631	927
Mov Cap-2 Maneuver	-	-	-	-	631	-
Stage 1	-	-	-	-	900	-
Stage 2	-	-	-	-	797	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1463	-	-	-	723
HCM Lane V/C Ratio	0.002	-	-	-	0.015
HCM Control Delay (s)	7.5	0	-	-	10.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	2	153	0	2	86	0	10	0	8	0	0	4
Future Vol, veh/h	2	153	0	2	86	0	10	0	8	0	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	170	0	2	96	0	11	0	9	0	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	96	0	0	170	0	0	276	274	170	279	274	96
Stage 1	-	-	-	-	-	-	174	174	-	100	100	-
Stage 2	-	-	-	-	-	-	102	100	-	179	174	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1498	-	-	1407	-	-	676	633	874	673	633	960
Stage 1	-	-	-	-	-	-	828	755	-	906	812	-
Stage 2	-	-	-	-	-	-	904	812	-	823	755	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1498	-	-	1407	-	-	671	631	874	665	631	960
Mov Cap-2 Maneuver	-	-	-	-	-	-	671	631	-	665	631	-
Stage 1	-	-	-	-	-	-	827	754	-	905	810	-
Stage 2	-	-	-	-	-	-	898	810	-	814	754	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	9.9	8.8
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	748	1498	-	-	1407	-	-	960
HCM Lane V/C Ratio	0.027	0.001	-	-	0.002	-	-	0.005
HCM Control Delay (s)	9.9	7.4	0	-	7.6	0	-	8.8
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	3.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	139	22	8	20	68	22
Future Vol, veh/h	139	22	8	20	68	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	154	24	9	22	76	24

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	178	0	206	166
Stage 1	-	-	-	-	166	-
Stage 2	-	-	-	-	40	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1398	-	782	878
Stage 1	-	-	-	-	863	-
Stage 2	-	-	-	-	982	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1398	-	777	878
Mov Cap-2 Maneuver	-	-	-	-	777	-
Stage 1	-	-	-	-	857	-
Stage 2	-	-	-	-	982	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.2	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	799	-	-	1398	-
HCM Lane V/C Ratio	0.125	-	-	0.006	-
HCM Control Delay (s)	10.1	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	12	96	0	8	89
Future Vol, veh/h	2	12	96	0	8	89
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	13	107	0	9	99

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	224	107	0	0	107	0
Stage 1	107	-	-	-	-	-
Stage 2	117	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	764	947	-	-	1484	-
Stage 1	917	-	-	-	-	-
Stage 2	908	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	759	947	-	-	1484	-
Mov Cap-2 Maneuver	759	-	-	-	-	-
Stage 1	911	-	-	-	-	-
Stage 2	908	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9	0	0.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	915	1484	-
HCM Lane V/C Ratio	-	-	0.017	0.006	-
HCM Control Delay (s)	-	-	9	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Intersection Delay, s/veh	107.9
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	353	31	43	346	83	18	94	23	195	270	34
Future Vol, veh/h	12	353	31	43	346	83	18	94	23	195	270	34
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	392	34	48	384	92	20	104	26	217	300	38
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	70.2	119.7	20.6	150.2
HCM LOS	F	F	C	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	3%	9%	39%
Vol Thru, %	70%	89%	73%	54%
Vol Right, %	17%	8%	18%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	135	396	472	499
LT Vol	18	12	43	195
Through Vol	94	353	346	270
RT Vol	23	31	83	34
Lane Flow Rate	150	440	524	554
Geometry Grp	1	1	1	1
Degree of Util (X)	0.394	0.977	1.148	1.233
Departure Headway (Hd)	10.739	9.051	8.66	8.481
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	338	405	425	432
Service Time	8.739	7.051	6.66	6.481
HCM Lane V/C Ratio	0.444	1.086	1.233	1.282
HCM Control Delay	20.6	70.2	119.7	150.2
HCM Lane LOS	C	F	F	F
HCM 95th-tile Q	1.8	11.5	17.8	21.5



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	219	120	43	313	416	127	46	1042	64	117	2295	349
Future Volume (veh/h)	219	120	43	313	416	127	46	1042	64	117	2295	349
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1800	1765	1765	1765
Adj Flow Rate, veh/h	243	133	48	348	462	141	51	1158	71	130	2550	388
Adj No. of Lanes	2	1	0	2	1	1	1	3	0	1	3	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	242	329	119	286	492	419	57	1869	115	161	2240	809
Arrive On Green	0.07	0.27	0.27	0.09	0.28	0.28	0.03	0.40	0.40	0.10	0.46	0.46
Sat Flow, veh/h	3261	1239	447	3261	1765	1500	1681	4642	284	1681	4818	1500
Grp Volume(v), veh/h	243	0	181	348	462	141	51	801	428	130	2550	388
Grp Sat Flow(s),veh/h/ln	1630	0	1686	1630	1765	1500	1681	1606	1715	1681	1606	1500
Q Serve(g_s), s	11.0	0.0	13.1	13.0	37.9	11.1	4.5	29.5	29.5	11.2	69.0	23.9
Cycle Q Clear(g_c), s	11.0	0.0	13.1	13.0	37.9	11.1	4.5	29.5	29.5	11.2	69.0	23.9
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.17	1.00		1.00
Lane Grp Cap(c), veh/h	242	0	448	286	492	419	57	1293	690	161	2240	809
V/C Ratio(X)	1.01	0.00	0.40	1.22	0.94	0.34	0.90	0.62	0.62	0.81	1.14	0.48
Avail Cap(c_a), veh/h	242	0	466	286	511	435	57	1293	690	226	2240	809
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	68.7	0.0	44.8	67.7	52.3	42.6	71.5	35.3	35.3	65.7	39.7	21.3
Incr Delay (d2), s/veh	59.3	0.0	0.2	125.8	24.4	0.2	82.7	1.1	2.0	9.1	68.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.5	0.0	10.2	19.5	29.5	8.1	6.1	19.2	20.5	9.5	80.4	15.2
LnGrp Delay(d),s/veh	128.0	0.0	45.1	193.5	76.6	42.8	154.1	36.3	37.3	74.8	108.0	21.9
LnGrp LOS	F		D	F	E	D	F	D	D	E	F	C
Approach Vol, veh/h		424			951			1280			3068	
Approach Delay, s/veh		92.6			114.4			41.3			95.7	
Approach LOS		F			F			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	47.4	10.0	75.0	18.0	45.4	19.2	65.8
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	11.0	43.0	5.0	69.0	13.0	41.0	20.0	54.0
Max Q Clear Time (g_c+I1), s	11.0	40.9	7.5	72.0	16.0	16.1	14.2	32.5
Green Ext Time (p_c), s	0.0	0.5	0.0	0.0	0.0	0.5	0.1	10.3

Intersection Summary	
HCM 2010 Ctrl Delay	86.4
HCM 2010 LOS	F



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	349	45	55	591	19	29	81	21	32	179	119
Future Volume (veh/h)	12	349	45	55	591	19	29	81	21	32	179	119
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	13	388	50	61	657	21	32	90	23	36	199	132
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	261	740	95	433	822	26	247	382	98	435	279	185
Arrive On Green	0.48	0.48	0.48	0.48	0.48	0.48	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	758	1532	197	947	1701	54	1045	1357	347	1275	991	657
Grp Volume(v), veh/h	13	0	438	61	0	678	32	0	113	36	0	331
Grp Sat Flow(s),veh/h/ln	758	0	1730	947	0	1755	1045	0	1704	1275	0	1649
Q Serve(g_s), s	0.7	0.0	8.9	2.4	0.0	16.6	1.4	0.0	2.6	1.1	0.0	9.2
Cycle Q Clear(g_c), s	17.3	0.0	8.9	11.4	0.0	16.6	10.6	0.0	2.6	3.7	0.0	9.2
Prop In Lane	1.00		0.11	1.00		0.03	1.00		0.20	1.00		0.40
Lane Grp Cap(c), veh/h	261	0	836	433	0	848	247	0	479	435	0	464
V/C Ratio(X)	0.05	0.00	0.52	0.14	0.00	0.80	0.13	0.00	0.24	0.08	0.00	0.71
Avail Cap(c_a), veh/h	1190	0	2954	1592	0	2997	998	0	1705	1352	0	1650
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.4	0.0	9.1	13.0	0.0	11.1	21.3	0.0	14.1	15.5	0.0	16.5
Incr Delay (d2), s/veh	0.1	0.0	0.5	0.1	0.0	1.8	0.2	0.0	0.3	0.1	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	0.0	7.8	1.2	0.0	13.1	0.8	0.0	2.3	0.7	0.0	7.8
LnGrp Delay(d),s/veh	18.5	0.0	9.6	13.2	0.0	12.9	21.5	0.0	14.3	15.6	0.0	18.5
LnGrp LOS	B		A	B		B	C		B	B		B
Approach Vol, veh/h		451			739			145			367	
Approach Delay, s/veh		9.9			12.9			15.9			18.2	
Approach LOS		A			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		20.3		30.6		20.3		30.6
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s		51.0		87.0		51.0		87.0
Max Q Clear Time (g_c+I1), s		13.6		20.3		12.2		19.6
Green Ext Time (p_c), s		0.7		2.7		2.0		5.0

Intersection Summary	
HCM 2010 Ctrl Delay	13.5
HCM 2010 LOS	B

Intersection	
Intersection Delay, s/veh	38.7
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	75	310	24	15	423	50	9	46	9	78	88	243
Future Vol, veh/h	75	310	24	15	423	50	9	46	9	78	88	243
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	77	320	25	15	436	52	9	47	9	80	91	251
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	34	51.5	13.3	32
HCM LOS	D	F	B	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	18%	3%	19%
Vol Thru, %	72%	76%	87%	22%
Vol Right, %	14%	6%	10%	59%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	64	409	488	409
LT Vol	9	75	15	78
Through Vol	46	310	423	88
RT Vol	9	24	50	243
Lane Flow Rate	66	422	503	422
Geometry Grp	1	1	1	1
Degree of Util (X)	0.157	0.815	0.94	0.8
Departure Headway (Hd)	8.561	6.956	6.729	6.833
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	417	519	538	531
Service Time	6.653	5.014	4.785	4.884
HCM Lane V/C Ratio	0.158	0.813	0.935	0.795
HCM Control Delay	13.3	34	51.5	32
HCM Lane LOS	B	D	F	D
HCM 95th-tile Q	0.6	7.9	11.8	7.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	198	41	67	40	40	172	85	959	36	170	1611	470
Future Volume (veh/h)	198	41	67	40	40	172	85	959	36	170	1611	470
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1765
Adj Flow Rate, veh/h	220	46	74	44	44	191	93	1054	40	185	1751	511
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.91	0.91	0.91	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	257	187	302	366	89	385	110	1648	63	306	1808	809
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.03	0.50	0.50	0.07	0.54	0.54
Sat Flow, veh/h	1141	610	981	1266	289	1254	1681	3294	125	1681	3353	1500
Grp Volume(v), veh/h	220	0	120	44	0	235	93	536	558	185	1751	511
Grp Sat Flow(s),veh/h/ln	1141	0	1592	1266	0	1543	1681	1676	1743	1681	1676	1500
Q Serve(g_s), s	27.4	0.0	8.5	4.0	0.0	18.6	4.1	35.2	35.2	7.6	75.4	35.7
Cycle Q Clear(g_c), s	46.0	0.0	8.5	12.5	0.0	18.6	4.1	35.2	35.2	7.6	75.4	35.7
Prop In Lane	1.00		0.62	1.00		0.81	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	257	0	489	366	0	474	110	839	872	306	1808	809
V/C Ratio(X)	0.86	0.00	0.25	0.12	0.00	0.50	0.84	0.64	0.64	0.61	0.97	0.63
Avail Cap(c_a), veh/h	257	0	489	366	0	474	110	839	872	375	1814	811
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.9	0.0	38.9	43.5	0.0	42.4	35.8	27.5	27.5	21.6	33.3	24.1
Incr Delay (d2), s/veh	23.9	0.0	0.3	0.1	0.0	0.8	42.0	1.6	1.6	1.9	14.4	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	16.1	0.0	6.8	2.6	0.0	12.7	5.8	23.3	24.1	6.6	48.6	21.5
LnGrp Delay(d),s/veh	85.8	0.0	39.1	43.7	0.0	43.2	77.9	29.1	29.1	23.5	47.7	25.7
LnGrp LOS	F		D	D		D	E	C	C	C	D	C
Approach Vol, veh/h		340			279			1187			2447	
Approach Delay, s/veh		69.3			43.3			32.9			41.3	
Approach LOS		E			D			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		52.0	11.0	86.7		52.0	16.8	80.9
Change Period (Y+Rc), s		6.0	6.0	6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		46.0	5.0	81.0		46.0	17.0	69.0
Max Q Clear Time (g_c+I1), s		21.6	7.1	78.4		49.0	10.6	38.2
Green Ext Time (p_c), s		1.4	0.0	2.3		0.0	0.2	6.9

Intersection Summary	
HCM 2010 Ctrl Delay	41.3
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	9.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	23	100	36	18	113	16	84	28	4	37	147	31
Future Vol, veh/h	23	100	36	18	113	16	84	28	4	37	147	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	111	40	20	126	18	93	31	4	41	163	34

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	144	0	0	151	0	0	457	367	131	376	378	135
Stage 1	-	-	-	-	-	-	183	183	-	175	175	-
Stage 2	-	-	-	-	-	-	274	184	-	201	203	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1438	-	-	1430	-	-	514	562	919	581	554	914
Stage 1	-	-	-	-	-	-	819	748	-	827	754	-
Stage 2	-	-	-	-	-	-	732	747	-	801	733	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1438	-	-	1430	-	-	368	542	919	539	535	914
Mov Cap-2 Maneuver	-	-	-	-	-	-	368	542	-	539	535	-
Stage 1	-	-	-	-	-	-	803	733	-	810	743	-
Stage 2	-	-	-	-	-	-	541	736	-	748	718	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0.9	17.8	15.8
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	408	1438	-	-	1430	-	-	570
HCM Lane V/C Ratio	0.316	0.018	-	-	0.014	-	-	0.419
HCM Control Delay (s)	17.8	7.5	0	-	7.6	0	-	15.8
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	1.3	0.1	-	-	0	-	-	2.1

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	46	24	41	29	36	97
Future Vol, veh/h	46	24	41	29	36	97
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	51	27	46	32	40	108

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	78	0	-	0	191	62
Stage 1	-	-	-	-	62	-
Stage 2	-	-	-	-	129	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1520	-	-	-	798	1003
Stage 1	-	-	-	-	961	-
Stage 2	-	-	-	-	897	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1520	-	-	-	771	1003
Mov Cap-2 Maneuver	-	-	-	-	771	-
Stage 1	-	-	-	-	928	-
Stage 2	-	-	-	-	897	-

Approach	EB	WB	SB
HCM Control Delay, s	4.9	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1520	-	-	-	927
HCM Lane V/C Ratio	0.034	-	-	-	0.159
HCM Control Delay (s)	7.5	0	-	-	9.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	14	101	0	26	293
Future Vol, veh/h	0	14	101	0	26	293
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	16	112	0	29	326

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	496	112	0	0	112	0
Stage 1	112	-	-	-	-	-
Stage 2	384	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	533	941	-	-	1478	-
Stage 1	913	-	-	-	-	-
Stage 2	688	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	520	941	-	-	1478	-
Mov Cap-2 Maneuver	520	-	-	-	-	-
Stage 1	891	-	-	-	-	-
Stage 2	688	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	0.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	941	1478	-
HCM Lane V/C Ratio	-	-	0.017	0.02	-
HCM Control Delay (s)	-	-	8.9	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	22	0	0	4	0	16	0	63	4	26	227	40
Future Vol, veh/h	22	0	0	4	0	16	0	63	4	26	227	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	0	0	4	0	18	0	70	4	29	252	44

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	413	406	274	404	426	72	296	0	0	74	0	0
Stage 1	332	332	-	72	72	-	-	-	-	-	-	-
Stage 2	81	74	-	332	354	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	549	534	765	557	520	990	1265	-	-	1526	-	-
Stage 1	681	644	-	938	835	-	-	-	-	-	-	-
Stage 2	927	833	-	681	630	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	530	522	765	547	508	990	1265	-	-	1526	-	-
Mov Cap-2 Maneuver	530	522	-	547	508	-	-	-	-	-	-	-
Stage 1	681	629	-	938	835	-	-	-	-	-	-	-
Stage 2	910	833	-	665	616	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.1	9.3	0	0.7
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1265	-	-	530	852	1526	-	-
HCM Lane V/C Ratio	-	-	-	0.046	0.026	0.019	-	-
HCM Control Delay (s)	0	-	-	12.1	9.3	7.4	0	-
HCM Lane LOS	A	-	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	155	223	4	4	2
Future Vol, veh/h	4	155	223	4	4	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	172	248	4	4	2

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	252	0	-	0	430	250
Stage 1	-	-	-	-	250	-
Stage 2	-	-	-	-	180	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1313	-	-	-	582	789
Stage 1	-	-	-	-	792	-
Stage 2	-	-	-	-	851	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1313	-	-	-	580	789
Mov Cap-2 Maneuver	-	-	-	-	580	-
Stage 1	-	-	-	-	790	-
Stage 2	-	-	-	-	851	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1313	-	-	-	636
HCM Lane V/C Ratio	0.003	-	-	-	0.01
HCM Control Delay (s)	7.8	0	-	-	10.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	6	135	0	8	139	4	6	0	6	0	0	2
Future Vol, veh/h	6	135	0	8	139	4	6	0	6	0	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	150	0	9	154	4	7	0	7	0	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	158	0	0	150	0	0	339	340	150	342	338	156
Stage 1	-	-	-	-	-	-	164	164	-	174	174	-
Stage 2	-	-	-	-	-	-	175	176	-	168	164	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1422	-	-	1431	-	-	615	582	896	612	583	890
Stage 1	-	-	-	-	-	-	838	762	-	828	755	-
Stage 2	-	-	-	-	-	-	827	753	-	834	762	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1422	-	-	1431	-	-	608	575	896	602	576	890
Mov Cap-2 Maneuver	-	-	-	-	-	-	608	575	-	602	576	-
Stage 1	-	-	-	-	-	-	834	758	-	824	750	-
Stage 2	-	-	-	-	-	-	819	748	-	824	758	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.4	10.1	9.1
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	724	1422	-	-	1431	-	-	890
HCM Lane V/C Ratio	0.018	0.005	-	-	0.006	-	-	0.002
HCM Control Delay (s)	10.1	7.5	0	-	7.5	0	-	9.1
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	67	74	24	107	44	14
Future Vol, veh/h	67	74	24	107	44	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	74	82	27	119	49	16

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	156	0	288	115
Stage 1	-	-	-	-	115	-
Stage 2	-	-	-	-	173	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1424	-	702	937
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	857	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1424	-	688	937
Mov Cap-2 Maneuver	-	-	-	-	688	-
Stage 1	-	-	-	-	892	-
Stage 2	-	-	-	-	857	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	735	-	-	1424	-
HCM Lane V/C Ratio	0.088	-	-	0.019	-
HCM Control Delay (s)	10.4	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	10	114	2	26	191
Future Vol, veh/h	2	10	114	2	26	191
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	11	127	2	29	212

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	398	128	0	0	129	0
Stage 1	128	-	-	-	-	-
Stage 2	270	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	607	922	-	-	1457	-
Stage 1	898	-	-	-	-	-
Stage 2	775	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	593	922	-	-	1457	-
Mov Cap-2 Maneuver	593	-	-	-	-	-
Stage 1	877	-	-	-	-	-
Stage 2	775	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.3	0	0.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	844	1457	-
HCM Lane V/C Ratio	-	-	0.016	0.02	-
HCM Control Delay (s)	-	-	9.3	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0.1	-

Intersection	
Intersection Delay, s/veh	12.4
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	883	350	264	102
Demand Flow Rate, veh/h	901	358	269	104
Vehicles Circulating, veh/h	117	268	898	370
Vehicles Exiting, veh/h	357	899	120	256
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	14.5	7.0	15.2	4.9
Approach LOS	B	A	C	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	901	358	269	104
Cap Entry Lane, veh/h	1225	1050	552	946
Entry HV Adj Factor	0.980	0.978	0.981	0.981
Flow Entry, veh/h	883	350	264	102
Cap Entry, veh/h	1201	1027	542	928
V/C Ratio	0.736	0.341	0.487	0.110
Control Delay, s/veh	14.5	7.0	15.2	4.9
LOS	B	A	C	A
95th %tile Queue, veh	7	2	3	0

Intersection	
Intersection Delay, s/veh	11.1
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	446	730	144	363
Demand Flow Rate, veh/h	455	744	147	371
Vehicles Circulating, veh/h	298	137	441	756
Vehicles Exiting, veh/h	829	451	312	125
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	8.7	11.0	5.8	16.4
Approach LOS	A	B	A	C

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	455	744	147	371
Cap Entry Lane, veh/h	1018	1200	880	638
Entry HV Adj Factor	0.981	0.981	0.981	0.979
Flow Entry, veh/h	446	730	144	363
Cap Entry, veh/h	999	1177	863	625
V/C Ratio	0.447	0.620	0.167	0.581
Control Delay, s/veh	8.7	11.0	5.8	16.4
LOS	A	B	A	C
95th %tile Queue, veh	2	5	1	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	136	17	15	312	98	22	201	42	67	71	20
Future Volume (veh/h)	16	136	17	15	312	98	22	201	42	67	71	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	18	151	19	17	347	109	24	223	47	74	79	22
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	339	590	74	576	495	155	515	416	88	372	391	109
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.29	0.29	0.29	0.29	0.29	0.29
Sat Flow, veh/h	931	1537	193	1210	1289	405	1288	1414	298	1105	1329	370
Grp Volume(v), veh/h	18	0	170	17	0	456	24	0	270	74	0	101
Grp Sat Flow(s),veh/h/ln	931	0	1731	1210	0	1693	1288	0	1712	1105	0	1699
Q Serve(g_s), s	0.6	0.0	2.5	0.4	0.0	8.5	0.5	0.0	4.9	2.2	0.0	1.7
Cycle Q Clear(g_c), s	9.1	0.0	2.5	2.9	0.0	8.5	2.2	0.0	4.9	7.2	0.0	1.7
Prop In Lane	1.00		0.11	1.00		0.24	1.00		0.17	1.00		0.22
Lane Grp Cap(c), veh/h	339	0	664	576	0	650	515	0	504	372	0	500
V/C Ratio(X)	0.05	0.00	0.26	0.03	0.00	0.70	0.05	0.00	0.54	0.20	0.00	0.20
Avail Cap(c_a), veh/h	2055	0	3853	2806	0	3770	2036	0	2526	1677	0	2507
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.5	0.0	7.8	8.8	0.0	9.7	10.7	0.0	11.0	14.0	0.0	9.9
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.0	0.0	1.4	0.0	0.0	0.9	0.3	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	0.0	2.2	0.2	0.0	7.5	0.3	0.0	4.4	1.3	0.0	1.5
LnGrp Delay(d),s/veh	13.6	0.0	8.0	8.8	0.0	11.1	10.7	0.0	11.9	14.3	0.0	10.1
LnGrp LOS	B		A	A		B	B		B	B		B
Approach Vol, veh/h		188			473			294			175	
Approach Delay, s/veh		8.6			11.0			11.8			11.9	
Approach LOS		A			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		17.0		20.3		17.0		20.3
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s		55.0		83.0		55.0		83.0
Max Q Clear Time (g_c+I1), s		7.9		12.1		10.2		11.5
Green Ext Time (p_c), s		1.6		1.0		0.8		2.9

Intersection Summary	
HCM 2010 Ctrl Delay	10.9
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	575	388	46	62	41	134	38	1939	181	46	579	53
Future Volume (veh/h)	575	388	46	62	41	134	38	1939	181	46	579	53
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1800	1765	1765	1765
Adj Flow Rate, veh/h	639	431	51	69	46	149	42	2154	201	50	629	58
Adj No. of Lanes	2	2	0	2	2	1	1	3	0	1	3	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	693	864	102	109	358	160	62	2246	207	56	2393	745
Arrive On Green	0.21	0.29	0.29	0.03	0.11	0.11	0.04	0.50	0.50	0.03	0.50	0.50
Sat Flow, veh/h	3261	3023	356	3261	3353	1500	1681	4489	414	1681	4818	1500
Grp Volume(v), veh/h	639	238	244	69	46	149	42	1534	821	50	629	58
Grp Sat Flow(s),veh/h/ln	1630	1676	1702	1630	1676	1500	1681	1606	1692	1681	1606	1500
Q Serve(g_s), s	28.7	17.7	17.9	3.1	1.9	14.7	3.7	68.4	70.5	4.4	11.3	3.0
Cycle Q Clear(g_c), s	28.7	17.7	17.9	3.1	1.9	14.7	3.7	68.4	70.5	4.4	11.3	3.0
Prop In Lane	1.00		0.21	1.00		1.00	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	693	479	487	109	358	160	62	1607	846	56	2393	745
V/C Ratio(X)	0.92	0.50	0.50	0.63	0.13	0.93	0.68	0.95	0.97	0.89	0.26	0.08
Avail Cap(c_a), veh/h	697	482	489	109	358	160	101	1609	847	56	2393	745
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.7	44.5	44.5	71.5	60.5	66.3	71.2	35.8	36.3	72.1	21.8	19.7
Incr Delay (d2), s/veh	17.8	0.8	0.8	11.4	0.2	50.7	12.1	13.3	23.7	81.5	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	20.9	13.0	13.3	2.8	1.6	13.1	3.5	42.7	48.6	6.0	8.7	2.3
LnGrp Delay(d),s/veh	75.5	45.3	45.3	82.8	60.7	117.0	83.3	49.1	60.0	153.6	21.9	19.8
LnGrp LOS	E	D	D	F	E	F	F	D	E	F	C	B
Approach Vol, veh/h		1121			264			2397			737	
Approach Delay, s/veh		62.5			98.2			53.4			30.6	
Approach LOS		E			F			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	36.8	22.0	10.5	80.4	10.0	48.8	10.0	80.9
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	32.0	16.0	9.0	71.0	5.0	43.0	5.0	75.0
Max Q Clear Time (g_c+I1), s	31.7	17.7	6.7	14.3	6.1	20.9	7.4	73.5
Green Ext Time (p_c), s	0.1	0.0	0.0	4.3	0.0	2.4	0.0	1.4

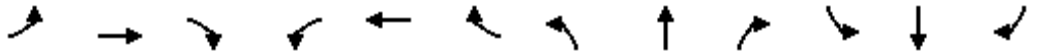
Intersection Summary	
HCM 2010 Ctrl Delay	54.6
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	307	447	9	2	250	93	16	65	9	40	27	42
Future Volume (veh/h)	307	447	9	2	250	93	16	65	9	40	27	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	323	471	9	2	278	103	18	72	10	44	30	47
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	560	1059	20	427	379	140	278	219	30	278	89	140
Arrive On Green	0.18	0.61	0.61	0.31	0.31	0.31	0.14	0.14	0.14	0.14	0.14	0.14
Sat Flow, veh/h	1681	1726	33	911	1229	455	1317	1517	211	1311	621	972
Grp Volume(v), veh/h	323	0	480	2	0	381	18	0	82	44	0	77
Grp Sat Flow(s),veh/h/ln	1681	0	1759	911	0	1684	1317	0	1728	1311	0	1593
Q Serve(g_s), s	5.3	0.0	7.2	0.1	0.0	10.0	0.6	0.0	2.1	1.5	0.0	2.2
Cycle Q Clear(g_c), s	5.3	0.0	7.2	0.1	0.0	10.0	2.8	0.0	2.1	3.7	0.0	2.2
Prop In Lane	1.00		0.02	1.00		0.27	1.00		0.12	1.00		0.61
Lane Grp Cap(c), veh/h	560	0	1079	427	0	520	278	0	249	278	0	230
V/C Ratio(X)	0.58	0.00	0.44	0.00	0.00	0.73	0.06	0.00	0.33	0.16	0.00	0.34
Avail Cap(c_a), veh/h	1610	0	3945	1342	0	2212	807	0	942	805	0	869
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.6	0.0	5.1	11.9	0.0	15.3	20.3	0.0	19.0	20.7	0.0	19.1
Incr Delay (d2), s/veh	0.9	0.0	0.3	0.0	0.0	2.0	0.1	0.0	0.8	0.3	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.5	0.0	6.4	0.0	0.0	8.6	0.4	0.0	1.9	1.0	0.0	1.8
LnGrp Delay(d),s/veh	9.6	0.0	5.4	11.9	0.0	17.3	20.4	0.0	19.8	20.9	0.0	19.9
LnGrp LOS	A		A	B		B	C		B	C		B
Approach Vol, veh/h		803			383			100			121	
Approach Delay, s/veh		7.1			17.3			19.9			20.3	
Approach LOS		A			B			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6	7	8
Phs Duration (G+Y+Rc), s		13.1		36.4		13.1	15.1	21.3
Change Period (Y+Rc), s		6.0		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		27.0		111.0		27.0	40.0	65.0
Max Q Clear Time (g_c+I1), s		5.8		10.2		6.7	8.3	13.0
Green Ext Time (p_c), s		0.3		3.0		0.5	0.9	2.3

Intersection Summary	
HCM 2010 Ctrl Delay	11.9
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	375	63	67	33	34	172	21	1406	24	95	454	75
Future Volume (veh/h)	375	63	67	33	34	172	21	1406	24	95	454	75
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1800	1765	1765	1765
Adj Flow Rate, veh/h	417	70	74	37	38	191	23	1562	27	106	504	83
Adj No. of Lanes	1	1	0	1	1	1	1	2	0	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	442	259	274	241	267	227	442	1688	29	150	1745	781
Arrive On Green	0.14	0.33	0.33	0.15	0.15	0.15	0.02	0.50	0.50	0.04	0.52	0.52
Sat Flow, veh/h	1681	787	831	1239	1765	1500	1681	3373	58	1681	3353	1500
Grp Volume(v), veh/h	417	0	144	37	38	191	23	776	813	106	504	83
Grp Sat Flow(s),veh/h/ln	1681	0	1618	1239	1765	1500	1681	1676	1754	1681	1676	1500
Q Serve(g_s), s	19.0	0.0	8.8	3.5	2.5	16.7	0.9	58.0	58.3	4.1	11.4	3.8
Cycle Q Clear(g_c), s	19.0	0.0	8.8	3.5	2.5	16.7	0.9	58.0	58.3	4.1	11.4	3.8
Prop In Lane	1.00		0.51	1.00		1.00	1.00		0.03	1.00		1.00
Lane Grp Cap(c), veh/h	442	0	532	241	267	227	442	839	878	150	1745	781
V/C Ratio(X)	0.94	0.00	0.27	0.15	0.14	0.84	0.05	0.92	0.93	0.71	0.29	0.11
Avail Cap(c_a), veh/h	442	0	671	347	419	356	463	882	923	150	1789	800
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.5	0.0	33.3	50.1	49.7	55.7	16.2	31.3	31.4	30.9	18.3	16.4
Incr Delay (d2), s/veh	28.9	0.0	0.3	0.3	0.2	10.1	0.0	14.8	14.6	14.1	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	22.9	0.0	7.2	2.2	2.3	12.1	0.8	39.2	40.8	4.7	9.1	2.8
LnGrp Delay(d),s/veh	74.5	0.0	33.6	50.4	49.9	65.8	16.3	46.1	46.0	45.0	18.4	16.5
LnGrp LOS	E		C	D	D	E	B	D	D	D	B	B
Approach Vol, veh/h		561			266			1612			693	
Approach Delay, s/veh		64.0			61.4			45.6			22.2	
Approach LOS		E			E			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4		6	7	8
Phs Duration (G+Y+Rc), s	24.0	26.4	8.3	76.2		50.4	11.0	73.5
Change Period (Y+Rc), s	5.0	6.0	6.0	6.0		6.0	5.0	6.0
Max Green Setting (Gmax), s	19.0	32.0	4.0	72.0		56.0	6.0	71.0
Max Q Clear Time (g_c+I1), s	22.0	19.7	3.9	14.4		11.8	7.1	61.3
Green Ext Time (p_c), s	0.0	0.7	0.0	3.4		0.8	0.0	6.3

Intersection Summary	
HCM 2010 Ctrl Delay	45.1
HCM 2010 LOS	D

Notes

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	353	31	43	346	83	18	94	23	195	270	34
Future Volume (veh/h)	12	353	31	43	346	83	18	94	23	195	270	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	13	372	33	47	380	91	20	104	26	217	300	38
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.91	0.91	0.91	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	302	608	54	357	524	126	352	460	115	524	518	66
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	919	1598	142	976	1377	330	1038	1364	341	1255	1536	195
Grp Volume(v), veh/h	13	0	405	47	0	471	20	0	130	217	0	338
Grp Sat Flow(s),veh/h/ln	919	0	1740	976	0	1707	1038	0	1705	1255	0	1730
Q Serve(g_s), s	0.5	0.0	8.0	1.7	0.0	10.0	0.7	0.0	2.3	6.4	0.0	6.8
Cycle Q Clear(g_c), s	10.6	0.0	8.0	9.7	0.0	10.0	7.5	0.0	2.3	8.7	0.0	6.8
Prop In Lane	1.00		0.08	1.00		0.19	1.00		0.20	1.00		0.11
Lane Grp Cap(c), veh/h	302	0	662	357	0	650	352	0	575	524	0	584
V/C Ratio(X)	0.04	0.00	0.61	0.13	0.00	0.73	0.06	0.00	0.23	0.41	0.00	0.58
Avail Cap(c_a), veh/h	1615	0	3149	1753	0	3089	1491	0	2444	1900	0	2481
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.8	0.0	10.6	14.6	0.0	11.3	14.7	0.0	10.1	13.2	0.0	11.6
Incr Delay (d2), s/veh	0.1	0.0	0.9	0.2	0.0	1.6	0.1	0.0	0.2	0.5	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.2	0.0	7.2	0.9	0.0	8.7	0.4	0.0	2.0	4.0	0.0	6.0
LnGrp Delay(d),s/veh	15.8	0.0	11.6	14.7	0.0	12.8	14.8	0.0	10.3	13.8	0.0	12.5
LnGrp LOS	B		B	B		B	B		B	B		B
Approach Vol, veh/h		418			518			150			555	
Approach Delay, s/veh		11.7			13.0			10.9			13.0	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		20.4		22.2		20.4		22.2
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s		61.0		77.0		61.0		77.0
Max Q Clear Time (g_c+I1), s		10.5		13.6		11.7		13.0
Green Ext Time (p_c), s		0.8		2.4		2.6		3.1

Intersection Summary	
HCM 2010 Ctrl Delay	12.5
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	219	120	43	313	416	127	46	1042	64	117	2295	349
Future Volume (veh/h)	219	120	43	313	416	127	46	1042	64	117	2295	349
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1800	1765	1765	1765
Adj Flow Rate, veh/h	243	133	48	348	462	141	51	1158	71	130	2550	388
Adj No. of Lanes	2	2	0	2	2	1	1	3	0	1	3	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	305	353	123	379	561	251	62	2367	145	160	2737	992
Arrive On Green	0.09	0.14	0.14	0.12	0.17	0.17	0.04	0.51	0.51	0.09	0.57	0.57
Sat Flow, veh/h	3261	2444	848	3261	3353	1500	1681	4642	284	1681	4818	1500
Grp Volume(v), veh/h	243	90	91	348	462	141	51	801	428	130	2550	388
Grp Sat Flow(s),veh/h/ln	1630	1676	1615	1630	1676	1500	1681	1606	1715	1681	1606	1500
Q Serve(g_s), s	11.9	7.9	8.4	17.3	21.8	14.1	4.9	26.6	26.7	12.4	79.4	19.3
Cycle Q Clear(g_c), s	11.9	7.9	8.4	17.3	21.8	14.1	4.9	26.6	26.7	12.4	79.4	19.3
Prop In Lane	1.00		0.53	1.00		1.00	1.00		0.17	1.00		1.00
Lane Grp Cap(c), veh/h	305	242	233	379	561	251	62	1638	874	160	2737	992
V/C Ratio(X)	0.80	0.37	0.39	0.92	0.82	0.56	0.83	0.49	0.49	0.81	0.93	0.39
Avail Cap(c_a), veh/h	399	400	385	379	779	348	62	1638	874	236	2769	1002
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	72.6	63.2	63.4	71.5	65.8	62.6	78.3	26.2	26.2	72.6	32.4	12.6
Incr Delay (d2), s/veh	8.3	0.9	1.1	27.0	5.1	2.0	58.3	0.2	0.4	12.7	6.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.7	6.7	6.9	14.2	15.8	10.0	5.9	17.5	18.5	10.5	46.8	12.6
LnGrp Delay(d),s/veh	80.9	64.2	64.5	98.5	70.9	64.6	136.5	26.4	26.6	85.3	38.9	12.9
LnGrp LOS	F	E	E	F	E	E	F	C	C	F	D	B
Approach Vol, veh/h		424			951			1280			3068	
Approach Delay, s/veh		73.8			80.1			30.9			37.6	
Approach LOS		E			F			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.3	33.4	11.0	98.9	24.0	29.6	20.5	89.4
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	20.0	38.0	6.0	94.0	19.0	39.0	23.0	77.0
Max Q Clear Time (g_c+I1), s	14.9	24.8	7.9	82.4	20.3	11.4	15.4	29.7
Green Ext Time (p_c), s	0.3	2.6	0.0	10.5	0.0	0.9	0.2	8.9

Intersection Summary	
HCM 2010 Ctrl Delay	45.8
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	310	24	15	423	50	9	46	9	78	88	243
Future Volume (veh/h)	75	310	24	15	423	50	9	46	9	78	88	243
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	83	344	27	16	450	53	10	51	10	86	97	267
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.94	0.94	0.94	0.90	0.90	0.90	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	323	696	55	425	668	79	269	468	92	548	136	374
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	892	1616	127	1007	1550	183	1014	1434	281	1336	416	1146
Grp Volume(v), veh/h	83	0	371	16	0	503	10	0	61	86	0	364
Grp Sat Flow(s),veh/h/ln	892	0	1742	1007	0	1732	1014	0	1715	1336	0	1562
Q Serve(g_s), s	4.1	0.0	7.6	0.6	0.0	11.5	0.4	0.0	1.2	2.4	0.0	10.1
Cycle Q Clear(g_c), s	15.6	0.0	7.6	8.2	0.0	11.5	10.5	0.0	1.2	3.6	0.0	10.1
Prop In Lane	1.00		0.07	1.00		0.11	1.00		0.16	1.00		0.73
Lane Grp Cap(c), veh/h	323	0	751	425	0	747	269	0	559	548	0	510
V/C Ratio(X)	0.26	0.00	0.49	0.04	0.00	0.67	0.04	0.00	0.11	0.16	0.00	0.71
Avail Cap(c_a), veh/h	1310	0	2679	1539	0	2664	1210	0	2152	1789	0	1960
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.5	0.0	10.2	13.1	0.0	11.3	19.3	0.0	11.6	12.9	0.0	14.6
Incr Delay (d2), s/veh	0.4	0.0	0.5	0.0	0.0	1.1	0.1	0.0	0.1	0.1	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.9	0.0	6.7	0.3	0.0	9.6	0.2	0.0	1.1	1.6	0.0	8.1
LnGrp Delay(d),s/veh	17.9	0.0	10.7	13.2	0.0	12.3	19.3	0.0	11.7	13.0	0.0	16.5
LnGrp LOS	B		B	B		B	B		B	B		B
Approach Vol, veh/h		454			519			71			450	
Approach Delay, s/veh		12.0			12.4			12.8			15.8	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		22.1		27.3		22.1		27.3
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s		62.0		76.0		62.0		76.0
Max Q Clear Time (g_c+I1), s		13.5		18.6		13.1		14.5
Green Ext Time (p_c), s		0.3		2.7		3.0		3.2

Intersection Summary	
HCM 2010 Ctrl Delay	13.3
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	198	41	67	40	40	172	85	959	36	170	1611	470
Future Volume (veh/h)	198	41	67	40	40	172	85	959	36	170	1611	470
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1800	1765	1765	1765
Adj Flow Rate, veh/h	220	46	74	44	44	191	93	1054	40	185	1751	511
Adj No. of Lanes	1	1	0	1	1	1	1	2	0	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.91	0.91	0.91	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	297	143	229	270	412	351	151	1858	71	354	1975	883
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.04	0.56	0.56	0.07	0.59	0.59
Sat Flow, veh/h	1141	610	981	1266	1765	1500	1681	3294	125	1681	3353	1500
Grp Volume(v), veh/h	220	0	120	44	44	191	93	536	558	185	1751	511
Grp Sat Flow(s),veh/h/ln	1141	0	1592	1266	1765	1500	1681	1676	1743	1681	1676	1500
Q Serve(g_s), s	25.4	0.0	8.4	4.0	2.6	15.1	3.1	27.7	27.7	6.1	60.7	28.7
Cycle Q Clear(g_c), s	28.0	0.0	8.4	12.5	2.6	15.1	3.1	27.7	27.7	6.1	60.7	28.7
Prop In Lane	1.00		0.62	1.00		1.00	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	297	0	372	270	412	351	151	946	983	354	1975	883
V/C Ratio(X)	0.74	0.00	0.32	0.16	0.11	0.54	0.62	0.57	0.57	0.52	0.89	0.58
Avail Cap(c_a), veh/h	326	0	412	302	457	389	188	1005	1045	437	2184	977
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.7	0.0	42.9	48.1	40.7	45.5	30.1	18.9	18.9	14.6	23.9	17.3
Incr Delay (d2), s/veh	7.9	0.0	0.5	0.3	0.1	1.3	4.1	0.7	0.6	1.2	4.5	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.5	0.0	6.8	2.6	2.4	10.5	3.8	18.9	19.5	5.2	38.1	17.6
LnGrp Delay(d),s/veh	59.6	0.0	43.4	48.4	40.8	46.8	34.2	19.5	19.5	15.8	28.4	18.0
LnGrp LOS	E		D	D	D	D	C	B	B	B	C	B
Approach Vol, veh/h		340			279			1187			2447	
Approach Delay, s/veh		53.9			46.1			20.7			25.3	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		37.6	12.0	85.6		37.6	15.3	82.2
Change Period (Y+Rc), s		6.0	6.0	6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		35.0	9.0	88.0		35.0	16.0	81.0
Max Q Clear Time (g_c+I1), s		18.1	6.1	63.7		31.0	9.1	30.7
Green Ext Time (p_c), s		0.8	0.0	15.9		0.6	0.2	7.3

Intersection Summary	
HCM 2010 Ctrl Delay	27.6
HCM 2010 LOS	C

Intersection	
Intersection Delay, s/veh	6.9
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	188	473	294	175
Demand Flow Rate, veh/h	191	482	299	178
Vehicles Circulating, veh/h	173	269	247	395
Vehicles Exiting, veh/h	400	277	117	356
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.6	8.7	6.1	5.9
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	191	482	299	178
Cap Entry Lane, veh/h	1157	1049	1073	922
Entry HV Adj Factor	0.984	0.981	0.982	0.985
Flow Entry, veh/h	188	473	294	175
Cap Entry, veh/h	1138	1029	1053	909
V/C Ratio	0.165	0.460	0.279	0.193
Control Delay, s/veh	4.6	8.7	6.1	5.9
LOS	A	A	A	A
95th %tile Queue, veh	1	2	1	1

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	821	371	97	117
Demand Flow Rate, veh/h	838	378	98	120
Vehicles Circulating, veh/h	76	425	872	293
Vehicles Exiting, veh/h	337	545	42	510
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	11.5	9.2	8.6	4.7
Approach LOS	B	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	838	378	98	120
Cap Entry Lane, veh/h	1277	895	567	1023
Entry HV Adj Factor	0.980	0.980	0.986	0.978
Flow Entry, veh/h	821	371	97	117
Cap Entry, veh/h	1252	877	559	1001
V/C Ratio	0.656	0.423	0.173	0.117
Control Delay, s/veh	11.5	9.2	8.6	4.7
LOS	B	A	A	A
95th %tile Queue, veh	5	2	1	0

Intersection	
Intersection Delay, s/veh	11.9
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	439	524	150	555
Demand Flow Rate, veh/h	448	535	153	566
Vehicles Circulating, veh/h	576	139	634	461
Vehicles Exiting, veh/h	451	648	390	213
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	14.2	7.8	7.5	15.3
Approach LOS	B	A	A	C

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	448	535	153	566
Cap Entry Lane, veh/h	767	1197	723	862
Entry HV Adj Factor	0.980	0.980	0.980	0.981
Flow Entry, veh/h	439	524	150	555
Cap Entry, veh/h	752	1174	708	846
V/C Ratio	0.584	0.447	0.212	0.656
Control Delay, s/veh	14.2	7.8	7.5	15.3
LOS	B	A	A	C
95th %tile Queue, veh	4	2	1	5

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	422	503	65	422
Demand Flow Rate, veh/h	431	513	66	431
Vehicles Circulating, veh/h	190	136	487	469
Vehicles Exiting, veh/h	710	417	133	180
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.1	7.4	5.1	11.1
Approach LOS	A	A	A	B

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	431	513	66	431
Cap Entry Lane, veh/h	1137	1201	840	855
Entry HV Adj Factor	0.978	0.981	0.986	0.980
Flow Entry, veh/h	422	503	65	422
Cap Entry, veh/h	1112	1178	828	838
V/C Ratio	0.379	0.427	0.079	0.504
Control Delay, s/veh	7.1	7.4	5.1	11.1
LOS	A	A	A	B
95th %tile Queue, veh	2	2	0	3

Intersection	
Intersection Delay, s/veh	20
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	136	21	19	312	98	33	207	53	67	73	20
Future Vol, veh/h	16	136	21	19	312	98	33	207	53	67	73	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	151	23	21	347	109	37	230	59	74	81	22
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.2	26.9	17.7	13.3
HCM LOS	B	D	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	9%	4%	42%
Vol Thru, %	71%	79%	73%	46%
Vol Right, %	18%	12%	23%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	293	173	429	160
LT Vol	33	16	19	67
Through Vol	207	136	312	73
RT Vol	53	21	98	20
Lane Flow Rate	326	192	477	178
Geometry Grp	1	1	1	1
Degree of Util (X)	0.574	0.351	0.781	0.336
Departure Headway (Hd)	6.35	6.566	5.899	6.813
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	566	546	610	526
Service Time	4.41	4.634	3.951	4.886
HCM Lane V/C Ratio	0.576	0.352	0.782	0.338
HCM Control Delay	17.7	13.2	26.9	13.3
HCM Lane LOS	C	B	D	B
HCM 95th-tile Q	3.6	1.6	7.4	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	575	389	47	62	44	149	41	1957	181	51	585	53
Future Volume (veh/h)	575	389	47	62	44	149	41	1957	181	51	585	53
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1765	1765	1765	1765
Adj Flow Rate, veh/h	639	432	52	69	49	166	46	2174	201	55	636	58
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	456	494	59	93	146	124	422	1845	825	92	1856	830
Arrive On Green	0.21	0.32	0.32	0.08	0.08	0.08	0.03	0.55	0.55	0.03	0.55	0.55
Sat Flow, veh/h	1681	1546	186	908	1765	1500	1681	3353	1500	1681	3353	1500
Grp Volume(v), veh/h	639	0	484	69	49	166	46	2174	201	55	636	58
Grp Sat Flow(s),veh/h/ln	1681	0	1732	908	1765	1500	1681	1676	1500	1681	1676	1500
Q Serve(g_s), s	35.0	0.0	44.6	9.4	4.4	14.0	2.0	93.0	11.8	2.4	17.7	3.0
Cycle Q Clear(g_c), s	35.0	0.0	44.6	14.0	4.4	14.0	2.0	93.0	11.8	2.4	17.7	3.0
Prop In Lane	1.00		0.11	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	456	0	553	93	146	124	422	1845	825	92	1856	830
V/C Ratio(X)	1.40	0.00	0.87	0.74	0.34	1.34	0.11	1.18	0.24	0.60	0.34	0.07
Avail Cap(c_a), veh/h	456	0	553	93	146	124	438	1845	825	102	1856	830
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	0.0	54.3	81.1	73.1	77.5	16.5	38.0	19.7	41.0	20.8	17.5
Incr Delay (d2), s/veh	192.8	0.0	14.0	24.1	0.5	195.6	0.0	86.2	0.2	4.2	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	87.6	0.0	31.5	6.9	3.9	22.6	1.7	116.8	8.5	2.8	12.9	2.3
LnGrp Delay(d),s/veh	250.3	0.0	68.3	105.1	73.6	273.1	16.5	124.2	19.9	45.2	20.9	17.6
LnGrp LOS	F		E	F	E	F	B	F	B	D	C	B
Approach Vol, veh/h		1123			284			2421			749	
Approach Delay, s/veh		171.9			197.9			113.5			22.5	
Approach LOS		F			F			F			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4		6	7	8
Phs Duration (G+Y+Rc), s	40.0	20.0	9.4	99.6		60.0	10.0	99.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0		6.0	5.0	6.0
Max Green Setting (Gmax), s	35.0	14.0	6.0	93.0		54.0	6.0	93.0
Max Q Clear Time (g_c+I1), s	38.0	17.0	5.0	20.7		47.6	5.4	96.0
Green Ext Time (p_c), s	0.0	0.0	0.0	6.7		1.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	118.2
HCM 2010 LOS	F

Notes

Intersection	
Intersection Delay, s/veh	143.6
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	58	717	44	27	257	34	63	163	68	34	55	13
Future Vol, veh/h	58	717	44	27	257	34	63	163	68	34	55	13
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	62	763	47	29	273	36	67	173	72	36	59	14
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	250.5	21.7	22.2	14.7
HCM LOS	F	C	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	21%	7%	8%	33%
Vol Thru, %	55%	88%	81%	54%
Vol Right, %	23%	5%	11%	13%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	294	819	318	102
LT Vol	63	58	27	34
Through Vol	163	717	257	55
RT Vol	68	44	34	13
Lane Flow Rate	313	871	338	109
Geometry Grp	1	1	1	1
Degree of Util (X)	0.6	1.497	0.619	0.233
Departure Headway (Hd)	7.959	6.184	7.414	9.019
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	457	584	491	400
Service Time	5.959	4.276	5.414	7.019
HCM Lane V/C Ratio	0.685	1.491	0.688	0.273
HCM Control Delay	22.2	250.5	21.7	14.7
HCM Lane LOS	C	F	C	B
HCM 95th-tile Q	3.8	43.1	4.1	0.9

Intersection	
Intersection Delay, s/veh	90.4
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	314	450	9	3	251	93	16	74	12	40	30	45
Future Vol, veh/h	314	450	9	3	251	93	16	74	12	40	30	45
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	338	484	10	3	270	100	17	80	13	43	32	48
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	145.3	16.8	12.5	12.6
HCM LOS	F	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	41%	1%	35%
Vol Thru, %	73%	58%	72%	26%
Vol Right, %	12%	1%	27%	39%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	102	773	347	115
LT Vol	16	314	3	40
Through Vol	74	450	251	30
RT Vol	12	9	93	45
Lane Flow Rate	110	831	373	124
Geometry Grp	1	1	1	1
Degree of Util (X)	0.211	1.254	0.579	0.232
Departure Headway (Hd)	7.526	5.431	5.952	7.347
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	480	673	612	492
Service Time	5.526	3.465	3.952	5.347
HCM Lane V/C Ratio	0.229	1.235	0.609	0.252
HCM Control Delay	12.5	145.3	16.8	12.6
HCM Lane LOS	B	F	C	B
HCM 95th-tile Q	0.8	30.9	3.7	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	375	64	67	39	39	193	21	1406	26	102	454	75
Future Volume (veh/h)	375	64	67	39	39	193	21	1406	26	102	454	75
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	417	71	74	43	43	214	23	1562	29	113	504	83
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	359	308	321	246	42	211	408	1506	28	141	1561	256
Arrive On Green	0.19	0.39	0.39	0.16	0.16	0.16	0.45	0.45	0.45	0.06	0.54	0.54
Sat Flow, veh/h	1681	793	826	1238	257	1281	825	3368	62	1681	2885	473
Grp Volume(v), veh/h	417	0	145	43	0	257	23	777	814	113	292	295
Grp Sat Flow(s),veh/h/ln	1681	0	1619	1238	0	1539	825	1676	1754	1681	1676	1681
Q Serve(g_s), s	32.0	0.0	10.2	5.1	0.0	28.0	2.7	76.0	76.0	6.9	16.5	16.6
Cycle Q Clear(g_c), s	32.0	0.0	10.2	5.1	0.0	28.0	3.4	76.0	76.0	6.9	16.5	16.6
Prop In Lane	1.00		0.51	1.00		0.83	1.00		0.04	1.00		0.28
Lane Grp Cap(c), veh/h	359	0	629	246	0	253	408	750	784	141	907	910
V/C Ratio(X)	1.16	0.00	0.23	0.17	0.00	1.01	0.06	1.04	1.04	0.80	0.32	0.32
Avail Cap(c_a), veh/h	359	0	629	246	0	253	408	750	784	141	908	910
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	0.0	34.9	61.4	0.0	71.0	27.1	47.0	47.0	46.9	21.7	21.7
Incr Delay (d2), s/veh	99.4	0.0	0.2	0.3	0.0	60.1	0.1	42.5	42.5	27.3	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	48.1	0.0	8.2	3.2	0.0	29.0	1.1	79.3	82.9	10.4	12.2	12.3
LnGrp Delay(d),s/veh	153.8	0.0	35.1	61.7	0.0	131.2	27.1	89.5	89.5	74.2	21.9	21.9
LnGrp LOS	F		D	E		F	C	F	F	E	C	C
Approach Vol, veh/h		562			300			1614			700	
Approach Delay, s/veh		123.2			121.2			88.6			30.3	
Approach LOS		F			F			F			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6	7	8
Phs Duration (G+Y+Rc), s	38.0	34.0		98.0		72.0	16.0	82.0
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s	32.0	28.0		92.0		66.0	10.0	76.0
Max Q Clear Time (g_c+I1), s	35.0	31.0		19.6		13.2	9.9	79.0
Green Ext Time (p_c), s	0.0	0.0		3.2		0.8	0.0	0.0

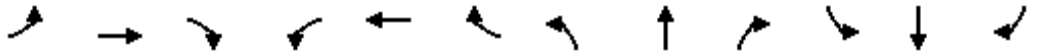
Intersection Summary	
HCM 2010 Ctrl Delay	85.0
HCM 2010 LOS	F

Intersection	
Intersection Delay, s/veh	125.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	353	44	55	346	83	25	98	30	195	277	34
Future Vol, veh/h	12	353	44	55	346	83	25	98	30	195	277	34
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	392	49	61	384	92	28	109	33	217	308	38
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	84.4	143.9	23.1	171.3
HCM LOS	F	F	C	F

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	3%	11%	39%
Vol Thru, %	64%	86%	71%	55%
Vol Right, %	20%	11%	17%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	153	409	484	506
LT Vol	25	12	55	195
Through Vol	98	353	346	277
RT Vol	30	44	83	34
Lane Flow Rate	170	454	538	562
Geometry Grp	1	1	1	1
Degree of Util (X)	0.451	1.025	1.21	1.283
Departure Headway (Hd)	11.211	9.467	9.048	8.849
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	323	386	403	416
Service Time	9.211	7.467	7.048	6.849
HCM Lane V/C Ratio	0.526	1.176	1.335	1.351
HCM Control Delay	23.1	84.4	143.9	171.3
HCM Lane LOS	C	F	F	F
HCM 95th-tile Q	2.2	12.7	19.6	22.9



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	219	123	46	313	418	136	48	1054	64	134	2315	349
Future Volume (veh/h)	219	123	46	313	418	136	48	1054	64	134	2315	349
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1765	1765	1765	1765
Adj Flow Rate, veh/h	243	137	51	348	464	151	53	1171	71	149	2572	388
Adj No. of Lanes	1	1	0	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	161	303	113	273	363	309	91	1805	807	266	1894	953
Arrive On Green	0.07	0.25	0.25	0.03	0.21	0.21	0.03	0.54	0.54	0.06	0.56	0.56
Sat Flow, veh/h	1681	1227	457	1681	1765	1500	1681	3353	1500	1681	3353	1500
Grp Volume(v), veh/h	243	0	188	348	464	151	53	1171	71	149	2572	388
Grp Sat Flow(s),veh/h/ln	1681	0	1684	1681	1765	1500	1681	1676	1500	1681	1676	1500
Q Serve(g_s), s	12.0	0.0	16.1	5.0	35.0	15.1	2.4	42.1	3.9	6.5	96.0	21.6
Cycle Q Clear(g_c), s	12.0	0.0	16.1	5.0	35.0	15.1	2.4	42.1	3.9	6.5	96.0	21.6
Prop In Lane	1.00		0.27	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	161	0	416	273	363	309	91	1805	807	266	1894	953
V/C Ratio(X)	1.51	0.00	0.45	1.27	1.28	0.49	0.58	0.65	0.09	0.56	1.36	0.41
Avail Cap(c_a), veh/h	161	0	416	273	363	309	92	1805	807	271	1894	953
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.6	0.0	54.2	69.6	67.5	59.6	41.0	27.8	19.0	23.1	37.0	15.2
Incr Delay (d2), s/veh	258.4	0.0	0.3	148.2	144.3	0.4	5.9	0.9	0.1	1.5	164.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	35.0	0.0	12.0	20.3	56.9	10.4	2.7	27.0	2.9	5.5	157.5	14.0
LnGrp Delay(d),s/veh	311.0	0.0	54.5	217.8	211.7	60.0	46.9	28.8	19.1	24.5	201.6	15.6
LnGrp LOS	F		D	F	F	E	D	C	B	C	F	B
Approach Vol, veh/h		431			963			1295			3109	
Approach Delay, s/veh		199.1			190.1			29.0			169.9	
Approach LOS		F			F			C			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	41.0	10.0	102.0	10.0	48.0	14.5	97.5
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	12.0	35.0	5.0	96.0	5.0	42.0	10.0	91.0
Max Q Clear Time (g_c+I1), s	15.0	38.0	5.4	99.0	8.0	19.1	9.5	45.1
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.5	0.0	15.0

Intersection Summary		
HCM 2010 Ctrl Delay		144.0
HCM 2010 LOS		F

Intersection	
Intersection Delay, s/veh	169.9
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	349	65	67	591	19	40	99	28	32	211	119
Future Vol, veh/h	12	349	65	67	591	19	40	99	28	32	211	119
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	384	71	74	649	21	44	109	31	35	232	131
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	83.6	322.7	23.8	53.2
HCM LOS	F	F	C	F

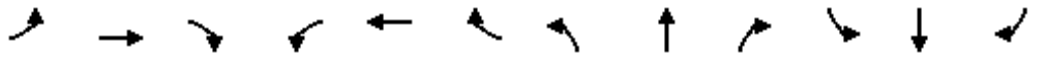
Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	24%	3%	10%	9%
Vol Thru, %	59%	82%	87%	58%
Vol Right, %	17%	15%	3%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	167	426	677	362
LT Vol	40	12	67	32
Through Vol	99	349	591	211
RT Vol	28	65	19	119
Lane Flow Rate	184	468	744	398
Geometry Grp	1	1	1	1
Degree of Util (X)	0.473	1.026	1.649	0.883
Departure Headway (Hd)	11.149	9.223	8.18	9.534
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	325	398	454	382
Service Time	9.149	7.223	6.18	7.534
HCM Lane V/C Ratio	0.566	1.176	1.639	1.042
HCM Control Delay	23.8	83.6	322.7	53.2
HCM Lane LOS	C	F	F	F
HCM 95th-tile Q	2.4	12.9	42.2	8.8

Intersection	
Intersection Delay, s/veh	47
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	312	24	18	426	50	9	52	11	78	98	252
Future Vol, veh/h	80	312	24	18	426	50	9	52	11	78	98	252
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	82	322	25	19	439	52	9	54	11	80	101	260
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	40.6	63.2	14.1	39.9
HCM LOS	E	F	B	E

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	19%	4%	18%
Vol Thru, %	72%	75%	86%	23%
Vol Right, %	15%	6%	10%	59%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	72	416	494	428
LT Vol	9	80	18	78
Through Vol	52	312	426	98
RT Vol	11	24	50	252
Lane Flow Rate	74	429	509	441
Geometry Grp	1	1	1	1
Degree of Util (X)	0.186	0.86	0.987	0.861
Departure Headway (Hd)	9.01	7.218	6.98	7.021
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	401	497	519	512
Service Time	7.01	5.305	5.063	5.098
HCM Lane V/C Ratio	0.185	0.863	0.981	0.861
HCM Control Delay	14.1	40.6	63.2	39.9
HCM Lane LOS	B	E	F	E
HCM 95th-tile Q	0.7	9	13.3	9.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	198	47	67	44	43	186	85	959	42	193	1611	470
Future Volume (veh/h)	198	47	67	44	43	186	85	959	42	193	1611	470
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	220	52	74	49	48	207	93	1054	46	210	1751	511
Adj No. of Lanes	1	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.91	0.91	0.91	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	174	175	249	295	77	332	86	1857	81	339	1576	438
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.03	0.57	0.57	0.07	0.61	0.61
Sat Flow, veh/h	1120	660	939	1260	291	1253	1681	3273	143	1681	2593	721
Grp Volume(v), veh/h	220	0	126	49	0	255	93	540	560	210	1102	1160
Grp Sat Flow(s),veh/h/ln	1120	0	1599	1260	0	1544	1681	1676	1740	1681	1676	1637
Q Serve(g_s), s	21.7	0.0	11.4	5.8	0.0	26.3	5.0	37.2	37.2	9.0	110.0	110.0
Cycle Q Clear(g_c), s	48.0	0.0	11.4	17.2	0.0	26.3	5.0	37.2	37.2	9.0	110.0	110.0
Prop In Lane	1.00		0.59	1.00		0.81	1.00		0.08	1.00		0.44
Lane Grp Cap(c), veh/h	174	0	424	295	0	409	86	951	987	339	1019	995
V/C Ratio(X)	1.26	0.00	0.30	0.17	0.00	0.62	1.08	0.57	0.57	0.62	1.08	1.17
Avail Cap(c_a), veh/h	174	0	424	295	0	409	86	951	987	401	1019	995
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	82.1	0.0	53.0	59.9	0.0	58.5	53.0	25.0	25.0	20.1	35.5	35.5
Incr Delay (d2), s/veh	156.8	0.0	0.4	0.3	0.0	2.9	120.0	0.8	0.8	2.2	53.0	85.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	29.3	0.0	8.8	3.7	0.0	17.2	12.9	24.3	25.1	7.8	118.2	131.7
LnGrp Delay(d),s/veh	238.9	0.0	53.4	60.2	0.0	61.5	173.5	25.8	25.7	22.3	88.5	121.1
LnGrp LOS	F		D	E		E	F	C	C	C	F	F
Approach Vol, veh/h		346			304			1193			2472	
Approach Delay, s/veh		171.4			61.2			37.3			98.2	
Approach LOS		F			E			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		54.0	11.0	116.0		54.0	18.3	108.7
Change Period (Y+Rc), s		6.0	6.0	6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		48.0	5.0	110.0		48.0	19.0	96.0
Max Q Clear Time (g_c+I1), s		29.3	8.0	113.0		51.0	12.0	40.2
Green Ext Time (p_c), s		1.5	0.0	0.0		0.0	0.3	7.4

Intersection Summary	
HCM 2010 Ctrl Delay	84.6
HCM 2010 LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	136	21	19	312	98	33	207	53	67	73	20
Future Volume (veh/h)	16	136	21	19	312	98	33	207	53	67	73	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	18	151	23	21	347	109	37	230	59	74	81	22
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	332	571	87	565	492	154	522	412	106	364	406	110
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	931	1497	228	1206	1289	405	1286	1356	348	1086	1337	363
Grp Volume(v), veh/h	18	0	174	21	0	456	37	0	289	74	0	103
Grp Sat Flow(s),veh/h/ln	931	0	1724	1206	0	1693	1286	0	1703	1086	0	1701
Q Serve(g_s), s	0.6	0.0	2.6	0.5	0.0	8.7	0.8	0.0	5.4	2.3	0.0	1.7
Cycle Q Clear(g_c), s	9.3	0.0	2.6	3.1	0.0	8.7	2.5	0.0	5.4	7.8	0.0	1.7
Prop In Lane	1.00		0.13	1.00		0.24	1.00		0.20	1.00		0.21
Lane Grp Cap(c), veh/h	332	0	658	565	0	646	522	0	518	364	0	517
V/C Ratio(X)	0.05	0.00	0.26	0.04	0.00	0.71	0.07	0.00	0.56	0.20	0.00	0.20
Avail Cap(c_a), veh/h	1954	0	3662	2665	0	3595	2053	0	2545	1657	0	2541
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	13.9	0.0	8.1	9.2	0.0	10.0	10.8	0.0	11.1	14.4	0.0	9.8
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.0	0.0	1.4	0.1	0.0	0.9	0.3	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	0.0	2.3	0.3	0.0	7.5	0.6	0.0	4.7	1.3	0.0	1.5
LnGrp Delay(d),s/veh	14.0	0.0	8.3	9.2	0.0	11.4	10.8	0.0	12.1	14.7	0.0	10.0
LnGrp LOS	B		A	A		B	B		B	B		B
Approach Vol, veh/h		192			477			326			177	
Approach Delay, s/veh		8.9			11.3			11.9			12.0	
Approach LOS		A			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		17.6		20.6		17.6		20.6
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s		57.0		81.0		57.0		81.0
Max Q Clear Time (g_c+I1), s		8.4		12.3		10.8		11.7
Green Ext Time (p_c), s		1.7		1.0		0.8		2.9

Intersection Summary	
HCM 2010 Ctrl Delay	11.2
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	575	389	47	62	44	149	41	1957	181	51	585	53
Future Volume (veh/h)	575	389	47	62	44	149	41	1957	181	51	585	53
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1800	1765	1765	1765
Adj Flow Rate, veh/h	639	432	52	69	49	166	46	2174	201	55	636	58
Adj No. of Lanes	2	2	0	2	2	1	1	3	0	1	3	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	706	742	89	126	228	173	68	2331	213	79	2532	788
Arrive On Green	0.22	0.25	0.25	0.04	0.07	0.07	0.04	0.52	0.52	0.05	0.53	0.53
Sat Flow, veh/h	3261	3016	361	3261	3353	1500	1681	4493	411	1681	4818	1500
Grp Volume(v), veh/h	639	239	245	69	49	166	46	1547	828	55	636	58
Grp Sat Flow(s),veh/h/ln	1630	1676	1701	1630	1676	1500	1681	1606	1692	1681	1606	1500
Q Serve(g_s), s	28.1	18.4	18.6	3.1	2.0	10.0	4.0	65.7	67.8	4.7	10.6	2.8
Cycle Q Clear(g_c), s	28.1	18.4	18.6	3.1	2.0	10.0	4.0	65.7	67.8	4.7	10.6	2.8
Prop In Lane	1.00		0.21	1.00		1.00	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	706	412	418	126	228	173	68	1666	878	79	2532	788
V/C Ratio(X)	0.90	0.58	0.59	0.55	0.21	0.96	0.68	0.93	0.94	0.70	0.25	0.07
Avail Cap(c_a), veh/h	754	433	440	133	228	173	114	1682	886	80	2532	788
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.1	48.8	48.8	69.4	64.8	64.7	69.6	32.8	33.4	69.0	19.1	17.2
Incr Delay (d2), s/veh	13.9	1.8	1.8	4.1	0.5	57.0	11.3	9.5	18.0	22.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	20.2	13.6	13.9	2.6	1.7	14.5	3.7	40.3	45.7	4.9	8.3	2.1
LnGrp Delay(d),s/veh	70.1	50.5	50.7	73.5	65.3	121.8	80.9	42.3	51.4	91.7	19.1	17.3
LnGrp LOS	E	D	D	E	E	F	F	D	D	F	B	B
Approach Vol, veh/h		1123			284			2421			749	
Approach Delay, s/veh		61.7			100.3			46.1			24.3	
Approach LOS		E			F			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	36.8	16.0	10.9	83.3	10.7	42.1	11.9	82.3
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	31.8	10.0	10.0	74.0	6.0	38.0	7.0	77.0
Max Q Clear Time (g_c+I1), s	30.1	13.0	7.0	13.6	6.1	21.6	7.7	70.8
Green Ext Time (p_c), s	0.8	0.0	0.0	4.4	0.0	2.2	0.0	5.4

Intersection Summary	
HCM 2010 Ctrl Delay	49.7
HCM 2010 LOS	D

Notes



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	717	44	27	257	34	63	163	68	34	55	13
Future Volume (veh/h)	58	717	44	27	257	34	63	163	68	34	55	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	63	779	48	30	286	38	70	181	76	38	61	14
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.92	0.92	0.92	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	610	926	57	236	859	114	381	272	114	226	320	74
Arrive On Green	0.56	0.56	0.56	0.56	0.56	0.56	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1052	1645	101	660	1526	203	1319	1181	496	1118	1390	319
Grp Volume(v), veh/h	63	0	827	30	0	324	70	0	257	38	0	75
Grp Sat Flow(s),veh/h/ln	1052	0	1747	660	0	1729	1319	0	1677	1118	0	1708
Q Serve(g_s), s	2.0	0.0	22.8	2.3	0.0	5.9	2.6	0.0	8.1	1.9	0.0	2.1
Cycle Q Clear(g_c), s	7.8	0.0	22.8	25.1	0.0	5.9	4.7	0.0	8.1	9.9	0.0	2.1
Prop In Lane	1.00		0.06	1.00		0.12	1.00		0.30	1.00		0.19
Lane Grp Cap(c), veh/h	610	0	983	236	0	973	381	0	387	226	0	394
V/C Ratio(X)	0.10	0.00	0.84	0.13	0.00	0.33	0.18	0.00	0.66	0.17	0.00	0.19
Avail Cap(c_a), veh/h	1793	0	2948	978	0	2918	986	0	1155	738	0	1177
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.9	0.0	10.5	21.0	0.0	6.8	19.9	0.0	20.3	24.8	0.0	18.0
Incr Delay (d2), s/veh	0.1	0.0	2.0	0.2	0.0	0.2	0.2	0.0	2.0	0.3	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.1	0.0	16.9	0.8	0.0	5.1	1.8	0.0	7.1	1.1	0.0	1.8
LnGrp Delay(d),s/veh	9.0	0.0	12.6	21.2	0.0	7.0	20.1	0.0	22.3	25.2	0.0	18.2
LnGrp LOS	A		B	C		A	C		C	C		B
Approach Vol, veh/h		890			354			327			113	
Approach Delay, s/veh		12.3			8.2			21.8			20.6	
Approach LOS		B			A			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		19.4		38.7		19.4		38.7
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s		40.0		98.0		40.0		98.0
Max Q Clear Time (g_c+I1), s		11.1		25.8		12.9		28.1
Green Ext Time (p_c), s		1.6		6.9		0.4		2.1

Intersection Summary	
HCM 2010 Ctrl Delay	13.9
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	314	450	9	3	251	93	16	74	12	40	30	45
Future Volume (veh/h)	314	450	9	3	251	93	16	74	12	40	30	45
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	331	474	9	3	279	103	18	82	13	44	33	50
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	610	994	19	537	709	262	306	236	37	301	100	152
Arrive On Green	0.58	0.58	0.58	0.58	0.58	0.58	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	997	1726	33	909	1230	454	1310	1487	236	1295	634	961
Grp Volume(v), veh/h	331	0	483	3	0	382	18	0	95	44	0	83
Grp Sat Flow(s),veh/h/ln	997	0	1759	909	0	1685	1310	0	1723	1295	0	1595
Q Serve(g_s), s	12.3	0.0	7.3	0.1	0.0	5.6	0.6	0.0	2.2	1.4	0.0	2.1
Cycle Q Clear(g_c), s	17.9	0.0	7.3	7.3	0.0	5.6	2.6	0.0	2.2	3.6	0.0	2.1
Prop In Lane	1.00		0.02	1.00		0.27	1.00		0.14	1.00		0.60
Lane Grp Cap(c), veh/h	610	0	1013	537	0	970	306	0	273	301	0	253
V/C Ratio(X)	0.54	0.00	0.48	0.01	0.00	0.39	0.06	0.00	0.35	0.15	0.00	0.33
Avail Cap(c_a), veh/h	2463	0	4283	2226	0	4102	911	0	1068	899	0	989
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.2	0.0	5.6	7.7	0.0	5.3	18.0	0.0	16.9	18.5	0.0	16.9
Incr Delay (d2), s/veh	0.8	0.0	0.3	0.0	0.0	0.3	0.1	0.0	0.8	0.2	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.2	0.0	6.5	0.0	0.0	4.7	0.4	0.0	2.0	0.9	0.0	1.8
LnGrp Delay(d),s/veh	10.9	0.0	5.9	7.7	0.0	5.5	18.1	0.0	17.7	18.8	0.0	17.6
LnGrp LOS	B		A	A		A	B		B	B		B
Approach Vol, veh/h		814			385			113			127	
Approach Delay, s/veh		8.0			5.5			17.8			18.0	
Approach LOS		A			A			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		13.2		32.0		13.2		32.0
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s		28.0		110.0		28.0		110.0
Max Q Clear Time (g_c+I1), s		5.6		20.9		6.6		10.3
Green Ext Time (p_c), s		0.4		5.1		0.5		2.3

Intersection Summary		
HCM 2010 Ctrl Delay		9.0
HCM 2010 LOS		A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	375	64	67	39	39	193	21	1406	26	102	454	75
Future Volume (veh/h)	375	64	67	39	39	193	21	1406	26	102	454	75
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1800	1765	1765	1765
Adj Flow Rate, veh/h	417	71	74	43	43	214	23	1562	29	113	504	83
Adj No. of Lanes	1	1	0	1	1	1	1	2	0	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	440	266	278	256	291	248	437	1659	31	152	1739	778
Arrive On Green	0.14	0.34	0.34	0.17	0.17	0.17	0.02	0.49	0.49	0.05	0.52	0.52
Sat Flow, veh/h	1681	793	826	1238	1765	1500	1681	3368	62	1681	3353	1500
Grp Volume(v), veh/h	417	0	145	43	43	214	23	777	814	113	504	83
Grp Sat Flow(s),veh/h/ln	1681	0	1619	1238	1765	1500	1681	1676	1754	1681	1676	1500
Q Serve(g_s), s	19.0	0.0	9.2	4.2	2.9	19.5	1.0	61.4	61.7	4.5	11.9	4.0
Cycle Q Clear(g_c), s	19.0	0.0	9.2	4.2	2.9	19.5	1.0	61.4	61.7	4.5	11.9	4.0
Prop In Lane	1.00		0.51	1.00		1.00	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	440	0	544	256	291	248	437	826	864	152	1739	778
V/C Ratio(X)	0.95	0.00	0.27	0.17	0.15	0.86	0.05	0.94	0.94	0.74	0.29	0.11
Avail Cap(c_a), veh/h	440	0	635	325	390	331	457	849	888	152	1745	781
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.8	0.0	34.0	50.7	50.1	57.0	17.4	33.6	33.7	32.2	19.1	17.2
Incr Delay (d2), s/veh	29.9	0.0	0.3	0.3	0.2	16.3	0.0	17.8	17.7	17.7	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	23.3	0.0	7.5	2.6	2.6	14.2	0.8	41.7	43.7	5.3	9.4	3.0
LnGrp Delay(d),s/veh	76.6	0.0	34.2	51.0	50.3	73.3	17.4	51.5	51.4	49.9	19.2	17.3
LnGrp LOS	E		C	D	D	E	B	D	D	D	B	B
Approach Vol, veh/h		562			300			1614			700	
Approach Delay, s/veh		65.7			66.8			50.9			23.9	
Approach LOS		E			E			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4		6	7	8
Phs Duration (G+Y+Rc), s	24.0	29.2	8.4	78.8		53.2	12.0	75.1
Change Period (Y+Rc), s	5.0	6.0	6.0	6.0		6.0	5.0	6.0
Max Green Setting (Gmax), s	19.0	31.0	4.0	73.0		55.0	7.0	71.0
Max Q Clear Time (g_c+I1), s	22.0	22.5	4.0	14.9		12.2	7.5	64.7
Green Ext Time (p_c), s	0.0	0.7	0.0	3.4		0.8	0.0	4.4

Intersection Summary	
HCM 2010 Ctrl Delay	49.1
HCM 2010 LOS	D

Notes

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	58	139	37	13	89	39	26	75	8	23	49	26
Future Vol, veh/h	58	139	37	13	89	39	26	75	8	23	49	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	64	154	41	14	99	43	29	83	9	26	54	29

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	142	0	0	195	0	0	493	473	175	498	472	121
Stage 1	-	-	-	-	-	-	303	303	-	149	149	-
Stage 2	-	-	-	-	-	-	190	170	-	349	323	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1441	-	-	1378	-	-	486	490	868	483	490	930
Stage 1	-	-	-	-	-	-	706	664	-	854	774	-
Stage 2	-	-	-	-	-	-	812	758	-	667	650	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1441	-	-	1378	-	-	409	461	868	393	461	930
Mov Cap-2 Maneuver	-	-	-	-	-	-	409	461	-	393	461	-
Stage 1	-	-	-	-	-	-	671	631	-	811	765	-
Stage 2	-	-	-	-	-	-	723	750	-	544	618	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	0.7	15.5	14
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	463	1441	-	-	1378	-	-	508
HCM Lane V/C Ratio	0.262	0.045	-	-	0.01	-	-	0.214
HCM Control Delay (s)	15.5	7.6	0	-	7.6	0	-	14
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	1	0.1	-	-	0	-	-	0.8

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	77	44	7	41	24	26
Future Vol, veh/h	77	44	7	41	24	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	86	49	8	46	27	29

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	54	0	-	0	252	31
Stage 1	-	-	-	-	31	-
Stage 2	-	-	-	-	221	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1551	-	-	-	737	1043
Stage 1	-	-	-	-	992	-
Stage 2	-	-	-	-	816	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1551	-	-	-	695	1043
Mov Cap-2 Maneuver	-	-	-	-	695	-
Stage 1	-	-	-	-	935	-
Stage 2	-	-	-	-	816	-

Approach	EB	WB	SB
HCM Control Delay, s	4.7	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1551	-	-	-	841
HCM Lane V/C Ratio	0.055	-	-	-	0.066
HCM Control Delay (s)	7.5	0	-	-	9.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	33	256	0	12	127
Future Vol, veh/h	0	33	256	0	12	127
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	37	284	0	13	141

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	451	284	0	0	284	0
Stage 1	284	-	-	-	-	-
Stage 2	167	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	566	755	-	-	1278	-
Stage 1	764	-	-	-	-	-
Stage 2	863	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	560	755	-	-	1278	-
Mov Cap-2 Maneuver	560	-	-	-	-	-
Stage 1	756	-	-	-	-	-
Stage 2	863	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	755	1278	-
HCM Lane V/C Ratio	-	-	0.049	0.01	-
HCM Control Delay (s)	-	-	10	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	54	0	0	9	0	33	0	169	3	12	97	18
Future Vol, veh/h	54	0	0	9	0	33	0	169	3	12	97	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	60	0	0	10	0	37	0	188	3	13	108	20

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	352	335	118	334	344	190	128	0	0	191	0	0
Stage 1	144	144	-	190	190	-	-	-	-	-	-	-
Stage 2	208	191	-	144	154	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	603	585	934	620	579	852	1458	-	-	1383	-	-
Stage 1	859	778	-	812	743	-	-	-	-	-	-	-
Stage 2	794	742	-	859	770	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	573	579	934	615	573	852	1458	-	-	1383	-	-
Mov Cap-2 Maneuver	573	579	-	615	573	-	-	-	-	-	-	-
Stage 1	859	770	-	812	743	-	-	-	-	-	-	-
Stage 2	760	742	-	850	762	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12	9.9	0	0.7
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1458	-	-	573	787	1383	-	-
HCM Lane V/C Ratio	-	-	-	0.105	0.059	0.01	-	-
HCM Control Delay (s)	0	-	-	12	9.9	7.6	0	-
HCM Lane LOS	A	-	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.2	0	-	-

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	225	142	0	9	6
Future Vol, veh/h	3	225	142	0	9	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	250	158	0	10	7

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	158	0	-	0	414	158
Stage 1	-	-	-	-	158	-
Stage 2	-	-	-	-	256	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1422	-	-	-	595	887
Stage 1	-	-	-	-	871	-
Stage 2	-	-	-	-	787	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1422	-	-	-	594	887
Mov Cap-2 Maneuver	-	-	-	-	594	-
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	787	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1422	-	-	-	684
HCM Lane V/C Ratio	0.002	-	-	-	0.024
HCM Control Delay (s)	7.5	0	-	-	10.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	3	167	0	3	120	0	15	0	12	0	0	6
Future Vol, veh/h	3	167	0	3	120	0	15	0	12	0	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	186	0	3	133	0	17	0	13	0	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	133	0	0	186	0	0	335	331	186	338	331	133
Stage 1	-	-	-	-	-	-	192	192	-	139	139	-
Stage 2	-	-	-	-	-	-	143	139	-	199	192	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1452	-	-	1388	-	-	619	588	856	616	588	916
Stage 1	-	-	-	-	-	-	810	742	-	864	782	-
Stage 2	-	-	-	-	-	-	860	782	-	803	742	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1452	-	-	1388	-	-	613	586	856	604	586	916
Mov Cap-2 Maneuver	-	-	-	-	-	-	613	586	-	604	586	-
Stage 1	-	-	-	-	-	-	808	741	-	862	780	-
Stage 2	-	-	-	-	-	-	852	780	-	789	741	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	10.4	9
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	702	1452	-	-	1388	-	-	916
HCM Lane V/C Ratio	0.043	0.002	-	-	0.002	-	-	0.007
HCM Control Delay (s)	10.4	7.5	0	-	7.6	0	-	9
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	4.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	146	33	12	21	102	33
Future Vol, veh/h	146	33	12	21	102	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	162	37	13	23	113	37

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	199	0	230	181
Stage 1	-	-	-	-	181	-
Stage 2	-	-	-	-	49	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1373	-	758	862
Stage 1	-	-	-	-	850	-
Stage 2	-	-	-	-	973	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1373	-	750	862
Mov Cap-2 Maneuver	-	-	-	-	750	-
Stage 1	-	-	-	-	842	-
Stage 2	-	-	-	-	973	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.8	10.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	775	-	-	1373	-
HCM Lane V/C Ratio	0.194	-	-	0.01	-
HCM Control Delay (s)	10.8	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0	-

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	18	98	0	12	94
Future Vol, veh/h	3	18	98	0	12	94
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	20	109	0	13	104

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	239	109	0	0	109	0
Stage 1	109	-	-	-	-	-
Stage 2	130	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	749	945	-	-	1481	-
Stage 1	916	-	-	-	-	-
Stage 2	896	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	742	945	-	-	1481	-
Mov Cap-2 Maneuver	742	-	-	-	-	-
Stage 1	908	-	-	-	-	-
Stage 2	896	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	0.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	909	1481	-
HCM Lane V/C Ratio	-	-	0.026	0.009	-
HCM Control Delay (s)	-	-	9.1	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	353	44	55	346	83	25	98	30	195	277	34
Future Volume (veh/h)	12	353	44	55	346	83	25	98	30	195	277	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	13	372	46	61	384	92	28	109	33	217	308	38
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.95	0.95	0.95	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	302	600	74	350	536	128	343	444	134	510	525	65
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	914	1541	191	965	1377	330	1031	1301	394	1241	1541	190
Grp Volume(v), veh/h	13	0	418	61	0	476	28	0	142	217	0	346
Grp Sat Flow(s),veh/h/ln	914	0	1731	965	0	1707	1031	0	1695	1241	0	1731
Q Serve(g_s), s	0.5	0.0	8.7	2.4	0.0	10.5	1.0	0.0	2.7	6.8	0.0	7.3
Cycle Q Clear(g_c), s	11.1	0.0	8.7	11.1	0.0	10.5	8.4	0.0	2.7	9.5	0.0	7.3
Prop In Lane	1.00		0.11	1.00		0.19	1.00		0.23	1.00		0.11
Lane Grp Cap(c), veh/h	302	0	674	350	0	665	343	0	578	510	0	590
V/C Ratio(X)	0.04	0.00	0.62	0.17	0.00	0.72	0.08	0.00	0.25	0.43	0.00	0.59
Avail Cap(c_a), veh/h	1507	0	2955	1621	0	2913	1427	0	2361	1816	0	2411
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.2	0.0	10.9	15.4	0.0	11.5	15.5	0.0	10.6	14.0	0.0	12.1
Incr Delay (d2), s/veh	0.1	0.0	0.9	0.2	0.0	1.5	0.1	0.0	0.2	0.6	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	0.0	7.6	1.2	0.0	8.9	0.5	0.0	2.3	4.3	0.0	6.5
LnGrp Delay(d),s/veh	16.2	0.0	11.9	15.6	0.0	13.0	15.6	0.0	10.8	14.5	0.0	13.0
LnGrp LOS	B		B	B		B	B		B	B		B
Approach Vol, veh/h		431			537			170			563	
Approach Delay, s/veh		12.0			13.3			11.6			13.6	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		21.2		23.3		21.2		23.3
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s		62.0		76.0		62.0		76.0
Max Q Clear Time (g_c+I1), s		11.4		14.1		12.5		14.1
Green Ext Time (p_c), s		0.9		2.5		2.7		3.3

Intersection Summary	
HCM 2010 Ctrl Delay	12.9
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	219	123	46	313	418	136	48	1054	64	134	2315	349
Future Volume (veh/h)	219	123	46	313	418	136	48	1054	64	134	2315	349
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1800	1765	1765	1765
Adj Flow Rate, veh/h	243	137	51	348	464	151	53	1171	71	149	2572	388
Adj No. of Lanes	2	2	0	2	2	1	1	3	0	1	3	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	304	351	126	373	558	249	61	2332	141	178	2755	998
Arrive On Green	0.09	0.14	0.14	0.11	0.17	0.17	0.04	0.50	0.50	0.11	0.57	0.57
Sat Flow, veh/h	3261	2422	866	3261	3353	1500	1681	4645	282	1681	4818	1500
Grp Volume(v), veh/h	243	93	95	348	464	151	53	809	433	149	2572	388
Grp Sat Flow(s),veh/h/ln	1630	1676	1612	1630	1676	1500	1681	1606	1715	1681	1606	1500
Q Serve(g_s), s	12.1	8.3	8.9	17.6	22.2	15.5	5.2	27.9	27.9	14.4	81.4	19.4
Cycle Q Clear(g_c), s	12.1	8.3	8.9	17.6	22.2	15.5	5.2	27.9	27.9	14.4	81.4	19.4
Prop In Lane	1.00		0.54	1.00		1.00	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	304	243	234	373	558	249	61	1612	861	178	2755	998
V/C Ratio(X)	0.80	0.38	0.41	0.93	0.83	0.61	0.87	0.50	0.50	0.84	0.93	0.39
Avail Cap(c_a), veh/h	393	374	359	373	727	325	61	1612	861	253	2786	1007
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	73.8	64.3	64.5	72.9	67.0	64.2	79.6	27.5	27.5	72.8	32.6	12.6
Incr Delay (d2), s/veh	8.7	1.0	1.1	30.0	6.4	2.4	72.0	0.2	0.5	15.1	6.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.8	7.1	7.2	14.5	16.2	10.8	6.6	18.2	19.3	11.9	47.7	12.8
LnGrp Delay(d),s/veh	82.5	65.2	65.6	102.9	73.3	66.5	151.6	27.8	28.0	87.9	39.2	12.8
LnGrp LOS	F	E	E	F	E	E	F	C	C	F	D	B
Approach Vol, veh/h		431			963			1295			3109	
Approach Delay, s/veh		75.1			83.0			32.9			38.3	
Approach LOS		E			F			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	30.5	33.6	11.0	101.0	24.0	30.1	22.6	89.3
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	20.6	36.0	6.0	96.0	19.0	37.0	25.0	77.0
Max Q Clear Time (g_c+I1), s	15.1	25.2	8.2	84.4	20.6	11.9	17.4	30.9
Green Ext Time (p_c), s	0.3	2.4	0.0	10.6	0.0	0.9	0.2	9.0

Intersection Summary	
HCM 2010 Ctrl Delay	47.2
HCM 2010 LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	349	65	67	591	19	40	99	28	32	211	119
Future Volume (veh/h)	12	349	65	67	591	19	40	99	28	32	211	119
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	13	388	72	74	657	21	44	110	31	36	234	132
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	241	690	128	394	810	26	242	407	115	434	326	184
Arrive On Green	0.48	0.48	0.48	0.48	0.48	0.48	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	758	1448	269	928	1701	54	1012	1325	373	1243	1061	598
Grp Volume(v), veh/h	13	0	460	74	0	678	44	0	141	36	0	366
Grp Sat Flow(s),veh/h/ln	758	0	1717	928	0	1755	1012	0	1699	1243	0	1659
Q Serve(g_s), s	0.8	0.0	10.6	3.4	0.0	18.3	2.2	0.0	3.5	1.2	0.0	10.9
Cycle Q Clear(g_c), s	19.1	0.0	10.6	14.1	0.0	18.3	13.1	0.0	3.5	4.7	0.0	10.9
Prop In Lane	1.00		0.16	1.00		0.03	1.00		0.22	1.00		0.36
Lane Grp Cap(c), veh/h	241	0	818	394	0	836	242	0	522	434	0	510
V/C Ratio(X)	0.05	0.00	0.56	0.19	0.00	0.81	0.18	0.00	0.27	0.08	0.00	0.72
Avail Cap(c_a), veh/h	1029	0	2602	1358	0	2659	917	0	1655	1262	0	1616
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.5	0.0	10.4	15.4	0.0	12.4	22.9	0.0	14.5	16.3	0.0	17.1
Incr Delay (d2), s/veh	0.1	0.0	0.6	0.2	0.0	1.9	0.4	0.0	0.3	0.1	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.3	0.0	8.8	1.6	0.0	14.1	1.2	0.0	3.0	0.8	0.0	9.0
LnGrp Delay(d),s/veh	20.6	0.0	11.0	15.6	0.0	14.3	23.3	0.0	14.8	16.4	0.0	19.0
LnGrp LOS	C		B	B		B	C		B	B		B
Approach Vol, veh/h		473			752			185			402	
Approach Delay, s/veh		11.3			14.5			16.8			18.8	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		23.0		32.4		23.0		32.4
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s		54.0		84.0		54.0		84.0
Max Q Clear Time (g_c+I1), s		16.1		22.1		13.9		21.3
Green Ext Time (p_c), s		0.9		2.9		2.3		5.1

Intersection Summary		
HCM 2010 Ctrl Delay		14.8
HCM 2010 LOS		B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	312	24	18	426	50	9	52	11	78	98	252
Future Volume (veh/h)	80	312	24	18	426	50	9	52	11	78	98	252
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1800	1765	1765	1800	1765	1765	1800
Adj Flow Rate, veh/h	89	347	27	19	453	53	10	58	12	86	108	277
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.94	0.94	0.94	0.90	0.90	0.90	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	316	701	55	419	673	79	257	476	99	546	147	378
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	889	1617	126	1004	1551	181	994	1419	294	1325	439	1127
Grp Volume(v), veh/h	89	0	374	19	0	506	10	0	70	86	0	385
Grp Sat Flow(s),veh/h/ln	889	0	1743	1004	0	1733	994	0	1713	1325	0	1566
Q Serve(g_s), s	4.6	0.0	8.1	0.7	0.0	12.2	0.5	0.0	1.5	2.5	0.0	11.3
Cycle Q Clear(g_c), s	16.8	0.0	8.1	8.8	0.0	12.2	11.7	0.0	1.5	4.0	0.0	11.3
Prop In Lane	1.00		0.07	1.00		0.10	1.00		0.17	1.00		0.72
Lane Grp Cap(c), veh/h	316	0	756	419	0	752	257	0	575	546	0	526
V/C Ratio(X)	0.28	0.00	0.49	0.05	0.00	0.67	0.04	0.00	0.12	0.16	0.00	0.73
Avail Cap(c_a), veh/h	1195	0	2477	1411	0	2463	1145	0	2106	1730	0	1925
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.5	0.0	10.6	13.8	0.0	11.8	20.4	0.0	12.0	13.4	0.0	15.2
Incr Delay (d2), s/veh	0.5	0.0	0.5	0.0	0.0	1.1	0.1	0.0	0.1	0.1	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.1	0.0	7.1	0.4	0.0	10.0	0.2	0.0	1.3	1.7	0.0	8.8
LnGrp Delay(d),s/veh	19.0	0.0	11.1	13.8	0.0	12.8	20.5	0.0	12.1	13.5	0.0	17.2
LnGrp LOS	B		B	B		B	C		B	B		B
Approach Vol, veh/h		463			525			80			471	
Approach Delay, s/veh		12.6			12.9			13.1			16.5	
Approach LOS		B			B			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		23.5		28.6		23.5		28.6
Change Period (Y+Rc), s		6.0		6.0		6.0		6.0
Max Green Setting (Gmax), s		64.0		74.0		64.0		74.0
Max Q Clear Time (g_c+I1), s		14.7		19.8		14.3		15.2
Green Ext Time (p_c), s		0.4		2.8		3.2		3.2

Intersection Summary	
HCM 2010 Ctrl Delay	13.9
HCM 2010 LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	198	47	67	44	43	186	85	959	42	193	1611	470
Future Volume (veh/h)	198	47	67	44	43	186	85	959	42	193	1611	470
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	1765	1800	1765	1765	1765	1765	1765	1800	1765	1765	1765
Adj Flow Rate, veh/h	220	52	74	49	48	207	93	1054	46	210	1751	511
Adj No. of Lanes	1	1	0	1	1	1	1	2	0	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.91	0.91	0.91	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	297	158	225	272	422	359	149	1810	79	354	1960	877
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.04	0.55	0.55	0.08	0.58	0.58
Sat Flow, veh/h	1120	660	939	1260	1765	1500	1681	3273	143	1681	3353	1500
Grp Volume(v), veh/h	220	0	126	49	48	207	93	540	560	210	1751	511
Grp Sat Flow(s),veh/h/ln	1120	0	1599	1260	1765	1500	1681	1676	1740	1681	1676	1500
Q Serve(g_s), s	26.1	0.0	8.9	4.6	2.9	16.6	3.2	29.0	29.0	7.1	62.1	29.3
Cycle Q Clear(g_c), s	29.0	0.0	8.9	13.5	2.9	16.6	3.2	29.0	29.0	7.1	62.1	29.3
Prop In Lane	1.00		0.59	1.00		1.00	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	297	0	383	272	422	359	149	927	962	354	1960	877
V/C Ratio(X)	0.74	0.00	0.33	0.18	0.11	0.58	0.62	0.58	0.58	0.59	0.89	0.58
Avail Cap(c_a), veh/h	332	0	433	312	478	406	173	945	980	448	2135	955
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.0	0.0	42.9	48.5	40.6	45.9	30.5	20.1	20.1	15.9	24.7	17.9
Incr Delay (d2), s/veh	7.7	0.0	0.5	0.3	0.1	1.6	5.4	0.9	0.9	1.6	5.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.5	0.0	7.2	2.9	2.6	11.4	3.9	19.6	20.2	6.2	38.8	18.0
LnGrp Delay(d),s/veh	59.6	0.0	43.4	48.8	40.7	47.4	35.9	21.0	21.0	17.5	29.7	18.7
LnGrp LOS	E		D	D	D	D	D	C	C	B	C	B
Approach Vol, veh/h		346			304			1193			2472	
Approach Delay, s/veh		53.7			46.6			22.2			26.4	
Approach LOS		D			D			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		38.7	12.1	85.9		38.7	16.4	81.6
Change Period (Y+Rc), s		6.0	6.0	6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		37.0	8.0	87.0		37.0	18.0	77.0
Max Q Clear Time (g_c+I1), s		19.6	6.2	65.1		32.0	10.1	32.0
Green Ext Time (p_c), s		0.9	0.0	14.8		0.7	0.3	7.3

Intersection Summary	
HCM 2010 Ctrl Delay	28.8
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	10.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	23	126	45	20	130	24	88	32	6	51	152	32
Future Vol, veh/h	23	126	45	20	130	24	88	32	6	51	152	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	140	50	22	144	27	98	36	7	57	169	36

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	171	0	0	190	0	0	521	432	165	441	444	158
Stage 1	-	-	-	-	-	-	217	217	-	202	202	-
Stage 2	-	-	-	-	-	-	304	215	-	239	242	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1406	-	-	1384	-	-	466	516	879	527	508	887
Stage 1	-	-	-	-	-	-	785	723	-	800	734	-
Stage 2	-	-	-	-	-	-	705	725	-	764	705	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1406	-	-	1384	-	-	318	496	879	480	488	887
Mov Cap-2 Maneuver	-	-	-	-	-	-	318	496	-	480	488	-
Stage 1	-	-	-	-	-	-	769	708	-	783	721	-
Stage 2	-	-	-	-	-	-	509	712	-	705	690	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.9	21.1	18.8
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	362	1406	-	-	1384	-	-	518
HCM Lane V/C Ratio	0.387	0.018	-	-	0.016	-	-	0.504
HCM Control Delay (s)	21.1	7.6	0	-	7.6	0	-	18.8
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	1.8	0.1	-	-	0	-	-	2.8

Intersection	
Int Delay, s/veh	6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	54	28	47	29	36	110
Future Vol, veh/h	54	28	47	29	36	110
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	60	31	52	32	40	122

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	84	0	-	0	219	68
Stage 1	-	-	-	-	68	-
Stage 2	-	-	-	-	151	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1513	-	-	-	769	995
Stage 1	-	-	-	-	955	-
Stage 2	-	-	-	-	877	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1513	-	-	-	738	995
Mov Cap-2 Maneuver	-	-	-	-	738	-
Stage 1	-	-	-	-	917	-
Stage 2	-	-	-	-	877	-

Approach	EB	WB	SB
HCM Control Delay, s	4.9	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1513	-	-	-	916
HCM Lane V/C Ratio	0.04	-	-	-	0.177
HCM Control Delay (s)	7.5	0	-	-	9.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	21	130	0	39	344
Future Vol, veh/h	0	21	130	0	39	344
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	23	144	0	43	382

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	612	144	0	0	144	0
Stage 1	144	-	-	-	-	-
Stage 2	468	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	456	903	-	-	1438	-
Stage 1	883	-	-	-	-	-
Stage 2	630	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	439	903	-	-	1438	-
Mov Cap-2 Maneuver	439	-	-	-	-	-
Stage 1	849	-	-	-	-	-
Stage 2	630	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	0.8
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	903	1438	-
HCM Lane V/C Ratio	-	-	0.026	0.03	-
HCM Control Delay (s)	-	-	9.1	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	33	0	0	6	0	24	0	73	6	39	245	60
Future Vol, veh/h	33	0	0	6	0	24	0	73	6	39	245	60
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	37	0	0	7	0	27	0	81	7	43	272	67

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	490	480	306	477	510	85	339	0	0	88	0	0
Stage 1	392	392	-	85	85	-	-	-	-	-	-	-
Stage 2	98	88	-	392	425	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	489	485	734	498	467	974	1220	-	-	1508	-	-
Stage 1	633	606	-	923	824	-	-	-	-	-	-	-
Stage 2	908	822	-	633	586	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	463	468	734	485	451	974	1220	-	-	1508	-	-
Mov Cap-2 Maneuver	463	468	-	485	451	-	-	-	-	-	-	-
Stage 1	633	585	-	923	824	-	-	-	-	-	-	-
Stage 2	883	822	-	611	565	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.4	9.6	0	0.8
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1220	-	-	463	811	1508	-	-
HCM Lane V/C Ratio	-	-	-	0.079	0.041	0.029	-	-
HCM Control Delay (s)	0	-	-	13.4	9.6	7.5	0	-
HCM Lane LOS	A	-	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	188	243	6	6	3
Future Vol, veh/h	6	188	243	6	6	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	7	209	270	7	7	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	277	0	-	0	497	274
Stage 1	-	-	-	-	274	-
Stage 2	-	-	-	-	223	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1286	-	-	-	532	765
Stage 1	-	-	-	-	772	-
Stage 2	-	-	-	-	814	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1286	-	-	-	529	765
Mov Cap-2 Maneuver	-	-	-	-	529	-
Stage 1	-	-	-	-	767	-
Stage 2	-	-	-	-	814	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1286	-	-	-	590
HCM Lane V/C Ratio	0.005	-	-	-	0.017
HCM Control Delay (s)	7.8	0	-	-	11.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	9	174	0	12	162	6	9	0	9	0	0	3
Future Vol, veh/h	9	174	0	12	162	6	9	0	9	0	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	193	0	13	180	7	10	0	10	0	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	187	0	0	193	0	0	424	426	193	428	423	184
Stage 1	-	-	-	-	-	-	213	213	-	210	210	-
Stage 2	-	-	-	-	-	-	211	213	-	218	213	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1387	-	-	1380	-	-	540	520	849	537	522	858
Stage 1	-	-	-	-	-	-	789	726	-	792	728	-
Stage 2	-	-	-	-	-	-	791	726	-	784	726	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1387	-	-	1380	-	-	530	510	849	523	512	858
Mov Cap-2 Maneuver	-	-	-	-	-	-	530	510	-	523	512	-
Stage 1	-	-	-	-	-	-	783	720	-	786	720	-
Stage 2	-	-	-	-	-	-	779	718	-	769	720	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.5	10.7	9.2
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	653	1387	-	-	1380	-	-	858
HCM Lane V/C Ratio	0.031	0.007	-	-	0.01	-	-	0.004
HCM Control Delay (s)	10.7	7.6	0	-	7.6	0	-	9.2
HCM Lane LOS	B	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0

Intersection	
Int Delay, s/veh	3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	72	111	36	114	66	21
Future Vol, veh/h	72	111	36	114	66	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	80	123	40	127	73	23

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	203	0	349	142
Stage 1	-	-	-	-	142	-
Stage 2	-	-	-	-	207	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1369	-	648	906
Stage 1	-	-	-	-	885	-
Stage 2	-	-	-	-	828	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1369	-	628	906
Mov Cap-2 Maneuver	-	-	-	-	628	-
Stage 1	-	-	-	-	858	-
Stage 2	-	-	-	-	828	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.9	11.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	678	-	-	1369	-
HCM Lane V/C Ratio	0.143	-	-	0.029	-
HCM Control Delay (s)	11.2	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

Intersection	
Int Delay, s/veh	1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	15	119	3	39	194
Future Vol, veh/h	3	15	119	3	39	194
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	17	132	3	43	216

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	436	134	0	0	135	0
Stage 1	134	-	-	-	-	-
Stage 2	302	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	578	915	-	-	1449	-
Stage 1	892	-	-	-	-	-
Stage 2	750	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	558	915	-	-	1449	-
Mov Cap-2 Maneuver	558	-	-	-	-	-
Stage 1	862	-	-	-	-	-
Stage 2	750	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	1.3
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	827	1449	-
HCM Lane V/C Ratio	-	-	0.024	0.03	-
HCM Control Delay (s)	-	-	9.5	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Intersection	
Intersection Delay, s/veh	7.2
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	192	477	326	177
Demand Flow Rate, veh/h	195	486	333	180
Vehicles Circulating, veh/h	179	291	247	413
Vehicles Exiting, veh/h	414	289	127	364
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.7	9.1	6.5	6.0
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	195	486	333	180
Cap Entry Lane, veh/h	1150	1026	1073	906
Entry HV Adj Factor	0.985	0.982	0.980	0.985
Flow Entry, veh/h	192	477	326	177
Cap Entry, veh/h	1132	1007	1051	892
V/C Ratio	0.170	0.474	0.310	0.199
Control Delay, s/veh	4.7	9.1	6.5	6.0
LOS	A	A	A	A
95th %tile Queue, veh	1	3	1	1

Intersection	
Intersection Delay, s/veh	12.9
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	872	338	312	109
Demand Flow Rate, veh/h	889	345	317	111
Vehicles Circulating, veh/h	127	307	878	376
Vehicles Exiting, veh/h	360	888	138	276
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	14.5	7.2	17.3	5.0
Approach LOS	B	A	C	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	889	345	317	111
Cap Entry Lane, veh/h	1212	1009	564	940
Entry HV Adj Factor	0.981	0.978	0.983	0.980
Flow Entry, veh/h	872	338	312	109
Cap Entry, veh/h	1189	987	554	922
V/C Ratio	0.733	0.342	0.562	0.118
Control Delay, s/veh	14.5	7.2	17.3	5.0
LOS	B	A	C	A
95th %tile Queue, veh	7	2	3	0

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	832	373	110	123
Demand Flow Rate, veh/h	849	380	112	126
Vehicles Circulating, veh/h	80	444	883	295
Vehicles Exiting, veh/h	341	551	46	529
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	11.8	9.5	9.1	4.7
Approach LOS	B	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	849	380	112	126
Cap Entry Lane, veh/h	1272	877	561	1021
Entry HV Adj Factor	0.980	0.981	0.986	0.979
Flow Entry, veh/h	832	373	110	123
Cap Entry, veh/h	1247	860	553	1000
V/C Ratio	0.668	0.433	0.200	0.123
Control Delay, s/veh	11.8	9.5	9.1	4.7
LOS	B	A	A	A
95th %tile Queue, veh	5	2	1	0

Intersection	
Intersection Delay, s/veh	12.8
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	454	537	170	563
Demand Flow Rate, veh/h	463	548	174	574
Vehicles Circulating, veh/h	597	153	634	483
Vehicles Exiting, veh/h	460	655	426	218
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	15.5	8.1	7.9	16.5
Approach LOS	C	A	A	C

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	463	548	174	574
Cap Entry Lane, veh/h	751	1180	723	843
Entry HV Adj Factor	0.981	0.980	0.976	0.981
Flow Entry, veh/h	454	537	170	563
Cap Entry, veh/h	736	1157	705	827
V/C Ratio	0.617	0.464	0.241	0.681
Control Delay, s/veh	15.5	8.1	7.9	16.5
LOS	C	A	A	C
95th %tile Queue, veh	4	3	1	5

Intersection	
Intersection Delay, s/veh	12.6
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	468	744	184	398
Demand Flow Rate, veh/h	477	758	188	407
Vehicles Circulating, veh/h	348	169	441	782
Vehicles Exiting, veh/h	841	460	384	145
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	9.9	12.1	6.4	19.7
Approach LOS	A	B	A	C

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	477	758	188	407
Cap Entry Lane, veh/h	968	1161	880	622
Entry HV Adj Factor	0.982	0.982	0.978	0.979
Flow Entry, veh/h	468	744	184	398
Cap Entry, veh/h	950	1140	860	608
V/C Ratio	0.493	0.653	0.214	0.655
Control Delay, s/veh	9.9	12.1	6.4	19.7
LOS	A	B	A	C
95th %tile Queue, veh	3	5	1	5

Intersection	
Intersection Delay, s/veh	8.7
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	429	510	74	441
Demand Flow Rate, veh/h	438	520	75	450
Vehicles Circulating, veh/h	204	148	494	476
Vehicles Exiting, veh/h	722	421	147	192
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.3	7.7	5.3	11.7
Approach LOS	A	A	A	B

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	438	520	75	450
Cap Entry Lane, veh/h	1121	1187	834	849
Entry HV Adj Factor	0.978	0.981	0.986	0.980
Flow Entry, veh/h	429	510	74	441
Cap Entry, veh/h	1097	1164	822	832
V/C Ratio	0.391	0.438	0.090	0.530
Control Delay, s/veh	7.3	7.7	5.3	11.7
LOS	A	A	A	B
95th %tile Queue, veh	2	2	0	3

Thompson Traffic and Civil Engineers Inc.

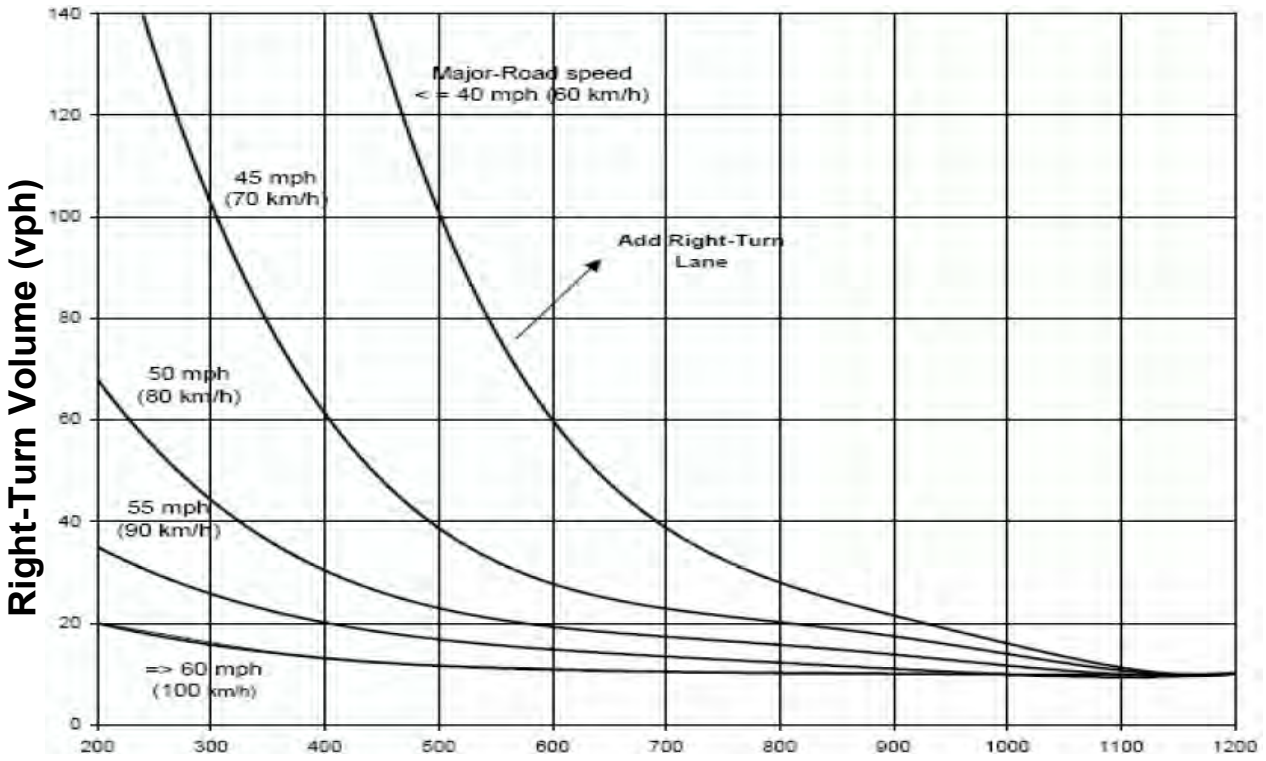
Patagonia Subdivision

ACHD Right-Turn Lane Analysis

2018 Existing Traffic

Intersection	Approach	Speed Limit (mph)	Peak Hour	Right-Turn Volume (vph)	Major Road Volume (vph)	Meet Warrant?
1 Locust Grove Road and Hubbard Road	EB	45	AM	9	63	No*
			PM	6	27	No*
2 Locust Grove Road and Hubbard Road	WB	45	AM	0	4	No*
			PM	0	27	No*
3 Eagle Road and Hubbard Road	WB	45	AM	13	14	No*
			PM	9	18	No*

* Right-turn volume < 10 vph and/or major road volume < 200 vph - right-turn lane not warranted



Major Road Volume (vph)

1 Weekday AM

1 Weekday PM

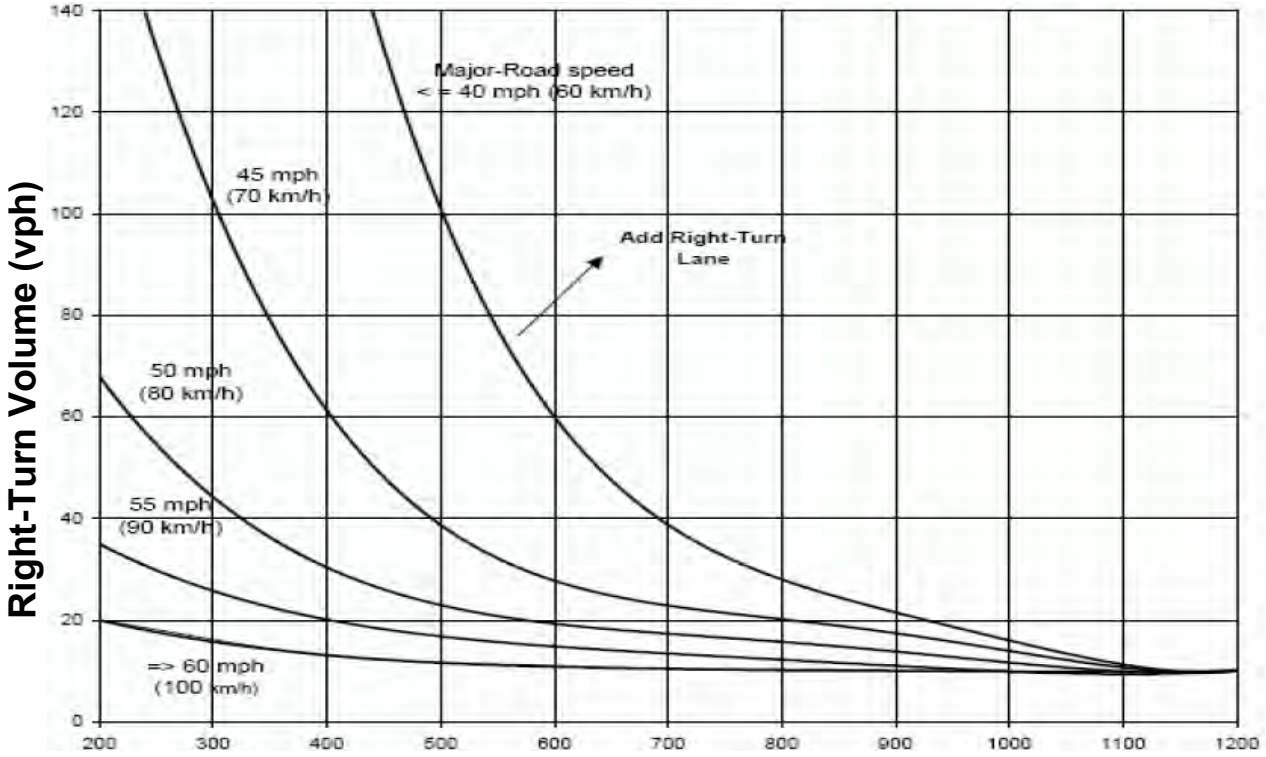
Patagonia Subdivision

ACHD Right-Turn Lane Analysis

2023 Background Traffic

	Intersection	Approach	Speed Limit (mph)	Peak Hour	Right-Turn Volume (vph)	Major Road Volume (vph)	Meet Warrant?
1	Locust Grove Road and Hubbard Road	EB	45	AM	14	109	No*
				PM	10	49	No*
2	Locust Grove Road and Hubbard Road	WB	45	AM	0	10	No*
				PM	0	51	No*
3	Eagle Road and Hubbard Road	WB	45	AM	23	25	No*
				PM	16	32	No*

* Right-turn volume < 10 vph and/or major road volume < 200 vph - right-turn lane not warranted



Major Road Volume (vph)

1 Weekday AM

1 Weekday PM

Thompson Traffic and Civil Engineers Inc.

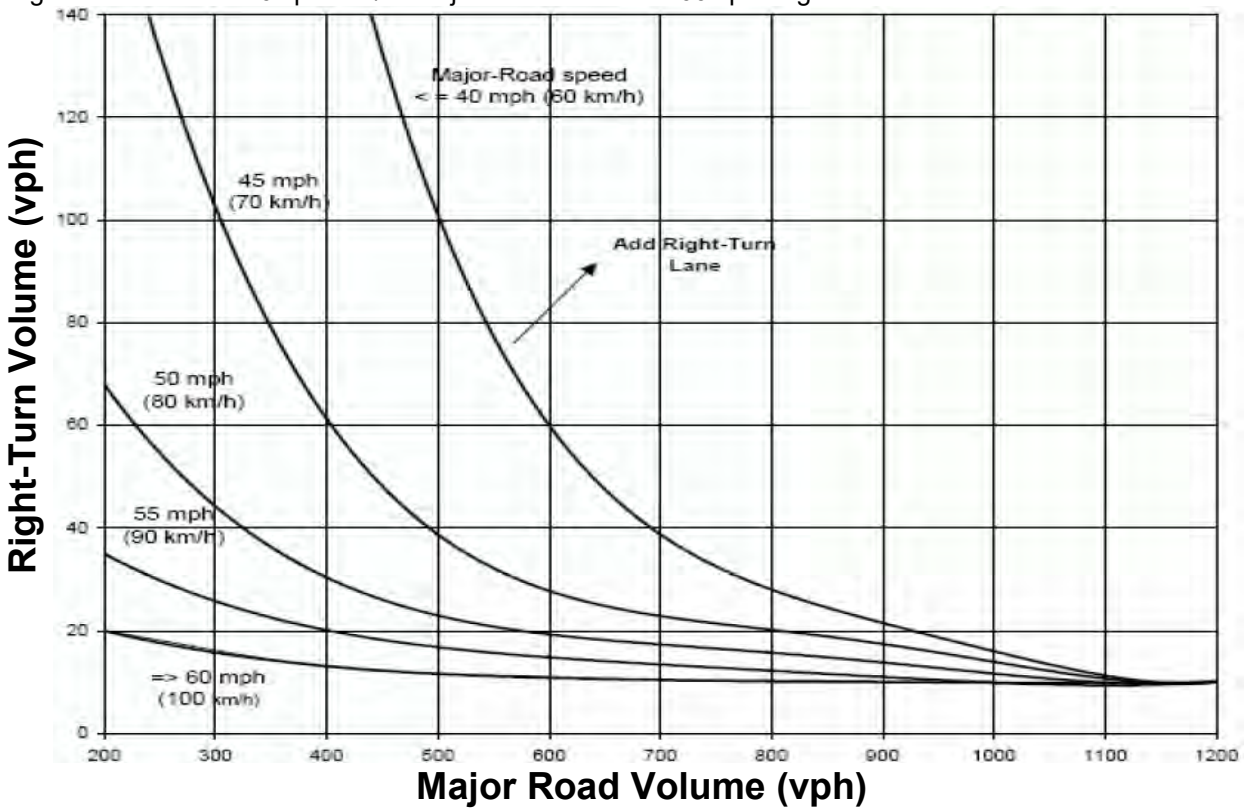
Patagonia Subdivision

ACHD Right-Turn Lane Analysis

2023 Total Traffic

	Intersection	Approach	Speed Limit (mph)	Peak Hour	Right-Turn Volume (vph)	Major Road Volume (vph)	Meet Warrant?
1	Locust Grove Road and Hubbard Road	EB	45	AM	18	121	No*
				PM	19	84	No*
2	Locust Grove Road and Hubbard Road	WB	45	AM	13	51	No*
				PM	8	78	No*
3	Eagle Road and Hubbard Road	WB	45	AM	23	26	No*
				PM	16	38	No*
4	Locust Grove Road and Ray / Bridge Access	SB	50	AM	6	60	No*
				PM	20	157	No*
5	Locust Grove Road and Ray / Bridge Access	NB	50	AM	1	84	No*
				PM	2	36	No*
6	Hubbard Road and W Bridge Access	WB	45	AM	0	59	No*
				PM	2	123	No*
7	Hubbard Road and Welsh / Ray Access	WB	50	AM	0	45	No*
				PM	2	85	No*
8	Hubbard Road and Wood Access	EB	45	AM	11	87	No*
				PM	37	73	No*
9	Locust Grove Road and S Welsh Access	NB	50	AM	0	53	No*
				PM	1	64	No*

* Right-turn volume < 10 vph and/or major road volume < 200 vph - right-turn lane not warranted



1 Weekday AM

1 Weekday PM

Thompson Traffic and Civil Engineers Inc.

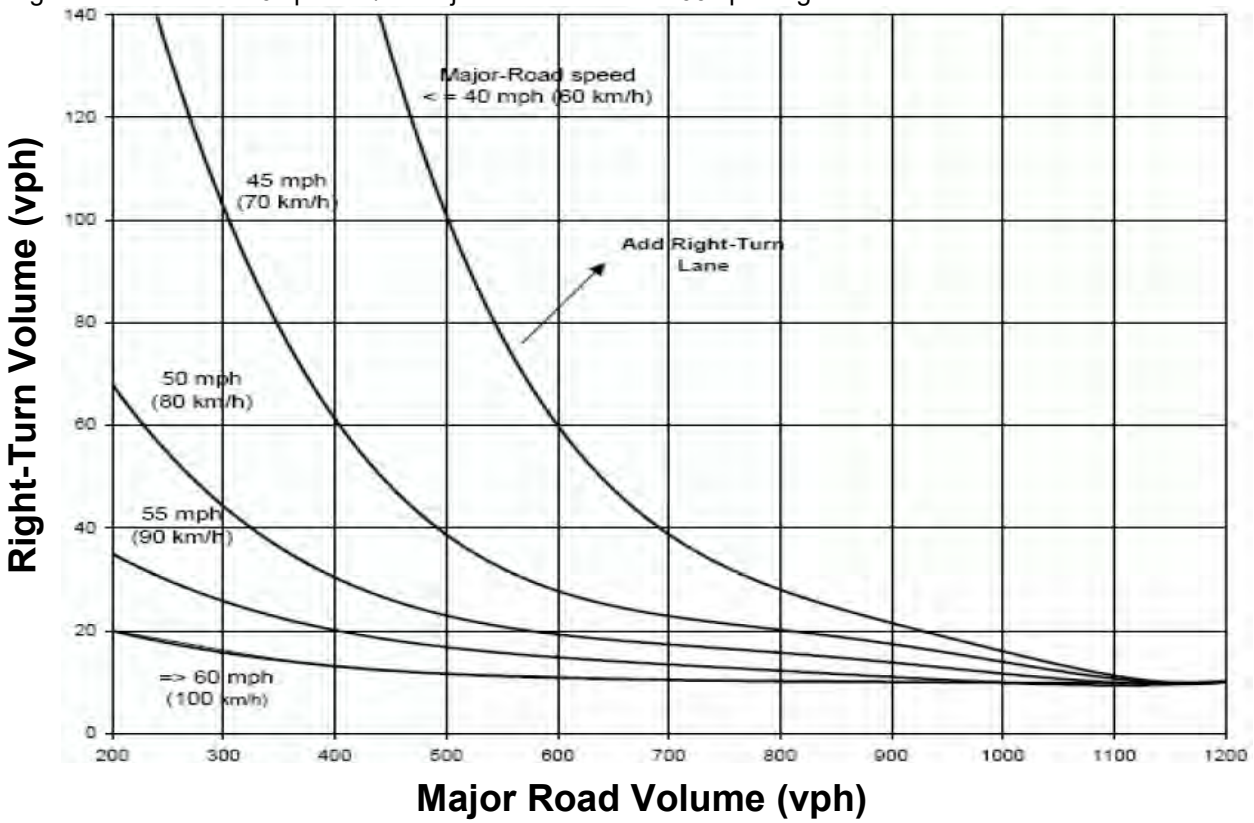
Patagonia Subdivision

ACHD Right-Turn Lane Analysis

2030 Background Traffic

	Intersection	Approach	Speed Limit (mph)	Peak Hour	Right-Turn Volume (vph)	Major Road Volume (vph)	Meet Warrant?
1	Locust Grove Road and Hubbard Road	EB	45	AM	21	151	No*
				PM	21	99	No*
2	Locust Grove Road and Hubbard Road	WB	45	AM	13	54	No*
				PM	8	96	No*
3	Eagle Road and Hubbard Road	WB	45	AM	28	31	No*
				PM	19	44	No*
4	Locust Grove Road and Ray / Bridge Access	SB	50	AM	6	70	No*
				PM	20	180	No*
5	Locust Grove Road and Ray / Bridge Access	NB	50	AM	1	99	No*
				PM	2	41	No*
6	Hubbard Road and W Bridge Access	WB	45	AM	0	67	No*
				PM	2	151	No*
7	Hubbard Road and Welsh / Ray Access	WB	50	AM	0	48	No*
				PM	2	98	No*
8	Hubbard Road and Wood Access	EB	45	AM	11	109	No*
				PM	37	84	No*
9	Locust Grove Road and S Welsh Access	NB	50	AM	0	64	No*
				PM	1	77	No*

* Right-turn volume < 10 vph and/or major road volume < 200 vph - right-turn lane not warranted



(1) Weekday AM

(1) Weekday PM

Thompson Traffic and Civil Engineers Inc.

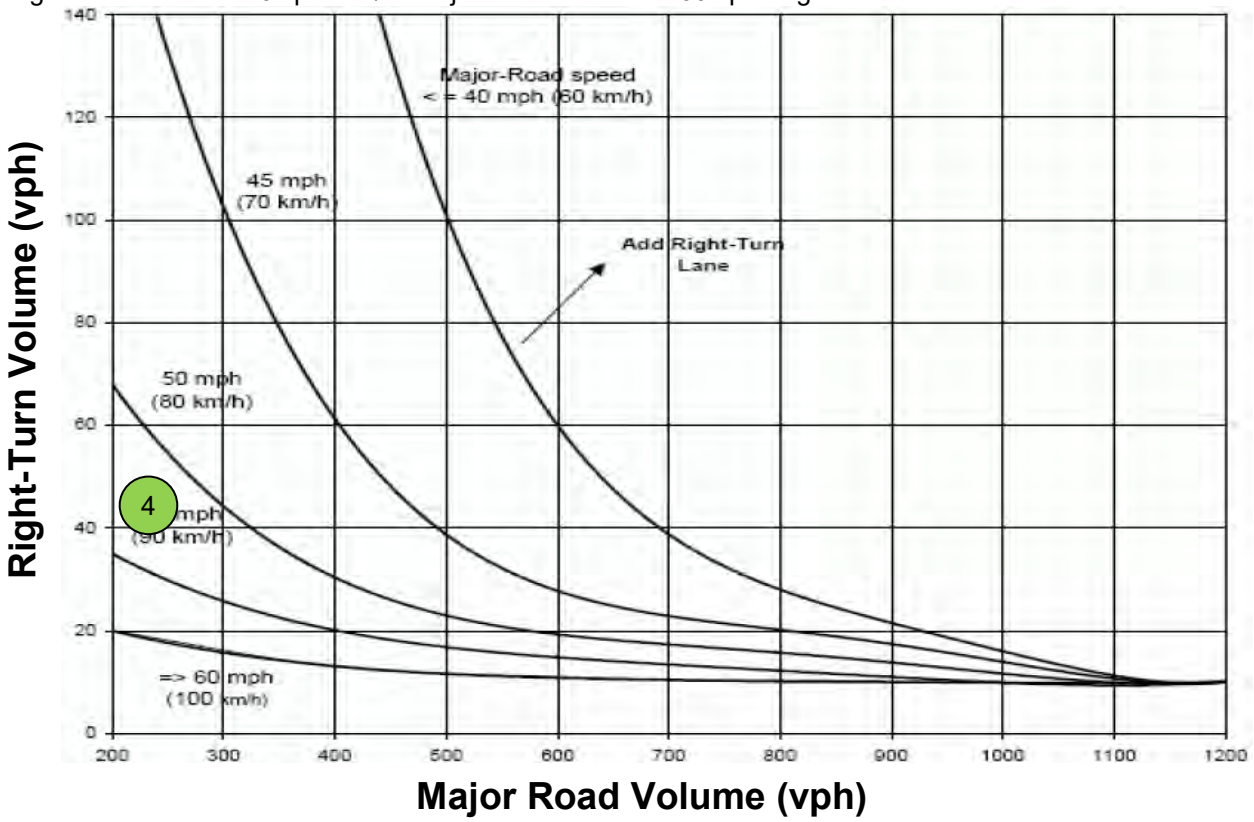
Patagonia Subdivision

ACHD Right-Turn Lane Analysis

2030 Total Traffic

	Intersection	Approach	Speed Limit (mph)	Peak Hour	Right-Turn Volume (vph)	Major Road Volume (vph)	Meet Warrant?
1	Locust Grove Road and Hubbard Road	EB	45	AM	25	163	No*
				PM	30	134	No*
2	Locust Grove Road and Hubbard Road	WB	45	AM	26	95	No*
				PM	16	123	No*
3	Eagle Road and Hubbard Road	WB	45	AM	28	32	No*
				PM	19	50	No*
4	Locust Grove Road and Ray / Bridge Access	SB	50	AM	12	86	No*
				PM	40	231	No
5	Locust Grove Road and Ray / Bridge Access	NB	50	AM	2	116	No*
				PM	4	53	No*
6	Hubbard Road and W Bridge Access	WB	45	AM	0	97	No*
				PM	4	173	No*
7	Hubbard Road and Welsh / Ray Access	WB	50	AM	0	83	No*
				PM	4	127	No*
8	Hubbard Road and Wood Access	EB	45	AM	22	127	No*
				PM	74	126	No*
9	Locust Grove Road and S Welsh Access	NB	50	AM	0	66	No*
				PM	2	83	No*

* Right-turn volume < 10 vph and/or major road volume < 200 vph - right-turn lane not warranted



1 Weekday AM

1 Weekday PM

Thompson Traffic and Civil Engineers Inc.

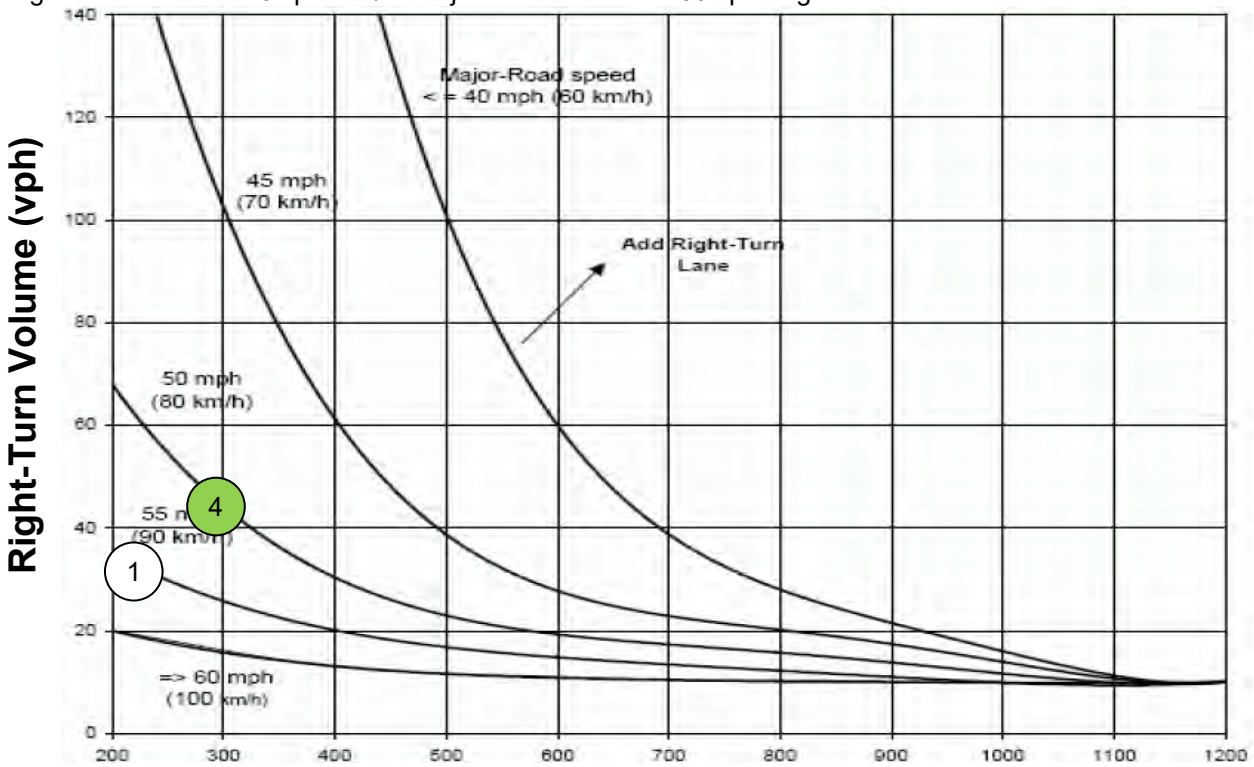
Patagonia Subdivision

ACHD Right-Turn Lane Analysis

2038 Background Traffic

	Intersection	Approach	Speed Limit (mph)	Peak Hour	Right-Turn Volume (vph)	Major Road Volume (vph)	Meet Warrant?
1	Locust Grove Road and Hubbard Road	EB	45	AM	33	222	No
				PM	36	159	No*
2	Locust Grove Road and Hubbard Road	WB	45	AM	26	100	No*
				PM	16	147	No*
3	Eagle Road and Hubbard Road	WB	45	AM	41	47	No*
				PM	29	70	No*
4	Locust Grove Road and Ray / Bridge Access	SB	50	AM	12	111	No*
				PM	40	293	No
5	Locust Grove Road and Ray / Bridge Access	NB	50	AM	2	155	No*
				PM	4	67	No*
6	Hubbard Road and W Bridge Access	WB	45	AM	0	112	No*
				PM	4	227	No*
7	Hubbard Road and Welsh / Ray Access	WB	50	AM	0	88	No*
				PM	4	151	No*
8	Hubbard Road and Wood Access	EB	45	AM	22	161	No*
				PM	74	141	No*
9	Locust Grove Road and S Welsh Access	NB	50	AM	0	96	No*
				PM	2	116	No*

* Right-turn volume < 10 vph and/or major road volume < 200 vph - right-turn lane not warranted



1 Weekday AM

1 Weekday PM

Thompson Traffic and Civil Engineers Inc.

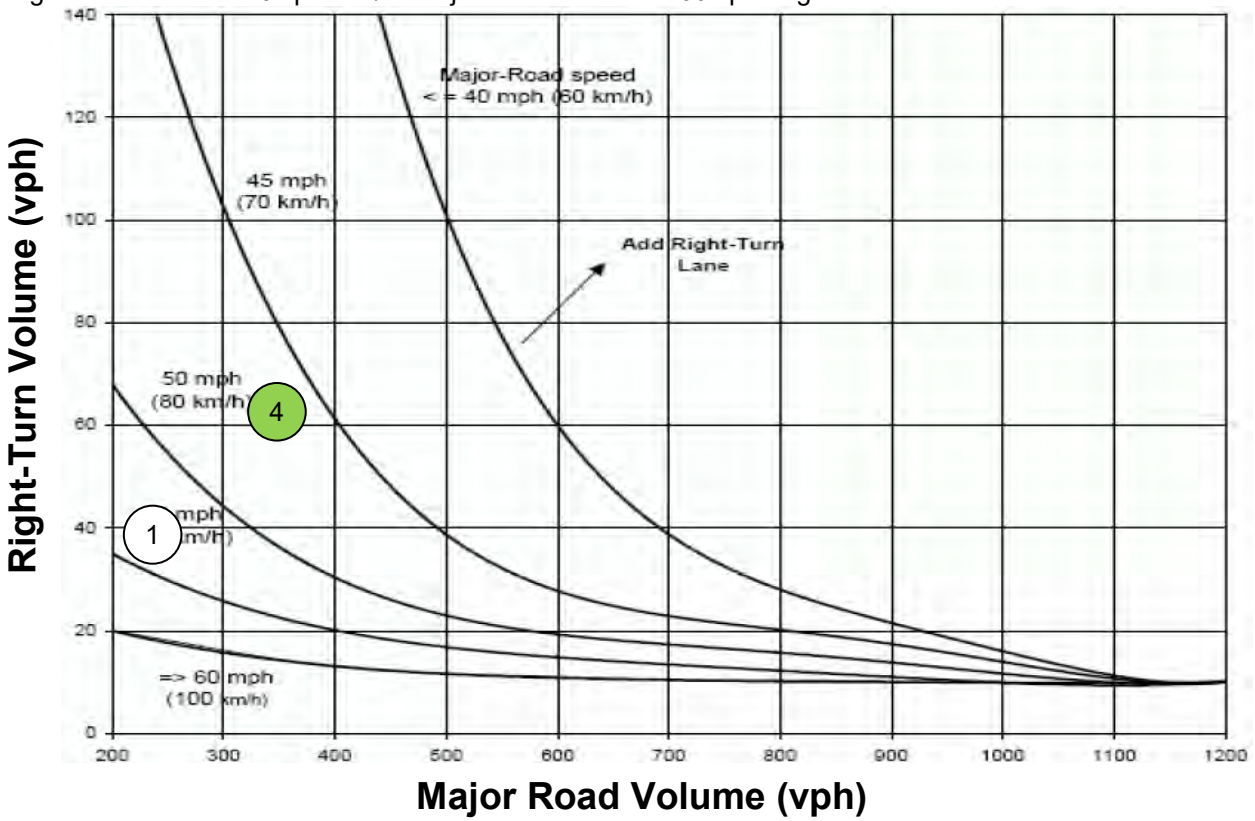
Patagonia Subdivision

ACHD Right-Turn Lane Analysis

2038 Build-Out Total Traffic

	Intersection	Approach	Speed Limit (mph)	Peak Hour	Right-Turn Volume (vph)	Major Road Volume (vph)	Meet Warrant?
1	Locust Grove Road and Hubbard Road	EB	45	AM	36	235	No
				PM	46	196	No*
2	Locust Grove Road and Hubbard Road	WB	45	AM	40	143	No*
				PM	26	177	No*
3	Eagle Road and Hubbard Road	WB	45	AM	41	50	No*
				PM	29	76	No*
4	Locust Grove Road and Ray / Bridge Access	SB	50	AM	18	125	No*
				PM	**60**	**342**	**Yes**
5	Locust Grove Road and Ray / Bridge Access	NB	50	AM	2	170	No*
				PM	5	79	No*
6	Hubbard Road and W Bridge Access	WB	45	AM	2	144	No*
				PM	7	250	No*
7	Hubbard Road and Welsh / Ray Access	WB	50	AM	1	125	No*
				PM	5	181	No*
8	Hubbard Road and Wood Access	EB	45	AM	34	179	No*
				PM	113	184	No*
9	Locust Grove Road and S Welsh Access	NB	50	AM	1	98	No*
				PM	3	123	No*

* Right-turn volume < 10 vph and/or major road volume < 200 vph - right-turn lane not warranted



1 Weekday AM

1 Weekday PM

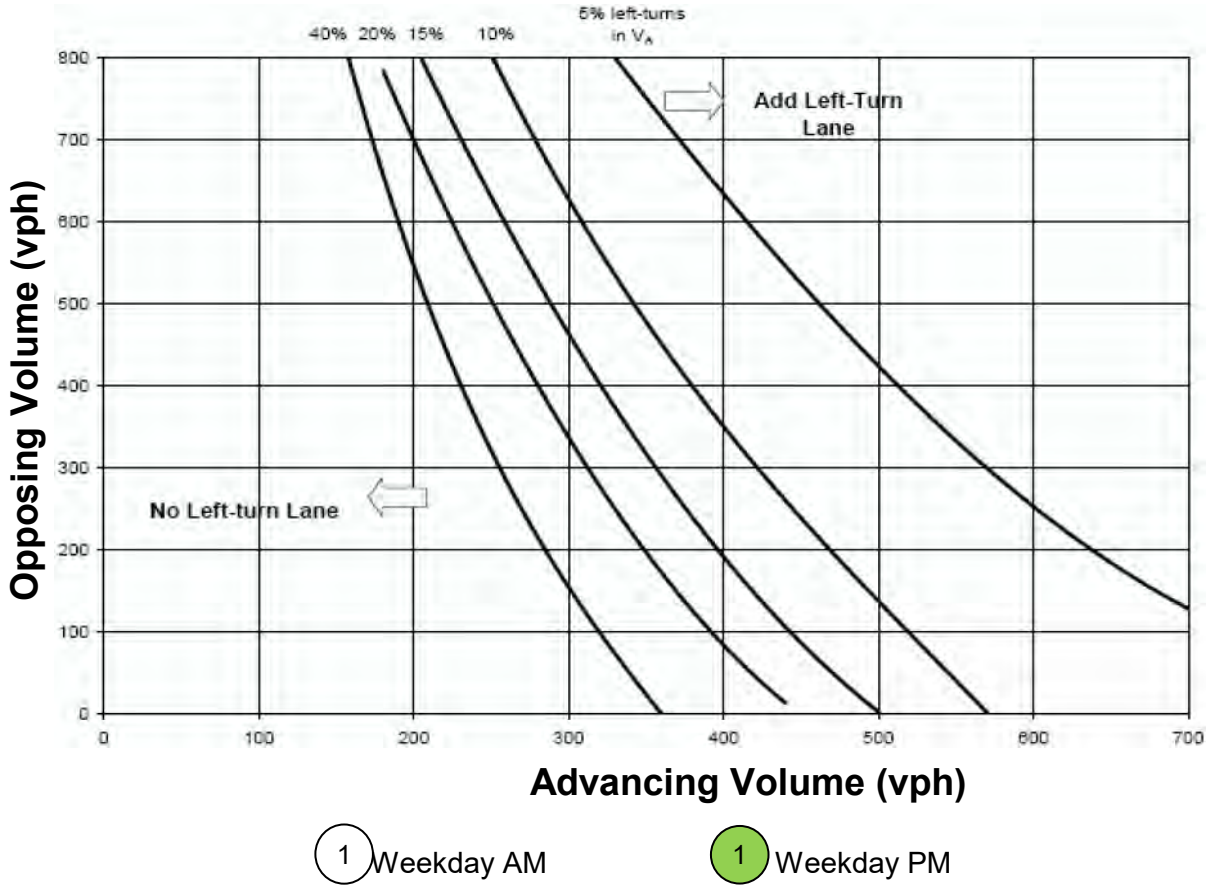
Thompson Traffic and Civil Engineers Inc.

Patagonia Subdivision
Kuna, Idaho

ACHD Left-Turn Lane Analysis
2018 Existing Traffic

Intersection	Approach	Speed Limit [mph]	Peak Hour	Advancing Volume [vph]	Opposing Volume [vph]	Left-Turn Volume [%]	Meet Warrant?
1 Locust Grove Road and Hubbard Road	WB	45	AM	4	63	25.0%	No*
			PM	27	27	18.5%	No*
2 Locust Grove Road and Hubbard Road	EB	45	AM	63	4	31.7%	No*
			PM	27	27	29.6%	No*
3 Eagle Road and Hubbard Road	EB	45	AM	16	14	0.0%	No*
			PM	11	18	0.0%	No*

* Left-turn volume <40% and volume combination below 40% line - left-turn lane not warranted



1 Weekday AM

1 Weekday PM

Thompson Traffic and Civil Engineers Inc.

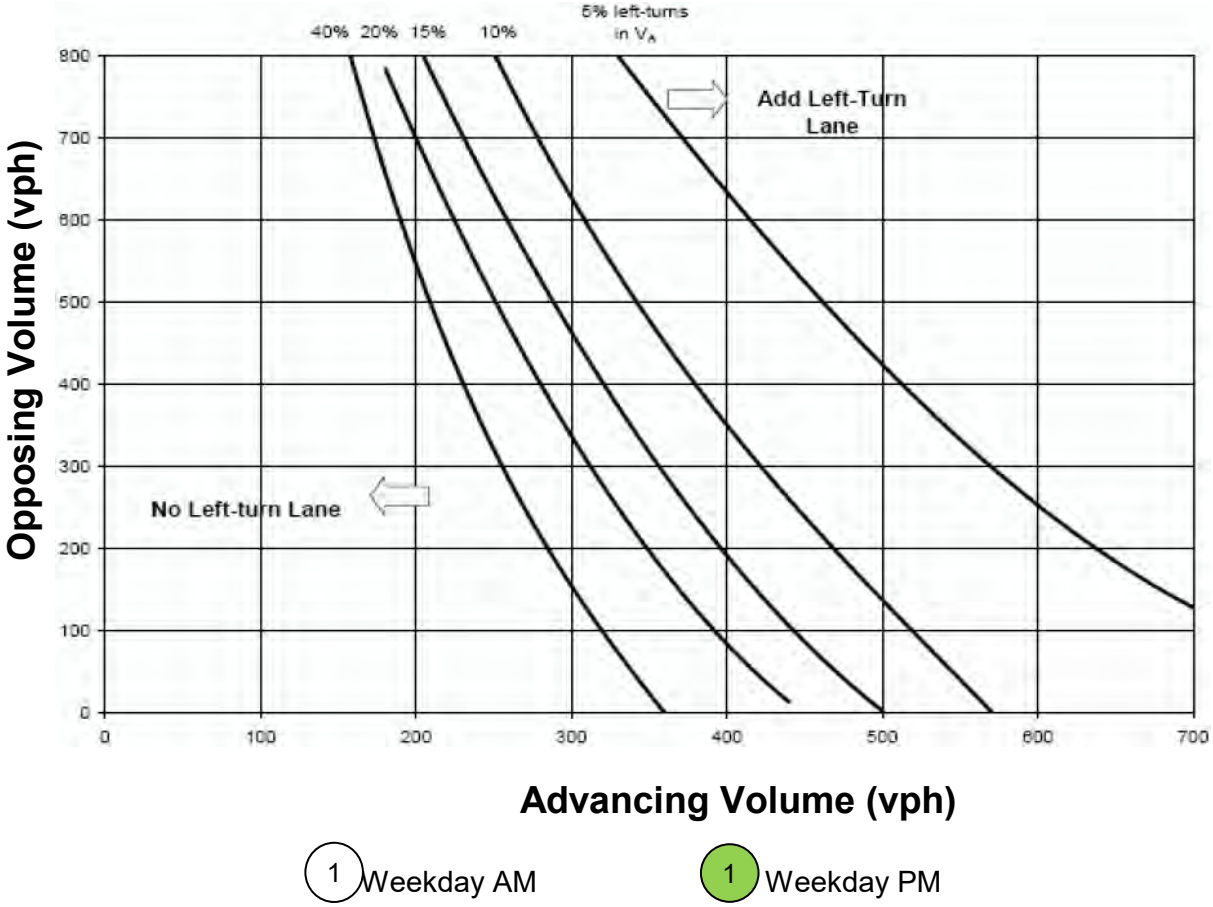
Patagonia Subdivision

ACHD Left-Turn Lane Analysis

2023 Background Traffic

Intersection		Approach	Speed Limit [mph]	Peak Hour	Advancing Volume [vph]	Opposing Volume [vph]	Left-Turn Volume [%]	Meet Warrant?
1	Locust Grove Road and Hubbard Road	WB	45	AM	10	109	20.0%	No*
				PM	51	49	15.7%	No*
2	Locust Grove Road and Hubbard Road	EB	45	AM	109	10	29.4%	No*
				PM	49	51	26.5%	No*
3	Eagle Road and Hubbard Road	EB	45	AM	36	25	0.0%	No*
				PM	25	32	0.0%	No*

* Left-turn volume <40% and volume combination below 40% line - left-turn lane not warranted



1 Weekday AM

1 Weekday PM

Thompson Traffic and Civil Engineers Inc.

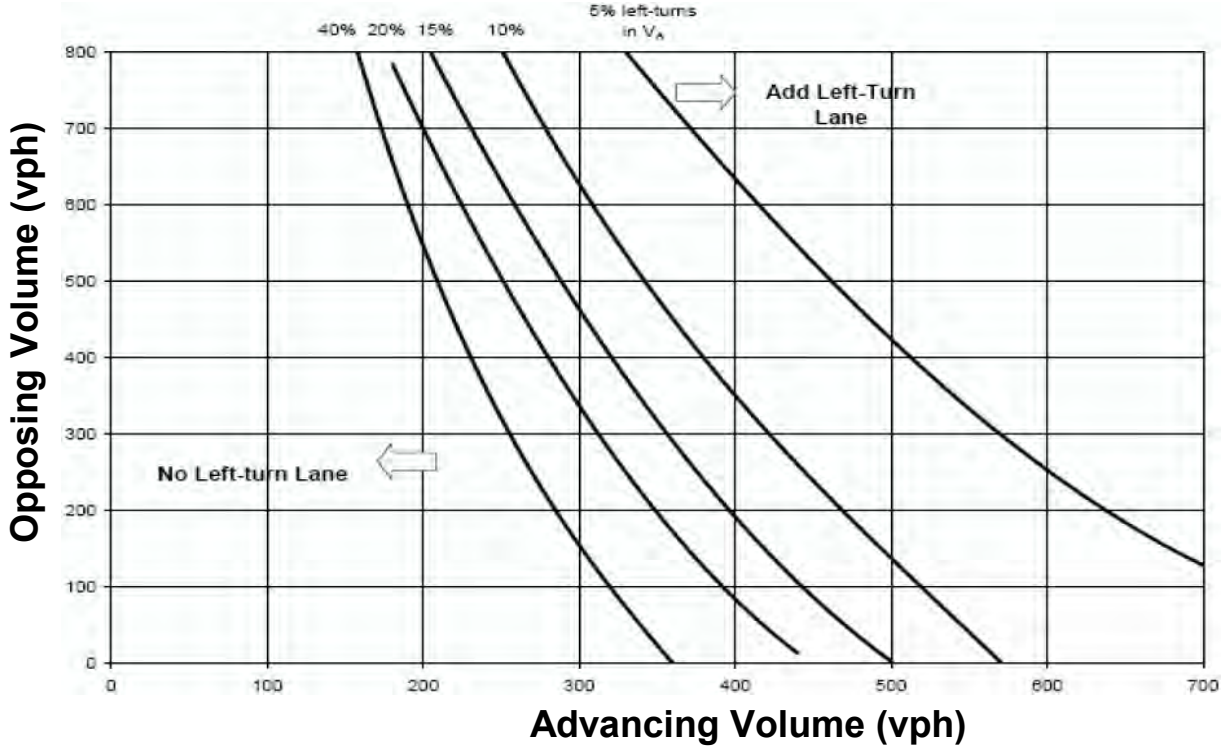
Patagonia Subdivision

ACHD Left-Turn Lane Analysis

2023 Total Traffic

	Intersection	Approach	Speed Limit [mph]	Peak Hour	Advancing Volume [vph]	Opposing Volume [vph]	Left-Turn Volume [%]	Meet Warrant?
1	Locust Grove Road and Hubbard Road	WB	45	AM	51	121	9.8%	No*
				PM	78	84	12.8%	No*
2	Locust Grove Road and Hubbard Road	EB	45	AM	121	51	26.4%	No*
				PM	84	78	15.5%	No*
3	Eagle Road and Hubbard Road	EB	45	AM	54	26	61.1%	No*
				PM	37	38	35.1%	No*
4	Locust Grove Road and Ray / Bridge Access	SB	50	AM	64	112	6.3%	No*
				PM	170	53	7.6%	No*
5	Locust Grove Road and N Ray Access	SB	50	AM	60	84	6.7%	No*
				PM	157	36	8.3%	No*
6	Hubbard Road and W Bridge Access	EB	45	AM	119	59	0.8%	No*
				PM	84	123	2.4%	No*
7	Hubbard Road and Welsh / Ray Access	EB	50	AM	84	45	1.2%	No*
				PM	73	85	4.1%	No*
8	Hubbard Road and Welsh / Ray Access	WB	50	AM	45	84	2.2%	No*
				PM	85	73	4.7%	No*
9	Hubbard Road and Wood Access	WB	45	AM	15	87	26.7%	No*
				PM	75	73	16.0%	No*
10	Locust Grove Road and S Welsh Access	SB	50	AM	53	53	7.5%	No*
				PM	119	64	10.9%	No*

* Left-turn volume <40% and volume combination below 40% line - left-turn lane not warranted



1 Weekday AM

1 Weekday PM

Thompson Traffic and Civil Engineers Inc.

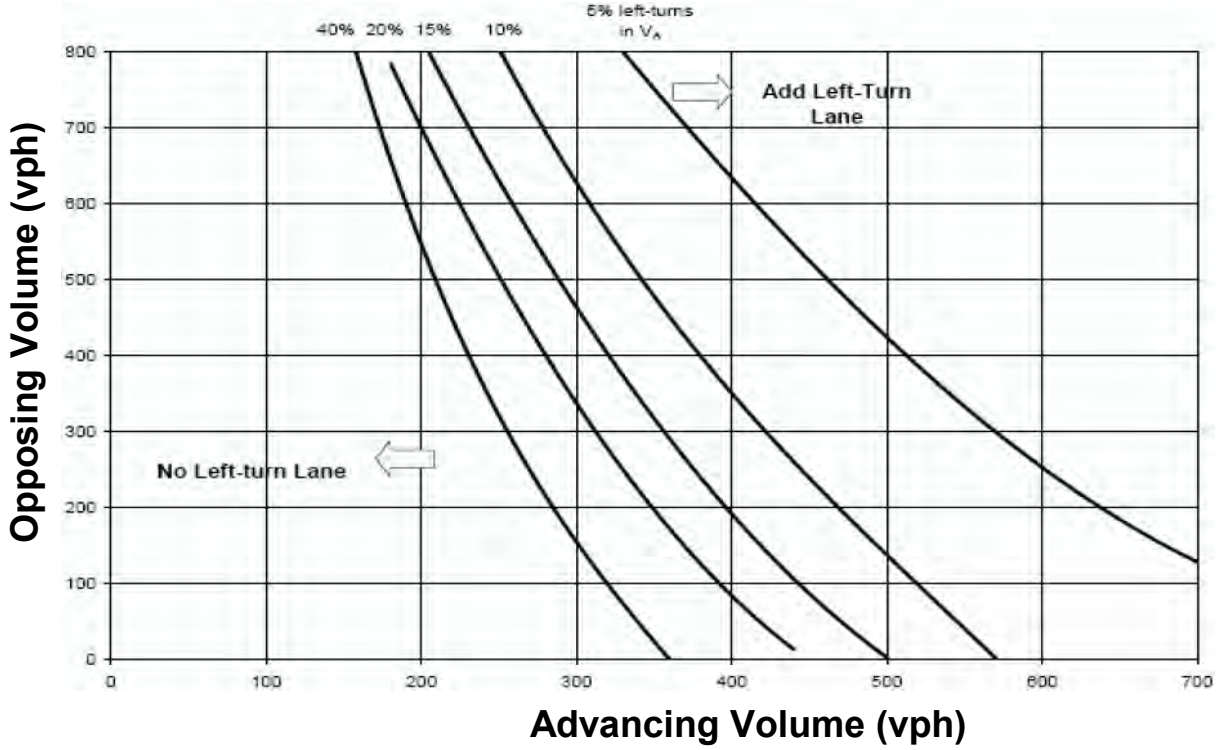
Patagonia Subdivision

ACHD Left-Turn Lane Analysis

2030 Background Traffic

	Intersection	Approach	Speed Limit [mph]	Peak Hour	Advancing Volume [vph]	Opposing Volume [vph]	Left-Turn Volume [%]	Meet Warrant?
1	Locust Grove Road and Hubbard Road	WB	45	AM	54	151	9.3%	No*
				PM	96	99	12.5%	No*
2	Locust Grove Road and Hubbard Road	EB	45	AM	151	54	25.8%	No*
				PM	99	96	16.2%	No*
3	Eagle Road and Hubbard Road	EB	45	AM	68	31	0.0%	No*
				PM	46	44	0.0%	No*
4	Locust Grove Road and Ray / Bridge Access	SB	50	AM	74	127	5.4%	No*
				PM	193	58	6.7%	No*
5	Locust Grove Road and N Ray Access	SB	50	AM	70	99	5.7%	No*
				PM	180	41	7.2%	No*
6	Hubbard Road and W Bridge Access	EB	45	AM	149	67	0.7%	No*
				PM	99	151	2.0%	No*
7	Hubbard Road and Welsh / Ray Access	EB	50	AM	106	48	0.9%	No*
				PM	84	98	3.6%	No*
8	Hubbard Road and Welsh / Ray Access	WB	50	AM	48	106	2.1%	No*
				PM	98	84	4.1%	No*
9	Hubbard Road and Wood Access	WB	45	AM	18	109	22.2%	No*
				PM	76	84	15.8%	No*
10	Locust Grove Road and S Welsh Access	SB	50	AM	63	64	6.3%	No*
				PM	141	77	9.2%	No*

* Left-turn volume <40% and volume combination below 40% line - left-turn lane not warranted



1 Weekday AM

1 Weekday PM

Thompson Traffic and Civil Engineers Inc.

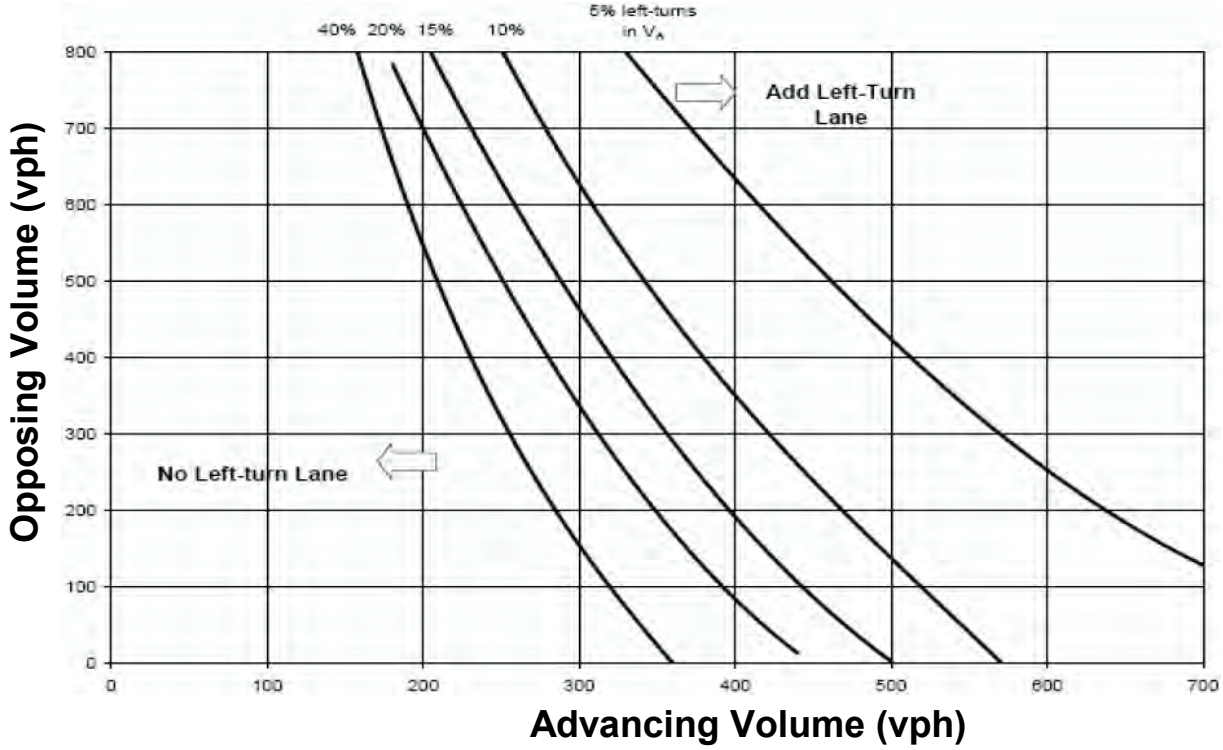
Patagonia Subdivision

ACHD Left-Turn Lane Analysis

2030 Total Traffic

	Intersection	Approach	Speed Limit [mph]	Peak Hour	Advancing Volume [vph]	Opposing Volume [vph]	Left-Turn Volume [%]	Meet Warrant?
1	Locust Grove Road and Hubbard Road	WB	45	AM	95	163	8.4%	No*
				PM	123	134	11.4%	No*
2	Locust Grove Road and Hubbard Road	EB	45	AM	163	95	23.9%	No*
				PM	134	123	11.9%	No*
3	Eagle Road and Hubbard Road	EB	45	AM	86	32	0.0%	No*
				PM	58	50	0.0%	No*
4	Locust Grove Road and Ray / Bridge Access	SB	50	AM	94	172	8.5%	No*
				PM	257	87	10.1%	No*
5	Locust Grove Road and N Ray Access	SB	50	AM	86	116	9.3%	No*
				PM	231	53	11.3%	No*
6	Hubbard Road and W Bridge Access	EB	45	AM	159	97	1.3%	No*
				PM	134	173	3.0%	No*
7	Hubbard Road and Welsh / Ray Access	EB	50	AM	121	83	1.7%	No*
				PM	126	127	4.8%	No*
8	Hubbard Road and Welsh / Ray Access	WB	50	AM	83	121	2.4%	No*
				PM	127	126	6.3%	No*
9	Hubbard Road and Wood Access	WB	45	AM	23	127	34.8%	No*
				PM	95	126	25.3%	No*
10	Locust Grove Road and S Welsh Access	SB	50	AM	72	66	11.1%	No*
				PM	157	83	16.6%	No*

* Left-turn volume <40% and volume combination below 40% line - left-turn lane not warranted



1 Weekday AM

1 Weekday PM

Thompson Traffic and Civil Engineers Inc.

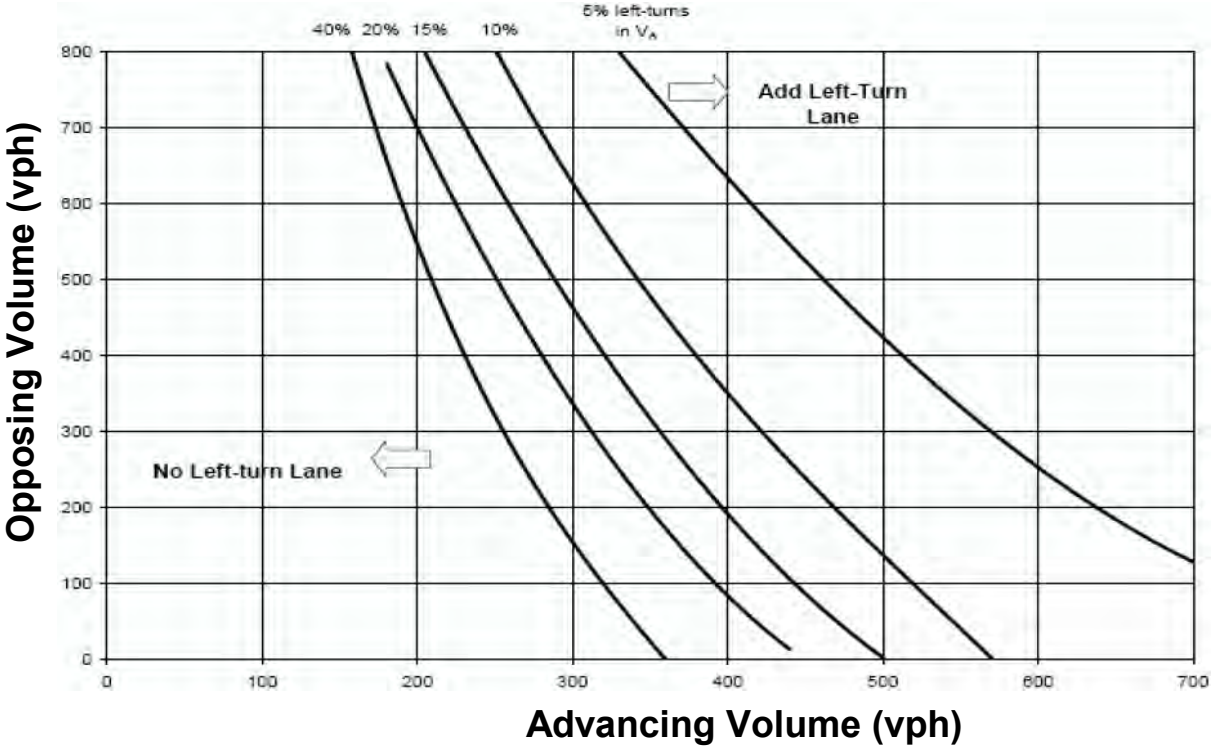
Patagonia Subdivision

ACHD Left-Turn Lane Analysis

2038 Background Traffic

	Intersection	Approach	Speed Limit [mph]	Peak Hour	Advancing Volume [vph]	Opposing Volume [vph]	Left-Turn Volume [%]	Meet Warrant?
1	Locust Grove Road and Hubbard Road	WB	45	AM	100	222	10.0%	No*
				PM	147	159	12.2%	No*
2	Locust Grove Road and Hubbard Road	EB	45	AM	222	100	26.1%	No*
				PM	159	147	14.5%	No*
3	Eagle Road and Hubbard Road	EB	45	AM	103	47	0.0%	No*
				PM	70	70	0.0%	No*
4	Locust Grove Road and Ray / Bridge Access	SB	50	AM	119	211	6.7%	No*
				PM	319	101	8.2%	No*
5	Locust Grove Road and N Ray Access	SB	50	AM	111	155	7.2%	No*
				PM	293	67	8.9%	No*
6	Hubbard Road and W Bridge Access	EB	45	AM	218	112	0.9%	No*
				PM	159	227	2.5%	No*
7	Hubbard Road and Welsh / Ray Access	EB	50	AM	155	88	1.3%	No*
				PM	141	151	4.3%	No*
8	Hubbard Road and Welsh / Ray Access	WB	50	AM	88	155	2.3%	No*
				PM	151	141	5.3%	No*
9	Hubbard Road and Wood Access	WB	45	AM	28	161	28.6%	No*
				PM	131	141	18.3%	No*
10	Locust Grove Road and S Welsh Access	SB	50	AM	97	96	8.2%	No*
				PM	217	116	12.0%	No*

* Left-turn volume <40% and volume combination below 40% line - left-turn lane not warranted



1 Weekday AM

1 Weekday PM

Thompson Traffic and Civil Engineers Inc.

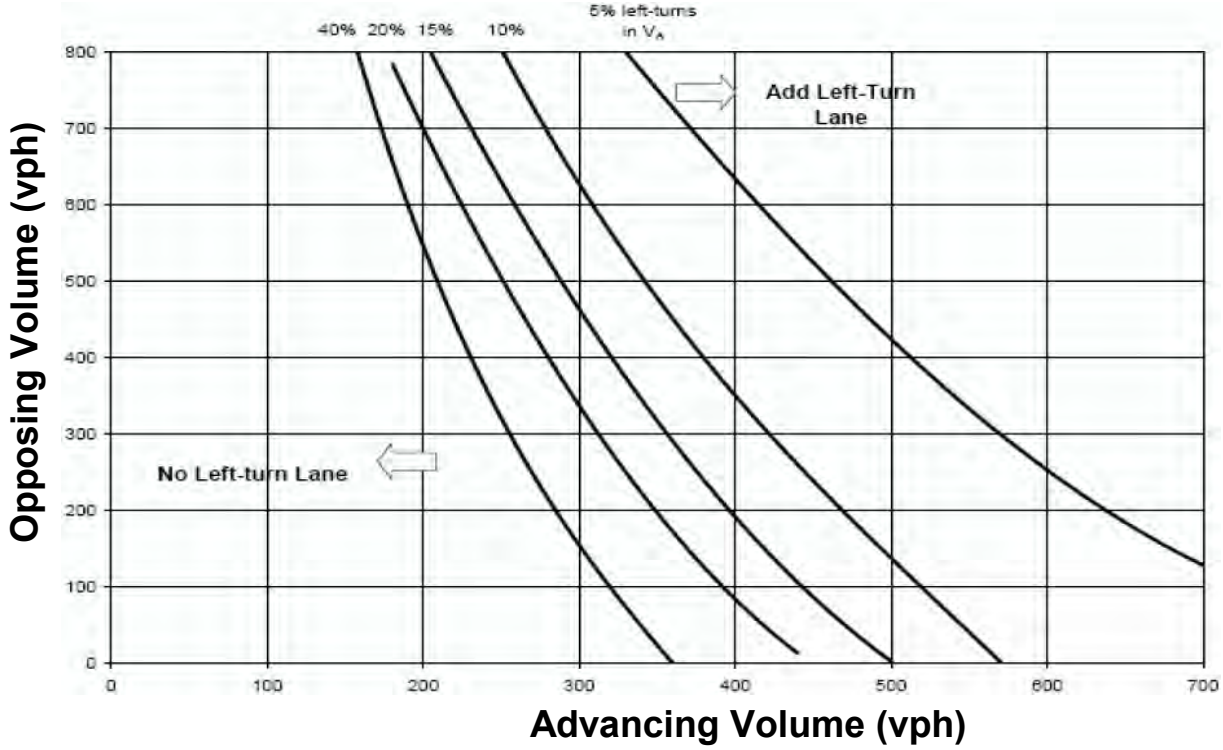
Patagonia Subdivision

ACHD Left-Turn Lane Analysis

2038 Total Traffic

	Intersection	Approach	Speed Limit [mph]	Peak Hour	Advancing Volume [vph]	Opposing Volume [vph]	Left-Turn Volume [%]	Meet Warrant?
1	Locust Grove Road and Hubbard Road	WB	45	AM	141	234	9.2%	No*
				PM	174	194	11.5%	No*
2	Locust Grove Road and Hubbard Road	EB	45	AM	234	141	24.8%	No*
				PM	194	174	11.9%	No*
3	Eagle Road and Hubbard Road	EB	45	AM	121	48	0.0%	No*
				PM	82	76	0.0%	No*
4	Locust Grove Road and Ray / Bridge Access	SB	50	AM	139	256	8.6%	No*
				PM	383	130	10.2%	No*
5	Locust Grove Road and N Ray Access	SB	50	AM	127	172	9.4%	No*
				PM	344	79	11.3%	No*
6	Hubbard Road and W Bridge Access	EB	45	AM	228	142	1.3%	No*
				PM	194	249	3.1%	No*
7	Hubbard Road and Welsh / Ray Access	EB	50	AM	170	123	1.8%	No*
				PM	183	180	4.9%	No*
8	Hubbard Road and Welsh / Ray Access	WB	50	AM	123	170	2.4%	No*
				PM	180	183	6.7%	No*
9	Hubbard Road and Wood Access	WB	45	AM	33	179	36.4%	No*
				PM	150	183	24.0%	No*
10	Locust Grove Road and S Welsh Access	SB	50	AM	106	98	11.3%	No*
				PM	233	122	16.7%	No*

* Left-turn volume <40% and volume combination below 40% line - left-turn lane not warranted



1 Weekday AM

1 Weekday PM

Thompson Traffic and Civil Engineers Inc.

TRAFFIC SIGNAL WARRANTS ANALYSIS SUMMARY

Intersection: Locust Grove Rd & Columbia Rd

Within Isolated Community or Major Street Speed Exceeds 40 mph: Yes

Traffic Conditions: 2030 Phase 2 Background Traffic

Major Street Information

Major Street Name:	Columbia Road	
Approach Direction:	Eastbound-westbound	
Number of Lanes for Moving Traffic on Each Approach:	1	lane
Posted Speed Limit:	50	mph
Total Approach Volume:	8,094	vpd

Minor Street Information

Minor Street Name:	Locust Grove Road	
Approach Direction:	Northbound-southbound	
Number of Lanes for Moving Traffic on Each Approach:	1	lane
Posted Speed Limit:	50	mph
Higher Minor Approach Volume:	2,623	vpd

Traffic Signal Warrant Analysis Findings

Warrants	Applicable?	Warrant Met?
Warrant 1, Eight-Hour Vehicular Volume	Yes	Yes
Warrant 2, Four-Hour Vehicular Volume	Yes	Yes
Warrant 3, Peak Hour	No	na
Warrant 4, Pedestrian Volume	No	na
Warrant 5, School Crossing	No	na
Warrant 6, Coordinated Signal System	No	na
Warrant 7, Crash Experience	No	na
Warrant 8, Roadway Network	No	na
Warrant 9, Intersection Near a Grade Crossing	No	na

2030 Background Hourly Volume		
	Columbia Rd (Major Street)	Locust Grove Rd (Minor Street)
Hour Interval Begin	Combined Volume (vph)	Higher Approach Volume (vph)
00:00	31	13
01:00	10	13
02:00	23	3
03:00	6	0
04:00	25	4
05:00	130	26
06:00	474	89
07:00	805	169
08:00	560	148
09:00	408	112
10:00	329	173
11:00	329	130
12:00	368	100
13:00	398	135
14:00	419	197
15:00	503	184
16:00	659	299
17:00	928	350
18:00	575	171
19:00	314	110
20:00	319	77
21:00	260	69
22:00	140	31
23:00	82	23
Total	8,094	2,623

Warrant 1, Eight-Hour Vehicular Volume

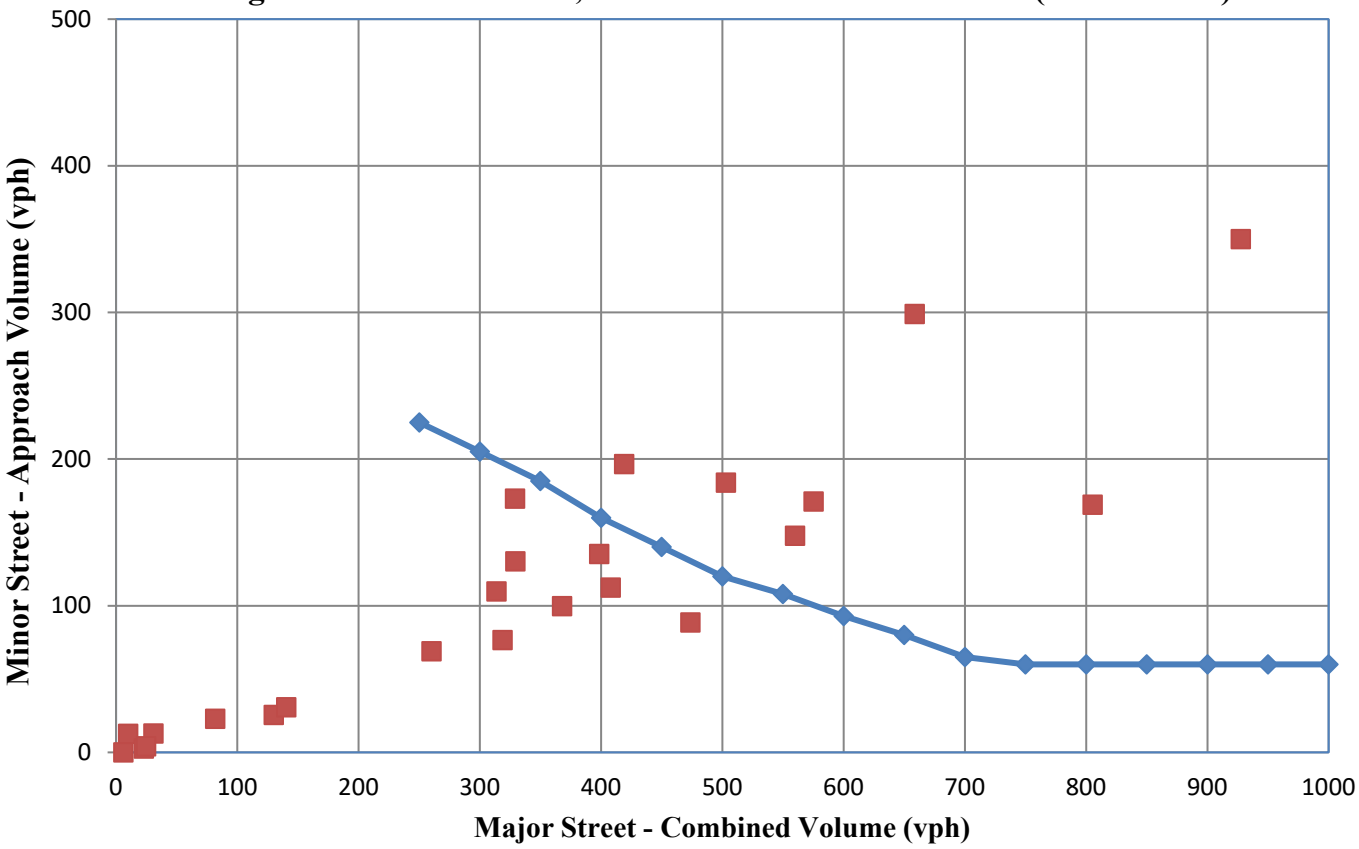
Hour Interval Begin	Columbia Rd (Major Street) Combined Volume (vph)	Locust Grove Rd (Minor Street) Higher Approach Volume (vph)	Hour Satisfied? Condition A	Condition B
00:00	31	13	Not Satisfied	Not Satisfied
01:00	10	13	Not Satisfied	Not Satisfied
02:00	23	3	Not Satisfied	Not Satisfied
03:00	6	0	Not Satisfied	Not Satisfied
04:00	25	4	Not Satisfied	Not Satisfied
05:00	130	26	Not Satisfied	Not Satisfied
06:00	474	89	Not Satisfied	Not Satisfied
07:00	805	169	Satisfied	Satisfied
08:00	560	148	Satisfied	Satisfied
09:00	408	112	Satisfied	Not Satisfied
10:00	329	173	Not Satisfied	Not Satisfied
11:00	329	130	Not Satisfied	Not Satisfied
12:00	368	100	Not Satisfied	Not Satisfied
13:00	398	135	Satisfied	Not Satisfied
14:00	419	197	Satisfied	Not Satisfied
15:00	503	184	Satisfied	Not Satisfied
16:00	659	299	Satisfied	Satisfied
17:00	928	350	Satisfied	Satisfied
18:00	575	171	Satisfied	Satisfied
19:00	314	110	Not Satisfied	Not Satisfied
20:00	319	77	Not Satisfied	Not Satisfied
21:00	260	69	Not Satisfied	Not Satisfied
22:00	140	31	Not Satisfied	Not Satisfied
23:00	82	23	Not Satisfied	Not Satisfied
		Number of Hours Satisfied	**9**	**5**
		Warrant 1 Met?	**Yes**	

Thompson Traffic and Civil Engineers Inc.

Warrant 2, Four-Hour Vehicular Volume			
	Columbia Rd (Major Street)	Locust Grove Rd (Minor Street)	
Hour Interval Begin	Combined Volume (vph)	Higher Approach Volume (vph)	Hour Satisfied?
00:00	31	13	Not Satisfied
01:00	10	13	Not Satisfied
02:00	23	3	Not Satisfied
03:00	6	0	Not Satisfied
04:00	25	4	Not Satisfied
05:00	130	26	Not Satisfied
06:00	474	89	Not Satisfied
07:00	805	169	Satisfied
08:00	560	148	Satisfied
09:00	408	112	Not Satisfied
10:00	329	173	Not Satisfied
11:00	329	130	Not Satisfied
12:00	368	100	Not Satisfied
13:00	398	135	Not Satisfied
14:00	419	197	Satisfied
15:00	503	184	Satisfied
16:00	659	299	Satisfied
17:00	928	350	Satisfied
18:00	575	171	Satisfied
19:00	314	110	Not Satisfied
20:00	319	77	Not Satisfied
21:00	260	69	Not Satisfied
22:00	140	31	Not Satisfied
23:00	82	23	Not Satisfied

Number of Hours Satisfied	**7**
Warrant 2 Met?	**Yes**
Within isolated community or major roadway speed exceeds 40 mph?	**Yes**

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume (70% Factor)



Thompson Traffic and Civil Engineers Inc.

TRAFFIC SIGNAL WARRANTS ANALYSIS SUMMARY

Intersection: Eagle Rd & Columbia Rd

Within Isolated Community or Major Street Speed Exceeds 40 mph: Yes

Traffic Conditions: 2030 Phase 2 Background Traffic

Major Street Information

Major Street Name:	Columbia Road	
Approach Direction:	Eastbound-westbound	
Number of Lanes for Moving Traffic on Each Approach:	1	lane
Posted Speed Limit:	50	mph
Total Approach Volume:	7,666	vpd

Minor Street Information

Minor Street Name:	Eagle Road	
Approach Direction:	North-South	
Number of Lanes for Moving Traffic on Each Approach:	1	lane
Posted Speed Limit:	50	mph
Higher Minor Approach Volume:	3,661	vpd

Traffic Signal Warrant Analysis Findings

Warrants	Applicable?	Warrant Met?
Warrant 1, Eight-Hour Vehicular Volume	Yes	Yes
Warrant 2, Four-Hour Vehicular Volume	Yes	Yes
Warrant 3, Peak Hour	No	na
Warrant 4, Pedestrian Volume	No	na
Warrant 5, School Crossing	No	na
Warrant 6, Coordinated Signal System	No	na
Warrant 7, Crash Experience	No	na
Warrant 8, Roadway Network	No	na
Warrant 9, Intersection Near a Grade Crossing	No	na

Thompson Traffic and Civil Engineers Inc.

2030 Background Hourly Volume		
	Columbia Rd (Major Street)	Eagle Rd (Minor Street)
Hour Interval Begin	Combined Volume (vph)	Higher Approach Volume (vph)
00:00	34	20
01:00	12	8
02:00	20	4
03:00	6	0
04:00	24	4
05:00	120	39
06:00	418	75
07:00	690	157
08:00	494	137
09:00	373	173
10:00	319	161
11:00	301	200
12:00	359	153
13:00	373	208
14:00	389	302
15:00	470	283
16:00	675	460
17:00	938	538
18:00	572	263
19:00	313	169
20:00	291	118
21:00	255	106
22:00	144	47
23:00	74	35
Total	7,666	3,661

Warrant 1, Eight-Hour Vehicular Volume

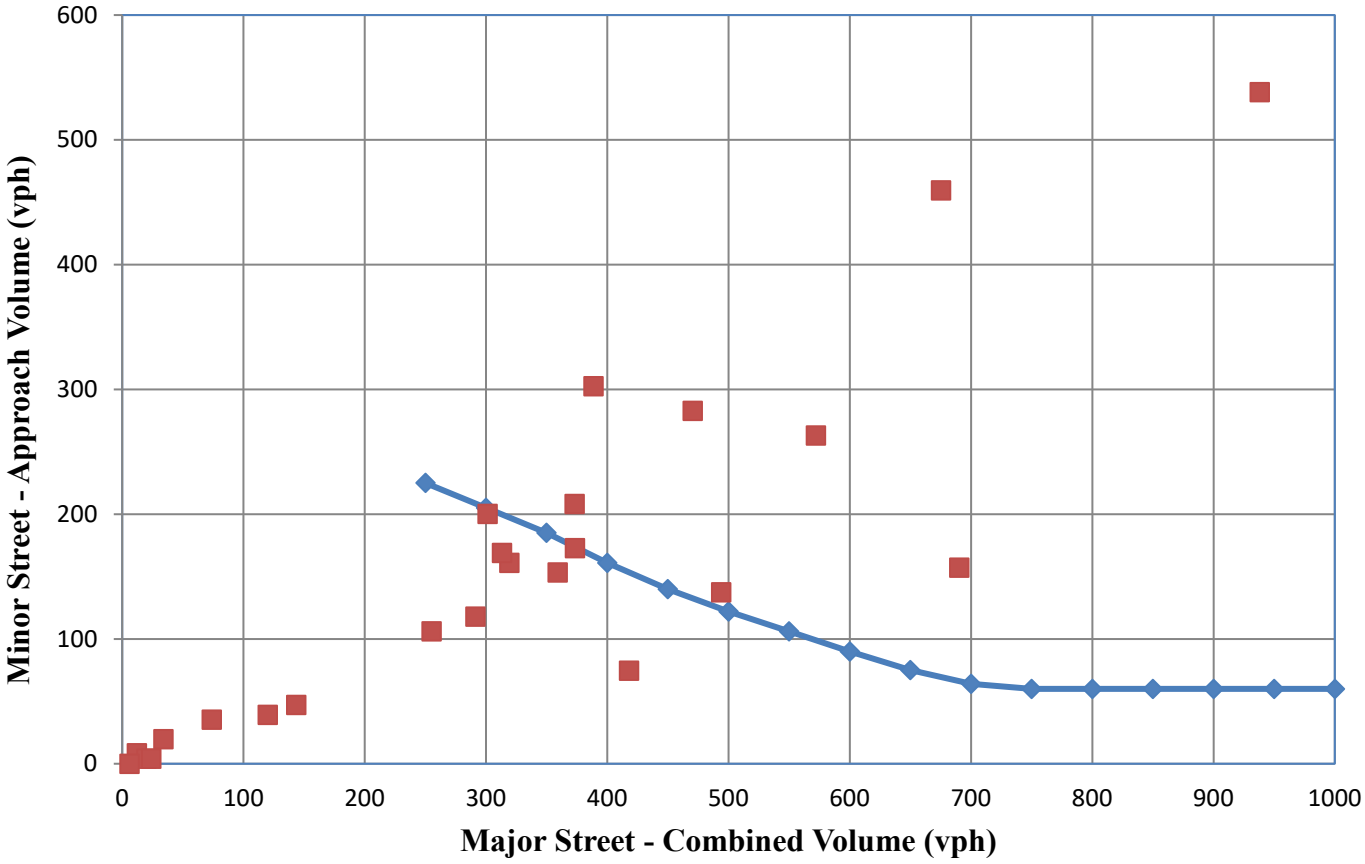
Hour Interval Begin	Columbia Rd (Major Street) Combined Volume (vph)	Eagle Rd (Minor Street) Higher Approach Volume (vph)	Hour Satisfied? Condition A	Condition B
00:00	34	20	Not Satisfied	Not Satisfied
01:00	12	8	Not Satisfied	Not Satisfied
02:00	20	4	Not Satisfied	Not Satisfied
03:00	6	0	Not Satisfied	Not Satisfied
04:00	24	4	Not Satisfied	Not Satisfied
05:00	120	39	Not Satisfied	Not Satisfied
06:00	418	75	Not Satisfied	Not Satisfied
07:00	690	157	Satisfied	Satisfied
08:00	494	137	Satisfied	Not Satisfied
09:00	373	173	Satisfied	Not Satisfied
10:00	319	161	Not Satisfied	Not Satisfied
11:00	301	200	Not Satisfied	Not Satisfied
12:00	359	153	Satisfied	Not Satisfied
13:00	373	208	Satisfied	Not Satisfied
14:00	389	302	Satisfied	Not Satisfied
15:00	470	283	Satisfied	Not Satisfied
16:00	675	460	Satisfied	Satisfied
17:00	938	538	Satisfied	Satisfied
18:00	572	263	Satisfied	Satisfied
19:00	313	169	Not Satisfied	Not Satisfied
20:00	291	118	Not Satisfied	Not Satisfied
21:00	255	106	Not Satisfied	Not Satisfied
22:00	144	47	Not Satisfied	Not Satisfied
23:00	74	35	Not Satisfied	Not Satisfied
		Number of Hours Satisfied	**10**	**4**
		Warrant 1 Met?	**Yes**	

Thompson Traffic and Civil Engineers Inc.

Warrant 2, Four-Hour Vehicular Volume			
	Columbia Rd (Major Street)	Eagle Rd (Minor Street)	
Hour Interval Begin	Combined Volume (vph)	Higher Approach Volume (vph)	Hour Satisfied?
00:00	34	20	Not Satisfied
01:00	12	8	Not Satisfied
02:00	20	4	Not Satisfied
03:00	6	0	Not Satisfied
04:00	24	4	Not Satisfied
05:00	120	39	Not Satisfied
06:00	418	75	Not Satisfied
07:00	690	157	Satisfied
08:00	494	137	Satisfied
09:00	373	173	Not Satisfied
10:00	319	161	Not Satisfied
11:00	301	200	Not Satisfied
12:00	359	153	Not Satisfied
13:00	373	208	Satisfied
14:00	389	302	Satisfied
15:00	470	283	Satisfied
16:00	675	460	Satisfied
17:00	938	538	Satisfied
18:00	572	263	Satisfied
19:00	313	169	Not Satisfied
20:00	291	118	Not Satisfied
21:00	255	106	Not Satisfied
22:00	144	47	Not Satisfied
23:00	74	35	Not Satisfied

Number of Hours Satisfied	**8**
Warrant 2 Met?	**Yes**
Within isolated community or major roadway speed exceeds 40 mph?	**Yes**

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume (70% Factor)



Thompson Traffic and Civil Engineers Inc.

TRAFFIC SIGNAL WARRANTS ANALYSIS SUMMARY

Intersection: Locust Grove Road and Lake Hazel Road

Within Isolated Community or Major Street Speed Exceeds 40 mph: Yes

Traffic Conditions: 2030 Phase 2 Total

Major Street Information

Major Street Name:	Lake Hazel Road	
Approach Direction:	Eastbound-Westbound	
Number of Lanes for Moving Traffic on Each Approach:	1	lane
Posted Speed Limit:	50	mph
Total Approach Volume:	7471	vpd

Minor Street Information

Minor Street Name:	Locust Grove Road	
Approach Direction:	Northbound-Southbound	
Number of Lanes for Moving Traffic on Each Approach:	1	lane
Posted Speed Limit:	50	mph
Higher Minor Approach Volume:	2533	vpd

Traffic Signal Warrant Analysis Findings

Warrants	Applicable?	Warrant Met?
Warrant 1, Eight-Hour Vehicular Volume	Yes	Yes
Warrant 2, Four-Hour Vehicular Volume	Yes	Yes
Warrant 3, Peak Hour	No	na
Warrant 4, Pedestrian Volume	No	na
Warrant 5, School Crossing	No	na
Warrant 6, Coordinated Signal System	No	na
Warrant 7, Crash Experience	No	na
Warrant 8, Roadway Network	No	na
Warrant 9, Intersection Near a Grade Crossing	No	na

2030 Phase 2 Total Traffic Volume

Hour Interval Begin	Lake Hazel Road (Major Street) Combined Volume (vph)	Locust Grove Road (Minor Street) Higher Approach Volume (vph)
00:00	32	11
01:00	22	9
02:00	2	9
03:00	7	3
04:00	22	12
05:00	96	19
06:00	319	71
07:00	585	133
08:00	557	136
09:00	360	99
10:00	239	83
11:00	339	101
12:00	382	119
13:00	398	136
14:00	408	150
15:00	548	264
16:00	652	223
17:00	775	340
18:00	528	256
19:00	347	154
20:00	373	95
21:00	244	64
22:00	150	33
23:00	86	13
Total	7,471	2,533

Thompson Traffic and Civil Engineers Inc.

Warrant 1, Eight-Hour Vehicular Volume

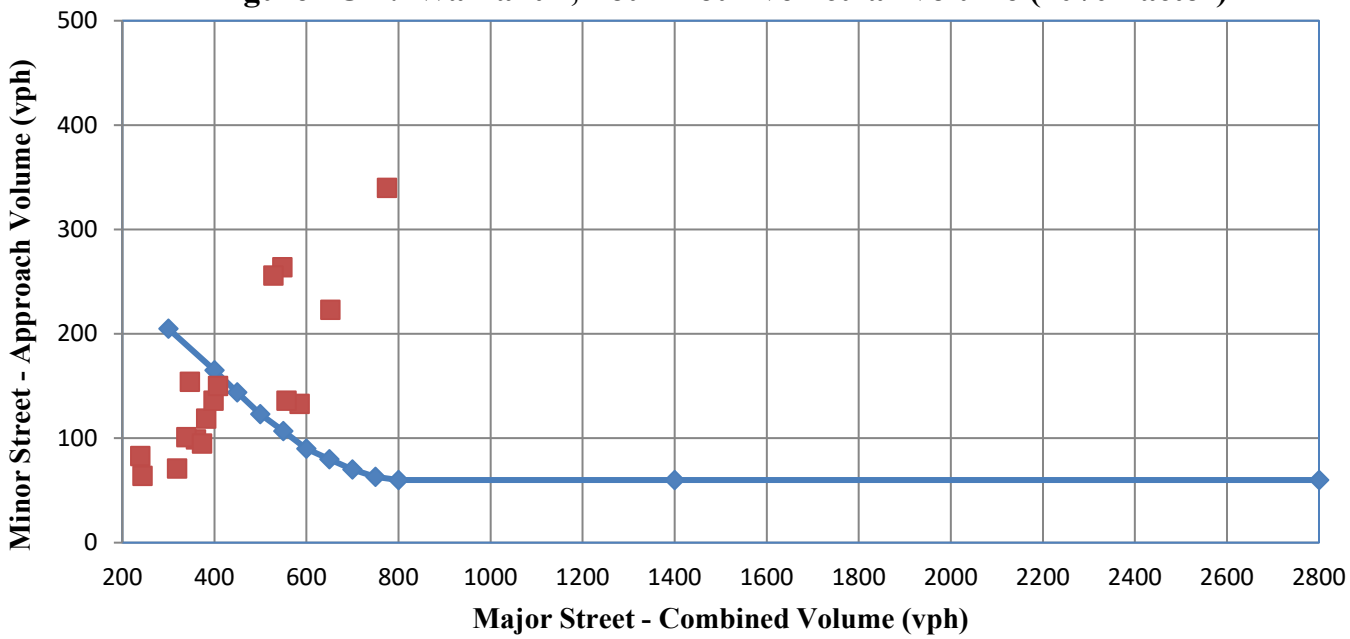
Hour Interval Begin	Lake Hazel Road (Major Street) Combined Volume (vph)	Locust Grove Road (Minor Street) Higher Approach Volume (vph)	Hour Satisfied? Condition A	Condition B
00:00	32	11	Not Satisfied	Not Satisfied
01:00	22	9	Not Satisfied	Not Satisfied
02:00	2	9	Not Satisfied	Not Satisfied
03:00	7	3	Not Satisfied	Not Satisfied
04:00	22	12	Not Satisfied	Not Satisfied
05:00	96	19	Not Satisfied	Not Satisfied
06:00	319	71	Not Satisfied	Not Satisfied
07:00	585	133	Satisfied	Satisfied
08:00	557	136	Satisfied	Satisfied
09:00	360	99	Not Satisfied	Not Satisfied
10:00	239	83	Not Satisfied	Not Satisfied
11:00	339	101	Not Satisfied	Not Satisfied
12:00	382	119	Satisfied	Not Satisfied
13:00	398	136	Satisfied	Not Satisfied
14:00	408	150	Satisfied	Not Satisfied
15:00	548	264	Satisfied	Satisfied
16:00	652	223	Satisfied	Satisfied
17:00	775	340	Satisfied	Satisfied
18:00	528	256	Satisfied	Satisfied
19:00	347	154	Not Satisfied	Not Satisfied
20:00	373	95	Not Satisfied	Not Satisfied
21:00	244	64	Not Satisfied	Not Satisfied
22:00	150	33	Not Satisfied	Not Satisfied
23:00	86	13	Not Satisfied	Not Satisfied
		Number of Hours Satisfied	**9**	**6**
		Warrant 1 Met?	**Yes**	

Thompson Traffic and Civil Engineers Inc.

Warrant 2, Four-Hour Vehicular Volume			
	Lake Hazel Road (Major Street)	Locust Grove Road (Minor Street)	
Hour Interval Begin	Combined Volume (vph)	Higher Approach Volume (vph)	Hour Satisfied?
00:00	32	11	Not Satisfied
01:00	22	9	Not Satisfied
02:00	2	9	Not Satisfied
03:00	7	3	Not Satisfied
04:00	22	12	Not Satisfied
05:00	96	19	Not Satisfied
06:00	319	71	Not Satisfied
07:00	585	133	Not Satisfied
08:00	557	136	Not Satisfied
09:00	360	99	Not Satisfied
10:00	239	83	Satisfied
11:00	339	101	Satisfied
12:00	382	119	Not Satisfied
13:00	398	136	Not Satisfied
14:00	408	150	Not Satisfied
15:00	548	264	Satisfied
16:00	652	223	Satisfied
17:00	775	340	Satisfied
18:00	528	256	Satisfied
19:00	347	154	Not Satisfied
20:00	373	95	Not Satisfied
21:00	244	64	Not Satisfied
22:00	150	33	Not Satisfied
23:00	86	13	Not Satisfied

Number of Hours Satisfied	**6**
Warrant 2 Met?	**Yes**
Within isolated community or major roadway speed exceeds 40 mph?	**Yes**

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume (70% Factor)



(3) five-(5)-gallon plants and five (5) one-(1)-gallon shrubs in the front yard. The use of berms and sculptured planting areas are encouraged.

4.18 Exemption of Grantor. Nothing contained herein shall limit the right of Grantor to subdivide or re-subdivide any portion of the Property, to grant licenses, to reserve rights-of-way and easements with respect to Common Area to utility companies, public agencies or others, or to complete excavation, grading and construction of Improvements to and on any portion of the Property owned by Grantor, or to alter the foregoing and its construction plans and designs, or to construct such additional Improvements as Grantor deems advisable in the course of development of the Property so long as any Building Lot in the Property remains unsold. Such right shall include, but shall not be limited to, erecting, constructing and maintaining on the Property such structures and displays as may be reasonably necessary for the conduct of Grantor's business of completing the work and disposing of the same by sales lease or otherwise. Grantor shall have the right at any time prior to acquisition of title to a Building Lot by a purchaser from Grantor to grant, establish and/or reserve on that Building Lot additional licenses, reservations and rights-of-way to Grantor, to utility companies, or to others as may from time to time be reasonably necessary to the proper development and disposal of the Property. Grantor may use any structures owned by Grantor on the Property as model home complexes or real estate sales or leasing offices. Grantor need not seek or obtain Architectural Committee approval of any Improvement constructed or placed by Grantor on any portion of the Property owned by Grantor. The rights of Grantor hereunder may be assigned by Grantor to any successor in interest in connection with Grantor's interest in any portion of the Property, by an express written assignment recorded in the Office of the Ada County Recorder.

4.19 Water Rights Appurtenant to Subdivision Lands. Water shall be provided by the Kuna Municipal water system.

4.20 Commencement of Construction. Any Owner of a Building Lot shall, within a period of one (1) year following the date of purchase of a Building Lot from Grantor, commence the construction of a dwelling structure in compliance with the restrictions herein, and such construction shall be completed within six (6) months thereafter. The term "commence the construction" as used in this paragraph, shall require actual physical construction activities upon such dwelling structure upon such Building Lot.

4.21 Roof Material. *See* Exhibit C.

ARTICLE V: PATAGONIA SUBDIVISION HOMEOWNERS ASSOCIATION

5.1 Organization of Patagonia Subdivision Homeowners Association. Patagonia Subdivision Homeowners Association, Inc. ("Association") shall be initially organized by Grantor as a nonprofit corporation under the provisions of the Idaho Code relating to nonprofit corporations and shall be charged with the duties and invested with the powers prescribed by law and set forth in the Articles, Bylaws and this Declaration. Neither the Articles nor the Bylaws shall be amended or otherwise changed or interpreted so as to be inconsistent with this Declaration.

5.2 Membership. Each Owner, by virtue of being an Owner and for so long as such ownership is maintained, shall be a Member of the Association and no Owner shall have more than one membership in the Association. Memberships in the Association shall be appurtenant to the Building Lot or other portion of the Property owned by such Owner. The memberships in the Association shall not be transferred, pledged, assigned or alienated in any way except upon the transfer of Owner's title and then only to the transferee of such title. Any attempt to make a prohibited membership transfer shall be void and will not be reflected on the books of the Association.

5.3 Voting. Voting in the Association shall be carried out by Members who shall cast the votes attributable to the Building Lots which they own, or attributable to the Building Lots owned by Grantor. The number of votes any Member may cast on any issue is determined by the number of Building Lots which the Member, including Grantor, owns. When more than one person holds an interest in any Building Lot, all such persons shall be Members but shall share the votes attributable to the Building Lot. For voting purposes, the Association shall have two (2) classes of Members as described below.

5.3.1 Class A Members. Owners other than Grantor shall be known as Class A Members. Each Class A Member shall be entitled to cast one (1) vote for each Building Lot owned by such Class A Member on the day of the vote.

5.3.2 Class B Members. The Grantor shall be known as the Class B Member, and shall be entitled to ten (10) votes for each Building Lot of which Grantor is the Owner. The Class B Member shall cease to be a voting Member in the Association when the total cumulative votes of the Class A Members equal or exceed the total votes of the Class B Members so long as the Property has been fully platted, provided that the Class B membership shall not cease before the expiration of ten (10) years from the date on which the first Building Lot is sold to an Owner.

Fractional votes shall not be allowed. In the event that joint Owners are unable to agree among themselves as to how their vote or votes shall be cast, they shall lose their right to vote on the matter being put to a vote. When an Owner casts a vote, it will thereafter be presumed conclusively for all purposes that such Owner was acting with authority and consent of all joint Owners of the Building Lot(s) from which the vote derived. The right to vote may not be severed or separated from the ownership of the Building Lot to which it is appurtenant, except that any Owner may give a revocable proxy, or may assign such Owner's right to vote to a lessee, mortgagee, beneficiary or contract purchaser of the Building Lot concerned, for the term of the lease, mortgage, deed of trust or contract. Any sale, transfer or conveyance of such Building Lot to a new Owner shall operate automatically to transfer the appurtenant voting right to the Owner, subject to any assignment of the right to vote to a lessee, mortgagee, or beneficiary as provided herein.

5.4 Board of Directors and Officers. The affairs of the Association shall be conducted and managed by a Board of Directors ("Board") and such officers as the Board may elect or appoint, in accordance with the Articles and Bylaws, as the same may be amended from time to time. The Board of the Association shall be elected in accordance with the provisions set forth in the Association Bylaws.

5.5 Power and Duties of the Association.

5.5.1 Powers. The Association shall have all the powers of a corporation organized under the nonprofit corporation laws of the State of Idaho subject only to such limitations upon the exercise of such powers as are expressly set forth in the Articles, the Bylaws, and this Declaration. The Association shall have the power to do any and all lawful things which may be authorized, required or permitted to be done by the Association under Idaho law and under this Declaration, and the Articles and Bylaws, and to do and perform any and all acts which may be necessary to, proper for, or incidental to the proper management and operation of the Common Area and the Association's other assets, including water rights when and if received from Grantor, and the performance of the other responsibilities herein assigned, including without limitation:

5.5.1.1 Assessments. The power to levy Assessments on any Owner or any portion of the Property and to force payment of such Assessments, all in accordance with the provisions of this Declaration. An Association set-up fee of $200.00 and a site clean-up fee of $150.00 shall be charged upon the first closing of each Building Lot. The initial annual Regular Assessment shall be $250.00 per year, which amount is subject to change by the Board of Directors of the Association.

5.5.1.2 Right of Enforcement. The power and authority from time to time in its own name, on its own behalf, or on behalf of any Owner who consents thereto, to commence and maintain actions and suits to restrain and enjoin any breach or threatened breach of this Declaration or the Articles or the Bylaws, including the Association Rules adopted pursuant to this Declaration, and to enforce by injunction or otherwise, all provisions hereof.

5.5.1.3 Delegation of Powers. The authority to delegate its power and duties to committees, officers, employees, or to any person, firm or corporation to act as manager, and to contract for the maintenance, repair, replacement and operation of the Common Area. Neither the Association nor the members of its Board shall be liable for any omission or improper exercise by the manager of any such duty or power so delegated.

5.5.1.4 Association Rules. The power to adopt, amend and repeal by majority vote of the Board such rules and regulations as the Association deems reasonable. The Association may govern the use of the Common Areas, including but not limited to the use of private streets by the Owners, their families, invitees, licensees, lessees or contract purchasers; provided, however, that any Association Rules shall apply equally to all Owners and shall not be inconsistent with this Declaration, the Articles or Bylaws. A copy of the Association Rules as they may from time to time be adopted, amended or repealed, shall be mailed or otherwise delivered to each Owner. Upon such mailing or delivery, the Association Rules shall have the same force and effect as if they were set forth in and were a part of this Declaration. In the event of any conflict between such Association Rules and any other provisions of this Declaration, or the Articles or Bylaws, the provisions of the

Association Rules shall be deemed to be superseded by the provisions of this Declaration, the Articles or the Bylaws to the extent of any such inconsistency.

5.5.1.5 Emergency Powers. The power, exercised by the Association or by any person authorized by it, to enter upon any property (but not inside any building constructed thereon) in the event of any emergency involving illness or potential danger to life or property or when necessary in connection with any maintenance or construction for which the Association is responsible. Such entry shall be made with as little inconvenience to the Owner as practicable, and any damage caused thereby shall be repaired by the Association.

5.5.1.6 Licenses, Easements and Rights-of-Way. The power to grant and convey to any third party such licenses, easements and rights-of-way in, on or under the Common Area as may be necessary or appropriate for the orderly maintenance, preservation and enjoyment of the Common Area, and for the preservation of the health, safety, convenience and the welfare of the Owners, for the purpose of constructing, erecting, operating or maintaining:

5.5.1.6.1 Underground lines, cables, wires, conduits or other devices for the transmission of electricity or electronic signals-for lighting, heating, power, telephone, television or other purposes, and the above ground lighting stanchions, meters, and other facilities associated with the provisions of lighting and services.

5.5.1.6.2 Public sewers, storm drains, water drains and pipes, water supply systems, sprinkling systems, heating and gas lines or pipes, and any similar public or quasi-public improvements or facilities.

5.5.1.6.3 Mailboxes and sidewalk abutments around such mailboxes or any service facility, berm, fencing and landscaping abutting Common Area, public and private streets or land conveyed for any public or quasi-public purpose including, but not limited to, bicycle pathways.

The right to grant such licenses, easements and rights-of-way are hereby expressly reserved to the Association and may be granted at any time.

5.5.2 Duties. In addition to duties necessary and proper to carry out the power delegated to the Association by this Declaration, and the Articles and Bylaws, without limiting the generality thereof, the Association or its agent, if any, shall have the authority and the obligation to conduct all business affairs of the Association and to perform, without limitation, each of the following duties:

5.5.2.7 Operation and Maintenance of Patagonia Subdivision Common Area. Operate, maintain, and otherwise manage or provide for the operation, maintenance and management of Patagonia Subdivision Common Area, including the repair and replacement of property damaged or destroyed by casualty loss.

Specifically, the Association shall, at Grantor's sole discretion, operate and maintain all properties owned by Grantor which are designated by Grantor for temporary or permanent use by Members of the Association.

5.5.2.8 Reserve Account. Establish and fund a reserve account with a reputable banking institution or savings and loan association or title insurance company authorized to do business in the State of Idaho, which reserve account shall be dedicated to the costs of repair, replacement, maintenance and improvement of the Common Area.

5.5.2.9 Maintenance of Berms, Retaining Walls and Fences. Maintain the berms, retaining walls, fences and water amenities within and abutting Common Area. Maintain any water amenities constructed by Grantor or Association located in the associated easements in, over and through Building Lots as shown on the Plat.

5.5.2.10 Taxes and Assessments. Pay all real and personal property taxes and Assessments separately levied against Patagonia Subdivision Common Area or against the Association and/or any other property owned by the Association. Such taxes and Assessments may be contested or compromised by the Association, provided, however, that such taxes and Assessments are paid or a bond insuring payment is posted prior to the sale or disposition of any property to satisfy the payment of such taxes and Assessments. In addition, the Association shall pay all other federal, state or local taxes, including income or corporate taxes levied against the Association, in the event that the Association is denied the status of a tax exempt corporation.

5.5.2.11 Water and Other Utilities. Acquire, provide and/or pay for water, sewer, garbage disposal, refuse and rubbish collection, electrical, telephone and gas and other necessary services for Patagonia Subdivision Common Area, and to manage for the benefit of Patagonia Subdivision all water rights and rights to receive water held by the Association, whether such rights are evidenced by license, permit, claim, stock ownership or otherwise.

5.5.2.12 Insurance. Obtain insurance from reputable insurance companies authorized to do business in the State of Idaho, and maintain in effect any insurance policy the Board deems necessary or advisable, including, without limitation the following policies of insurance:

5.5.2.12.1 Fire insurance including those risks embraced by coverage of the type known as the broad form "All Risk" or special extended coverage endorsement on a blanket agreed amount basis for the full insurable replacement value of all Improvements, equipment and fixtures located within Patagonia Subdivision Common Area.

5.5.2.12.2 Comprehensive public liability insurance insuring the Board, the Association, the Grantor and the individual grantees and agents

and employees of each of the foregoing against any liability incident to the ownership and/or use of Patagonia Subdivision Common Area. Limits of liability of such coverage shall be as follows: Not less than One Million and No/100 Dollars ($1,000,000.00) per person and One Million and No/100 Dollars ($1,000,000.00) per occurrence with respect to personal injury or death, and One Million and No/100 Dollars ($1,000,000.00) per occurrence with respect to property damage.

5.5.2.12.3 Full coverage directors' and officers' liability insurance with a limit of at least Two Hundred Fifty Thousand and No/100 Dollars ($250,000.00).

5.5.2.12.4 Such other insurance, including motor vehicle insurance and Workmen's Compensation insurance, to the extent necessary to comply with all applicable laws and indemnity, faithful performance, fidelity and other bonds as the Board shall deem necessary or required to carry out the Association functions or to insure the Association against any loss from malfeasance or dishonesty of any employee or other person charged with the management or possession of any Association funds or other property.

5.5.2.12.5 The Association shall be deemed trustee of the interests of all Owners in connection with any insurance proceeds paid to the Association under such policies, and shall have full power to receive such Owner's interests in such proceeds and to deal therewith.

5.5.2.12.6 Insurance premiums for the above insurance coverage shall be deemed a common expense to be included in the Regular Assessments levied by the Association.

5.5.2.13 Rule Making. Make, establish, promulgate, amend and repeal such Association Rules as the Board shall deem advisable.

5.5.2.14 Newsletter. If it so elects, prepare and distribute a newsletter on matters of general interest to Association Members, the cost of which shall be included in Regular Assessments.

5.5.2.15 Architectural Committee. Appoint and remove members of the Architectural Committee, subject to the provisions of this Declaration.

5.5.2.16 Enforcement of Restrictions and Rules. Perform such other acts, whether or not expressly authorized by this Declaration, as may be reasonably advisable or necessary to enforce any of the provisions of the Declaration, or of the Articles or Bylaws, including, without limitation, the recordation of any claim of lien with the Ada County Recorder, as more fully provided herein.

5.6 Personal Liability. No Member of the Board, or member of any committee of the Association, or any officer of the Association, or the Grantor, or the manager, if any, shall be personally liable to any Owner, or to any other party, including the Association, for any damage, loss or prejudice suffered or claimed on the account of any act, omission, error or negligence of the Association, the Board, the manager, if any, or any other representative or employee of the Association, the Grantor, or the Architectural Committee, or any other committee, or any officer of the Association, or the Grantor, provided that such person, upon the basis of such information as may be possessed by such person, has acted in good faith without willful or intentional misconduct.

5.7 Budgets and Financial Statements. Financial statements for the Association shall be prepared regularly and copies shall be distributed to each Member of the Association as follows:

5.7.1 A pro forma operating statement or budget, for each fiscal year shall be distributed not less than sixty (60) days before the beginning of each fiscal year. The operating statement shall include a schedule of Assessments received and receivable, identified by the Building Lot number and the name of the person or entity assigned.

5.7.2 Within ninety (90) days after the close of each fiscal year, the Association shall cause to be prepared and delivered to each Owner, a balance sheet as of the last day of the Association's fiscal year and annual operating statements reflecting the income and expenditures of the Association for its last fiscal year. Copies of the balance sheet and operating statement shall be distributed to each Member within ninety (90) days after the end of each fiscal year.

5.8 Meetings of Association. Each year the Association shall hold at least one meeting of the Members, according to the schedule for such meetings established by the Bylaws; provided, that such meeting shall occur no earlier than April 15 and no later than May 31 each year. Only Members shall be entitled to attend Association meetings, and all other persons may be excluded. Notice for all Association meetings, regular or special, shall be given by regular mail to all Members, and any person in possession of a Building Lot, not less than ten (10) days nor more than thirty (30) days before the meeting and shall set forth the place, date and hour of the meeting and the nature of the business to be conducted. All meetings shall be held within the Property or as close thereto as practical at a reasonable place selected by the Board. The presence at any meeting in person of the Class B Member where there is such a Member, and of the Class A Members representing Owners holding at least thirty percent (30%) of the total votes of all Class A Members, shall constitute a quorum. If any meeting cannot be held because a quorum is not present, the Members present may adjourn the meeting to a time not less than ten (10) days nor more than thirty (30) days from the time the original meeting was scheduled. A second meeting may be called as the result of such an adjournment, provided notice is given as provided above. At any such meeting properly called, the presence of any Member shall constitute a quorum.

ARTICLE VI: LIGHT MAINTENANCE OF STORM WATER FACILITIES

6.1 Maintenance Manual. Operation and maintenance of the storm water facilities at Patagonia Subdivision shall be governed in accordance with a maintenance manual that may be modified from time to time at the direction of the Board of the Association.

6.2 ACHD Storm Water Drainage System. Lots 1, 8 through 11, and 18 in Block 1, Patagonia Subdivision No. 1, contain the Ada County Highway District ("ACHD") storm water drainage system in Patagonia Subdivision. These Lots are encumbered by that certain Master Perpetual Storm Water Drainage Easement recorded on November 10, 2015, as Instrument No. 2015-103256, official records of Ada County, Idaho, and incorporated herein by this reference as if set forth in full ("Master Easement"). The Master Easement and the storm water drainage system are dedicated to ACHD pursuant to Section Idaho Code Section 40-2302. The Master Easement is for the operation and maintenance of the storm water drainage system. Said easement shall remain free of all encroachments and obstructions (including fences and trees) which may adversely affect the operation and maintenance of the storm drainage facilities.

6.3 Drainage. There shall be no interference with the established drainage pattern over any portion of the Property, unless an adequate alternative provision is made for proper drainage, and is first approved in writing by the Architectural Committee and ACHD. For the purposes hereof, "established" drainage is defined as the system of drainage, whether natural or otherwise, which exists at the time the overall grading of any portion of the Property is completed by Grantor, or that drainage which is shown on any plans approved by the Architectural Committee and/or ACHD, which may include drainage from Common Area over any Building Lot in the Property.

ARTICLE VII: RIGHTS TO COMMON AREAS

7.1 Use of Patagonia Subdivision Common Area. Every Owner shall have a right to use each parcel of Patagonia Subdivision Common Area, which right shall be appurtenant to and shall pass with the title to every Building Lot, subject to the following provisions:

7.1.1 The right of the Association to levy and increase Assessments;

7.1.2 The right of the Association to suspend the voting rights and rights to use of, or interest in, Common Area by an Owner for any period during which any Assessment or charge against such Owner's Building Lot remains unpaid; and for a period not to exceed sixty (60) days for any infraction of the Association Rules; and

7.1.3 The right of the Association to dedicate or transfer all or any part of the Common Area to any public agency, authority or utility for such purposes and subject to such conditions as may be permitted by the Articles and Bylaws and agreed to by the Members. No dedication or transfer of said Common Area shall be effective unless an instrument agreeing to such dedication or transfer signed by Members representing two-thirds (2/3) of each class of Members has been recorded.

7.1.4 The right of the Association to prohibit the construction of structures or Improvements on all Common Areas.

7.1.5 The right of the Association to prohibit structures, Improvements, including manicured lawns and nursery plants.

7.2 Designation of Common Area. Grantor shall designate and reserve Patagonia Subdivision Common Area in the Declaration, Supplemental Declarations and/or recorded Plats, deeds or other instruments and/or as otherwise provided herein.

7.3 Delegation of Right to Use. Any Owner may delegate, in accordance with the respective Bylaws and Association Rules of the Association, such Owner's right of enjoyment to the Patagonia Subdivision Common Area, to the members of such Owner's family in residence, and such Owner's tenants or contract purchasers who reside on such Owner's Building Lot. Only Grantor or the Association shall have the right to delegate the right of enjoyment of the Patagonia Subdivision Common Area to the general public, and such delegation to the general public shall be for a fee set by Grantor or Association.

7.4 Damages. Each Owner shall be fully liable for any damage to any Common Area which may be sustained by reason of the negligence or willful misconduct of the Owner, such Owner's resident tenant or contract purchaser, or such Owner's family and guests, both minor and adult. In the case of joint ownership of a Building Lot, the liability of such Owners shall be joint and several. The cost of correcting such damage shall be a Limited Assessment against the Building Lot and may be collected as provided herein for the collection of other Assessments.

ARTICLE VIII: PRESSURIZED IRRIGATION

8.1 Irrigation District Service. Pressurized irrigation will be provided to each home by the Kuna Municipal water system. Homeowners will be billed directly by the City for potable and irrigation water.

ARTICLE IX: ASSESSMENTS

9.1 Covenant to Pay Assessments. By acceptance of a deed to any property in Patagonia Subdivision, each Owner of such property hereby covenants and agrees to pay when due all Assessments or charges made by the Association, including all Regular, Special and Limited Assessments and charges made against such Owner pursuant to the provisions of this Declaration or other applicable instrument.

9.1.1 Assessment Constitutes Lien. Such Assessments and charges together with interest, costs and reasonable attorneys' fees which may be incurred in collecting the same, shall be a charge on the land and shall be a continuing lien upon the property against which each such Assessment or charge is made.

9.1.2 Assessment is Personal Obligation. Each such Assessment, together with interest, costs and reasonably attorneys' fees, shall also be the personal obligation of the Owner of such property beginning with the time when the Assessment falls due. The personal obligation for delinquent Assessments shall not pass to such Owner's successors in title unless expressly assumed by them but shall remain such Owner's personal obligation regardless of whether he remains an Owner.

9.2 Regular Assessments. All Owners, excluding the Grantor, are obligated to pay Regular Assessments to the treasurer of the Association on a schedule of payments established by the Board.

9.2.1 Purpose of Regular Assessments. The proceeds from Regular Assessments are to be used to pay for all costs and expenses incurred by the Association, including legal and attorneys' fees and other professional fees, for the conduct of its affairs, including without limitation the costs and expenses of construction, improvement, protection, maintenance, repair, management and operation of the Common Areas, including all Improvements located on such areas owned and/or managed and maintained by such Association, and an amount allocated to an adequate reserve fund to be used for repairs, replacement, maintenance and improvement of those elements of the Common Area, or other property of the Association that must be replaced and maintained on a regular basis (collectively "Expenses").

9.2.2 Computation of Regular Assessments. The Association shall compute the amount of its Expenses on an annual basis. The Board shall compute the amount of Regular Assessments owed beginning the first day of the third month following the month in which the closing of the first sale of a Building Lot occurred in Patagonia Subdivision for the purposes of the Association's Regular Assessment ("Initiation Date"). Thereafter, the computation of Regular Assessments shall take place not less than thirty (30) nor more than sixty (60) days before the beginning of each fiscal year of the Association. The computation of the Regular Assessment for the period from the Initiation Date until the beginning of the next fiscal year shall be reduced by an amount which fairly reflects the fact that such period was less than one year.

9.2.3 Amounts Paid by Owners. The Board can require, in its discretion or as provided in the Articles or Bylaws, payment of Regular Assessments in monthly, quarterly, semi-annual or annual installments. The Regular Assessment to be paid by any particular Owner for any given fiscal year shall be computed as follows:

9.2.3.17 As to the Association's Regular Assessment, each Owner shall be assessed and shall pay an amount computed by multiplying the Association's total advance estimate of Expenses by the fraction produced by dividing the Building Lots attributable to the Owner by the total number of Building Lots in the Property.

9.3 Special Assessments.

9.3.1 Purpose and Procedure. In the event that the Board of the Association shall determine that its respective Regular Assessment for a given calendar year is or will be inadequate to meet the Expenses of such Association for any reason, including but not limited to costs of construction, reconstruction, unexpected repairs or replacement of capital improvements upon the Common Area, attorney's fees and/or litigation costs, other professional fees, or for any other reason, the Board thereof shall determine the approximate amount necessary to defray such Expenses and levy a Special Assessment against the

portions of the Property within its jurisdiction which shall be computed in the same manner as Regular Assessments. No Special Assessment shall be levied which exceeds twenty percent (20%) of the budgeted gross Expenses of such Association for that fiscal year, without the vote or written assent of the Owners representing a majority of the votes of the Members of such Association. The Board shall, in its discretion, determine the schedule under which such Special Assessment will be paid.

9.3.2 Consistent Basis of Assessment. Every Special Assessment levied by and for the Association shall be levied and paid upon the same basis as that prescribed for the levying and payment of Regular Assessments for such Association.

9.4 Limited Assessments. Notwithstanding the above provisions with respect to Regular and Special Assessments, a Board may levy a Limited Assessment against a Member as a remedy to reimburse the Association for costs incurred in bringing the Member and/or such Member's Building Lot into compliance with the provisions of the governing instruments for Patagonia Subdivision.

9.5 Uniform Rate of Assessment. Unless otherwise specifically provided herein, Regular and Special Assessments shall be fixed at a uniform rate per Building Lot for all Members of the Association.

9.6 Assessment Period. Unless otherwise provided in the Articles or Bylaws, the Assessment period shall commence on January 1 of each year and terminate December 31 of the year in which the Initiation Date occurs. The first Assessment shall be pro-rated according to the number of months remaining in the fiscal year and shall be payable in equal monthly installments.

9.7 Notice and Assessment Due Date. Ten (10) days prior written notice of Regular and Special Assessments shall be sent to the Owner of every Building Lot subject thereto, and to any person in possession of such Building Lot. The due dates for installment payment of Regular Assessments and Special Assessments shall be the first day of each month unless some other due date is established by the Board. Each monthly installment of the Regular Assessment or Special Assessment shall become delinquent if not paid within ten (10) days after the levy thereof. There shall accrue with each installment that is not paid within thirty (30) days after the due date a late fee of $25.00. The Association may bring an action against the delinquent Owner and may foreclose the lien against such Owner's Building Lot as more fully provided herein. Each Owner is personally liable for Assessments, together with all interest, costs and attorneys' fees, and no Owner may exempt such Owner from such liability by a waiver of the use and enjoyment of the Common Areas, or by lease or abandonment of such Owner's Building Lot.

9.8 Estoppel Certificate. The Association, upon at least twenty (20) days prior written request, shall execute, acknowledge and deliver to the party making such request, a statement in writing stating whether or not, to the knowledge of the Association, a particular Building Lot Owner is in default under the provisions of this Declaration, and further stating the dates to which any Assessments have been paid by the Owner. Any such certificate delivered pursuant to this paragraph may be relied upon by any prospective purchaser or mortgagee of the Owner's Building

Lot. Reliance on such Certificate may not extend to any default as to which the signor shall have had no actual knowledge.

9.9 Special Notice and Quorum Requirements. Notwithstanding anything to the contrary contained in either the Bylaws or the Articles, written notice of any meeting called for the purpose of levying a Special Assessment, or for the purpose of obtaining a membership vote in connection with an increase in the Regular Assessment, shall be sent to all Members of the Association and to any person in possession of a Building Lot, not less than fifteen (15) days nor more than thirty (30) days before such meeting. At the first such meeting called, the presence of Members or of proxies entitled to cast sixty percent (60%) of the total votes of the Association shall constitute a quorum. If such quorum is not present, subsequent meetings may be called subject to the same notice requirement, and the required quorum at the subsequent meetings shall be fifty percent (50%) of the quorum required at the preceding meeting. No such subsequent meeting shall be held more than thirty (30) days following the preceding meeting.

ARTICLE X: ENFORCEMENT OF ASSESSMENTS; LIENS

10.1 Right to Enforce. The Association has the right to collect and enforce its Assessments pursuant to the provisions hereof. Each Owner of a Building Lot, upon becoming an Owner of such Building Lot, shall be deemed to covenant and agree to pay each and every Assessment provided for in this Declaration and agrees to the enforcement of all Assessments in the manner herein specified. In the event an attorney or attorneys are employed for the collection of any Assessment, whether by suit or otherwise, or to enforce compliance with or specific performance of the terms and conditions of this Declaration, each Owner agrees to pay reasonable attorney's fees in addition to any other relief or remedy obtained against such Owner. The Board or its authorized representative may enforce the obligations of the Owners to pay such Assessments by commencement and maintenance of a suit at law or in equity, or the Board may exercise the power of foreclosure and sale pursuant to paragraph 10.3 to enforce the liens created hereby. A suit to recover a money judgment for an unpaid Assessment shall be maintainable without foreclosing or waiving the lien hereinafter provided.

10.2 Assessment Liens.

10.2.1 Creation. There is hereby created a claim of lien with power of sale on each and every Building Lot to secure payment of any and all Assessments levied against such Building Lot pursuant to this Declaration together with interest thereon at the maximum rate permitted by law and all costs of collection which may be paid or incurred by the Association making the Assessment in connection therewith, including reasonable attorneys' fees. All sums assessed in accordance with the provisions of this Declaration shall constitute a lien on such respective Building Lots upon recordation of a claim of lien with the Ada County Recorder. Such lien shall be prior and superior to all other liens or claims created subsequent to the recordation of the notice of delinquency and claim of lien except for tax liens for real property taxes on any Building Lot and Assessments on any Building Lot in favor of any municipal or other governmental assessing body which, by law, would be superior thereto.

10.2.2 Claim of Lien. Upon default of any Owner in the payment of any Regular, Special or Limited Assessment issued hereunder, the Association may cause to be recorded in the office of the Ada County Recorder a claim of lien. The claim of lien shall state the amount of such delinquent sums and other authorized charges (including the cost of recording such notice), a sufficient description of the Building Lot(s) against which the same have been assessed, and the name of the record Owner thereof. Each delinquency shall constitute a separate basis for a notice and claim of lien, but any number of defaults may be included within a single notice and claim of lien. Upon payment to the Association of such delinquent sums and charges in connection therewith or other satisfaction thereof, the Association shall cause to be recorded a further notice stating the satisfaction or relief of such delinquent sums and charges. The Association may demand and receive the cost of preparing and recording such release before recording the same.

10.3 Method of Foreclosure. Such lien may be foreclosed by appropriate action in court or by sale by the Association establishing the Assessment, its attorney or other person authorized to make the sale. Such sale shall be conducted in accordance with the provisions of the Idaho Code applicable to the exercise of powers of sale permitted by law. The Board is hereby authorized to appoint its attorney, any officer or director of the Association, or any title company authorized to do business in Idaho as trustee for the purpose of conducting such power of sale or foreclosure.

10.4 Required Notice. Notwithstanding anything contained in this Declaration to the contrary, no action may be brought to foreclose the lien created by recordation of the notice of delinquency and claim of lien, whether judicially, by power of sale or otherwise, until the expiration of thirty (30) days after a copy of such claim of lien has been deposited in the United States mail, certified or registered, postage prepaid, to the Owner of the Building Lot(s) described in such notice of delinquency and claim of lien, and to the person in possession of such Building Lot(s), and a copy thereof is recorded by the Association in the Office of the Ada County Recorder.

10.5 Subordination to Certain Trust Deeds. The lien for the Assessments provided for herein in connection with a given Building Lot shall not be subordinate to the lien of any deed of trust or mortgage except the lien of a first deed of trust or first mortgage given and made in good faith and for value that is of record as an encumbrance against such Building Lot prior to the recordation of a claim of lien for the Assessments. Except as expressly provided in paragraph 10.6 with respect to a first mortgagee who acquires title to a Building Lot, the sale or transfer of any Building Lot shall not affect the Assessment lien provided for herein, nor the creation thereof by the recordation of a claim of lien, on account of the Assessments becoming due whether before, on, or after the date of such sale or transfer, nor shall such sale or transfer diminish or defeat the personal obligation of any Owner for delinquent Assessments as provided for in this Declaration.

10.6 Rights of Mortgagees. Notwithstanding any other provision of this Declaration, no amendment of this Declaration shall operate to defeat the rights of the Beneficiary under any deed of trust upon a Building Lot made in good faith and for value, and recorded prior to the recordation of such amendment, provided that after the foreclosure of any such deed of trust such Building Lot shall remain subject to this Declaration as amended.

ARTICLE XI: INSPECTION OF ASSOCIATION'S BOOKS AND RECORDS

11.1 Member's Right of Inspection. The membership register, books of account and minutes of meetings of the Board and committees of the Association shall be made available for inspection and copying by any Member of the Association or by such Member's duly appointed representatives, at any reasonable time and for a purpose reasonably related to such Member's interest as a Member at the office of the Association or at such other place as the Board of such Association shall prescribe. No Member or any other person shall copy the membership register for the purposes of solicitation of or direct mailing to any Member of the Association.

11.2 Rules Regarding Inspection of Books and Records. The Board shall establish reasonable rules with respect to:

11.2.1 Notice to be given to the custodians of the records by the persons desiring to make the inspection.

11.2.2 Hours and days of the week when such an inspection may be made.

11.2.3 Payment of the cost of reproducing copies of documents requested pursuant to this Article XI.

11.3 Director's Rights of Inspection. Every director shall have the absolute right at any reasonable time to inspect all books, records and documents of the Association, and the physical properties owned or controlled by the Association. The right of inspection by a director includes the right to make extracts and copies of documents.

ARTICLE XII: ARCHITECTURAL COMMITTEE

12.1 Creation. Within thirty (30) days of the date on which the Grantor first conveys a Building Lot to an Owner, Grantor shall appoint three (3) individuals to serve on Patagonia Subdivision Architectural Committee ("Architectural Committee"). Each member shall hold office until such time as such member has resigned or has been removed, or such member's successor has been appointed, as provided herein. A member of the Architectural Committee need not be an Owner. Members of the Architectural Committee may be removed by the person or entity appointing them at any time without cause.

12.2 Grantor's Right of Appointment. At any time, and from time to time, prior to ten (10) years after the recording date of this Declaration in which Grantor is the Owner of any of the Property, Grantor shall have the exclusive right to appoint and remove all members of the Architectural Committee. At all other times, the Association Board shall have the right to appoint and remove all members of the Architectural Committee. If a vacancy on the Architectural Committee occurs and a permanent replacement has not yet been appointed, Grantor or the Board, as the case may be, may appoint an acting member to serve for a specified temporary period not to exceed one (1) year.

Wendy Howell

From: noreply@civicplus.com
Sent: Thursday, July 9, 2020 4:44 PM
To: Wendy Howell; City Clerk
Subject: Online Form Submittal: Public Testimony Form

Public Testimony Form

Please complete the form with your testimony for the below referenced case for the Public Hearing record.

Case Number/Description	Patagonia East, Lakes, Ridge Subdivisions
Public Hearing Date	7/14/2020
Will you also be providing in person testimony at the Public Hearing	No
In Favor, Neutral or In Opposition	Opposition
Email	sarahmarie2884@gmail.com
Phone Number	208-401-4244
First Name	Sarah
Last Name	Gates
Address1	2257 East Hubbard Road
City	Kuna
State	ID
Zip	83634
Written Testimony	Completely opposed. This will negatively affect our family farm as well as our community. The roads are not ready for that type of growth and safety is a big concern. Way to many houses proposed. Keep it country!

By checking the "I agree" box below, you agree and acknowledge that submitting, that this testimony will be a public record and a part of the case file for the governing body. Any testimony submitted after the public hearing Will Not be considered by the governing body.

Electronic Signature Agreement	I Agree

Email not displaying correctly? View it in your browser.

Wendy Howell

From: noreply@civicplus.com
Sent: Thursday, July 9, 2020 4:34 PM
To: Wendy Howell; City Clerk
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Case Number/Description	Patagonia East, Lakes, Ridge Subdivisions
Public Hearing Date	7/14/2020
Will you also be providing in person testimony at the Public Hearing	No
In Favor, Neutral or In Opposition	Opposition
Email	Chadwickthehunter2@gmail.com
Phone Number	208-258-0698
First Name	Chad
Last Name	Horton
Address1	2257 East Hubbard Road
City	Kuna
State	ID
Zip	83634
Written Testimony	I am firmly opposed to this. It will be devastating to my farming business as well as my families. Our family has farmed this area since 1935 and want to keep the legend alive. Kuna has enough subdivisions. Save the farmer.

By checking the "I agree" box below, you agree and acknowledge that submitting, that this testimony will be a public record and a part of the case file for the governing body. Any testimony submitted after the public hearing Will Not be considered by the governing body.

Electronic Signature Agreement	I Agree

Email not displaying correctly? View it in your browser.

Wendy Howell

From: noreply@civicplus.com
Sent: Thursday, July 9, 2020 4:24 PM
To: Wendy Howell; City Clerk
Subject: Online Form Submittal: Public Testimony Form

Public Testimony Form

Please complete the form with your testimony for the below referenced case for the Public Hearing record.

Case Number/Description	Patagonia East, Lakes, Ridge Subdivisions
Public Hearing Date	7/14/2020
Will you also be providing in person testimony at the Public Hearing	Yes
In Favor, Neutral or In Opposition	Opposition
Email	eedahow@yahoo.com
Phone Number	2088617263
First Name	Christi
Last Name	Horton
Address1	2291 E. Hubbard Road
City	Kuna
State	ID
Zip	83634
Written Testimony	I am NOT in favor of of the annexation or the proposed preliminary plat that is submitted for the Patagonia East, Lakes, Ridge Subdivisions. I am an agricultural home owner/farmer, on the far southeast corner of the proposed plat. Our family has proudly been part of this community since my grandfather homesteaded here in 1935. This not only affects us on a personal level, but should be a huge concern to our community on whether this area is ready for the rapid growth expansion. There are many questions that need to be addressed. Why is the density of the north side of Hubbard road so different than

the south side? It appears that this does not comply with the comprehensive plan that that was previously approved? Proposing to put that many houses in on an agricultural type area will totally take away from what "country type" atmosphere we have had and are desperately trying to hold on to. Who actually has jurisdiction, Kuna City or Ada County? What information is provided for sewer, water and city services? What plans are provided for runoff water that is part of adjoining properties? How will the traffic increase be handled? These are just some of many questions that need addressed. We have attended the three community meetings that have been held regarding expansions in this area. The last meeting held on June 4 by WHPacific was extremely frustrating. It was hard to conduct business in a hot shed, with no chairs provided and many people talking at once, and many questions unanswered. Again, completely opposed. Thank you.

By checking the "I agree" box below, you agree and acknowledge that submitting, that this testimony will be a public record and a part of the case file for the governing body. Any testimony submitted after the public hearing Will Not be considered by the governing body.

Electronic Signature Agreement	I Agree

Email not displaying correctly? View it in your browser.

Wendy Howell

From: noreply@civicplus.com
Sent: Thursday, July 9, 2020 4:47 PM
To: Wendy Howell; City Clerk
Subject: Online Form Submittal: Public Testimony Form

Public Testimony Form

Please complete the form with your testimony for the below referenced case for the Public Hearing record.

Case Number/Description	19-14-an & 19-11-5 19-32-dr
Public Hearing Date	7/14/2020
Will you also be providing in person testimony at the Public Hearing	No
In Favor, Neutral or In Opposition	Opposition
Email	Lu296ba@hotmail.com
Phone Number	208-340-4925
First Name	Danny Scott
Last Name	Horton
Address1	2291 East Hubbard Rd.
City	Kuna
State	Idaho
Zip	83634
Written Testimony	I live on the East side of the proposed Patagonia East subdivision. I am very opposed to the small sizes of the lots on the plot plan. Hubbard road is already very busy and with smaller lots that brings more traffic. We have been an agricultural family for 85 years and are planning on continuing for years to come. I don't see any easements for irrigation in the design. There are many other questions that need to be addressed as well.

By checking the "I agree" box below, you agree and acknowledge that submitting, that this testimony will be a public record and a part of the case file for the governing body. Any testimony submitted after the public hearing Will Not be considered by the governing body.

Electronic Signature Agreement	I Agree

Email not displaying correctly? View it in your browser.

received
7-14-20

Kuna
Planning & Zoning Dept.
Re: Patagonia East

received
7-14-20

July 14, 2020

City of Kuna
Kuna Planning and Zoning Department

RE: Patagonia East, Lakes, Ridge Subdivision(s)

Do not approve this request! These Subdivisions are not compatible with the properties in the surrounding area.

LOT SIZES

High density housing of 8, 6, 4, and even 2 houses per acre is not reasonable when existing houses are on lots of 1, 5, 10, 20 acres and larger. Does Kuna really want to build a future slum?

TRAFFIC

Thanks to Patagonia (West), Brighton Homes, Meridian Dump and other planned developments, Locust Grove Road, a slightly improved farm road, is now overrun with unsafe drivers and unsafe driving conditions and in need of improvement. NOW!

INCREASED TAXES

Don't expect current property owners to pay for increased school, fire and police services. We have already said no to more property taxes for the fire district.

Please consider these very serious issues

Kenneth M. and Linda R. Jantz

Troy Behunin

From: Wendy Howell
Sent: Wednesday, July 8, 2020 3:37 PM
To: Troy Behunin
Subject: FW: Patagonia Subdivision Input

Please include this in the packet for the public hearing.

Thank you,

Wendy

From: JOE E RANDALL <jrandall_1@msn.com>
Sent: Wednesday, July 8, 2020 3:24 PM
To: PublicHearingTestimony <PublicHearingTestimony@kunaid.gov>
Subject: Patagonia Subdivision Input

Joe Randall
2210 E. Hubbard Rd
Kuna, Idaho 83634

I own 100 acres adjacent to the proposed Patagonia Subdivision, my property is North and East. I have the following questions:

1. Will the subdivision have a privacy fence between my property and the proposed subdivision? If so I would like to work with the developer about replacing my 3 rail polyvinyl fence.
2. Will the sewer pipe be located at a sufficient depth that will allow for its use in future development of my property?
3. Will the quality of the landscaping along Hubbard Rd. adjacent to the subdivision be of equal quality to that which
   exists on the present Patagonia Subdivision?
4. Will the increase in traffic caused by the subdivision necessitate a widening of East Hubbard Rd.? Particularly in
   front on my property at 2210 E. Hubbard Rd.

Thank you,

Joe Randall

June 18, 2020 HAND DELIVERED

Kuna City Planning and Zoning Commissioners

Reference: Patagonia East Development (Bridges Property, Case and Wood Properties)

I am not sure the above referenced item has come before you for review. I hope our comments will be considered. We are in favor of the annexation and development but we do have some concerns:

1. Why is the density on the NE corner of Hubbard and Locust Grove different than the density on the SE side of Locust Grove/Hubbard (Wood property)?
2. If approved as the developer is requesting, it appears the Wood property (south on Hubbard) does not comply with the July 2019 Kuna Comp Plan for the area East of Locust Grove. It appears the Plan is showing low density for the area East of Locust Grove.
3. Our request is that the Wood property be in accordance with the Plan and that you require the developer to redesign the Wood property to low density or at a minimum require the property to have the same density as the property on the NE corner of LG and Hubbard (Case property).
4. The current design for the Wood property shows 50 ft lots which mean the houses will only be 40 ft wide. It just does not seem a 50 ft lot fits in with the surrounding properties which are 10,20,30 acre parcels with the exception of the Huber properties.
5. I did send an email to the developers engineer with most of the concerns in this letter on June 4th & 5th but have not received any response (copies attached). In many ways the area East of Locust Grove is a blank slate so I hope to see "good" development not pack in development in an area that appears to have many years before pack-in development would be reasonable planning.
6. We are not sure what the requirements are for a neighborhood meeting but the last one the developer had was in a filthy shed with no facilities or seating and a parking lot filled with goat heads.
7. We are concerned that the proposed site for the elementary school is on an arterial rather that in the middle of the development. Most of the other cities are requiring especially elementary school sites to be in the middle of new developments not on arterials. We only have to look at Boise and the number of elementary schools built 50 years ago on arterials that are being closed due to the traffic density/capacity of arterials. Please consider requirements to move this elementary school site.
8. Let me assure you that my concerns are not a situation of not in my back yard.....our house is on Hubbard and ¾'s of a mile off Hubbard so any development is a minor issue for us even though we have lived at 2601 E Hubbard for 47 years.

Respectfully

Henry and Sherry Huber

received
6-19-20

Sherry Huber
Meeting 6/4 @1670 e Hubbard rd. ...Patagonia east
Jun 4, 2020 at 9:14:44 PM
blayton@wnpacific.com

Please provide the following breakdown on the three properties shown as Patagonia east:

1. Bridges property nw corner LG and Hubbard..number of lots broken down by size. Meaning 50 ft wide etc
2. NE corner (across from bridges). Number of lots broken down by size.
3. Wood property on Hubbard rd south. Number of lots broken down by size.

Please be sure to identify number of each size of lots. Also, it is my understanding that the lot sizes in the original Patagonia are 60 to 70 ft wide...is that accurate?
Has the school lot been purchased by the school board?
Are the 54 common lots all grass or do they provide a park or pool?
Please notify me when plats are formally submitted to achd & Kuna City.

Thank you for you time.
Sherry Huber

Sent from my iPad

received
6-19-20

Sherry Huber
Follow up Patagonia questions
Jun 5, 2020 at 2:07:15 AM
blayton@whpacific.com

forgot .....for each of the three properties please provide number of acres for each individual separate property....and density designation .....does the density designation comply with Kuna comp plan?

If you have any question I can be reached at 208/888-4247

Thank you

Sherry Huber

Sent from my iPad

received
6-19-20

I am totally opposed to this subdivision Patagonia East, Lakes, Ridge subdivision(s)

Sandra Martin
2522 E. Hubbard Rd
Kuna Id 83634

received
7.9.20

City of Kuna

Planning & Zoning Commission
Staff Report

P.O. Box 13
Phone: (208) 922-5274
Fax: (208) 922-5989
www.Kunacity.id.gov

To: **Kuna Planning and Zoning Commission.**

File Numbers: **20-03-SUP** (Special Use Permit) &
20-13-DR (Design Review);
Eagle Christian Church

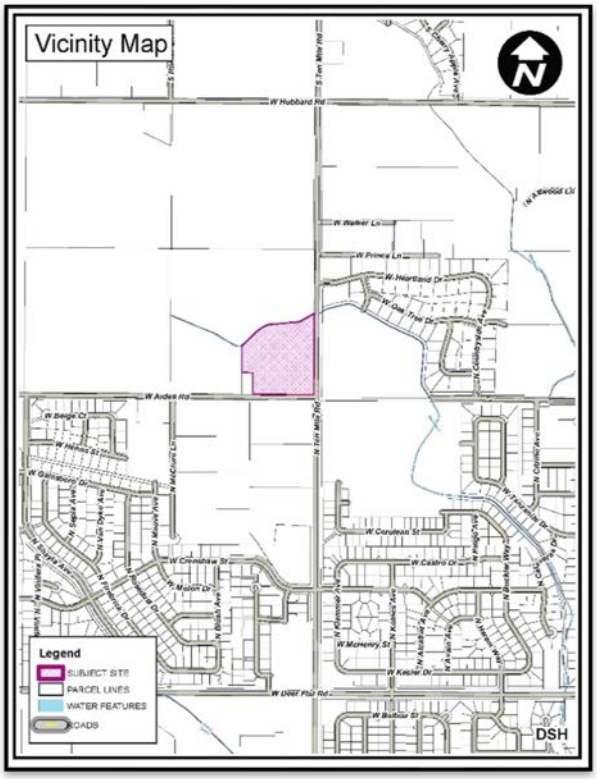
Location: W. Ardell Road,
Kuna, Idaho 83634

Planner: Doug Hanson, Planner I

Hearing date: August 11, 2020

Owner: Eagle Christian Church, Inc.
100 Short Lane
Eagle, ID 83616
208.447.9454
steve.crane@eaglechristianchurch.com

Applicant: Rennison Design
410 E. State Street, Suite 120
Eagle, ID 83616
208.447.9454
brianl@rennisoncompanies.com



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I. Proposed Decision by the Commission

A. Course of Proceedings:

1. Kuna City Code (KCC); Title 5, Chapter 6, a Special Use Permit (SUP) is only obtained by an application going through the public hearing process. KCC Title 5 Chapter 3, Section, 2 requires obtaining a SUP to operate a church in an A (Agriculture) zoning district.

2. KCC, Title 1, Chapter 14, Section 3, states that design reviews and signs are designated as public meetings, with the Planning and Zoning Commission (acting as the Design Review Committee) as the decision-making body. As a public meeting item, this action requires no formal public noticing actions.

a. Notifications

i.	Neighborhood Meeting	April 22, 2020 (six attendees)
	Neighborhood Meeting (Virtual)	April 30, 2020 (no attendees)
ii.	Agency Notification	June 8, 2020
iii.	400' Notice to Property Owners	July 22, 2020
iv.	Kuna Melba Newspaper	July 22, 2020

v. Site Posted July 24, 2020

B. Applicants Request:

Rennison Design seeks a Special Use Permit (SUP) to construct and operate a new church. The property is located at the northwest corner of W. Ardell Road and N. Ten Mile Road (APN: S1315142250). The applicant also seeks design review approval for an approximately 16,983 square foot church building, parking lot and landscaping.

C. History: The property has historically been used for agricultural purposes.

D. General Projects Facts:

1. **Surrounding Land Uses:**

North	RR	Rural Residential – Ada County
South	RUT	Rural Urban Transition – Ada County
East	R-4	Medium Density Residential – Kuna City
West	RR A	Rural Residential – Ada County Agriculture – Kuna City

2. **Parcel Sizes, Current Zoning, Parcel Numbers:**

- Parcel Size: Approximately 9.53 acres
- Zoning: A (Agriculture)
- Parcel #: S1315142250

3. **Services:**

Sanitary Sewer– City of Kuna (Future)
Potable Water – City of Kuna (Future)
Irrigation District – Boise Kuna Irrigation District (Future)
Pressurized Irrigation – City of Kuna (Future)
Fire Protection – Kuna Rural Fire District
Police Protection – Kuna Police (Ada County Sheriff)
Sanitation Services – J&M Sanitation

4. **Existing Structures, Vegetation and Natural Features:**

There is currently one small building near the northern border of the property, approximately 12 ft. x20 ft., owned by Sparklight, fiber optic. Agricultural fields account for the site's vegetation. The site is relatively flat with an estimated average slope of 1% to 1.4%. Bedrock depth is estimated to be between 20 to 40 inches.

5. **Transportation / Connectivity:**

Current access to the site exists along the subject site's east frontage on N. Ten Mile Road via an existing driveway, and the subject site's south frontage W. Ardell Road via an existing driveway.

6. **Environmental Issues:**

Apart from being in the nitrate priority area, staff is not aware of any environmental issues, health or safety conflicts at this time. This site's topography is generally flat.

7. **Comprehensive Future Land Use Map:**

The Future Land Use Map (FLUM) identifies this site as Commercial. With SUP approval, a church within a Agriculture zoning district is viewed as a commercial use. Staff views this proposed SUP request to be consistent with the surrounding zoning designations as designated in the FLUM.

8. **Agency Responses:**

The following agencies returned comments which are included as exhibits with this case file:

- Boise Project Board of Control (June 10, 2020) …… Exhibit B-1
- Central District Health Department (June 17, 2020) …… Exhibit B-2
- Nampa Meridian Irrigation District (June 22, 2020……..Exhibit B-3
- Ada County Highway District (June 26, 2020) ……Exhibit B-4
- City Engineer (July 13, 2020) ……Exhibit B-5

E. Staff Analysis:

Rennison Design seeks a Special Use Permit (SUP) to construct and operate a new church. The operation of a church is permitted within an A (Agriculture) zoning district after obtaining a SUP.

The property's eastern border aligns with the principal arterial Ten Mile Road. Staff recommends that Ten Mile Road be improved as half of a 48 ft. street section with vertical curb, gutter and 8 ft. wide detached sidewalk following KCC. The property's southern border aligns with the proposed mid-mile collector, Ardell Road. Staff recommends that Ardell Road be improved as half of a 36 ft. street section with vertical curb, gutter and 8 ft. wide detached sidewalk following KCC. The applicant proposes two drive way access points to the subject site on Ten Mile and Ardell Road. ACHD policy dictates that if a property has frontage on more than one street, access shall be taken from the street having the lesser functional classification. ACHD recommends that if the applicant would like to further pursue an additional driveway onto Ten Mile Road, a traffic analysis to demonstrate that an additional driveway is necessary to service the site should be provided. Staff agrees with this recommendation.

A design review application for building façade, parking lot and landscaping was included as a part of the overall application. Staff finds that the proposed building height and masonry generally appears to conform to KCC 5-4, and KCC 5-3-3. The applicant proposes 396 parking stalls, the number of stalls and stall dimensions are in conformance with KCC 5-9-2 and 5-9-3. Staff finds the proposed landscaping and buffers to be in compliance with KCC. Staff notes that that if this project is approved, at the time of civil plan development, landscaping cannot be placed within ten (10) ft. of any and all meter pits, pressurized irrigation valves or ACHD underground facilities.

Trash collection will be served through the use of a trash enclosure, the enclosure will house two dumpsters. The trash enclosure dimensions conform with KCC 5-5-6. The design review application proposes metal paneling for the walls of the waste enclosure. KCC 5-5-6 states that enclosure walls shall be constructed with concrete masonry unit block according to applicable building codes. Staff recommends that if the Commission approves this project, the applicant be conditioned to change the trash enclosure wall material to meet KCC. This condition has been provided as condition 15 in section "I" of this report.

The installation of streetlights is a required public improvement. The applicant has not identified streetlight locations on the site plan. The applicant will be required to work with staff in order to comply with KCC and install street lights with a maximum spacing of 250 feet along the site's frontage. The locations of street lights will be approved at the time of construction document review. Staff would note that these street lights must be designed and installed according to "Dark skies" standards and KCC.

The applicant has not proposed a sign, which will require a separate sign permit application. The proposed sign(s) shall be submitted in conformance with KCC 5-10.

Staff has determined that this application complies with Title 5 of KCC; Idaho Code; the Comprehensive Plan; and the FLUM; Staff recommends that if the Planning and Zoning Commission approves Case No. 20-03-SUP and 20-13-DR that the applicant be subject to the recommended conditions of approval listed in section "I" of this report.

F. Applicable Standards:

1. Kuna City Code, Title 5, Zoning Regulations.

2. City of Kuna Comprehensive Plan.
3. Idaho Code, Title 67, Chapter 65, Local Land Use Planning Act.

G. Proposed Comprehensive Plan Analysis:

The Kuna Planning and Zoning Commission may (*accept or reject*) the Comprehensive Plan components, and has determined the requested Special Use Permit for the site (*is/is not*) consistent with the following Comprehensive Plan components as described below:

1. The proposed Special Use Permit application for the site are consistent with the following comprehensive plan components:

Goal Area 1: Kuna will be Economically Diverse and Vibrant.

- Goal 1.C: Attract and encourage new and existing businesses.
    - Objective 1.C.2: Create an environment that is friendly to business creation, expansion and relocation.

Goal Area 3: Kuna's Land uses will support a desirable, distinctive and well-designed community.

- Goal 3.G: Respect and protect private property rights.
    - Objective 3.G.1: Ensure land use policies, restrictions, and fees do not violate private property rights.
        - Policy 3.G.1.c: Ensure City land use actions, decisions and regulations do not prevent a private property owner from taking advantage of a fundamental property right. Ensure city actions do not impose a substantial and significant limitation on the use of the property.

H. Proposed Kuna City Code Analysis:

1. This request appears to be *consistent/inconsistent* and *in compliance/ not in compliance* with all Kuna City Code (KCC).

   Comment: *The proposed application adheres to the applicable requirements of Title 5 of the KCC.*

2. The site *is/ is not* physically suitable for the proposed project.

   Comment: *The 9.53-acre project site is suitable for a church.*

3. The special use permit *is likely/is not likely* to cause substantial environmental damage or avoidable injury to wildlife or their habitat.

   Comment: *The land to be developed is not used as wildlife habitat. Roads, driveways, family units and open spaces are planned for construction according the City and ACHD requirements and best practices and will therefore, not cause environmental damage or loss of habitat.*

4. The special use permit application *is likely/is not likely* to cause adverse public health problems.

   Comment: *The project would connect to public sewer and potable water systems, therefore eliminating the occurrence of adverse public health problems.*

5. The application appears to avoid detriment to the present and potential surrounding uses; to the health, safety, and general welfare of the public taking into account the physical features of the site, public facilities and existing adjacent uses.

   Comment: *The special use permit request considers the location of the property and adjacent uses. The adjacent uses are residential and commercial– as referenced in the Kuna FLUM.*

6. The existing and proposed street and utility services in proximity to the site are suitable or adequate for a commercial development.

Comment: *Correspondence from ACHD and the City Engineer confirms that the streets and utility services are suitable and adequate for this project.*

I. Proposed Decision by the Commission:

Note: This motion is for approval, conditional approval or denial of these requests. However, if the Planning and Zoning Commission wishes to approve or deny specific parts of these requests as detailed in the report, those changes must be specified.

Based on the facts outlined in staff's report and public testimony as presented, the Planning and Zoning Commission of Kuna, Idaho, hereby (*approves, conditionally approves or denies*) Case No. 20-03-SUP & 20-13-DR, a Special Use Permit request by Rennison Design with the following conditions of approval:

1. The applicant and/or owner shall obtain written approval on letterhead or may be written/stamped on the approved plans of the construction plans from the agencies noted below. All submittals are required to include the lighting, landscaping, drainage, and development plans. All site improvements are prohibited prior to approval of the following agencies:
    a. The City Engineer shall approve the sewer hook-ups.
    b. The City Engineer shall approve all civil plans. No construction, grading, filling, clearing or excavation of any kind shall be initiated until the applicant has received approval of the drainage plan.
    c. Central District Health Department recommends the plan be designed and constructed in conformance with standards contained in, "Catalog for Best Management Practices for Idaho Cities and Counties".
    d. The Kuna Fire District shall approve fire flow requirements and/or building plans. Installation of fire protection facilities shall be as required by Kuna Fire District.
    e. The Kuna Municipal Irrigation System and Boise Project Board of Control shall approve any modifications to the existing irrigation system.
    f. Approval from Ada County Highway District (ACHD) shall be obtained and Impact Fees shall be paid prior to *issuance* of any building permit.
    g. All public rights-of-way shall be dedicated and constructed to standards of the City and Ada County Highway District. No public street construction may commence without the approval and permit from Ada County Highway District.
2. Installation of service facilities shall comply with the requirements of the public utility or irrigation district providing the services. All utilities shall be installed underground.
3. Compliance with Idaho Code, Section §31-3805 pertaining to irrigation waters is required. Irrigation/drainage waters shall not be impeded by any construction on site. Compliance with the requirements of the Boise Project Board of Control is required.
4. When required, submit a petition to the City (as necessary, confirmed with the City engineer) consenting to the pooling of irrigation surface water rights for delivery purposes and annex the irrigation surface water rights appurtenant to the property to the Kuna Municipal Pressure Irrigation system.
5. Connection to City Services (Sewer, Water, Pressurized Irrigation) is required. The applicant shall conform all corresponding Master Plans.
6. Curb, gutter and sidewalk (attached and detached) shall be installed in accordance with Kuna City Code Title 5 Chapter 17.
7. Applicant shall work with staff in order to provide locations of street lights as required by Kuna City Code.
8. Street lights for the site shall be LED lighting, must comply with Kuna City Code and established Dark Skies practices.

9. All required landscaping shall be permanently maintained in a healthy growing condition. The property owner shall remove and replace unhealthy or dead plant material within 3 days or as the planting season permits as required to meet the standards of these requirements. Maintenance and planting within public rights-of-way shall be approved from the public entities owning the property.
10. Signs, banners, flags or other means to attract attention onsite are allowed, with a permit, in accordance with KCC 5-10-4. A sign permit must be obtained prior to installing any new, or modifying any existing, signage.
11. In the event the uses or the building on this parcel are enlarged, expanded upon or altered in anyway (even for temporary purposes), the landowner/applicant/developer, and any future assigns having interest in the subject property, shall seek an amendment to the approvals of this Special Use Permit through the Planning and Zoning Department.
12. This Special Use Permit is valid if the conditions of approval are adhered to continuously. In the event the conditions are not continuously followed; the special use permit approval may be revoked.
13. The special use permit is not transferable from one parcel to another.
14. The land owner/applicant/developer, and any future assigns having an interest in the subject property, shall fully comply with all conditions of development as approved by the Planning and Zoning Commission, or seek amending them through public the hearing processes.
15. The owner/developer/applicant shall change the trash enclosure wall material to meet KCC 5-5-6.
16. The owner/developer/applicant shall follow all staff and agency recommendations.
17. The owner/developer/applicant shall comply with all local, state and federal laws.

DATED: this 11th day of August, 2020.

P.O. Box 13
Phone: (208) 922-5274
Fax: (208) 922-5989
www.Kunacity.id.gov

Based upon the record contained in Case No. 20-03-SUP & 20-13-DR including the Comprehensive Plan, Kuna City Code, Staff's Memorandums, the exhibits, and the testimony during the public hearing, the Kuna Planning and Zoning Commission hereby (*approves/conditionally approves/denies)* Case No. 20-03-SUP & 20-13-DR, a request from Rennison Design to operate and construct a church. The site is located at the NWC of Ten Mile Road and Ardell Road, Kuna, ID 83634.

If the Planning and Zoning Commission wishes to approve, deny or modify specific parts of the Findings of Facts and Conclusions of Law as detailed below, those changes must be specified.

1. Based on the evidence contained in Case Nos. 20-03-SUP & 20-13-DR, this proposal ***does/does not*** generally comply with the City Code.

   Staff Finding: *The applicants have submitted a complete application, and following staff review for technical compliance the application appears to be in general compliance with the special use standards, supplementary conditions and safeguards in Kuna City Code Title 5.*

2. Based on the evidence contained in Case Nos. 20-03-SUP & 20-13-DR, this proposal ***does/does not*** generally comply with the Comprehensive Plan.

   Staff Finding: *The current zoning district is A (Agriculture). The Comp Plan Map designates this property as Commercial.*

3. The church ***does/does not*** constitute a special use as established on the official schedule of district regulations for the zoning district involved.

   Staff Finding: *According to the official schedule of district regulations, church does constitute a special use for an A zoning district.*

4. The public notice requirements were met and the public hearing was conducted within the guidelines of applicable Idaho Code and City Ordinances.

   Staff Finding: *As noted in the process and noticing sections, notice requirements were met to hold a public hearing on August 11th, 2020.*

DATED this 11th day of August, 2020.


Aerial Map
S Romar Ln
S Ten Mile Rd
S Cherry Apple Ave
W Hubbard Rd
N Attwood Ln
W Walker Ln
W Prince Ln
W Heartland Dr
W Oak Tree Dr
N Countryside Ave
W Ardell Rd
N Ten Mile Rd
W Beige Ct
W Henna St
W Gainsboro Dr
N McClure Ln
N Citrine Ave
W Tanzanite Dr
W Cerulean St
N Sepia Ave
N Van Dyke Ave
N Mauve Ave
N Shayla Ave
N Vinifera Pl
N Vinifera Ave
N Firebrick Dr
N Rosedust Dr
W Crenshaw St
W Melon Dr
N Blush Ave
W Caliret St
N Plingo Ave
W Castro Dr
N Buckler Way
N Calaveras Dr
N Klemmer Ave
N Kolnes Ave
N Alcatraz Ave
N Avain Ave
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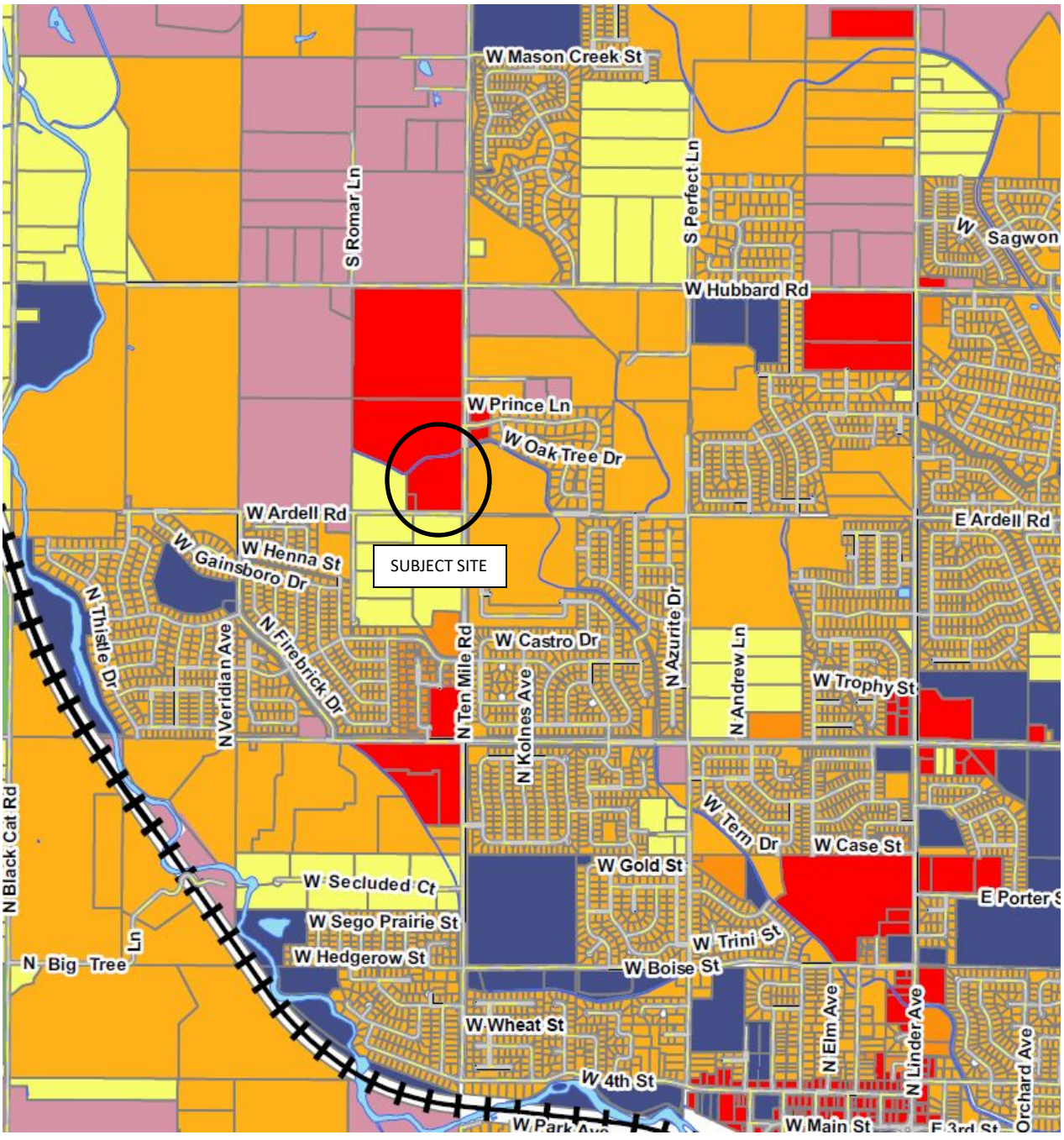
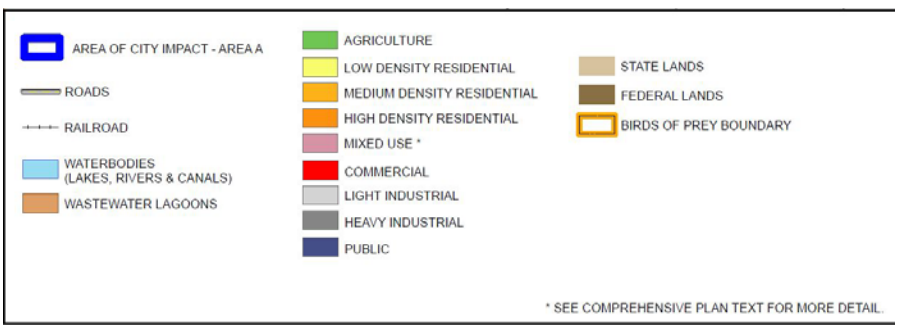
SUBJECT SITE
WATER FEATURES
ROADS
DSH





City of Kuna Future Land Use Map

From: noreply@civicplus.com
To: Jessica Reid; Doug Hanson
Subject: Online Form Submittal: Special Use Permit
Date: Wednesday, May 27, 2020 3:24:14 PM

Special Use Permit

Step 1

Please complete each section of application in full
NOTE: Engineering fees shall be paid by the applicant if required.

Contact/Applicant Information

Owner(s) of Record	Eagle Christian Church, Inc. - Steve Crane
Phone:	2084479454
Email:	steve.crane@eaglechristianchurch.com
Address1	100 Short Lane
Address2	*Field not completed.*
City	Eagle
State	Idaho
Zip	83616
Applicant (Developer):	Eagle Christian Church, Inc. - Steve Crane
Applicant (Developer) Company:	Eagle Christian Church, Inc.
Phone:	2084479454
Email:	steve.crane@eaglechristianchurch.com
Address1	100 Short Lane
Address2	*Field not completed.*
City	Eagle
State	Idaho
Zip	83616
Engineer/Representative:	Brian Liquin

Engineer/Representative Company:	Rennison Design
Phone:	2084479454
Email:	brianl@rennisoncompanies.com
Address1	410 E. State Street, Ste. 120
Address2	*Field not completed.*
City	Eagle
State	Idaho
Zip	83616

(Section Break)

Subject Property Information	
Site Address:	Northwest Corner of W. Ardell Rd. & Ten Mile Rd.
Nearest Cross Streets:	Northwest Corner of W. Ardell Rd. & Ten Mile Rd.
Parcel Number(s):	S1315142250
Section, Township, Range:	S15, T2N, R1W
Property Size:	9.53 acres
Current Land Use:	Agricultural
Current Zoning District:	A - Agriculture
Proposed Land Use:	New Eagle Christian Church w/ Parking and Recreation Area
Proposed Zoning District	A - Agriculture (no change)

(Section Break)

Project Description	
Project/Subdivision Name:	Eagle Christian Church Kuna Campus
General description of proposed project/request:	New Church to be Located Within Existing Agricultural Zone

Type of Use Proposed - Check all that apply:	Commercial, Other
If Other has been selected, please provide a description:	Church or Place of Worship (Recognized as Commercial Building by IBC)
Amenities provided with this development:	The proposed project includes the construction of a new church with parking, landscaping, and recreational area at the northwest corner of West Ardell Road and Ten Mile Road. The church building will include attractive, contemporary design elements, materials, and colors, and will be located at the southeast corner of the 9.53-acre property. The church will be surrounded by landscaping that includes grass sod, a wide array of shrubs and grasses, and numerous species of trees. Expansive parking areas will be provided west and north of the church building, and these parking areas will have trees located at each end-planter and in intermediate landscape planters that meet or exceed Kuna code requirements. The perimeter buffer areas between the western parking field and W. Ardell Road, and also between the northern parking field and Ten Mile Road, will have 20'-35' wide areas of sod, an abundance of trees, shallow, natural-looking, landscaped drainage swails, and new sidewalk along both streets. In the northwest region of the site, the church is planning to construct a softball field that can be used for games and other recreational activities. The church building, landscaping right around the church building, and western parking area are planned as Phase 1 development. The softball field and additional parking to the north are planned as future phases of development.

(Section Break)

Residential Project Summary (if applicable):

Are there existing buildings?	Yes
Please describe existing buildings:	There is on small non-residential structure that exists centrally very near the northern border, close to the Teed Lateral. This building, approximately 12' x 20' in size, is owned by a communications company (Sparklight, fiber optic) and is planned to remain. It will be located in a perimeter landscaped area of the planned development.
Any existing buildings to remain?	Yes
Number of Residential Units:	0

Number of buildable lots:	1
Number of common lots and/or other lots:	0
Type of dwellings proposed - Check all that apply:	Other
Minimum square footage of structures:	The proposed church is 22,396 s.f. (16,983 s.f. on the ground floor/footprint). Future building expansion areas to the north and south of the proposed building are planned to accommodate future growth. Full planned build-out, if constructed, would result in an overall building size of 28,337 s.f.
Gross Density (DU/Acre - Total Property):	0
Net Density (DU/Acre - Excluding Roads):	0
% of Open Space provided:	45.3%
Acreage of Open Space:	4.326 acres
Type of Open Space provided?	The proposed open space includes landscaped areas as described herein (around proposed church building, along street buffer zones, in parking lot planters); expansive parking lot areas with code-compliant landscaping throughout; several shallow, natural-looking drainage swales in the landscaped areas; sidewalk pathways around the building, in front of the building, and connecting to new sidewalk along both street frontages; and a future softball field that will be used for softball and other recreational and church activities.

(Section Break)

Non-Residential Project Summary (if applicable):

Number of building lots:	1
Other lots:	0
Gross floor area square footage:	22,396 s.f.
Existing:	0*** (see note above about small non-residential building at north property boundary)

Hours of Operation:	Weekend service at 10:30 a.m. initially; Office hrs Mon-Fri 9:00 a.m.-4:00 p.m.; Wed eve. program for youth 7:00-9:00 p.m.
Building Height:	32'
Total Number of Employees:	2.5 paid staff
Max. Number of Employees at one time?	~5
Number & ages of students/children:	Projecting 150 people initially--110 adults, 20 younger children, 10 middle schoolers, 10 high schoolers
Seating Capacity:	510 in sanctuary
Existing fencing? Type? Will it remain?	None
Fencing type, size & location?	Fencing along northern and western boundaries to delineate and secure property will be proposed. Exact style to be determined, but will meet or exceed Kuna code requirements. Chainlink fencing will be provided at outfield line of softball field.
Handicapped parking spaces:	8 spaces, 9' x 18' w/ compliant van accessible loading zones
Total parking spaces:	396 stalls at full build-out; 186 stalls in Phase 1
Width of driveway aisle:	24' to 26'
Proposed lighting:	The church building will have perimeter "wallpack" lights (Brownlee Lighting 7037 LED) around the outside of the building. The site will have single-head pole-mounted lights (Lithonia RSX2 LED) located near the driveway entrances and strategically throughout the parking lot. The poles will be 25' tall. All proposed lighting uses LED technology. The church owner plans to operate the parking lot lights on a timer bases so that they are only in full lighting mode during critical use hours.
Proposed landscaping:	The proposed church building will be surrounded by various planter areas filled with shrubs and grasses on all four sides of the building. Beyond this, the landscaping in the vicinity of the church will include grass sod, numerous species of trees, and meandering shallow drainage swales that are accented with large stones, grasses, shrubs, and trees. Within the planned parking areas, trees, shrubs, and grasses will be located at each end-planter and in intermediate landscape planters that meet or exceed Kuna code requirements. The perimeter buffer

	areas between the western parking field and W. Ardell Road, and also between the northern parking field and Ten Mile Road, will have 20'-35' wide areas of sod, an abundance of trees, shallow, natural-looking, landscaped drainage swails, and new sidewalk along both streets. In the northwest region of the site, the church is planning to construct a softball field covered with grass sod that can be used for games and other recreational activities. The church building, landscaping right around the church building, and western parking area are planned as Phase 1 development. The softball field and additional parking to the north are planned as future phases of development.

(Section Break)

By checking the "I agree" box below, you agree and acknowledge that 1) Your application will not be signed in the sense of a traditional paper document, 2) By signing in this alternate manner, you authorize your electronic signature to be valid and binding upon you to the same force and effect as a handwritten signature, and 3) You may still be required to provide a traditional signature at a later date.

First Name	Brian
Last Name	Liquin
Electronic Signature Agreement	I Agree

Step 2

Note: A file MUST be provided for each item marked with a red asterisk (*) in order to be able to submit the application.
Once the application is deemed complete, City Staff will notify the applicant of the scheduled hearing date, fees, due, additional copies needed, etc.

Submittal Letter	ECC Kuna - SUP Submittal Letter.pdf
Legal Description	ECC Kuna - Legal Description w Map Check.zip
Proof of Ownership	ECC Kuna - Quitclaim Deed w Affidavit of Legal Int.zip
Vicinity Map	ECC Kuna - Vicinity Map.pdf
Landscape Plan	ECC Kuna - Landscape Plans (5-18-20).zip
Site Development Plan	ECC Kuna - Site Development Plans.zip
Commitment of Property Posting	ECC Kuna - Commitment to Property Posting (5-21-20).pdf

Neighborhood Meeting Certification	ECC Kuna - Neighbor Mtg Letters Certifications.zip
(Section Break)	
Reference	
Affidavit of Legal Interest	Click here
Commitment to Property Posting	Click here

Email not displaying correctly? View it in your browser.

RENNISON
DESIGN

May 27, 2020 Via Online Submittal

City of Kuna Planning & Zoning Department
Attn: Doug Hanson, Troy Behunin
751 W. 4th Street
Kuna, ID 83634

Re: SPECIAL USE APPLICATION
"Eagle Christian Church Kuna Campus" (ECC Kuna)
9.5 Acres at the Northwest Corner of W. Ardell Rd. & N. Ten Mile Rd., Kuna, ID

Dear Doug, Troy, and City of Kuna Planning Staff,

Our team is pleased to submit the attached application for **SPECIAL USE** of the property we have discussed located at the northwest quadrant of the intersection of West Ardell Road and North Ten Mile Road in Kuna, Idaho. We are referring to our project as "Eagle Christian Church Kuna Campus," or simply ECC Kuna. Concurrently under separate cover, we are also submitting a **DESIGN REVIEW** application package for this same property.

Property Description & Overview

The property consists of approximately 9.5 acres and is bound by Ardell Road to the south, Ten Mile Road to the east, Teed Lateral and agricultural property to the north, and residential and agricultural uses to the west. The property is comprised of one existing parcel—Parcel S1315142250 (9.53 acres).



Current zoning for the property is **A – Agriculture**. Zoning around the property includes Low and Medium Density Residential, Neighborhood Business District, other Agriculture, and unzoned property. The property is currently used for agriculture and is void of structures except for one small building that exists centrally very near the northern border, close to the Teed Lateral. This building, approximately 12' x 20' in size, is owned by a communications company (Sparklight, fiber optic) and is planned to remain. It will be located in a perimeter landscaped area of the planned development.

The general area along the Ten Mile corridor is in a steady redevelopment pattern, particularly with new and expanded residential subdivisions along the east side of Ten Mile. During our Pre-Application Meeting, staff mentioned that a new church would be a "great development for this corridor and this area." The proposed church will be an excellent addition to the mixed-use, residential, and commercial developments that will be coming to Kuna along the Ten Mile corridor.

Project Aesthetics

The proposed project includes the construction of a new church with parking, landscaping, and recreational area at the northwest corner of Ardell Road and Ten Mile Road. The church building will include attractive, contemporary design elements, materials, and colors, and will be located at the southeast corner of the property.



Perspective Rendering of the New Eagle Christian Church

The church will be surrounded by landscaping that includes grass sod, a wide array of shrubs and grasses, and numerous species of trees. Expansive parking areas will be provided west and north of the church building, and these parking areas will have trees located at each end-planter and in intermediate landscape planters that meet or exceed Kuna code requirements. The perimeter buffer areas between the western parking field and Ardell Road, and also between the northern parking field and Ten Mile Road, will have 20'-35' wide areas of sod, an abundance of trees, shallow, natural-looking, landscaped drainage swales, and new sidewalk along both streets. In the northwest region of the site, the church is planning to construct a softball field that can be used for games and other recreational activities. The church building, the landscaping immediately around the church building, and western parking area are planned as Phase 1 development. The softball field and additional parking to the north are planned as future phases of development.

The church building will have perimeter "wallpack" LED lights around the outside of the building. The site will have single-head LED lights mounted on 25' tall poles located near the driveway entrances and strategically throughout the parking lot. The church owner plans to operate the parking lot lights on a timer bases so that they are only in full lighting mode during critical use hours.

Benefits of the Proposed Project

The project site is located at a prominent, well-traveled arterial that connects north and south-bound traffic directly to Interstate 84. Although the existing farm field is routinely maintained to control weeds and minimize debris, the proposed church will breathe new life into the area with contemporary architecture, acres of groomed turf, shrubs, grasses, and trees, and an abundant parking lot that provides a clean, shaded, safely-illuminated area for church patrons and other guests during special events.

The project is consistent with all six of the key focus areas of the City of Kuna 2019 Comprehensive Plan—building an economically diverse community, providing safe places for people to gather and recreate, implementing attractive and distinctive design, enhancing a key arterial corridor that connects the City's citizens and visitors, providing a resource for cultural and religious learning, and promoting citizenship and a general sense of community. A new church also compliments the nearby and surrounding area uses on the City's Future Land Use Map, which include primarily mixed-use, residential, and commercial uses.

In addition to being a well-maintained, attractive addition to the neighborhood and surrounding community, this project offers other tangible benefits to the City of Kuna. Churches encourage virtue, community engagement, and civic responsibility. Churches also help families decide where they want to live. They provide a vital support role at the local level by helping the poor, providing charitable opportunities, promoting

volunteerism, and striving to reduce crime through their ministry and spiritual education. Additionally, churches promote mental and physical health while also connecting people more directly to their community.

Application Information

This narrative, the Special Use Application form, and all of the required attachments are being submitted online through your CivicPlus platform. We hope you find our application package complete, easy to navigate, and a compelling opportunity for the City of Kuna.

We look forward to hearing from you. Thank you very much for your guidance through this planning process.

Sincerely,

Rennison Design



Brian Liquin
Pre-Development Director

From: noreply@civicplus.com
To: Jessica Reid; Doug Hanson
Subject: Online Form Submittal: Design Review
Date: Friday, May 29, 2020 2:38:29 PM

Design Review

Step 1

Design Review Application Submittal Requirements	
Date of Pre-Application Meeting:	3/5/20
Letter of Explanation:	ECC Kuna - DR Cover Letter Narrative.pdf
Vicinity Map	ECC Kuna - Vicinity Map.pdf
Aerial Photo	ECC Kuna - Aerial Photo.pdf
Deed	ECC Kuna - Quitclaim Deed w Affidavit of Legal Int.zip
Detailed Site Plan	ECC Kuna - Detailed Site Plans.zip
Detailed Landscape Plan	ECC Kuna - Detailed Landscape Plans.zip
Detailed Drainage Plan	ECC Kuna - Detailed Drainage and Elevation Plan.pdf
Detailed Elevation Plan	ECC Kuna - Detailed Drainage and Elevation Plan.pdf
Material Sample Rendering	ECC Kuna - Material Sample Renderings.zip

(Section Break)

Site Plan
A Site Plan that graphically portrays the site and includes the following features: 1) North arrow. 2) To scale drawings. 3) Property lines. 4) Name of "Plan Preparer" with contact info. 5) Name of project & date. 6) Existing structures; identify those which are to be relocated or removed. 7) On-site adjoining streets, alleys, private drives and rights-of-way. 8) Drainage location and method of on-site retention/detention. 9) Location of public restrooms. 10) Existing/proposed utility service and any above-ground utility structures and their location. 11) Location and width of easements, canals and drainage ditches. 12) Location and dimensions of off-street parking. 13) Locations and sizes of any loading area, docks, ramps and vehicle storage or service areas. 14) Trash storage areas and exterior mechanical equipment with proposed method of screening. 15) Sign locations (a separate sign application must be submitted along with this application; a link and upload area are provided at the end of this application). 16) On-site transportation circulation plan for motor vehicles, pedestrians, and

bicycles. 17) Locations and uses of ALL Open Spaces. 18) Locations, types and sizes of sound and visual buffers (Note: All buffers must be located outside the public right-of-way). 19) Parking layout including spaces, driveways, curb cuts, circulation patterns, pedestrian walks and vision triangles. 20) Location of subdivision lines (if applicable). 21) Illustration that demonstrates adequate sight distance is provided for motor vehicles, pedestrians and bicycles. 22) Location of walls and fences and indication of their height and material of construction. 23) Roofline and foundation plan of building location on the site. 24) Location and designations of all sidewalks. 25) Location and designation of all rights-of-way and property lines.

Site Plan ECC Kuna - Detailed Site Plans.zip

(Section Break)

Landscape & Streetscape Plan

The landscape and streetscape plans need to be drawn by the project architect, professional landscape architect, landscape designer, or qualified nurseryman for development's possessing more than twelve thousand (12,000) square feet of private land. The landscape and streetscape plans must be colored. The Planning & Zoning Director or City Forester may require the preparation of a landscape plan for smaller developments by one of the noted individuals if the lot(s) have unique attributes.

Landscape & Streetscape Plan Requirements

1) North arrow. 2) To scale drawings. 3) Boundaries, property lines and dimensions. 4) Name of "Plan Preparer" with contact info. 5) Type and location of all plant materials and other ground covers (Please review the city's plant list and rely upon it to identify the site's planting strategy. Include botanical and common name, quantity, spacing and sizes of proposed landscape materials at the time of planting and at maturity. A list of acceptable trees is available upon request from staff). 6) Existing vegetation identified by specific size. Identify those which are proposed to be relocated or removed. 7) Method of irrigation (Note: All plant materials, except existing native plants not damaged during construction or xeriscape species shown not to require regular watering, shall be irrigated by underground sprinkler systems set on a timer in order to obtain proper watering duration and ease of maintenance). 8) Locations, description, materials, and cross-sections of special features, including berming, retaining walls, hedges, fencing, fountains, street/pathway furniture, etc.). 9) Sign locations (a separate sign application must be submitted with this application, a link and upload area are provided at the end of this application). 10) Locations and uses for Open Spaces. 11) Parking layout including spaces, driveways, curb cuts, circulation patterns, pedestrian walks and vision triangles. 12) Illustration that demonstrates adequate sight distance is provided for motor vehicles, pedestrians and bicycles. 13) Location and designations of all sidewalks. 14) Clearly identify pressurized irrigation lines and underground water storage. 15) Engineered grading and drainage plans: A generalized drainage plan showing direction drainage with proposed on-site retention. Upon submission of building/construction plans for an approved Design Review application, a detailed site grading and drainage plan, prepared by a registered Professional Engineer (PE) shall be submitted to the City for review and approval by the City Engineer.

Landscape & Streetscape Plan	ECC Kuna - Detailed Landscape Plans.zip

(Section Break)

Building Elevations
1) Detailed elevation plans of each side of any proposed building(s) or addition(s) (Note: Four (4) elevations to include all sides of development and must be in color). 2) Identify the elevations as to North, South, East and West orientation. 3) Color copies of all proposed building materials and indication where each material and color application is located (Note: Submit as 11" x 17" reductions). 4) Screening/treatment of mechanical equipment. 5) Provide a cross-section of the building showing any rooftop mechanical units and their roof placement. 6) Detailed elevation plans showing the materials to be used in construction of trash enclosures.

Building Elevations	ECC Kuna - Building Elevations.zip

(Section Break)

Lighting Plan
1) Exterior lighting including detailed cut sheets and photometric plan (pedestrian, vehicle, security, decoration). 2) Types and wattage of all light fixtures (Note: The City encourages use of "Dark Sky" lighting fixtures). 3) Placement of all light fixtures shown on elevations and landscaping plans.

Lighting Plan	ECC Kuna - Lighting Plans.zip

(Section Break)

Roof Plans
1) Size and location of all rooftop mechanical units.

Roof Plans	ECC Kuna - Roof Plan.pdf

Step 2

Applicant

First Name	Brian
Last Name	Liquin
Title	Representative
Phone Number	2089491690
Email	brianl@rennisoncompanies.com
Address1	410 E. State Street, Ste. 120
Address2	*Field not completed.*

City	Eagle
State	Idaho
Zip	83616
	(Section Break)
Owner	
First Name	Steve
Last Name	Crane
Phone Number	2084479454
Email	steve.crane@eaglechristianchurch.com
Address1	Eagle Christian Church
Address2	100 Short Lane
City	Eagle
State	Idaho
Zip	83616
	(Section Break)
Represented By *If different from above*	
First Name	Brian
Last Name	Liquin
Phone Number	2089491690
Email	brianl@rennisoncompanies.com
Address1	410 E. State Street, Ste. 120
Address2	*Field not completed.*
City	Eagle
State	Idaho
Zip	83616

(Section Break)

Property Information	
Address1	Northwest Corner of W. Ardell Rd. & N. Ten Mile Rd.
Address2	*Field not completed.*
City	Kuna
State	ID
Zip	83634
Distance from Major Cross Street	0 ft - property is bordered on the east by N. Ten Mile Rd.
Cross Street Name(s)	W. Ardell Rd. & Ten Mile Rd.
Step 3	
Intent	Building Design Review
Explanation	We are seeking this Design Review of our proposed new church project concurrently with a Special Use application to allow a church within the existing A- Agricultural zone. The project will include construction of a new church with parking, landscaping, and recreational area (softball field).
Dimension of Property	Roughly 565' along Ardell x 740' along Ten Mile
Current Land Use(s)	Agricultural (farm field)
What are the land uses of the adjoining properties?	The property bound by: Ardell Road to the south with large lot single-family homes south of Ardell; Ten Mile Road to the east with bare ground that appears prepped for Cazador Subdivision homes east of Ten Mile; the Teed Lateral and agricultural property to the north beyond; and large lot single-family residential and agricultural uses to the west.
Is the project intended to be phased, if so, what is the phasing time period?	Yes, 2 main phases are planned. The church and a portion of the parking field will be built initially. Additional parking and the softball field are planned in the future. Timing is uncertain and will depend on church membership and area growth, but we estimate that Phase 2 would occur within the first several years.
Please explain	The church building, the landscaping immediately around the church building, and western parking area are planned as Phase 1 development. The softball field and additional parking to the north are planned as future phases of development.
Number of and use(s)	One building (the church), used for church services and events.

of all structures	
Minimum building height for each zoning district *O: 35', C-1: 35', C-2: 60', C-3: 60', CBD: 80', M-1: 60', M-2: 60', M-3: 60', P: 60'*	
Building heights	32'
Number of stories	2-story
What is the percentage of building space on the lot when compared to the total lot area?	4.1% (16,983 s.f. building footprint / 415,328 s.f. total site area)
(Section Break)	
Materials *Note: This section must be completed in compliance with the City of Kuna Ordinance No. 2007-21A.*	
Roof Material and Color	TPO - white
Walls *State percentage of wall coverage for each type of building material below for each frontage wall. Please attach photos to support application types.*	
Supporting Phots	*Field not completed.*
% of Wood	North Wall 31%, South Wall 5%, East Wall 19%, West Wall 16%; Woodtone Siding (material); River Rock (color).
% EIFS (Exterior Insulation Finish System)	N/A
% Masonry	North Wall 0%, South Wall 0%, East Wall 0%, West Wall 11%; Thin Brick (material); Red Brick (color).
% Face Block	N/A
% Stucco	North Wall 0%, South Wall 0%, East Wall 0%, West Wall 63%; Stucco (material); Grecian Ivory (color).
% Stucco	See previous field.
List all other Wall materials	North Wall 63%, South Wall 91%, East Wall 78%, West Wall 0%; Cement Board Panel (material); Grecian Ivory (color). North Wall 6%, South Wall 4%, East Wall 3%, West Wall 10%; Doors & Windows (material); Dark Bronze Storefront (color).
Windows/Doors	Architectural & Storefront Frames; Dark Bronze (color)

Soffits & Fascia	Stucco Soffit, Grecian Ivory (color); Metal Fascia, Dark Bronze (color)
Trim, etc.	Metal, Dark Bronze (color)
Identify Mechanical Units	Rooftop units (refer to A-131)
Type/Height	Varying height rooftop units (refer to A-131 for sections)
Proposed Screening Method	Combination of parapets and metal roof screens
Identify Trash Enclosures	1 enclosure for 2 dumpsters; 19' wide x 13' deep x 6' high; located
Proposed Screening Method	Painted corrigated metal panels welded to frame structure; enclosure will have walk-up opening for church staff at rear of enclosure, plus two swing-open doors on parking lot side (west side)
Materials & Color	Enclosure will be comprised of metal panels on a metal frame, painted to match building (Grecian Ivory or Dark Bronze)
Are there any irrigation ditches/canals on or adjacent to the property?	Yes
If Yes, what is the name of the irrigation or drainage provider?	The Teed Lateral runs along our northern property boundary. It is operated and maintained by Boise Project Board of Control (contact: Andrew 208.342.5086)

Fencing
Note: The City of Kuna has height limitations of fencing material (Kuna City Code 4-2A-20) and requires a fence permit to be obtained prior to installation.

Existing Fencing Material, Color & Height	No fencing exists except homeowner's fence along a small portion of western property boundary; this fence is old, approx. 4' in height, and is comprised of wooden posts and metal t-posts with wire strand fencing.
Will the existing fencing remain?	Yes
New Fencing Material, Color & Height	Exact style to be determined, but we will meet or exceed Kuna code requirements. 4' - 6' tall wood privacy fence, 4' - 6' tall vinyl fence, and 4' - 6' tall chainlink fence have been considered (likely chainlink along the northern boundary at the Teed Lateral regardless of what is used along the western boundary.

Location of New Fencing	We proposed to construct new fence along the western and norther property lines to delineate and secure the property.
Drainage	
Proposed method of on-site drainage retention/detention?	Seven shallow drainage swales are proposed.
Percentage of site devoted to building coverage?	4.1%
% of site devoted to Landscaping?	25.3% (105,208 s.f.)
% of site that is hard surface?	34.1% (141,630 s.f.)
% of site devoted to other uses?	0.1% (245 s.f.)
Describe other uses	trash enclosure
Dimensions of landscaped areas within public rights-of-way	Along Ten Mile: roughly 10' wide along the length of property frontage; Along Ardell: roughly 7' wide along length of frontage
% of Landscaping within the parking lot?	15.3%
Are there any existing trees of 4" or greater on the property?	No
If Yes, what type, size and general location?	N/A
Dock Loading Facilities	
Number of docking facilities and their location?	No dock/loading facilities.
Method of screening?	N/A
Parking Requirements	
Total number of	396

parking spaces?	
Width & length of spaces?	9' x 18' and 9' x 20'
Total number of compact spaces (8' x 17')?	0
Miscellaneous	
Pedestrian amenities?	Pedestrian amenities include bike racks at the northwest corner of the building; sidewalk along entire front of building, around south end of building, and connecting to new public sidewalk on both frontages; spacious front patio area, partially covered, and includes landscape planters, trees, and shrubs all around patio; easy parking lot access to Phase 2 softball field in northwest region of site.
Is any portion of the property subject to flooding conditions?	No

(Section Break)

If the Planning & Zoning Director or designee, the Planning & Zoning Commission, and/or the City Council determine that additional and/or revised information is needed; and/or if other unforseen circumstances arise, and dates outlined for processing may be rescheduled by the City. Applicant/Representative MUST attend the Planning & Zoning Commission meetings.
The Ada County Highway District (ACHD) may also conduct public meetings regarding this application. If you have questions about the meeting dare or the traffic that this development may generate, or the impact of that traffic on streets in the area, please contact ACHD at (208) 387-6100. In order to expedite your request, please have ready the file number indicated in this notice.

By checking the "I agree" box below, you agree and acknowledge that 1) Your application will not be signed in the sense of a traditional paper document, 2) By signing in this alternate manner, you authorize your electronic signature to be valid and binding upon you to the same force and effect as a handwritten signature, and 3) You may still be required to provide a traditional signature at a later date.

First Name	Brian
Last Name	Liquin
Electronic Signature Agreement	I Agree

Date & Time	5/29/2020 2:45 PM
	(Section Break)
Reference Items	
Affidavit of Legal Interest	Click here
Sign Permit Application	Click here
Sign Permit Upload	ECC Kuna - Email Permitting Separate Signage DR.pdf

Email not displaying correctly? View it in your browser.

RENNISON
DESIGN

May 28, 2020 Via Online Submittal

City of Kuna Planning & Zoning Department
Attn: Doug Hanson, Troy Behunin
751 W. 4th Street
Kuna, ID 83634

Re: DESIGN REVIEW APPLICATION
"Eagle Christian Church Kuna Campus" (ECC Kuna)
9.5 Acres at the Northwest Corner of W. Ardell Rd. & N. Ten Mile Rd., Kuna, ID

Dear Doug, Troy, and City of Kuna Planning Staff,

Our team is pleased to submit the attached **DESIGN REVIEW** application for the property we have discussed located at the northwest quadrant of the intersection of West Ardell Road and North Ten Mile Road in Kuna, Idaho. We are referring to our project as "Eagle Christian Church Kuna Campus," or simply ECC Kuna. Concurrently under separate cover, we are also submitting a **SPECIAL USE** application package for this same property.

Property Description & Project Overview

The property consists of approximately 9.5 acres and is bound by Ardell Road to the south, Ten Mile Road to the east, Teed Lateral and agricultural property to the north, and residential and agricultural uses to the west. The property is currently used for agriculture and is void of structures except for one small building that exists centrally very near the northern border, close to the Teed Lateral. This building, approximately 12' x 20' in size, is owned by a communications company (Sparklight, fiber optic) and is planned to remain. It will be located in a perimeter landscaped area of the planned development.



The proposed project includes the construction of a new church with parking, landscaping, and recreational area at the site. The church will be developed and owned by Eagle Christian Church as they bring this new offering to the Kuna community. The general area along the Ten Mile corridor is in a steady redevelopment pattern, particularly with new and expanded residential subdivisions along the east side of Ten Mile. During our Pre-Application Meeting, staff mentioned that a new church would be a "great development for this corridor and this area." The proposed church will be an excellent addition to the mixed-use, residential, and commercial developments that will be coming to Kuna along the Ten Mile corridor.

Project Aesthetics

The church building was designed by neUdesign Architecture. They have provided a detailed narrative describing their design that we have attached to this letter. The building features attractive, contemporary design elements, unique building massing, and a nice mix of natural colors and durable materials. A perspective rendering is shown here.



Perspective Rendering of the New Eagle Christian Church

The church site amenities were designed by Rennison Design and Stack Rock Group Landscape Architecture. The church building will be surrounded by landscaping that includes grass sod, a wide array of shrubs and grasses, and numerous species of trees. Expansive parking areas will be provided west and north of the church building, and these parking areas will have trees located at each end-planter and in intermediate landscape planters. The perimeter buffer areas between the western parking field and Ardell Road, and also between the northern parking field and Ten Mile Road, will have 20'-35' wide areas of sod, an abundance of trees, shallow, natural-looking, landscaped drainage swales, and new sidewalk along both streets.

In the northwest region of the site, the church is planning to construct a softball field that can be used for games and other recreational activities. The church building, the landscaping immediately around the church building, and western parking area are planned as Phase 1 development. The softball field and additional parking to the north are planned as future phases of development.

Special landscape features for this site include low maintenance plants surrounding the edges of the drainage swales throughout the site, well-designed patio areas with landscaping to soften the hardscape, foundation plantings around the perimeter of the building, and bike racks on the north side of the building. The proposed landscaping complies with City of Kuna's standards as it adheres to the correct amount of street trees and shrubs along both road frontages, trees are placed in all parking lot islands with two trees in every double parking lot island per code requirements, and the plant selections meet the City's requirements for plant size and biodiversity.

The church building will have perimeter "wallpack" LED lights around the outside of the building. The site will have single-head LED lights mounted on 25' tall poles located near the driveway entrances and strategically throughout the parking lot. The church owner plans to operate the parking lot lights on a timer basis so that they are only in full lighting mode during critical use hours.

Benefits of the Proposed Project

The project site is located at a prominent, well-traveled arterial that connects north and south-bound traffic directly to Interstate 84. Although the existing farm field is routinely maintained to control weeds and minimize debris, the proposed church will breathe new life into the area with contemporary architecture, acres of groomed turf, shrubs, grasses, and trees, and an abundant parking lot that provides a clean, shaded, safely-illuminated area for church patrons and other guests during special events.

The project is consistent with all six of the key focus areas of the City of Kuna 2019 Comprehensive Plan—building an economically diverse community, providing safe places for people to gather and recreate, implementing attractive and distinctive design, enhancing a key arterial corridor that connects the City's citizens and visitors, providing a resource for cultural and religious learning, and promoting citizenship and a general sense of community. A new church also compliments the nearby and surrounding area uses on the City's Future Land Use Map, which include primarily mixed-use, residential, and commercial uses.

In addition to being a well-maintained, attractive addition to the neighborhood and surrounding community, this project offers other tangible benefits to the City of Kuna. Churches encourage virtue, community engagement, and civic responsibility. Churches also help families decide where they want to live. They provide a vital support role at the local level by helping the poor, providing charitable opportunities, promoting volunteerism, and striving to reduce crime through their ministry and spiritual education. Additionally, churches promote mental and physical health while also connecting people more directly to their community.

Application Information

This narrative, the Design Review Application form, and all of the required attachments are being submitted online through your CivicPlus platform. We hope you find our application package complete, easy to navigate, and a compelling opportunity for the City of Kuna.

We look forward to hearing from you. Thank you very much for your guidance through this planning process.

Sincerely,

Rennison Design

Brian Liquin
Pre-Development Director

[Architect's Narrative Attached]

ATTACHMENT A
Architect's Narrative

neUdesign ARCHITECTURE
725 East 2nd Street Meridian, ID 83642 www.neUdesignArch.com 208.884.2824

Date: May 28, 2020

City of Kuna
Planning & Development Services
751 W 4th St
Kuna, ID 83634

Re: Eagle Christian Church - Kuna: Design Review Narrative

This building is a new satellite facility for Eagle Christian Church. The building is designed with quality, yet cost effective materials in a simple, yet elegant pattern. The main body of the building is stucco and cement board panel, highlighted with woodtone siding accents, and a thin brick entry feature. The building is also broken up with unique angles, including a trapezoidal entry roof, held up by wood beams, and an angled steel trellis, shading the garage doors and patio space. A large accent wall is situated above the entry feature, with a cross emblem mounted to it.

The mass of the building functions well in proportion to the site and surrounding area. Being mostly surrounded by open fields and residential areas, the building is not overly tall, so that it blends in better with the existing landscape. The height of the building in relation to the footprint is well proportioned to make the building aesthetically pleasing. Openings are used in the building to bring in daylighting, as well as break up the exterior walls. The exterior materials were chosen to be durable and natural looking materials. Tans are used for the body of the building, highlighted with segments of woodtone and brick accents to break up the longer facades and create a rhythm to the building.

The ground floor of the building accommodates pedestrian-friendly elements, including two large overhead doors that can be opened up to create an indoor/outdoor space between the lobby and the exterior patio. The patio and garage doors are shaded by a large steel trellis structure, providing for a usable space for church events. The main entry is easily recognizable as it is accented by brick and a large sail-like roof, supported by wood accent columns and beams. Both the entry structure and the trellis structure provide shade and protection from the weather before entering the building.

The roof is designed as a flat roof with parapets, having a trim board and parapet cap on top, as well as well as a large overhang over the main entry, extending past 3 feet. The exterior wall materials are comprised of stucco, cement board siding, woodtone siding, and brick, creating a durable exterior for the longevity of the building. The longer building facades along the roadways are highlighted by a repetition of pilasters to break up the building horizontally, as well as metal trim accents to break it up vertically.

The new Eagle Christian Church facility is designed to be a great addition to the City of Kuna, bringing variety to the existing landscape with different use of materials, and a unique building massing, while still fitting in with the overall fabric of the city.

City of Kuna
P.O. Box 13
Kuna, Idaho 83634

Phone: (208) 922-5274
Fax: (208) 922-5989
Web: www.kunacity.id.gov

City of Kuna

AFFIDAVIT OF LEGAL INTEREST

State of Idaho)
) ss
County of Ada)

I, Steve Crane **,** 100 S Short Rd
Name **Address**

Star, Idaho **,** 83616
City **State** **Zip Code**

being first duly sworn upon oath, depose and say:

(If Applicant is also Owner of Record, skip to B)

A. That I am the record owner of the property described on the attached, and I grant my

Permission to Rennison Design, Inc. 410 E. State Street, Ste. 120, Eagle, ID 83616 Name Address
to submit the accompanying application pertaining to that property.

B. I agree to indemnify, defend and hold City of Kuna and its employees harmless from any claim or liability resulting from any dispute as to the statements contained herein or as to the ownership of the property which is the subject of the application.

C. I hereby grant permission to the City of Kuna staff to enter the subject property for the purpose of site inspections related to processing said application(s).

Dated this _____day of May, 20 20

_____
Signature

Subscribed and sworn to before me the day and year first above written.

_____
Notary Public for Idaho

Residing at: _____

My commission expires: _____

Sawtooth Land Surveying, LLC
P: (208) 398-8104 F: (208) 398-8105
2030 S. Washington Ave., Emmett, ID 83617

EXHIBIT A
ECC KUNA - ANNEXATION DESCRIPTION

BASIS OF BEARINGS is N. 89°51'28" W. between a found brass cap marking the E1/4 corner of Section 15, T. 2 N., R. 1 W., B.M. and a found 5/8" rebar marking the CE1/16 corner of said Section 15.

A parcel of land located in the SE1/4 of the NE1/4 of Section 15, Township 2 North, Range 1 West, Boise Meridian, Canyon County, Idaho, more particularly described as follows:

BEGINNING at a found brass cap marking the E1/4 corner of said Section 15;

Thence N. 89°51'28" W., coincident with the south line of said SE1/4 of the NE1/4, a distance of 577.77 feet;

Thence N. 0°03'57" W., 217.82 feet to a 5/8" rebar with no cap;

Thence N. 89°51'23" W., 100.00 feet to a 5/8" rebar PLS 3619;

Thence N. 0°03'57" W., 246.53 feet to the centerline of the Teed Lateral;

Thence coincident with said centerline of the Teed Lateral the following courses and distances:

Thence N. 65°51'51" E., 17.24 feet;

Thence N. 45°44'41" E, 174.07 feet;

Thence N. 56°58'11" E., 66.84 feet;

Thence N. 67°26'01" E., 47.39 feet;

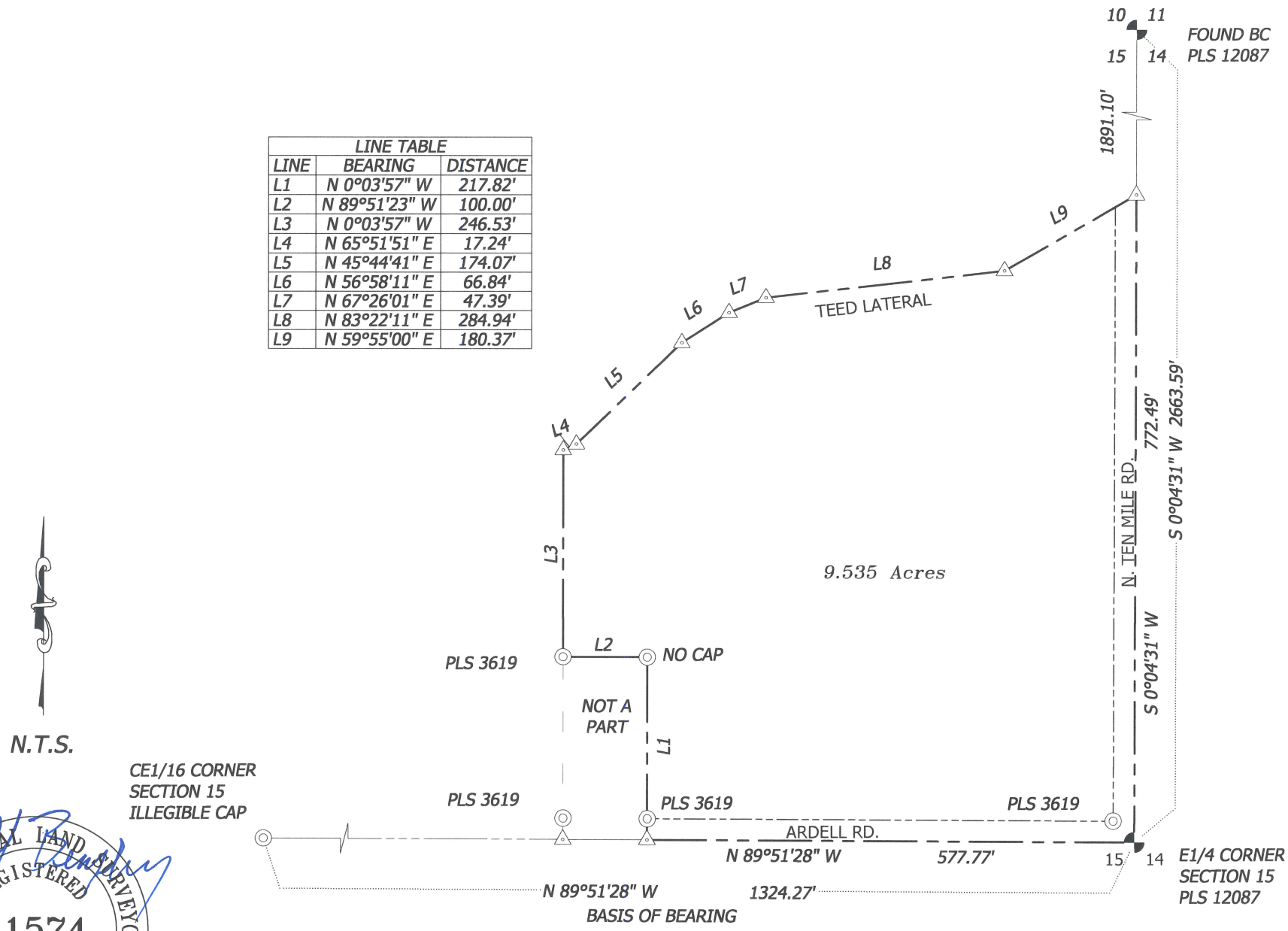
Thence N. 83°22'11" E., 284.94 feet;

Thence N. 59°55'00" E., 180.37 feet to the east line of said SE1/4 of the NE1/4 of Section 15;

Thence S. 0°04'31" W., coincident with said east line of the SE1/4 of the NE1/4, a distance of 772.49 feet to the **POINT OF BEGINNING**.

Said parcel contains 9.535 acres, more or less.





LINE TABLE		
LINE	BEARING	DISTANCE
L1	N 0°03'57" W	217.82'
L2	N 89°51'23" W	100.00'
L3	N 0°03'57" W	246.53'
L4	N 65°51'51" E	17.24'
L5	N 45°44'41" E	174.07'
L6	N 56°58'11" E	66.84'
L7	N 67°26'01" E	47.39'
L8	N 83°22'11" E	284.94'
L9	N 59°55'00" E	180.37'

PROFESSIONAL LAND SURVEYOR
REGISTERED
11574
5/11/20
STATE OF IDAHO
JEFF BEAGLEY

PROJECT:
ECC-KUNA
ANNEXATION EXHIBIT
SE1/4, NE1/4, SECTION 15
T. 2 N., R. 1 W., B.M.

TPC COMMERCIAL, LLC
430 E STATE ST STE 100
EAGLE, ID 83616

DATE: 5/2020

SAWTOOTH
Land Surveying, LLC
2030 S. WASHINGTON AVE.
EMMETT, ID 83617
P: (208) 398-8104
F: (208) 398-8105
WWW.SAWTOOTHLS.COM

DWG # 120053-ANNEX EX
PROJECT# 120053
SHEET 1 OF 1

QUITCLAIM DEED

FOR VALUE RECEIVED, NEW BEGINNINGS CHRISTIAN CHURCH, INC., an Idaho Corporation, aka NEW BEGINNINGS CHRISTIAN CHURCH, Grantor, does hereby convey, release, remise and forever quitclaim unto EAGLE CHRISTIAN CHURCH, INC., an Idaho Corporation, Grantee, whose address is 100 Short Lane, Eagle, Idaho 83616, the following described premises, to-wit:

See attached Exhibit "A" attached hereto and made a part hereof.

Together with their appurtenances.

This deed is intended to convey to the Grantee all right, title, and interest of the Grantor in and to said property, now owned or hereafter acquired.

Dated: February 06, 2020.

NEW BEGINNINGS CHRISTIAN CHURCH, INC.

N. Bruce Wheeler

N. Bruce Wheeler, President

ADA COUNTY RECORDER Phil McGrane
BOISE IDAHO Pgs=2 LISA BATT
EAGLE CHRISTIAN CHURCH

2020-016696
02/10/2020 12:30 PM
AMOUNT:$15.00

00738907202000166960020029

STATE OF IDAHO)
) ss.
County of Ada)

On this 06 day of February, 2020, before me, the undersigned, a Notary Public in and for said state, personally appeared N. Bruce, Wheeler, known to me to be the person whose name is subscribed to the within instrument, and acknowledged to me that he executed the same in his capacity as the President of New Beginnings Christian Church, Inc., an Idaho Corporation.

CHRISTINA JOANNE RADICIA
Notary Public - State of Idaho
Commission Number 20191707
My Commission Expires Aug 23, 2025

NOTARY PUBLIC for Idaho
Residing at: Ada County
My Commission Expires: August 23, 2025

NEW BEGINNINGS
CHRISTIAN CHURCH
PROPERTY LINE ADJUSTMENT
PARCEL 1
JANUARY 11, 2008

A PARCEL OF LAND LYING IN THE NORTHEAST 1/4 OF SECTION 15, TOWNSHIP 2 NORTH, RANGE 1 WEST, BOISE MERIDIAN, ADA COUNTY, IDAHO, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT A FOUND BRASS CAP MARKING THE SOUTHEAST CORNER OF THE NORTHEAST 1/4 (EAST 1/4 CORNER) OF SAID SECTION 15, THE **REAL POINT OF BEGINNING** OF THIS DESCRIPTION;

THENCE N 89°51'28" W ALONG THE SOUTH LINE OF SAID NORTHEAST 1/4 A DISTANCE OF 577.77 FEET TO A POINT;

THENCE N 00°03'57" W A DISTANCE OF 217.82 FEET TO A SET 5/8 INCH DIAMETER REBAR;

THENCE N 89°51'23" W A DISTANCE OF 100.00 TO A SET 5/8 INCH DIAMETER REBAR;

THENCE N 00°03'57" W A DISTANCE OF 246.53 TO A POINT ON THE CENTER LINE OF THE TEED LATERAL;

THENCE ALONG SAID CENTERLINE THE FOLLOWING:

THENCE N 65°51'51" E A DISTANCE OF 17.24 FEET TO A POINT;

THENCE N 45°44'41" E A DISTANCE OF 174.07 FEET TO A POINT;

THENCE N 56°58'11" E A DISTANCE OF 66.84 FEET TO A POINT;

THENCE N 67°26'01" E A DISTANCE OF 47.39 FEET TO A POINT;

THENCE N 83°22'11" E A DISTANCE OF 284.94 FEET TO A POINT;

THENCE N 59°54'11" E A DISTANCE OF 180.30 FEET TO A SET 5/8 INCH DIAMETER REBAR ON THE EAST LINE OF SAID NE 1/4;

THENCE LEAVING THE CENTERLINE OF SAID TEED LATERAL S 00°04'07" W ALONG THE EAST LINE OF SAID NE 1/4 A DISTANCE OF 772.49 FFET TO THE
REAL POINT OF BEGINNING OF THIS DESCRIPTION.

THIS PARCEL CONTAINS 9.53 ACRES, MORE OF LESS, BASED ON CALCULATIONS USING THE DOUBLE MERIDIAN DISTANCE METHOD AND IS SUBJECT TO EASEMENTS OF RECORD OR USE.

BEARINGS HEREIN USED ARE BASED ON THE SOUTH LINE OF THE NE 1/4 OF SAID SECTION 15 BEARING N 89°51'28" W.



DEAN W BRIGGS PLS 3619

ADA COUNTY RECORDING
200 W. Front Street
Room 1207
Boise ID 83702

Receipt #: 432499 **Receipt Date:** 02/10/2020 12:30 PM

Station: 15 **Cashier:** LISA BATT

Receipt Name: EAGLE CHRISTIAN CHURCH

Comments:

RECORDING

Document #	Recording Date	Doc Type		Doc Fee	Add A/R	Other	Total
2020-016696	02/10/2020 12:30:16 PM	REC-101: WRTY/QCD					$15.00
			Totals:	**$0.00**	**$0.00**	**$0.00**	**$15.00**

Thank You

Receipt Total		**$15.00**
CHECK	18025	$15.00

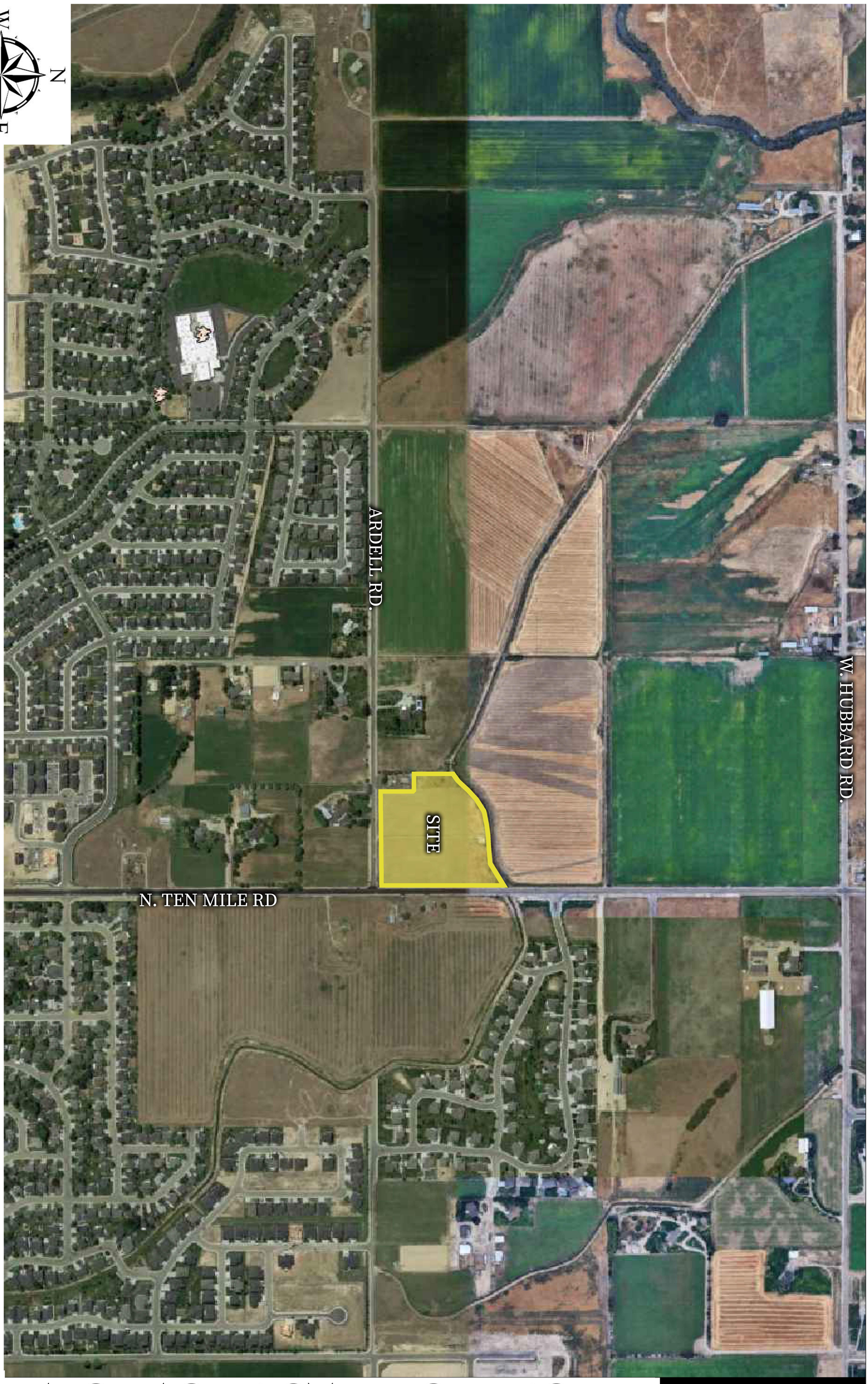
NBCC Elders' Meeting – Minutes
January 6, 2020 – 8 a.m.

Present: Dale Cornett, Roy Meyer, Justin Sturgeon, and Bruce Wheeler

II. **Action Items**
   A. **Update Re Eagle**
      1. JS was pleased to see some NBCC **departments already contacting ECC** to learn what they can.
      2. BW plans to **contact Chris Troupis** this week to ascertain the next steps for transfer of property and development funds. [**NOTE:** later on Monday the elders gave **BW the authority** to go ahead with the official **transfer of property and funds** from NBCC to ECC as has been previously agreed to.]

Closing Prayer: BW
Adjournment: 10 a.m.

Respectfully submitted,
Dale Cornett, Secretary



EAGLE CHRISTIAN CHURCH
VICINITY MAP

DRAWING SET ISSUED FOR: **CONCEPT ONLY**

RENNISON DESIGN
410 E STATE STREET, STE 120 | EAGLE, IDAHO 83616
208.938.2440 | WWW.RENNISONCOMPANIES.COM



ECC Kuna – AERIAL PHOTO

PLOT PAPER SIZE: ANSI FULL BLEED D (22.00 x 34.00 INCHES)

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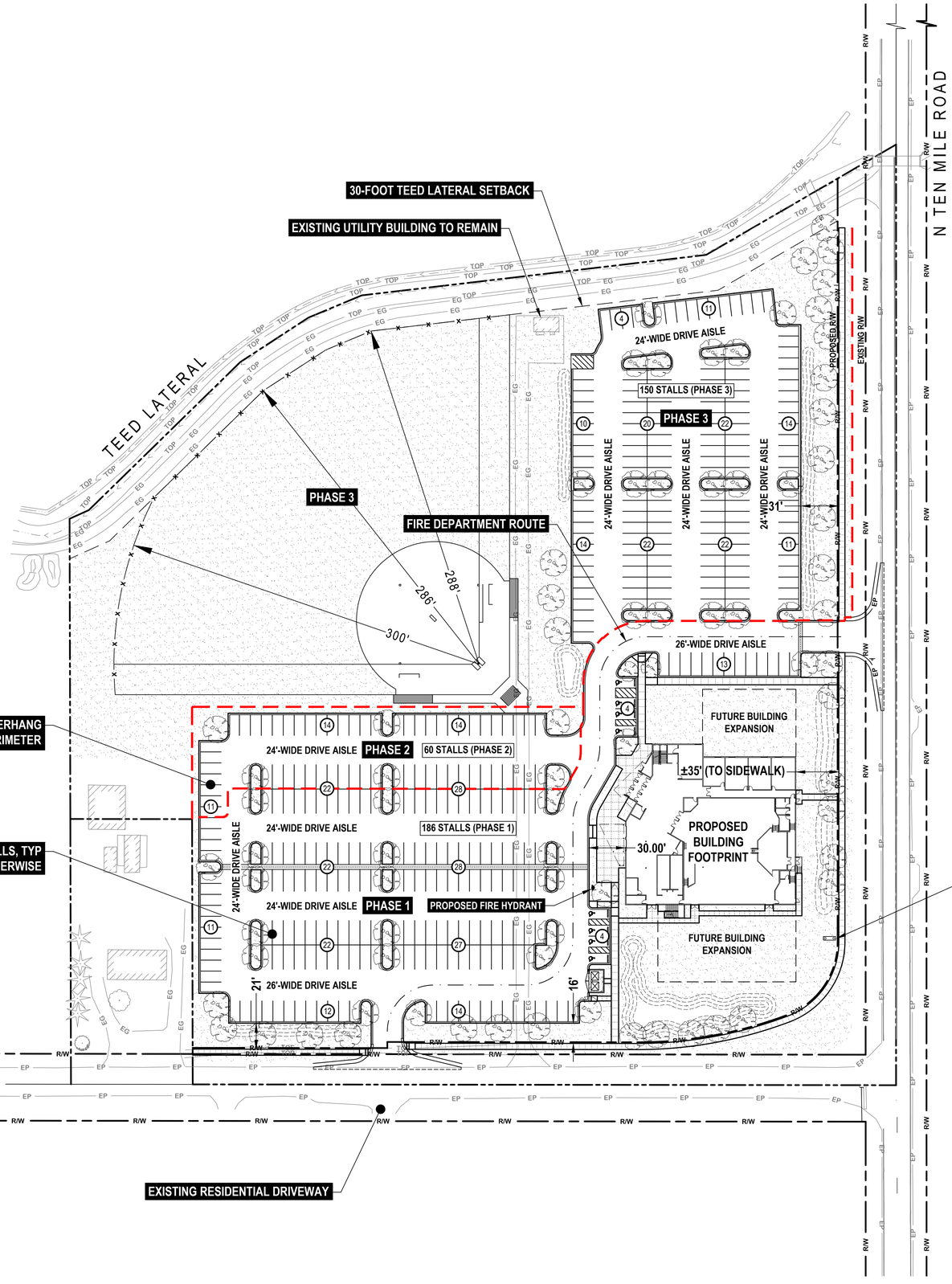


PROJECT CONTACTS

OWNER
EAGLE CHRISTIAN CHURCH
CONTACT: DR. STEVEN CRANE
100 S. SHORT ROAD
EAGLE, IDAHO 83616
(208) 286-0879
stevec.ecc@gmail.com

CIVIL ENGINEER
RENNISON DESIGN
CONTACT: BRYAN E. APPLEBY, PE
410 E. STATE STREET, SUITE 120
EAGLE, IDAHO 83616
(208) 938-2440
bryan@rennisoncompanies.com

GENERAL CONTRACTOR
J&L DEVELOPMENT
CONTACT: JESSE FERRER
(208) 898-4045
jeff@sawtoothls.com

ARCHITECT
NEUDESIGN ARCHITECTURE
CONTACT: AMANDA BIDWELL, AIT
725 E. 2ND STREET
MERIDIAN, IDAHO 83642
(208) 884-2824
abidwell@neudesignarch.com

LANDSCAPE ARCHITECT
STACK ROCK GROUP
CONTACT: DARIAN WESTRICK, PLA
404 S. 8th STREET #154
BOISE, IDAHO 83702
(208) 345-0500
darian@stackrockgroup.com

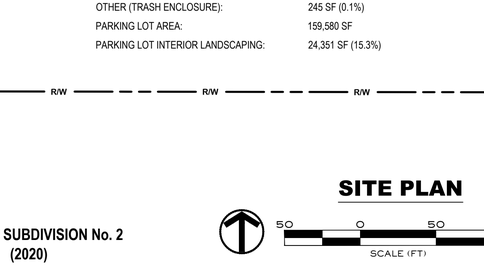
SURVEYOR
SAWTOOTH LAND SURVEYING
CONTACT: JEFF BEAGLEY
2030 S. WASHINGTON AVENUE
EMMETT, IDAHO 83617
(208) 287-8450
jeff@sawtoothls.com

CIVIL SHEET INDEX

C1.0 COVER SHEET / SITE PLAN
C2.0 ACHD ROADWAY IMPROVEMENT PLAN
C3.0 UTILITY PLAN

GENERAL NOTES

1. SEE LANDSCAPE PLAN FOR SITE FIXTURES & ADDITIONAL INFORMATION.
2. SEE ARCHITECTURAL PLANS FOR BUILDING DIMENSIONS AND TRASH ENCLOSURE DETAILS & ADDITIONAL INFORMATION.



CAZADOR ESTATES SUBDIVISION
(FUTURE)

SITE CALCULATIONS

PARCEL:	PARCEL 1 (RECORD OF SURVEY 8208)
PARCEL No.:	S1315142250
CURRENT LAND USES	
SUBJECT PROPERTY:	AGRICULTURE
NORTH:	TEED LATERAL & AGRICULTURE
SOUTH:	LARGE PARCEL RESIDENTIAL, AGRICULTURE
EAST:	PLANNED RESIDENTIAL SUBDIVISION
WEST:	LARGE PARCEL RESIDENTIAL, AGRICULTURE
ZONING	
SUBJECT PROPERTY:	AGRICULTURE
AREA CALCULATIONS	
TOTAL SITE:	415,328 SF (9.535 ACRES)
PERCENTAGES OF SITE DEVOTED TO	
PUBLIC ROAD RIGHT-OF-WAY:	56,684 SF (13.6%)
BUILDING COVERAGE (PHASE 1):	16,983 SF (4.1%)
BUILDING COVERAGE (W/ FUTURE EXPANSION):	±28,337 SF (6.8%)
LANDSCAPING (NOT INCL. SOFTBALL FIELD):	105,208 SF (25.3%)
SOFTBALL FIELD:	83,228 SF (20.0%)
HARD SURFACE (ASPHALT & CONCRETE):	141,630 SF (34.1%)
PUBLIC SIDEWALKS:	5,514 SF (1.3%)
OTHER (TRASH ENCLOSURE):	245 SF (0.1%)
PARKING LOT AREA:	159,580 SF
PARKING LOT INTERIOR LANDSCAPING:	24,351 SF (15.3%)

CAZADOR SUBDIVISION No. 2
(2020)

SCALE (FT): 50 0 50 100

Drawing Set Issued for: **DESIGN REVIEW**

RENNISON DESIGN
410 E STATE STREET, STE 120 | EAGLE, IDAHO 83616
208.938.2440 | WWW.RENNISONCOMPANIES.COM

PROFESSIONAL ENGINEER REGISTERED 12645 STATE OF IDAHO BRYAN APPLEBY 5/13/20

CONCEPT PLAN for ECC KUNA CAMPUS

SITE PLAN

Know what's below. Call before you dig.

No.	Revisions	Date
1		
2		
3		
4		
5		
6		

Drawn	BEA
Checked	BEA
Date	5/13/20
Project	R200127
Sheet	C1.0

FILE NAME: R200127 DESIGN REVIEW CIVIL DRAWINGS.DWG
PLOT DATE & TIME: 5/13/2020 9:28 AM

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FILE NAME: R200127 DESIGN REVIEW CIVIL DRAWINGS.DWG
PLOT DATE & TIME: 5/13/2020 9:28 AM

TEED LATERAL

N TEN MILE ROAD

W ARDELL ROAD

PHASE 1

PHASE 2

PHASE 3

PHASE 3

FIRE DEPARTMENT ROUTE

FUTURE BUILDING EXPANSION

PROPOSED BUILDING FOOTPRINT

FUTURE BUILDING EXPANSION

PROPOSED R/W

EXISTING R/W

EXISTING 25' PRESCRIPTIVE R/W PER ROS INST. No. 8208

42'

PROPOSED 48' R/W (+23')

CAZADOR ESTATES SUBDIVISION
(FUTURE)

PROPOSED 5'-WIDE CONCRETE SIDEWALK

PROPOSED LED MONUMENT SIGN PER ARCH DRAWINGS

368'

FUTURE MULTI-LANE ROUNDABOUT (CENTERED RIGHT-OF-WAY), TYPICAL ACHD LAYOUT SHOWN (REID MIDDLETON - NOVEMBER 2011)

24'

PROPOSED 30' R/W (+5')

FUTURE 60' R/W 2-LANE RESIDENTIAL COLLECTOR

EXISTING RESIDENTIAL DRIVEWAY

FUTURE 70' R/W 3-LANE COLLECTOR WITHIN ROUNDABOUT INFLUENCE ZONE

418'

PROPOSED 35' R/W (+10')

PLANNED CAZADOR SUB No. 2
R/W DEDICATION

CAZADOR SUBDIVISION No. 2
(2020)

ACHD ROADWAY IMPROVEMENT PLAN

SCALE (FT): 50 0 50 100

DRAWING SET ISSUED FOR: **DESIGN REVIEW**

RENNISON DESIGN
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208.938.2440 | WWW.RENNISONCOMPANIES.COM

PROFESSIONAL ENGINEER REGISTERED 12645 STATE OF IDAHO BRYAN APPLEBY
5/13/20

CONCEPT PLAN for ECC KUNA CAMPUS

ACHD ROADWAY IMPROVEMENT PLAN

Know what's **below.** **Call** before you dig.

No.	Revisions	Date
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4		
5		
6		

Drawn	BEA
Checked	BEA
Date	5/13/20
Project	R200127
Sheet	C2.0

PLOT PAPER SIZE: ANSI FULL BLEED D (22.00 x 34.00 INCHES)

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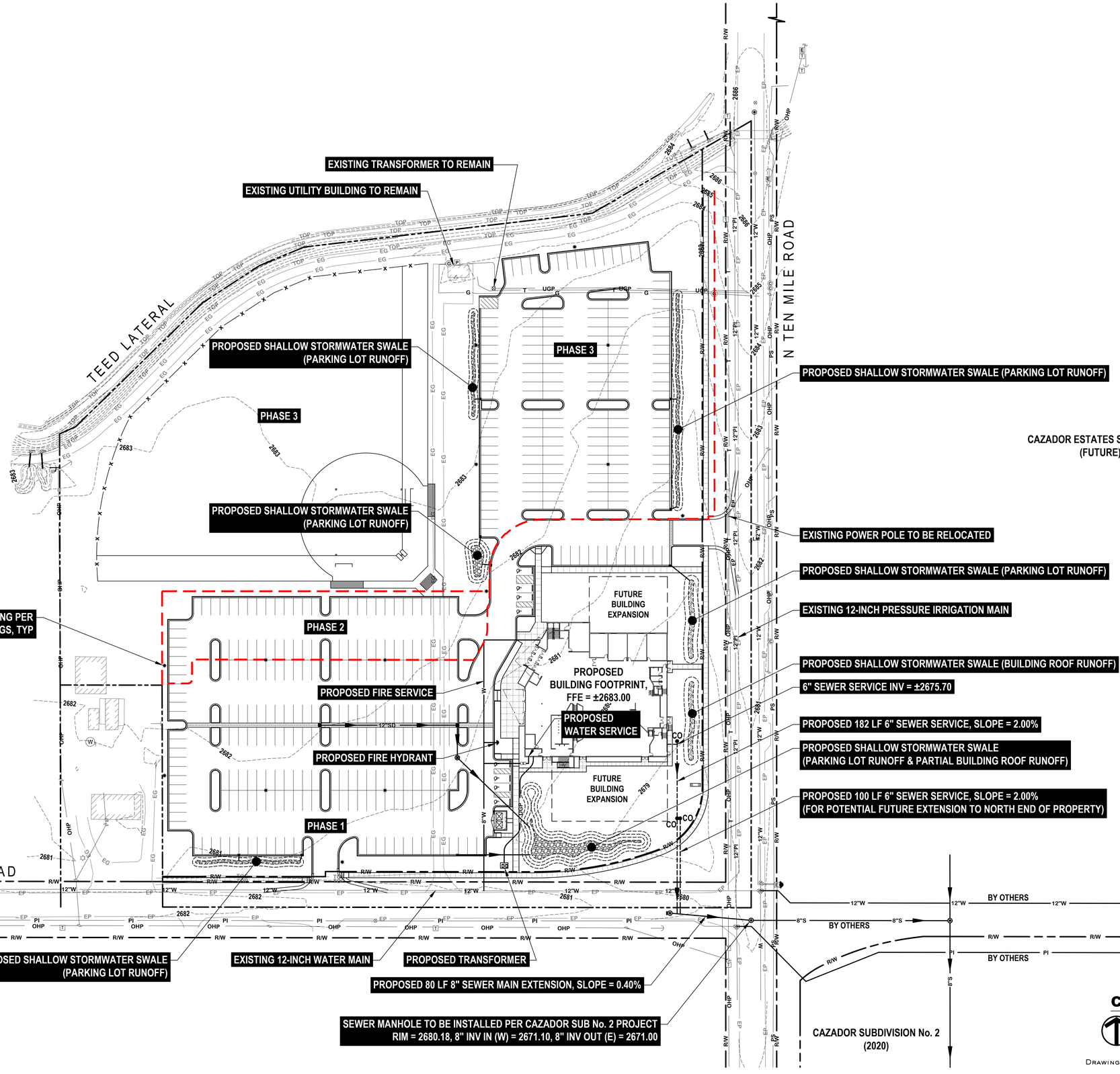

RENNISON DESIGN
410 E STATE STREET, STE 120 | EAGLE, IDAHO 83616
208.938.2440 | WWW.RENNISONCOMPANIES.COM

PROFESSIONAL ENGINEER REGISTERED 12645 STATE OF IDAHO BRYAN APPLEBY 5/13/20

CONCEPT PLAN for ECC KUNA CAMPUS

CONCEPT UTILITY PLAN

811 Know what's below. Call before you dig.

No.	Revisions	Date
1		
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3		
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6		

CONCEPT UTILITY PLAN

50 0 50 100
SCALE (FT)

Drawn	BEA
Checked	BEA
Date	5/13/20
Project	R200127
Sheet	C3.0

DRAWING SET ISSUED FOR: **DESIGN REVIEW**

FILE NAME: R200127 DESIGN REVIEW CIVIL DRAWINGS.DWG
PLOT DATE & TIME: 5/13/2020 9:28 AM

PLOT PAPER SIZE: ANSI FULL BLEED D (22.00 x 34.00 INCHES)

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FILE NAME: 20-1644 L100 AR COLOR PLAN.DWG
PLOT DATE & TIME: 5/18/2020 4:19 PM

PLANT SCHEDULE

TREES	BOTANICAL / COMMON NAME	CONT	CAL	QTY	REMARKS
	Acer truncatum `Pacific Sunset` TM / Pacific Sunset Maple	B & B	2"	10	30`h x 25`w
	Celtis occidentalis / Common Hackberry	B & B	2"Cal	12	40`h x 30`w, CLASS II , Drought Tolerant
	Cercis canadensis / Eastern Redbud	B&B	2"	10	30`h x 25`w
	Gleditsia triacanthos inermis `Shademaster` TM / Shademaster Locust	B & B	2"	27	50`h x 30`w
	Liriodendron tulipifera `Emerald City` TM / Emerald City Tulip Tree	B & B	2"	4	50`h x 25`w
	Tilia americana `Redmond` / Redmond American Linden	B & B	2"	18	50`h x 30`w
SHRUBS	BOTANICAL / COMMON NAME	CONT	FIELD2	QTY	REMARKS
	Calamagrostis x acutiflora `Karl Foerster` / Feather Reed Grass	1 gal		93	5`h x 3`w
	Deschampsia cespitosa `Pixie Fountain` / Dwarf Tufted Hair Grass	1 gal		59	2`h X 2`w
	Helictotrichon sempervirens / Blue Oat Grass	2 gal		117	3`h x 3`w, Drought Tolerant
	Juniperus scopulorum `Medora` / Medora Juniper	5 gal		12	10`h x 3`w
	Lavandula angustifolia `Hidcote Blue` / Hidcote Blue Lavender	2 gal		46	30"h x 30"w, Drought Tolerant
	Pennisetum alopecuroides `Moudry` / Black Flowering Fountain Grass	1 gal		129	3`h x 3`w
	Pinus strobus `Blue Shag` / Blue Shag White Pine	5 gal		44	3`h x 3`w
	Rhus aromatica `Gro-Low` / Gro-Low Fragrant Sumac	5 gal		134	2`h x 6`w
	Rosa x `Noaschnee` / Flower Carpet White Groundcover Rose	2 gal		73	3`H X 3`W

LANDSCAPE MATERIALS LEGEND:

SOD LAWN PER NOTE 6/L100.

LANDSCAPE MULCH



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05.18.20
LICENSED LANDSCAPE ARCHITECT

CONCEPT PLAN for ECC KUNA CAMPUS

COLOR PLAN AREA 1

Know what's **below.** **Call** before you dig.

No.	Revisions	Date
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Date	5/18/20
Project	R200127
Sheet	L1.6

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PLOT DATE & TIME: 5/18/2020 4:19 PM

PLANT SCHEDULE

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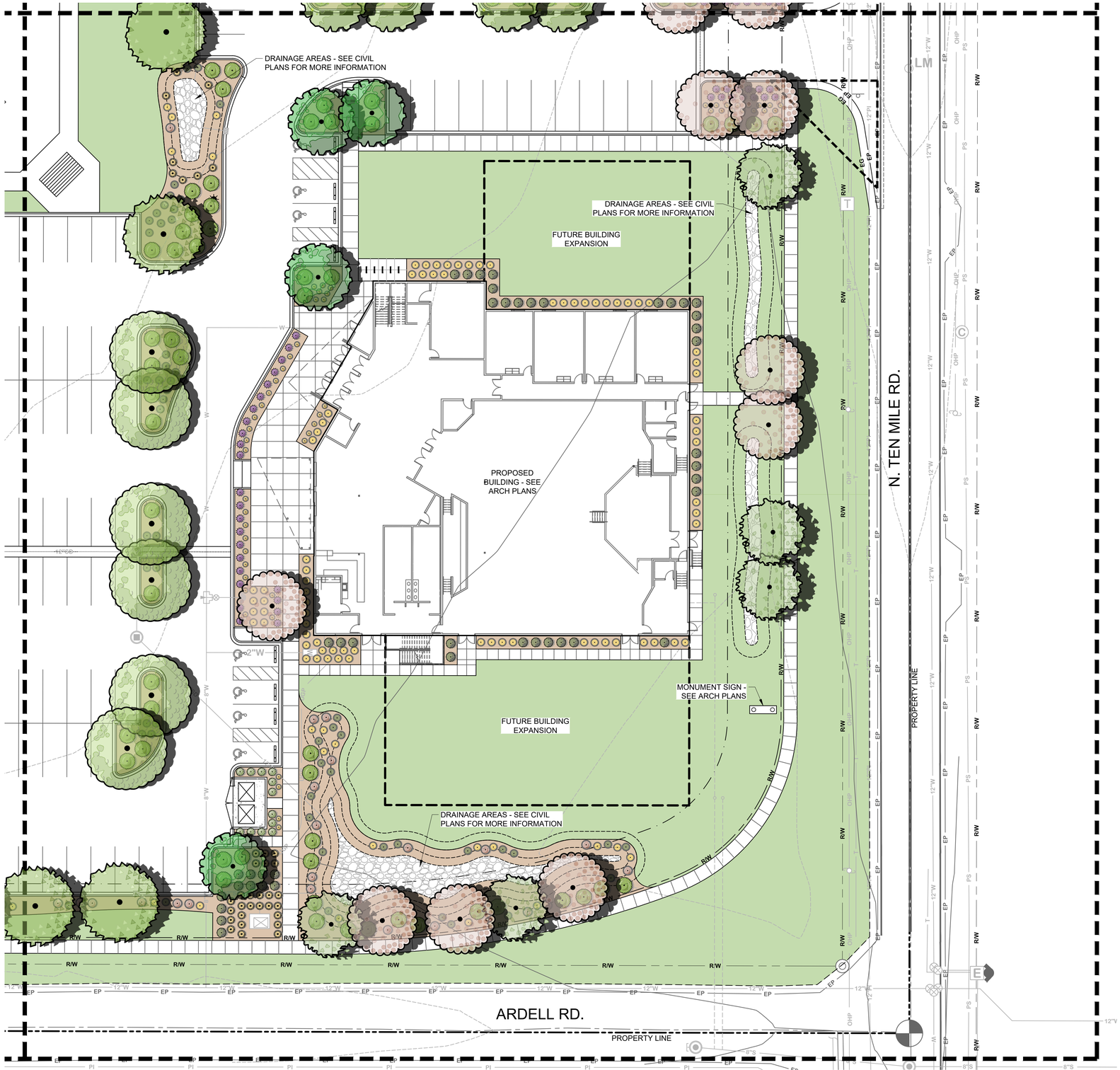
LANDSCAPE MATERIALS LEGEND:

SOD LAWN PER NOTE 6/L100.

LANDSCAPE MULCH



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CONCEPT PLAN for ECC KUNA CAMPUS

COLOR PLAN AREA 2

No.	Revisions	Date
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LANDSCAPE MULCH



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CONCEPT PLAN for ECC KUNA CAMPUS

COLOR PLAN AREA 3

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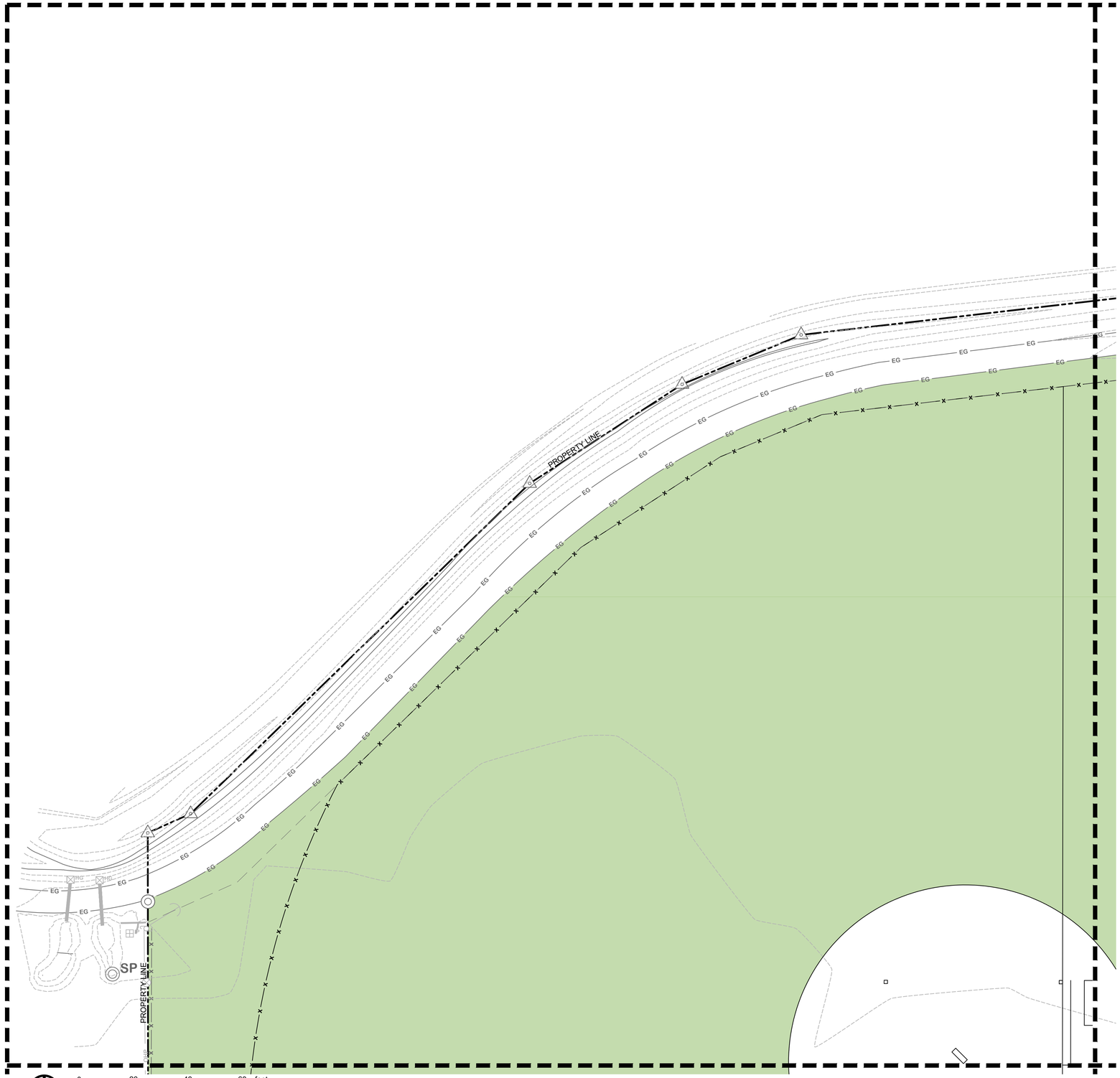
LANDSCAPE MATERIALS LEGEND:

SOD LAWN PER NOTE 6/L100.

LANDSCAPE MULCH



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CONCEPT PLAN for ECC KUNA CAMPUS

COLOR PLAN AREA 4

Know what's **below.** **Call** before you dig.

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LANDSCAPE NOTES:

1. REGULATIONS & STANDARDS
   - 1.1. All contractor work shall be conducted in accordance with ISPWC (Idaho Standard Public Works Construction), 2017; and Kuna, ID codes, standards and state and local regulations.
2. EXISTING CONDITIONS
   - 2.1. All utilities shall be located prior to construction and protected. Any damage to structures, utilities or concrete will be replaced at contractor's expense.
   - 2.2. The site has many existing improvements such as underground utilities, curb and gutter, light poles and sidewalks.
   - 2.3. See Engineer's plans for information about existing features; all drainage pipes and locations. Protect and retain drainage at all times.
3. GRADING & SITE PREPARATION
   - 3.1. Prepare finish grades for planting by grubbing and removing weeds. If necessary apply Round-Up (or equivalent herbicide), using a certified applicator. Remove rocks and other materials over 2".
   - 3.2. All gravel overprep to be removed and disposed of off site.
   - 3.3. Finish grade to be smooth transition to allow for entire site to be a natural flowing space.
   - 3.4. Refer to Engineer's plans for grading information & for all drainage pipes and locations. Protect and retain drainage at all times.
   - 3.5. No pooling or standing water will be accepted per industry standards.
4. SOILS
   - 4.1. All planter beds to receive a minimum of 18" depth of screened topsoil. Spread, compact, and fine grade to smooth and uniform grade 2.5" below adjacent surfaces.
   - 4.2. All lawn areas to receive a minimum of 12" depth of screened topsoil. Spread, compact, and fine grade topsoil to a smooth uniform grade 1" below adjacent surfaces.
   - 4.3. Reuse of existing topsoil that has been stockpiled on site is permitted if:
     - 4.3.1. Topsoil is tested and analyzed to ensure a proper growing medium. Provide additional amendments as determined by soil tests. And
     - 4.3.2. Topsoil is to be loose, friable sandy loam that is clean and free of toxic materials, noxious weeds, weed seeds, rocks, grass or other foreign materials.
     - 4.3.3. Topsoil should have a pH of 6.5 to 8.
     - 4.3.4. If on site topsoil does not meet these minimum standards contractor is responsible for providing approved imported topsoil or improving onsite topsoil per the approval of the project manager.
   - 4.4. If imported topsoil is used it must be from a local source and be screened free of any debris or foreign matter. Topsoil must not contain rocks, sticks, lumps, or toxic matter.
   - 4.5. Smooth, compact, and fine grade topsoil in lawn areas to smooth and uniform grade .5" below adjacent surfaces.
   - 4.6. Prepare finish grade of topsoil to elevations set by Engineer's plans with positive drainage away from structures. Refer to Civil Engineer's plans for grading information.
   - 4.7. Amend all new plantings with 2 parts topsoil and 1 part compost.
5. PLANTER BED MULCH
   - 5.1. All planter beds to receive 3" depth of round river rock mulch, or approved other. Install over commercial grade weed barrier fabric per manufacturer recommendations.
6. LAWN AREAS
   - 6.1. Sodded, to be tall turf-type fescue or approved equal per approved by owner.
   - 6.2. All lawn areas to have cut edge.
7. PLANTS
   - 7.1. All plant material shall be installed per industry standards.
   - 7.2. All plant material shall meet or exceed the minimum federal standards as regulated by ANSI z60.1, American Standard for Nursery Stock. Plants not meeting these standards for quality, or plants determined to be unhealthy by Owner's representative, will be rejected.
   - 7.3. All trees and shrubs to be installed per details.
   - 7.4. Fertilize all trees and shrubs with 'Agriform' planting tablets or approved equal. Apply per manufacturers recommendations.
   - 7.5. All plants shall adhere to plant schedule, species & sizes. Any necessary subsitutions due to availability or alternatives shall be coordinated to the landscape architect via submittal.
8. IRRIGATION
   - 8.1. Irrigation system shall be built to the following specifications:
     - 8.1.1. Adhere to city codes when connecting to city water.
     - 8.1.2. All irrigation material to be new with manufacturers' warranty fully intact.
   - 8.2. All remote control valves (including master control valve) to have flow control device.
   - 8.3. Install indoor rated controller. Coordinate with general contractor on exact location.
   - 8.4. Controller to include On/Off rain switch or other rain shut off device that does not alter program.
   - 8.5. Irrigation system piping to be minimum class 200 PVC or approved equal, sleeves to be double the size of pipes located within, all wires to be contained in separate sleeves 1-1/2" dia min.
   - 8.6. Use common trenching where possible.
   - 8.7. All PVC located under hardscapes to be schedule 40 PVC with same req's as above.
   - 8.8. All mainline pipe and wires to be buried a minimum of 18" and all lateral piping to be buried a minimum of 12" below grade.
   - 8.9. All wires to be 14 gauge direct bury wire at a minimum. Size wire for correct voltage loss.
   - 8.10. Supply a minimum of (2) spare wires to furthest valves from controller in all directions.
   - 8.11. Sprinkler heads shall have a matched precipitation within each control circuit. Velocities shall not exceed 5 feet per second.
   - 8.12. Contractor is responsible complying with all codes and paying all permits necessary.
   - 8.13. Sprinkler heads shall have matched precipitation within each control circuit. Velocities shall not exceed 5 feet per second.
9. CONTRACTOR RESPONSIBILITIES
   - 9.1. Estimated quantities are shown for general reference only. Contractor shall be responsible for all quantity estimates.
   - 9.2. All plant material and workmanship shall be guaranteed for a period of one year beginning at the date of Acceptance by Owner. Replace all dead or unhealthy plant material immediately with same type and size at no cost to Owner.
   - 9.3. Landscape contractor to turn in as built drawings at the end of project. Substantial completion will not be granted until 2 copies @ 1"=10' scale are turned in and approved by owner's representative.
10. In the event of a discrepancy, notify the General Contractor.

LANDSCAPE REQUIREMENTS:

PER CITY OF KUNA LANDSCAPING REQUIREMENTS CHAPTER 5.

LANDSCAPE ALONG STREETS:
* 1 TREE & 5 SHRUBS PER 35 LINEAR FEET.

N. TEN MILE RD.	TREES REQUIRED / TREES PROVIDED:	SHRUBS REQUIRED / PROVIDED
• 652 LF (MINUS CURB CUTS)	19/19	95/95
ARDELL RD.	TREES REQUIRED / TREES PROVIDED:	SHRUBS REQUIRED / PROVIDED
• 518 LF (MINUS CURB CUTS)	15/15	75/85

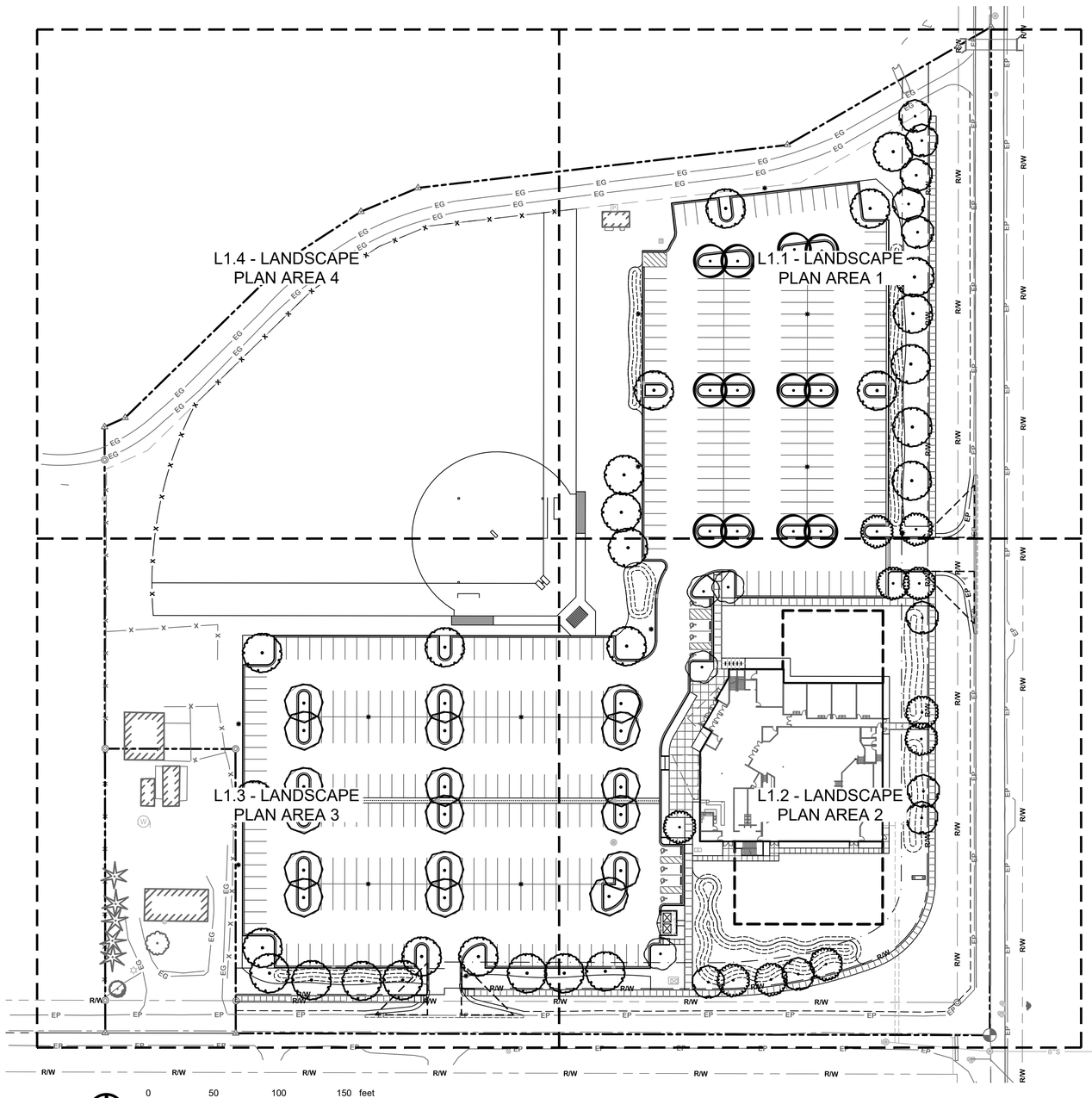
BIODIVERSITY REQUIREMENT:
*A MINIMUM OF 5 DIFFERENT TREE SPECIES ARE REQUIRED WHEN 50+ TREES ARE PROPOSED.

• PROPOSED TREES	SPECIES REQUIRED:	SPECIES PROVIDED:
• 79	5	6

PLANT SIZING MINIMUM REQUIREMENTS:

TREE SIZING:
- SHADE TREES: MIN 2" CAL, B&B
- ORNAMENTAL TREES: MIN 2" CAL, B&B
- EVERGREEN TREES: MIN 6 FEET IN HEIGHT

LANDSCAPE PLAN - OVERALL:



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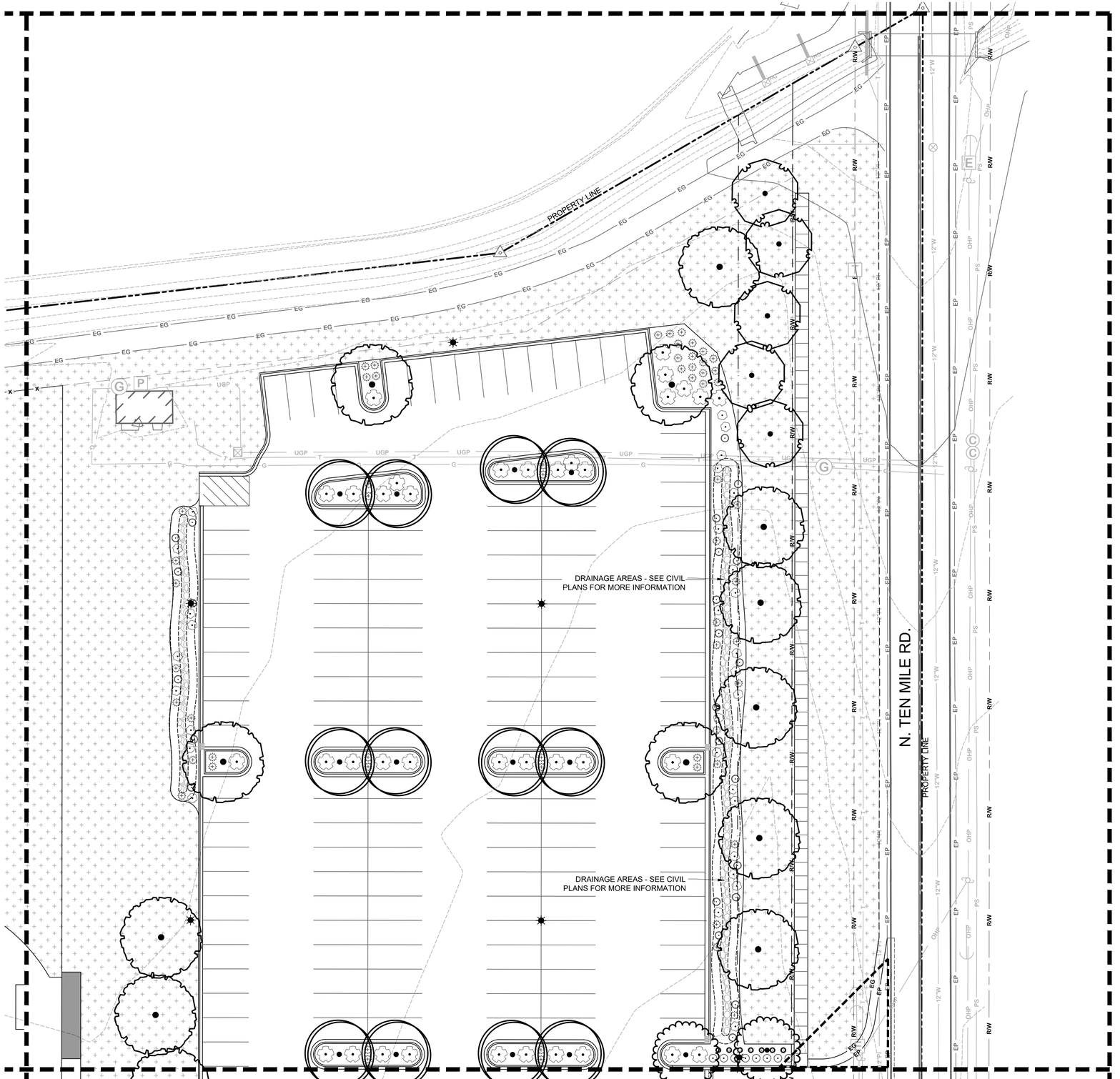

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JESSEN BUSTER
LICENSED LANDSCAPE ARCHITECT
LA-16830
05.18.20

CONCEPT PLAN for ECC KUNA CAMPUS

LANDSCAPE PLAN AREA 1

Know what's **below.** **Call** before you dig.

No.	Revisions	Date
1		
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Checked	JB
Date	5/18/20
Project	R200127
Sheet	L1.1

Drawing Set Issued for: **DESIGN REVIEW**

PLOT PAPER SIZE: ANSI FULL BLEED D (22.00 x 34.00 INCHES)

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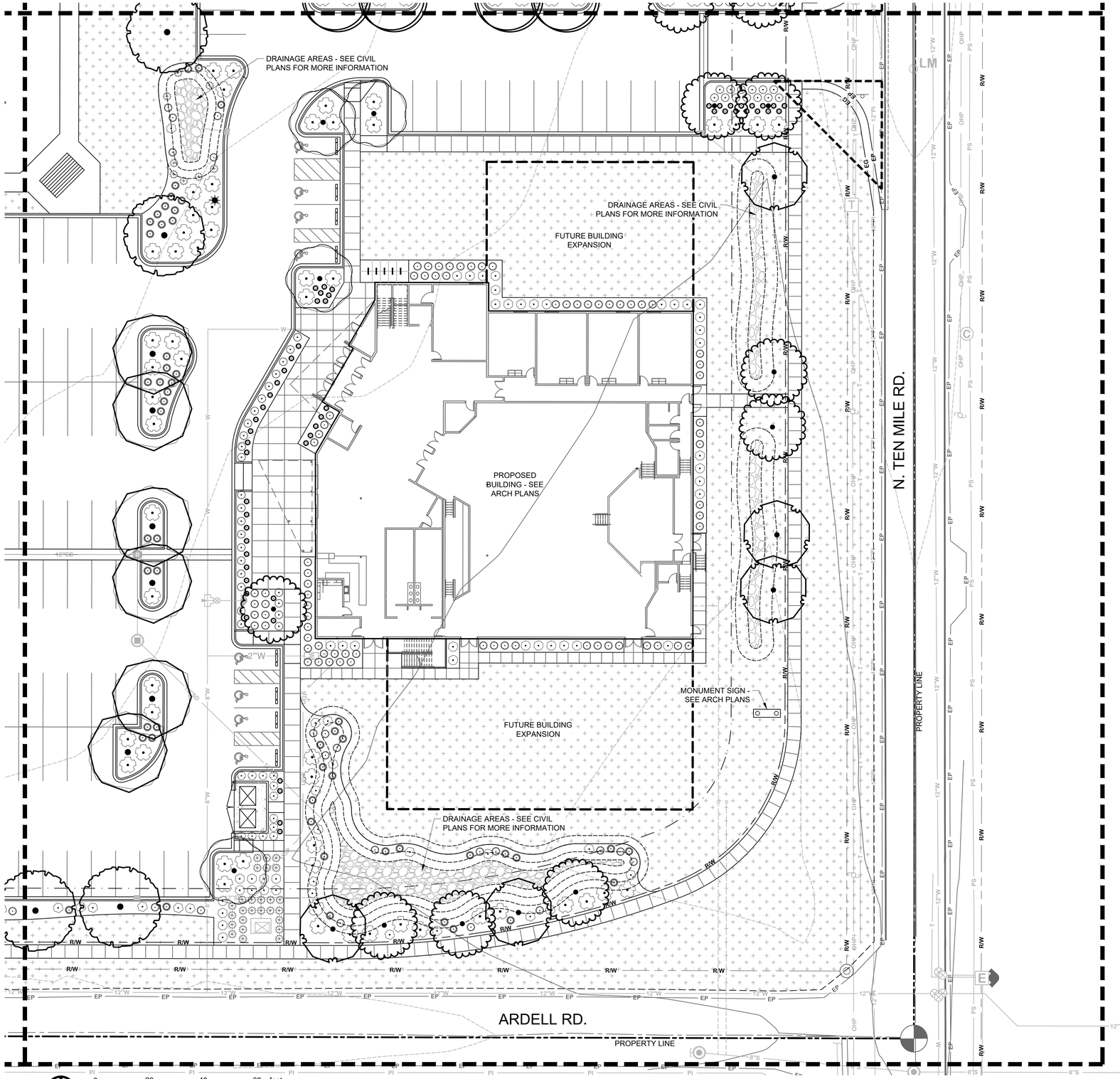
FILE NAME: 20-1644 L100 AR LANDSCAPE PLAN.DWG
PLOT DATE & TIME: 5/18/2020 4:05 PM

PLANT SCHEDULE

TREES	BOTANICAL / COMMON NAME	CONT	CAL	QTY	REMARKS
	Acer truncatum `Pacific Sunset` TM / Pacific Sunset Maple	B & B	2"	10	30`h x 25`w
	Celtis occidentalis / Common Hackberry	B & B	2"Cal	12	40`h x 30`w, CLASS II , Drought Tolerant
	Cercis canadensis / Eastern Redbud	B&B	2"	10	30`h x 25`w
	Gleditsia triacanthos inermis `Shademaster` TM / Shademaster Locust	B & B	2"	27	50`h x 30`w
	Liriodendron tulipifera `Emerald City` TM / Emerald City Tulip Tree	B & B	2"	4	50`h x 25`w
	Tilia americana `Redmond` / Redmond American Linden	B & B	2"	18	50`h x 30`w
SHRUBS	BOTANICAL / COMMON NAME	CONT	FIELD2	QTY	REMARKS
	Calamagrostis x acutiflora `Karl Foerster` / Feather Reed Grass	1 gal		93	5`h x 3`w
	Deschampsia cespitosa `Pixie Fountain` / Dwarf Tufted Hair Grass	1 gal		59	2`h X 2`w
	Helictotrichon sempervirens / Blue Oat Grass	2 gal		117	3`h x 3`w, Drought Tolerant
	Juniperus scopulorum `Medora` / Medora Juniper	5 gal		12	10`h x 3`w
	Lavandula angustifolia `Hidcote Blue` / Hidcote Blue Lavender	2 gal		46	30"h x 30"w, Drought Tolerant
	Pennisetum alopecuroides `Moudry` / Black Flowering Fountain Grass	1 gal		129	3`h x 3`w
	Pinus strobus `Blue Shag` / Blue Shag White Pine	5 gal		44	3`h x 3`w
	Rhus aromatica `Gro-Low` / Gro-Low Fragrant Sumac	5 gal		134	2`h x 6`w
	Rosa x `Noaschnee` / Flower Carpet White Groundcover Rose	2 gal		73	3`H X 3`W

LANDSCAPE MATERIALS LEGEND:

SOD LAWN PER NOTE 6/L100.



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404 S 8th St. #154, Boise, ID 83702
StackRockGroup.com
SRG PN: 20-1644

WILLET C HOWARD, PLA
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JESSEN BUSTER
LA-16830
05.18.20
LICENSED LANDSCAPE ARCHITECT

CONCEPT PLAN for ECC KUNA CAMPUS

LANDSCAPE PLAN AREA 2

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1		
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LANDSCAPE MATERIALS LEGEND:

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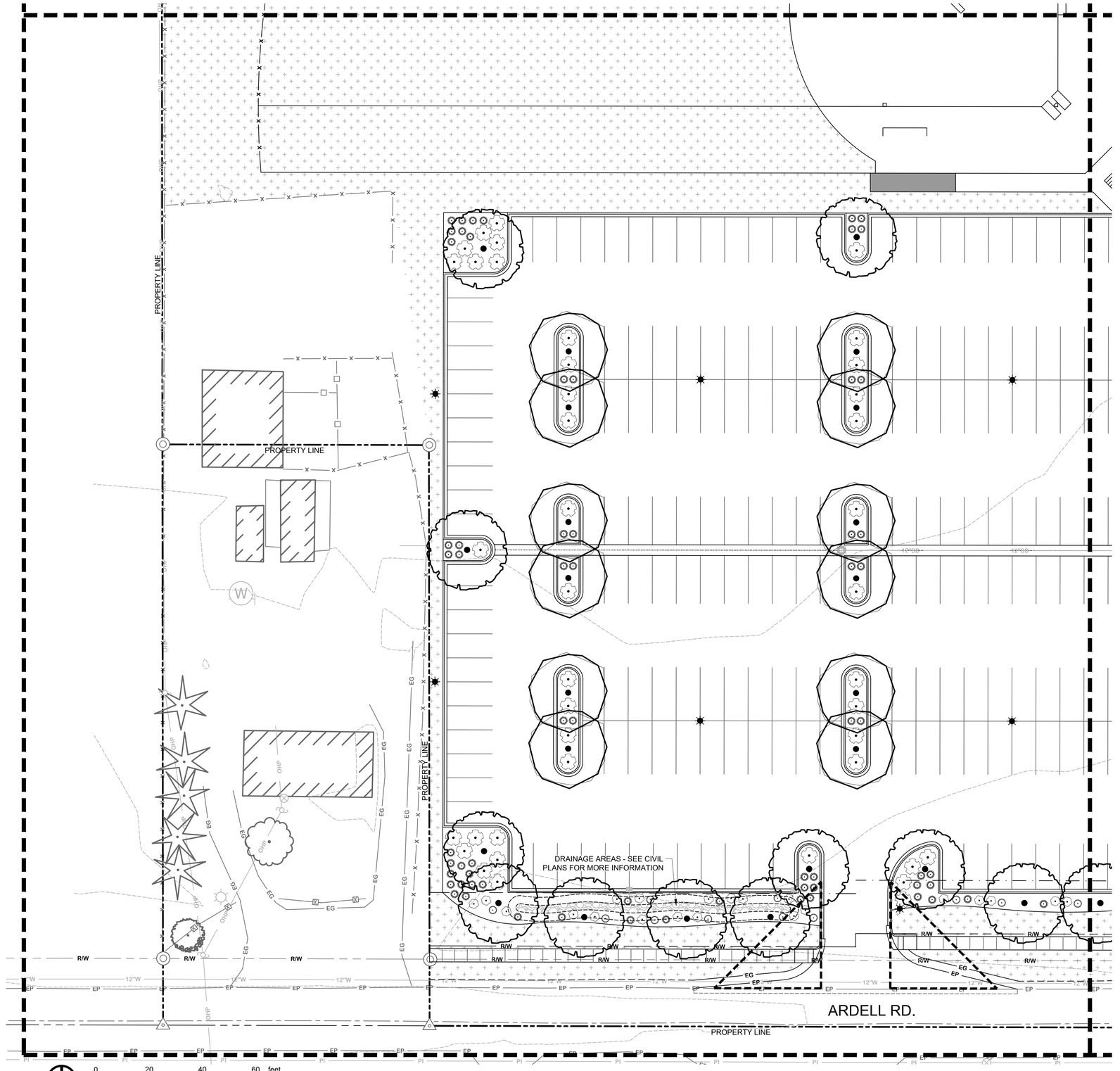

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CONCEPT PLAN for ECC KUNA CAMPUS

LANDSCAPE PLAN AREA 3

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PLANT SCHEDULE

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LANDSCAPE MATERIALS LEGEND:

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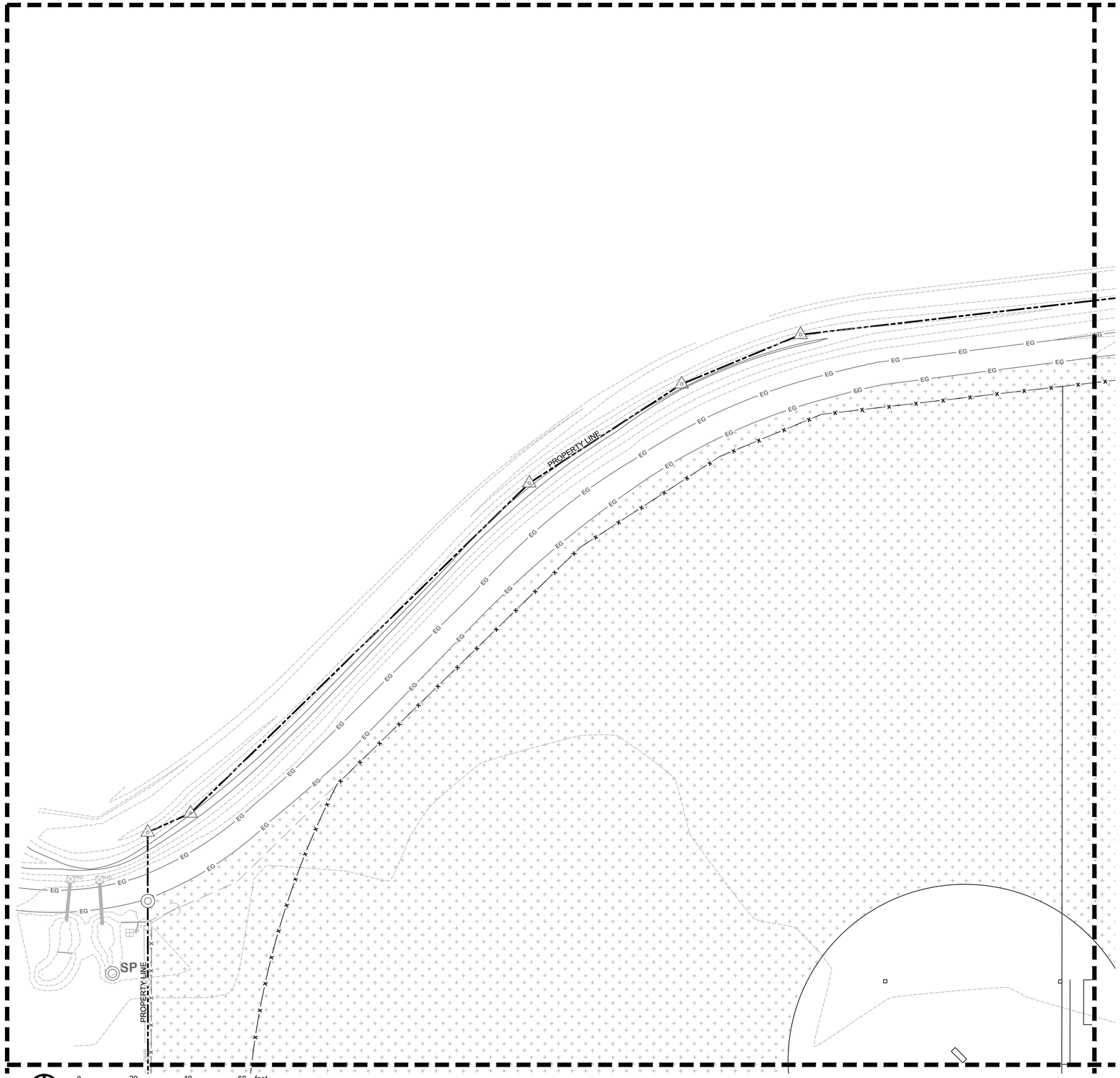

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CONCEPT PLAN for ECC KUNA CAMPUS

LANDSCAPE PLAN AREA 4

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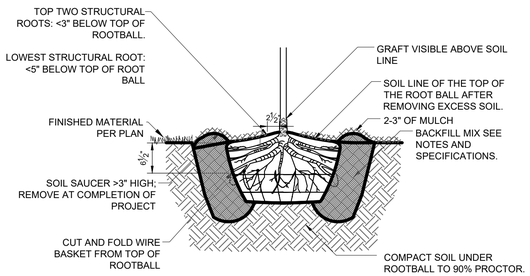
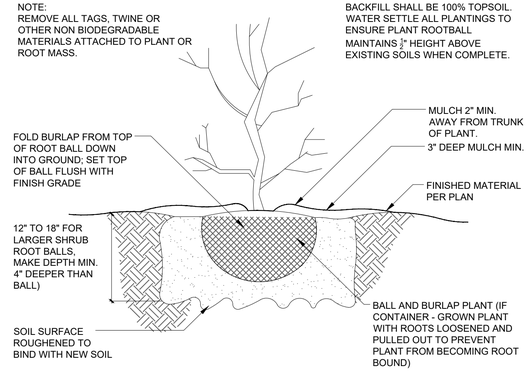
NOTES:
1. DO NOT DAMAGE OR CUT LEADER
2. DO NOT DISTURB ROOT OR DAMAGE ROOT BALL WHEN INSTALLING TREE OR TREE STAKES.
3. TREE STAKING SHALL BE AT THE DISCRETION OF CONTRACTOR. HOWEVER ANY TREES DISTURBED FROM PLUMB DURING THE PLANT WARRANTEE PERIOD WILL BE REPAIRED OR REPLACED AT CONTRACTOR'S EXPENSE.
4. WATER PLANTS THOROUGHLY IMMEDIATELY AFTER INSTILLATION.
5. REMOVE ALL BURLAP, TWINE, ROPE, OR MATERIAL FROM THE TOP $\frac{1}{3}$ OF THE ROOTBALL.
6. 4' DIAMETER PLANTER BED/MULCH RING AROUND THE TRUNK OF THE TREE. 3" OF MULCH MIN. DO NOT PLACE MULCH WITHIN 2" OF TRUNK OF TREE.



1 BALL AND BURLAP TREE PLANTING
3/4" = 1'-0"

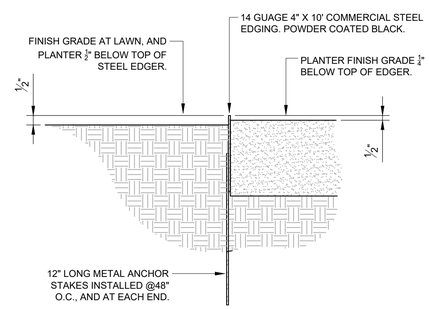
NOTE:
REMOVE ALL TAGS, TWINE OR OTHER NON BIODEGRADABLE MATERIALS ATTACHED TO PLANT OR ROOT MASS.

BACKFILL SHALL BE 100% TOPSOIL. WATER SETTLE ALL PLANTINGS TO ENSURE PLANT ROOTBALL MAINTAINS $\frac{1}{3}$" HEIGHT ABOVE EXISTING SOILS WHEN COMPLETE.

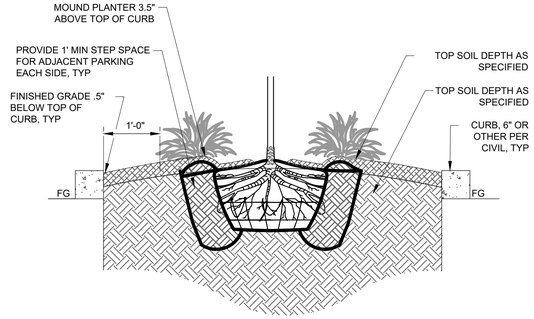


2 SHRUB PLANTING
1" = 1'-0"

NOTE:
*CURB & ADJACENT PAVEMENT PER CIVIL OR HARDSCAPE PLANS
*TREE & SHRUB TO BE INSTALLED PER RESPECTIVE DETAILS
*PLANTS & MULCH PER PLAN



3 STEEL LANDSCAPE EDGING
3" = 1'-0"



4 PLANTER ISLAND DETAIL
3/4" = 1'-0"

DETAIL-FILE

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LA-16830
05.18.20

CONCEPT PLAN for ECC KUNA CAMPUS

LANDSCAPE DETAILS

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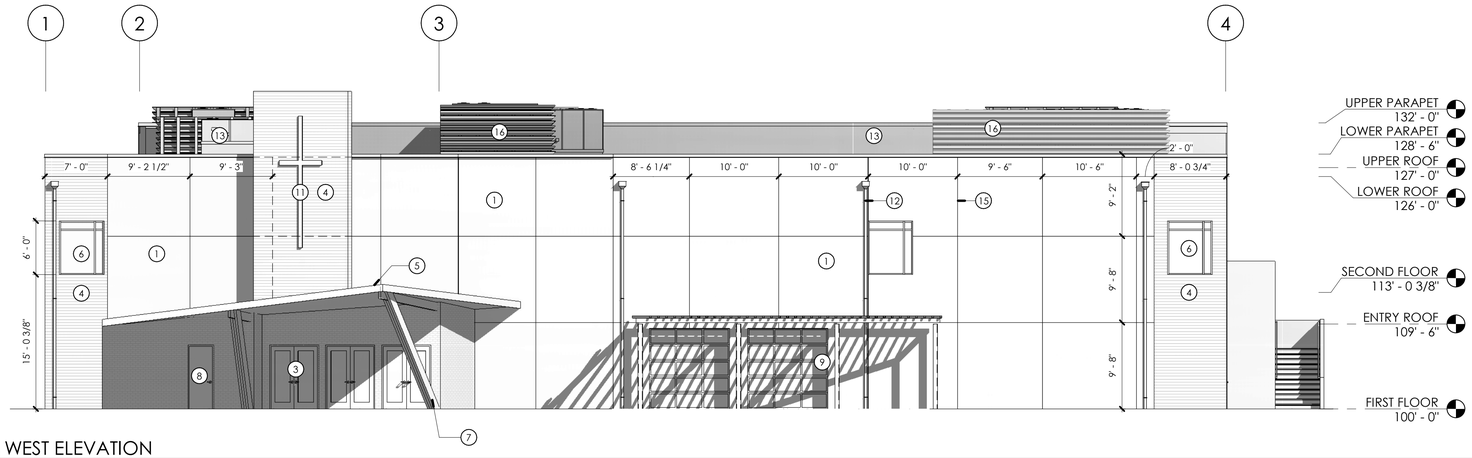
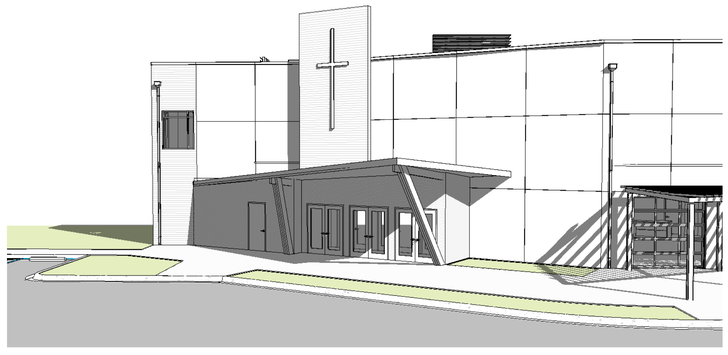
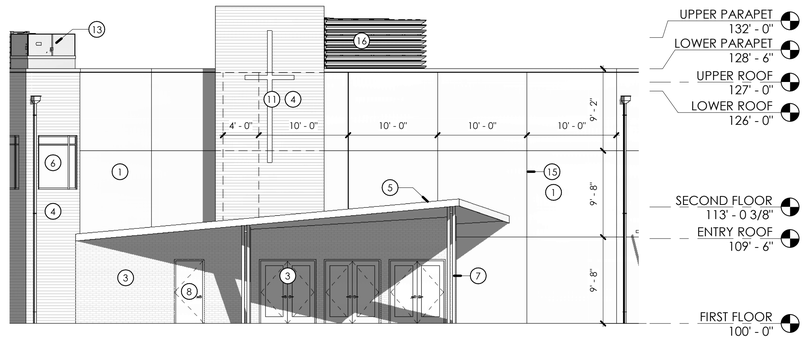
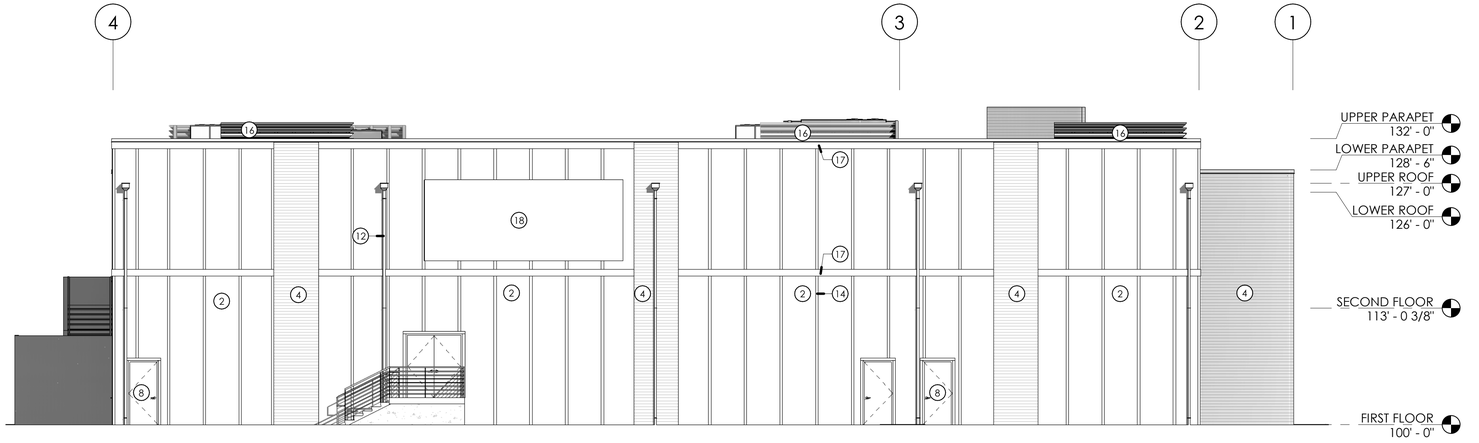


1 WEST ELEVATION
1/8" = 1'-0"





2 ENTRY ELEVATION
1/8" = 1'-0"



3 EAST ELEVATION
1/8" = 1'-0"

ELEVATION NOTES

#	Note
1	STUCCO
2	ALLURA 4X8 PANEL SIDING
3	DOUBLE BASIN STAINLESS STEEL SCRUB SINK
4	WOOD TONE SIDING
5	TPO ROOF W/ METAL FASCIA
6	ARCHITECTURAL WINDOW SYSTEM
7	WOOD COLUMN AND BEAM - STAINED
8	HOLLOW METAL DOOR - PAINTED
9	OVERHEAD ROLLUP DOOR
10	STEEL FRAMED SUNSHADE TRELLIS
11	STEEL CROSS
12	SCUPPER, DOWNSPOUT
13	ROOFTOP UNIT, REFER TO SHEET A-901 FOR PERSPECTIVES
14	BATTEN BOARD. PROVIDE BID ALTERNATE FOR METAL JOINT AT ALLURA PANELS
15	STUCCO JOINT, TYP.
16	ROOF SCREEN, REFER TO DETAILS
17	METAL TRIM
18	SIGNAGE, BY OWNER

GENERAL NOTES:

1. ALL ELEVATIONS ARE CONSIDERED TO BE "PER INTENT OF THE DRAWINGS" AND MAY NOT REFLECT EXACT CONSTRUCTED ITEMS
2. VERIFY FINISHES OF ALL EXPOSED SURFACES WITH OWNER TYP.
3. ALL PLUMBING FIXTURES TO BE VERIFIED w/ OWNER
4. ALL GRADES ARE SHOWN AS ESTIMATES - VERIFY ACTUAL STRUCTURAL ITEMS WITH STRUCTURAL DRAWINGS
5. NOTES ARE TYP. PER EACH ITEM SHOWN ON THIS SHEET (MAY ONLY BE LABELED ONCE ON ONE ELEVATION/DETAIL/SECTION)

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208.884.2824

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CLIENT: EAGLE CHRISTIAN CHURCH
EAGLE CHRISTIAN - KUNA
KUNA, ID

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EXTERIOR ELEVATIONS

A-211

JOB NUMBER 19301
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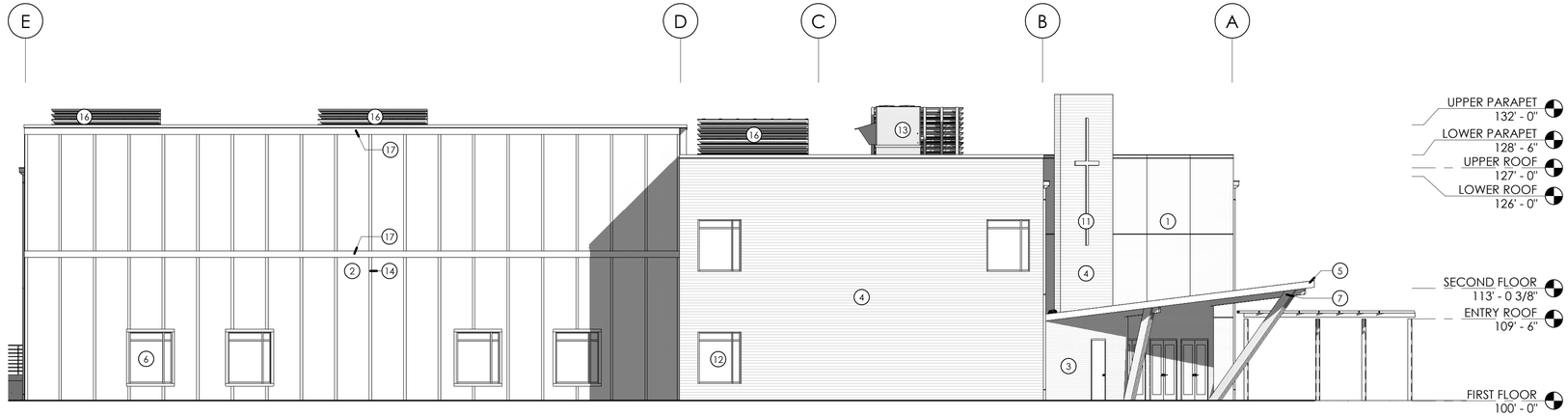
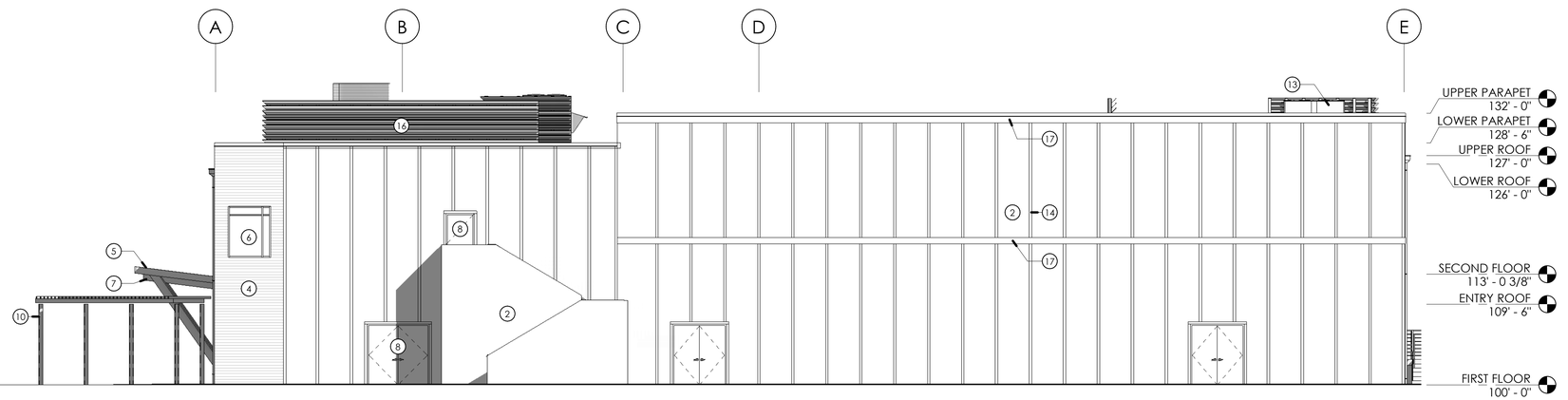


1 NORTH ELEVATION
1/8" = 1'-0"



2 SOUTH ELEVATION
1/8" = 1'-0"

ELEVATION NOTES

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3	DOUBLE BASIN STAINLESS STEEL SCRUB SINK
4	WOOD TONE SIDING
5	TPO ROOF W/ METAL FASCIA
6	ARCHITECTURAL WINDOW SYSTEM
7	WOOD COLUMN AND BEAM - STAINED
8	HOLLOW METAL DOOR - PAINTED
9	OVERHEAD ROLLUP DOOR
10	STEEL FRAMED SUNSHADE TRELLIS
11	STEEL CROSS
12	SCUPPER, DOWNSPOUT
13	ROOFTOP UNIT, REFER TO SHEET A-901 FOR PERSPECTIVES
14	BATTEN BOARD, PROVIDE BID ALTERNATE FOR METAL JOINT AT ALLURA PANELS
15	STUCCO JOINT, TYP.
16	ROOF SCREEN, REFER TO DETAILS
17	METAL TRIM

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KUNA, ID

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EXTERIOR ELEVATIONS

A-212

JOB NUMBER 19301
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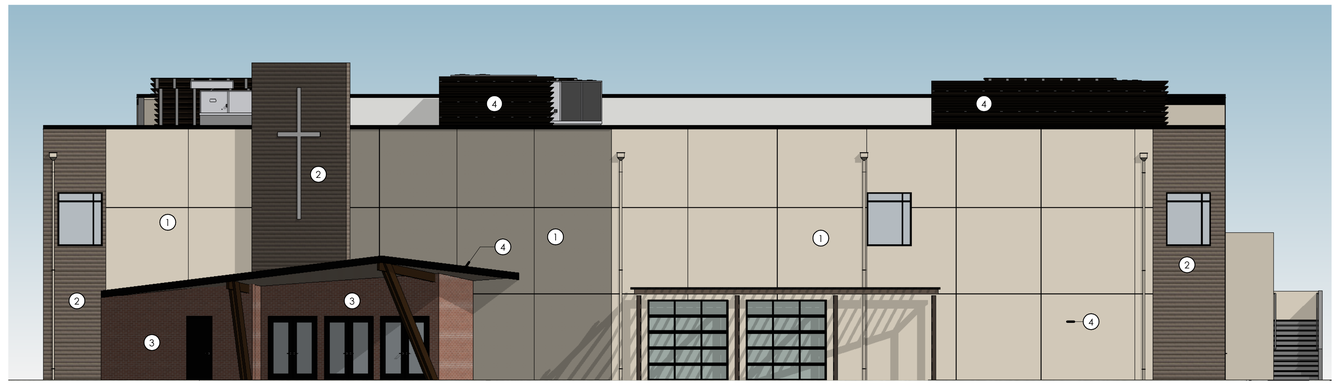
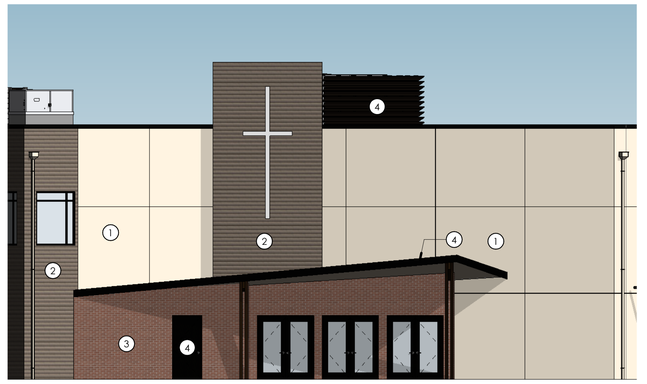


1 WEST ELEVATION - COLORED
1/8" = 1'-0"





2 ENTRY ELEVATION - COLORED
1/8" = 1'-0"



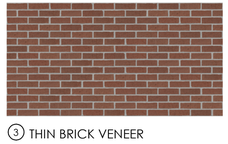
3 EAST ELEVATION - COLORED
1/8" = 1'-0"

SW 7541
Grecian Ivory
Interior / Exterior
Locator Number: 247-C1

1 STUCCO OR ALLURA SIDING, PAINTED SW 7541 GRECIAN IVORY OR APPROVED EQUAL



2 WOODTONE SIDING - RIVER ROCK



3 THIN BRICK VENEER



4 DARK BRONZE - METAL DOORS, TRIM, AND HVAC SCREENING

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KUNA, ID

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NO.	DESCRIPTION	DATE
A	DESIGN REVIEW	5/18/20

COLORED ELEVATIONS

A-213

JOB NUMBER 19301
DRAWN BY ALB

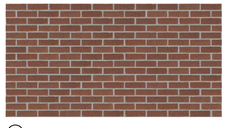


SW 7541
Grecian Ivory
Interior / Exterior
Locator Number: 247-C1

1 STUCCO OR ALLURA SIDING, PAINTED SW 7541 GRECIAN IVORY OR APPROVED EQUAL



2 WOODTONE SIDING - RIVER ROCK



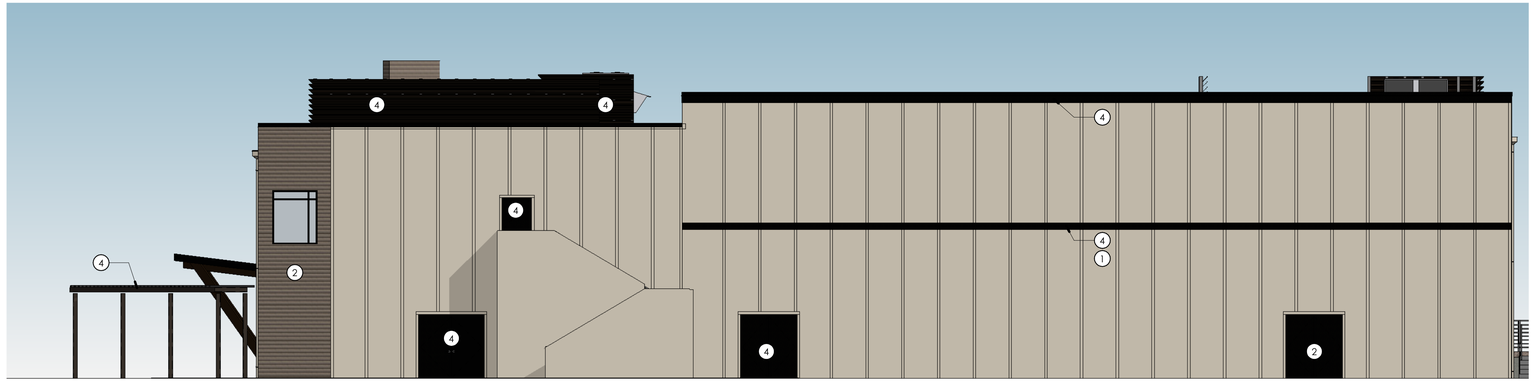
3 THIN BRICK VENEER



4 DARK BRONZE - METAL DOORS, TRIM, AND HVAC SCREENING



1 NORTH ELEVATION - COLORED
1/8" = 1'-0"



2 SOUTH ELEVATION - COLORED
1/8" = 1'-0"

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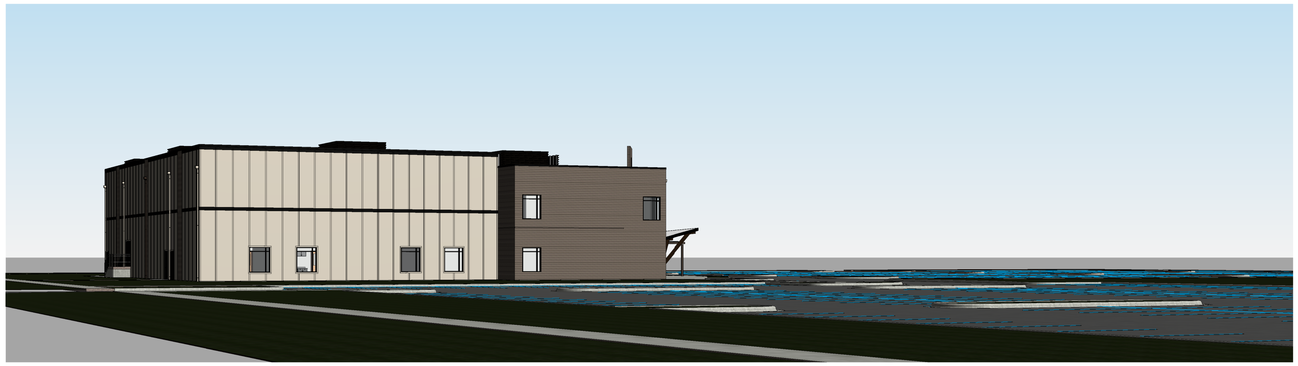
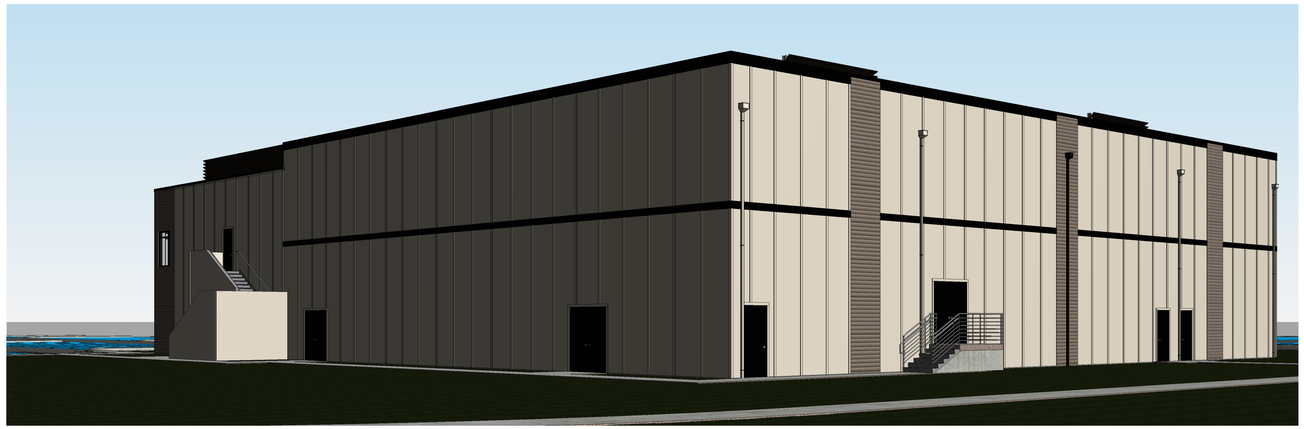
COLORED ELEVATIONS

A-214

JOB NUMBER 19301
DRAWN BY ALB



2 TEN MILE 1



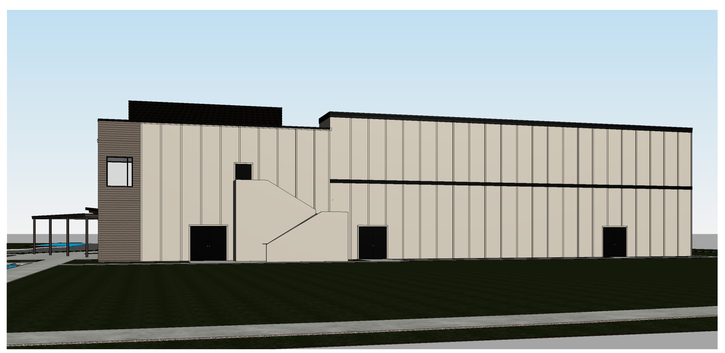
3 TEN MILE 2



1 PERSPECTIVE KEY PLAN
1" = 80'-0"



5 ARDELL 2



4 ARDELL 1

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PERSPECTIVES

A-901

JOB NUMBER 19301
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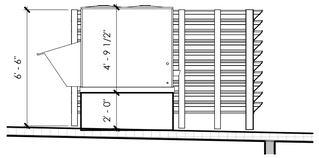
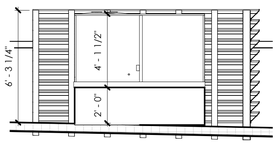
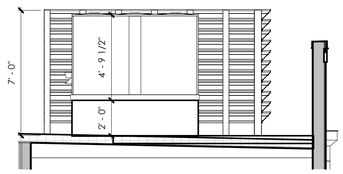


2 RTU 1 SECTION
1/4" = 1'-0"

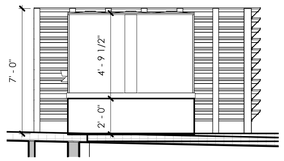
NOTE: REFER TO PERSPECTIVES ON SHEET A-901 FOR 3D VIEWS OF HVAC EQUIPMENT FROM THE ADJACENT ROADWAYS.



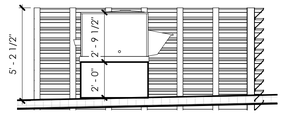
3 RTU 3 SECTION
1/4" = 1'-0"



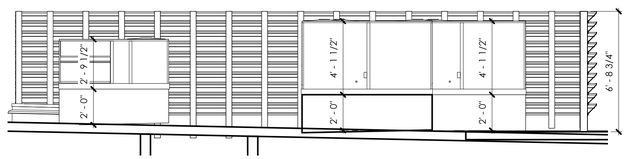
4 RTU 4A SECTION
1/4" = 1'-0"



5 RTU 4B SECTION
1/4" = 1'-0"



6 RTU 5 SECTION
1/4" = 1'-0"



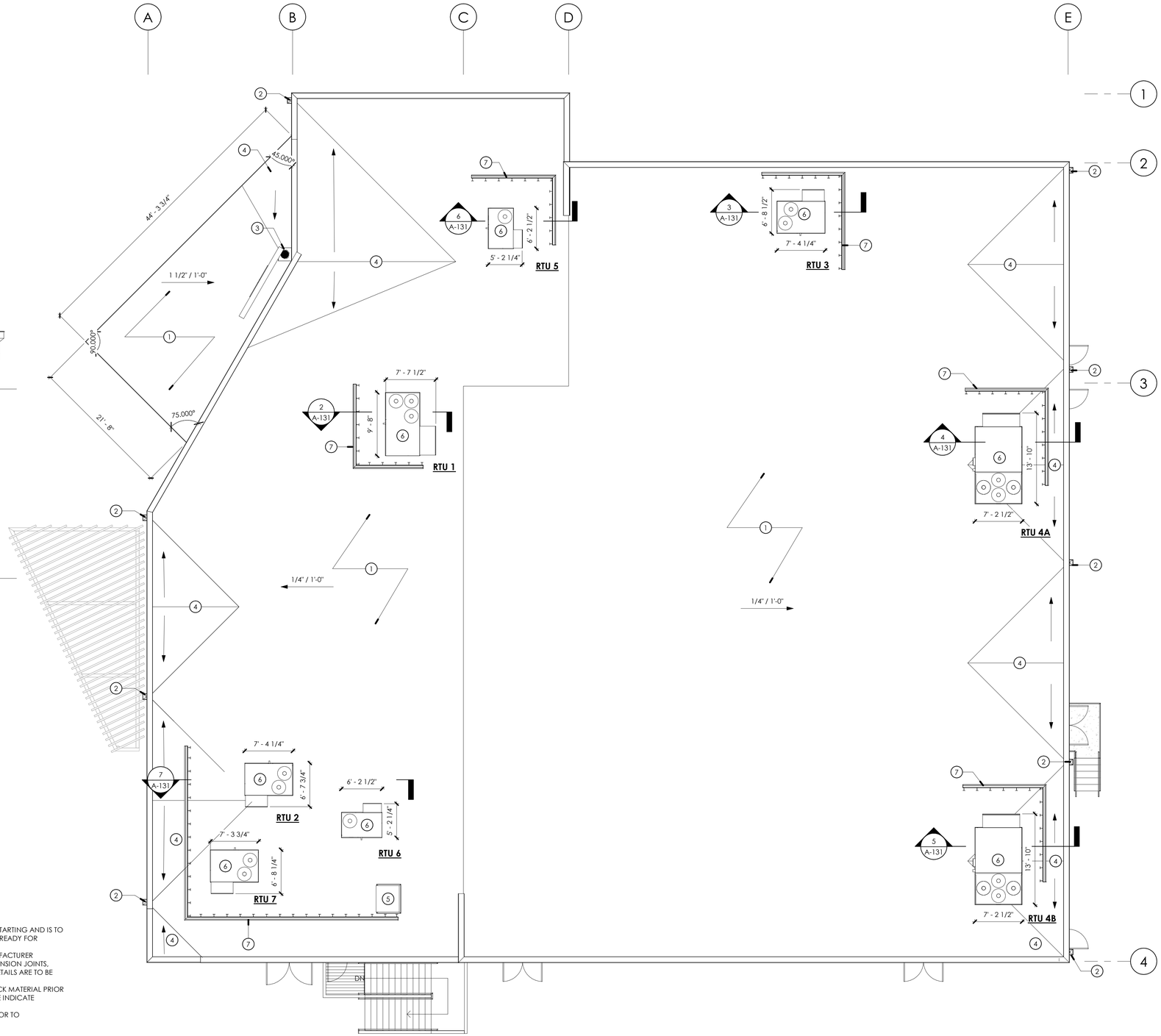
7 RTU 2, 6, AND 7 SECTION
1/4" = 1'-0"

ROOF PLAN NOTES

#	Note
1	60 MIL TPO OVER RIGID INSULATION
2	SCUPPER & DOWNSPOUT
3	ROOF DRAIN
4	ROOF CRICKET
5	ROOF ACCESS HATCH
6	RTU, REFER TO MECH.
7	ROOF SCREEN, REFER TO DETAILS

GENERAL NOTES:

1. THE ROOFING CONTRACTOR IS TO VERIFY THE SUBSTRATE PRIOR TO STARTING AND IS TO NOTIFY THE GENERAL CONTRACTOR IN WRITING IF THE ROOF IS NOT READY FOR ROOFING TO PROCEED.
2. THE ROOFING CONTRACTOR IS TO INSTALL THE ROOF PER THE MANUFACTURER RECOMMENDATION, WHICH INCLUDES ALL REQUIRED DETAILS, EXPANSION JOINTS, OVERLAP, INSULATION AND ANY ROOF PENETRATIONS. ALL ROOF DETAILS ARE TO BE PER THE MANUFACTURERS RECOMMENDATIONS.
3. THE MANUFACTURER IS TO PROVIDE ACCEPTANCE OF THE ROOF DECK MATERIAL PRIOR TO AWARD OF CONTRACT. SIGNING OF CONTRACT WILL OTHERWISE INDICATE ACCEPTANCE.
4. THE ROOFING CONTRACTOR TO PROVIDE A LIST OF EXCLUSIONS PRIOR TO CONTRACTING.
5. THE ROOFING CONTRACTOR IS TO INSULATE ROOF TOP CURBS.
6. UPON THE COMPLETION OF THE ROOFING MATERIAL, THE ROOFING CONTRACTOR SHALL CLEAN ALL CONSTRUCTION MATERIAL FROM THE ROOF AND BROOM IT CLEAN.
7. ROOFING CONTRACTOR TO PROVIDE ALL ROOF PENETRATIONS AS REQ'D FOR HVAC COORDINATION.



1 ROOF
1/8" = 1'-0"

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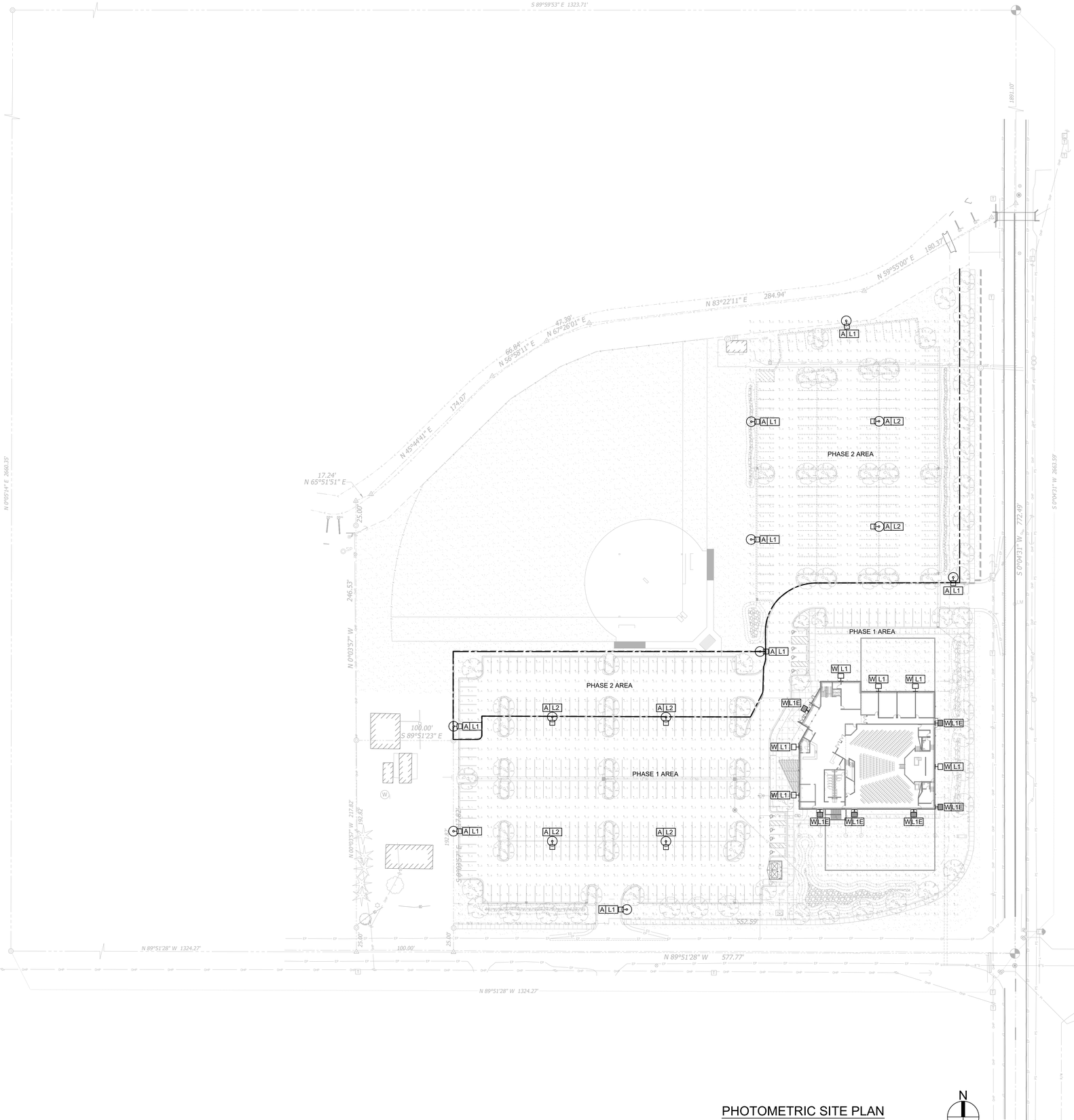
ROOF PLAN

A-131

JOB NUMBER 19301
DRAWN BY ELW



PHOTOMETRIC SITE PLAN

SCALE: 1" = 50'-0"

N

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e2co electricalengineeringcompany
engineering 4 tomorrow

world wide web: e2co.com

800 s. industry way, suite 350
meridian, idaho 83642
phone: 208.378.4450
fax: 208.378.4451
e2co project #: 20041

7037 C37 40K (BBI where shown)

7037 LED

PROJECT:

MODEL #:

FIXTURE TYPE:

STANDARD SPECIFICATIONS

HOUSING
The medium sized Dark Sky cutoff wall pack design features a die-cast aluminum housing.
The hinged door is fastened over the continuous rubber seal with stainless steel hardware.

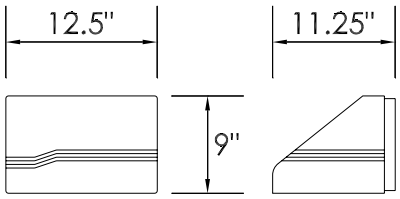


REFLECTOR
Formed aluminum, secured in position with hardware.

LENS
Clear, tempered glass is held into the cast door with stainless steel brackets and a sturdy, rubber gasket.

LED PERFORMANCE - 3500K STANDARD
120-277V - 3500K, 82 CRI - L80 rating - 60,000 hrs - L70 rating (projected) - 100,000 hrs
Amperage rated @ 110V input
Operating ambient temperature: -20°C / -4°F - 40°C / 104°F

Standard 3500K source lumens noted. Consult Brownlee.com for performance of all CCTs.
C17 - 16W nominal, .15 A input - 2050 lm - 132 lm/W. Dimmable (0-10V).
C24 - 23W nominal, .20 A input - 2950 lm - 131 lm/W. Dimmable (0-10V).
C37 - 35W nominal, .30 A input - 4380 lm - 126 lm/W. Dimmable (0-10V).
C49 - 45W nominal, .40 A input - 5900 lm - 131 lm/W. Dimmable (0-10V).
D30 - 30W nominal, .28 A input - 3111 lm - 105 lm/W. Non-dimming.
D56 - 56W nominal, .80 A input - 6223 lm - 112 lm/W. Non-dimming.



MOUNTING
The 7037 is designed to be mounted directly to a j-box (by others), or it can be mounted directly to the surface, and wired with rear conduit entry, or surface conduit into the side entry ports.

FINISH
This series is available in a standard bronze polyester powder coat.

WARRANTY
5 year limited warranty on this LED product. Consult factory for details.

WET

SUPPORTS T24 COMPLIANCE

ORDERING INFORMATION

7037	-	_____	-	_____	-	_____
Model		2.		3.		4. (if required)

2. WATTAGE

C17	16W C Series LED
C24	23W C Series LED
C37	35W C Series LED
C49	45W C Series LED
D30	30W D Series LED
D56	56W D Series LED

3. COLOR TEMPERATURE

35K	3500K standard color temperature
27K	2700K color temperature (C Series only)
30K	3000K color temperature (C Series only)
40K	4000K color temperature (C Series only)

4. AVAILABLE OPTIONS

BAC[1]	Buy American Compliant
BBI[2*]	Integral Battery Backup (C Series only)
BBC	Integral Battery Backup, Cold Weather (C Series only)
DTR[4]	Triac (Line Voltage) Dimming (120V) (C Series only)
ECW[5]	Extreme Cold Weather (-40°C / -40°F min.)
ES[6]	ENERGY STAR® (C Series only)
FCL[7]	French Canadian Labels
PO1	Photo Control (120V)
PO2	Photo Control (208, 240, 277V)
T24[9]	Title 24 Compliant (C49 in 3000K only)

Notes: (0) 90R - cannot be combined with ES or T24 **(1) BAC** - cannot be combined with FCL **(2) BBI/BBS/BBC** - cannot be combined with DTR, ECW, EXT, or T24 **(3) BLD** - cannot be combined with DTR, OCC, or T24 **(4) DTR** - cannot be combined with BBI, BBC, BBS, BLD or T24 **(5) ECW** - cannot be combined with BBI, BBC, or DTR **(6) ES** - cannot be combined with 90R, DTR, FCL, or T24 **(7) FCL** - cannot be combined with BAC, ES, or T24 **(8) OCC** - cannot be combined with BLD **(9) T24** - cannot be combined with 90R, BBI, BBC, BBS, BLD, DTR, ES, or FCL **(10) BBS** - cannot be combined with BLD, DTR, ECW, EXT, OCC, or T24 **(11) PCH/PC4** cannot be combined with BL D or OCC
Add'l Notes: *BBI/BBS/BBC - standard BBI (and BBS) option has a minimum operating temperature of 10C/50F. BBC option has a minimum operating temperature of -20C/-4F. ****BLD** - Bi-Level Dimming is field adjustable from 100% to a dimmed light level of 10, 20, 30, or 50%. All units are factory set at 50%.

Specifications and dimensions subject to change without notice.
Consult your Brownlee Lighting representative for availability and ordering information.

BROWNLEE LIGHTING
www.brownlee.com

REVISED 2019.07.01



RSX2 LED
Area Luminaire

Catalog Number: RSX2-LED-P3-40K-R5-MVOLT-SPA-DDBX

Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

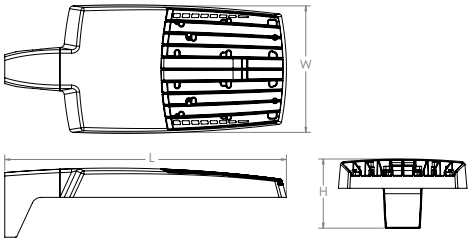
EPA (ft²@0°): 0.69 ft² (0.06 m²)

Length: 29.3" (74.4 cm) (SPA mount)

Width: 13.4" (34.0 cm)

Height: 3.0" (7.6 cm) Main Body 7.2" (18.3 cm) Arm

Weight (max): 39.0 lbs (17.7 kg)



Introduction

The new RSX LED Area family delivers maximum value by providing significant energy savings, long life and outstanding photometric performance at an affordable price. The RSX2 delivers 11,000 to 31,000 lumens allowing it to replace 250W to 1000W HID luminaires.

The RSX features an integral universal mounting mechanism that allows the luminaire to be mounted on most existing drill hole patterns. This "no-drill" solution provides significant labor savings. An easy-access door on the bottom of mounting arm allows for wiring without opening the electrical compartment. A mast arm adaptor, adjustable integral slipfitter and other mounting configurations are available.

Ordering Information

EXAMPLE: RSX2 LED P6 40K R3 MVOLT SPA DDBXD

RSX2 LED

Series	Performance Package	Color Temperature	Distribution	Voltage	Mounting
RSX2 LED	P1 P2 P3 P4 P5 P6	30K 3000K 40K 4000K 50K 5000K	R2 Type 2 Wide R3 Type 3 Wide R3S Type 3 Short R4 Type 4 Wide R4S Type 4 Short R5 Type 5 Wide [1] R5S Type 5 Short [1] AFR Automotive Front Row AFRR90 Automotive Front Row Right Rotated AFRL90 Automotive Front Row Left Rotated	MVOLT (120V-277V) [2] HVOLT (347V-480V) [3] **(use specific voltage for options as noted)** 120 [3] 277 [4] 208 [3] 347 [4] 240 [3] 480 [4]	SPA Square pole mounting (3.0" min. SQ pole for 1 at 90°, 3.5" min. SQ pole for 2, 3, 4 at 90°) RPA Round pole mounting (3.2" min. dia. RND pole for 2, 3, 4 at 90°, 3.0" min. dia. RND pole for 1 at 90°, 2 at 180°, 3 at 120°) MA Mast arm adaptor (fits 2-3/8" OD horizontal tenon) IS Adjustable slipfitter (fits 2-3/8" OD tenon) [5] WBA Wall bracket [1] WBASC Wall bracket with surface conduit box AASP Adjustable tilt arm square pole mounting [5] AARP Adjustable tilt arm round pole mounting [5] AAWB Adjustable tilt arm with wall bracket [5] AAWSC Adjustable tilt arm wall bracket and surface conduit box [5]

Options

Shipped Installed

HS	House-side shield [6]
PE	Photocontrol, button style [7,8]
PEX	Photocontrol external threaded, adjustable [8,9]
PER7	Seven-wire twist-lock receptacle only (no controls) [8,10,11,12]
CE34	Conduit entry 3/4" NPT (Qty 2)
SF	Single fuse (120, 277, 347) [4]
DF	Double fuse (208, 240, 480) [4]
SPD20KV	20KV Surge pack (10KV standard)
FAO	Field adjustable output [8,12]
DMG	0-10V dimming extend out back of housing for external control (control ordered separate) [8,12]
DS	Dual switching [8,13]

Shipped Installed

***Standalone and Networked Sensors/Controls (factory default settings, see table page 9)**

NLTAIR2	nLight AIR generation 2 [12,14,15]
PIRHN	Networked, Bi-Level motion/ambient sensor (for use with NLTAIR2) [12,15,16]

*Note: PIRHN with nLight Air can be used as a standalone dimming sensor with out-of-box settings or as a wireless networked solution. See factory default settings table. Sensor coverage pattern is affected when luminaire is tilted.

Shipped Separately (requires some field assembly)

EGS	External glare shield [5]
EGFV	External glare full visor (360° around light aperture) [6]
BS	Bird spikes [17]

Finish

DDBXD	Dark Bronze
DBLXD	Black
DNAXD	Natural Aluminum
DWHXD	White
DDBTXD	Textured Dark Bronze
DBLBXD	Textured Black
DNATXD	Textured Natural Aluminum
DWHGXD	Textured White

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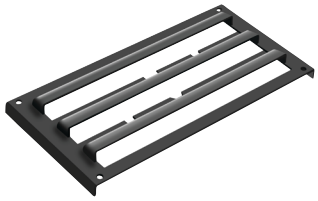
Ordering Information

Accessories
Ordered and shipped separately.

RSX2HS	RSX2 House side shield (includes 2 shields)
RSX2EGS (FINISH) U	External glare shield (specify finish)
RSX2HSAFRR (FINISH) U	RSX2 House side shields for AFR rotated optics (includes 2 shields)
RSX2EGFV (FINISH) U	External glare full visor (specify finish)
RSXRPA (FINISH) U	RSX Universal round pole adaptor plate (specify finish)
RSXWBA (FINISH) U	RSX WBA wall bracket (specify finish) [1]
RSXSCB (FINISH) U DLL127F 1.5 JU	RSX Surface conduit box (specify finish, for use with WBA, WBA not included) Photocell -SSL twist-lock (120-277V) [18]
DLL347F 1.5 CUL JU	Photocell -SSL twist-lock (347V) [18]
DLL480F 1.5 CUL JU	Photocell -SSL twist-lock (480V) [18]
DSHORT SBK U	Shorting cap [18]

NOTES
1. Any Type 5 distribution, is not available with WBA.
2. MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
3. HVOLT driver operates on any line voltage from 347-480V (50/60 Hz).
4. Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V.
5. Maximum tilt is 90° above horizontal.
6. It may be ordered as an accessory.
7. Requires MVOLT or 347V.
8. Not available in combination with other light sensing control options (following options cannot be combined: PE, PEX, PER7, FAO, DMG, DS, PIRHN).
9. Requires 120V, 208V, 240V, 277V or 347V.
10. Twistlock photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Shorting Cap included. Dimming leads capped for future use.
11. For units with option PER7, the mounting must be restricted to +/- 45° from horizontal aim per ANSI C136.10-2010.
12. Two or more of the following options cannot be combined including DMG, DS, PER7, FAO and PIRHN.
13. DS only available on performance package P4, P5 and P6.
14. Must be ordered with PIRHN.
15. Requires MVOLT or HVOLT.
16. Must be ordered with NLTAIR2. For additional information on PIRHN visit here.
17. Must be ordered with fixture for factory pre-drilling.
18. Requires luminaire to be specified with PER7 option. Ordered and shipped as a separate line item from Acuity Brands Controls.

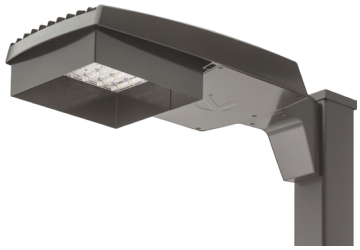
External Shields



House Side Shield



External Glare Shield

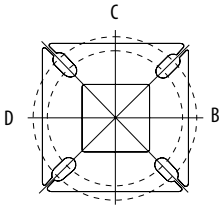


External 360 Full Visor

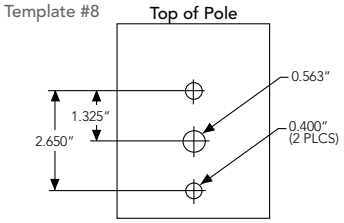
Pole/Mounting Informatiion

Accessories including bullhorns, cross arms and other adpaters are available under the accessories tab at Lithonia's Outdoor Poles and Arms product page. Click here to visit Accessories.

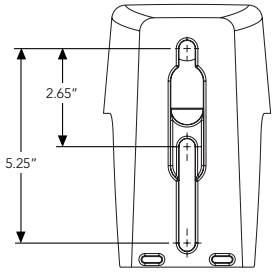
HANDHOLE ORIENTATION



RSX POLE DRILLING



RSX STANDARD ARM & ADJUSTABLE ARM



Round Tenon Mount - Pole Top Slipfitters

Tenon O.D.	RSX Mounting	Single	2 at 180°	2 at 90°	3 at 120°	3 at 90°	4 at 90°
2 - 3/8"	RPA, AARP	AS3-5 190	AS3-5 280	AS3-5 290	AS3-5 320	AS3-5 390	AS3-5 490
2 - 7/8"	RPA, AARP	AST25-190	AST25-280	AST25-290	AST25-320	AST25-390	AST25-490
4"	RPA, AARP	AST35-190	AST35-280	AST35-290	AST35-320	AST35-390	AST35-490

Drill/Side Location by Configuration Type

Drilling Template	Mounting Option	Single	2 @ 180	2 @ 90	3 @ 120	3 @ 90	4 @ 90
	Head Location	Side B	Side B & D	Side B & C	Round Pole Only	Side B, C & D	Side A, B, C & D
#8	**Drill Nomenclature**	DM19AS	DM28AS	DM29AS	DM32AS	DM39AS	DM49AS

RSX2 - Luminaire EPA

*Includes luminaire and integral mounting arm. Other tenons, arms, brackets or other accessories are not included in this EPA data.

Fixture Quantity & Mounting Configuration		Single	2 @ 90	2 @ 180	3 @ 90	3 @ 120	4 @ 90	2 Side by Side	3 Side by Side	4 Side by Side
Mounting Type	**Tilt**									
SPA - Square Pole Adaptor	0°	0.69	1.22	1.27	1.8	1.61	2.39	1.37	2.06	2.74
RPA - Round Pole Adaptor		0.74	1.27	1.37	1.9	1.71	2.49	1.42	2.16	2.84
MA - Mast Arm Adaptor		0.61	1.14	1.11	1.64	1.45	2.23	1.29	1.9	2.58
IS - Integral Slipfitter AASP/AARP - Adjustable Arm Square/Round Pole	0°	0.69	1.22	1.27	1.8	1.61	2.39	1.37	2.06	2.74
	10°	0.53	1.06	1.05	1.58	1.37	2.08	1.06	1.59	2.12
	20°	0.52	1.02	1.03	1.52	1.33	2.02	1.03	1.55	2.07
	30°	0.64	1.11	1.18	1.63	1.45	2.21	1.27	1.91	2.54
	40°	0.81	1.21	1.35	1.74	1.65	2.39	1.62	2.43	3.23
	45°	0.91	1.25	1.5	1.81	1.75	2.48	1.82	2.73	3.64
	50°	1.34	1.83	2.17	2.61	2.56	3.62	2.68	4.02	5.36
	60°	2.2	2.97	3.57	4.24	4.17	5.89	4.41	6.61	8.82
	70°	2.86	4.13	4.7	5.89	5.71	8.21	5.71	8.57	11.42
	80°	3.4	5.13	5.67	7.34	7.09	10.21	6.79	10.19	13.59
	90°	3.85	5.96	6.55	8.58	8.31	11.88	7.70	11.56	15.41

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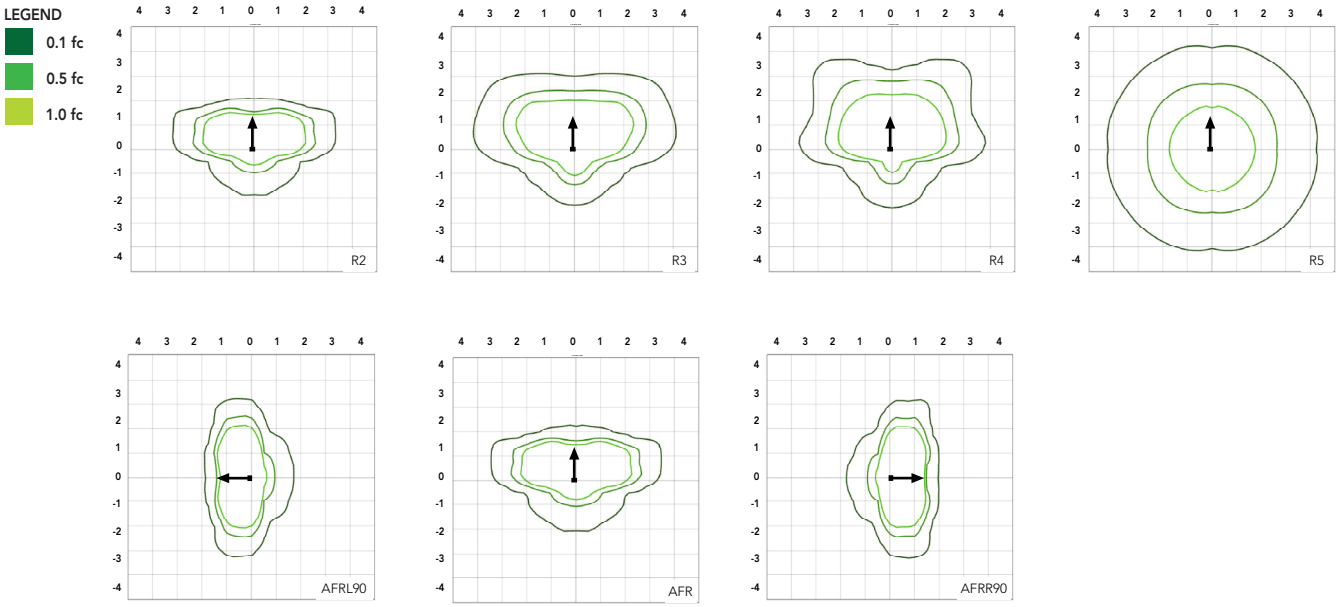
Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's RSX Area homepage.

Isofootcandle plots for the RSX2 LED P6 40K. Distances are in units of mounting height (30').



Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-50°C (32-122°F).

Ambient	Ambient	Lumen Multiplier
0°C	32°F	1.05
5°C	41°F	1.04
10°C	50°F	1.03
15°C	59°F	1.02
20°C	68°F	1.01
25°C	77°F	1.00
30°C	86°F	0.99
35°C	95°F	0.98
40°C	104°F	0.97
45°C	113°F	0.96
50°C	122°F	0.95

Electrical Load

		Current (A)					
Performance Package	System Watts (W)	120V	208V	240V	277V	347V	480V
P1	71W	0.59	0.34	0.30	0.26	0.20	0.15
P2	111W	0.93	0.53	0.46	0.40	0.32	0.23
P3	147W	1.23	0.70	0.61	0.53	0.42	0.31
P4	187W	1.55	0.90	0.78	0.68	0.53	0.38
P5	210W	1.75	1.01	0.87	0.76	0.60	0.44
P6	244W	2.03	1.17	1.01	0.88	0.70	0.51

Projected LED Lumen Maintenance

Operating Hours	50,000	75,000	100,000
Lumen Maintenance Factor	>0.97	>0.95	>0.92

Values calculated according to IESNA TM-21-11 methodology and valid up to 40°C.

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Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Performance Package	System Watts	Distribution. Type	30K (3000K, 70 CRI)					40K (4000K, 70 CRI)					50K (5000K, 70 CRI)				
			Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
P1	71W	R2	10,040	2	0	1	139	11,031	2	0	1	153	11,031	2	0	1	153
		R3	10,005	2	0	2	141	10,992	2	0	2	155	10,992	2	0	2	155
		R3S	10,271	2	0	2	143	11,285	2	0	2	157	11,285	2	0	2	157
		R4	10,136	2	0	2	143	11,136	2	0	2	157	11,136	2	0	2	157
		R4S	9,779	2	0	2	138	10,744	2	0	2	151	10,744	2	0	2	151
		R5	10,271	4	0	2	145	11,285	4	0	2	159	11,285	4	0	2	159
		R5S	10,544	3	0	1	149	11,585	3	0	2	163	11,585	3	0	2	163
		AFR	10,026	2	0	1	141	11,016	2	0	1	155	11,016	2	0	1	155
		AFRR90	10,122	3	0	2	140	11,121	3	0	2	154	11,121	3	0	2	154
		AFRL90	10,164	3	0	2	141	11,167	3	0	2	155	11,167	3	0	2	155
P2	111W	R2	15,712	2	0	2	138	17,263	2	0	2	151	17,263	2	0	2	151
		R3	15,657	2	0	3	141	17,202	3	0	3	155	17,202	3	0	3	155
		R3S	16,075	2	0	2	141	17,661	2	0	2	155	17,661	2	0	2	155
		R4	15,862	2	0	3	143	17,427	2	0	3	157	17,427	2	0	3	157
		R4S	15,304	2	0	2	138	16,815	2	0	2	151	16,815	2	0	2	151
		R5	16,075	4	0	2	145	17,661	5	0	3	159	17,661	5	0	3	159
		R5S	16,502	4	0	2	149	18,130	4	0	2	163	18,130	4	0	2	163
		AFR	15,691	2	0	2	141	17,240	2	0	2	155	17,240	2	0	2	155
		AFRR90	15,841	3	0	3	139	17,404	4	0	3	153	17,404	4	0	3	153
		AFRL90	15,907	3	0	3	139	17,477	4	0	3	153	17,477	4	0	3	153
P3	147W	R2	19,855	3	0	2	132	21,814	3	0	2	145	21,814	3	0	2	145
		R3	19,785	3	0	3	135	21,737	3	0	4	148	21,737	3	0	4	148
		R3S	20,312	3	0	3	135	22,317	3	0	3	149	22,317	3	0	3	149
		R4	20,044	3	0	3	136	22,022	3	0	4	150	22,022	3	0	4	150
		R4S	19,339	3	0	3	132	21,247	3	0	3	145	21,247	3	0	3	145
		R5	20,313	5	0	3	138	22,317	5	0	3	152	22,317	5	0	3	152
		R5S	20,852	4	0	2	142	22,910	4	0	2	156	22,910	4	0	2	156
		AFR	19,828	3	0	2	135	21,785	3	0	2	148	21,785	3	0	2	148
		AFRR90	20,017	4	0	3	133	21,992	4	0	3	147	21,992	4	0	3	147
		AFRL90	20,101	4	0	3	134	22,084	4	0	3	147	22,084	4	0	3	147
P4	187W	R2	22,836	3	0	2	120	25,090	3	0	2	132	25,090	3	0	2	132
		R3	22,756	3	0	4	122	25,002	3	0	4	134	25,002	3	0	4	134
		R3S	23,363	3	0	3	123	25,668	3	0	3	135	25,668	3	0	3	135
		R4	23,054	3	0	4	123	25,329	3	0	4	135	25,329	3	0	4	135
		R4S	22,243	3	0	3	119	25,059	3	0	3	134	25,059	3	0	3	134
		R5	23,363	5	0	3	125	25,669	5	0	4	137	25,669	5	0	4	137
		R5S	23,983	4	0	2	128	26,350	4	0	2	141	26,350	4	0	2	141
		AFR	22,806	3	0	2	122	25,056	3	0	2	134	25,056	3	0	2	134
		AFRR90	23,023	4	0	3	121	25,295	4	0	3	133	25,295	4	0	3	133
		AFRL90	23,120	4	0	3	122	25,401	4	0	3	134	25,401	4	0	3	134
P5	210W	R2	26,141	3	0	2	122	28,721	3	0	2	135	28,721	3	0	2	135
		R3	26,049	3	0	4	124	28,620	3	0	4	136	28,620	3	0	4	136
		R3S	26,744	3	0	3	125	29,383	3	0	4	138	29,383	3	0	4	138
		R4	26,390	3	0	4	126	28,994	3	0	4	138	28,994	3	0	4	138
		R4S	25,462	3	0	3	121	27,974	3	0	3	133	27,974	3	0	3	133
		R5	26,744	5	0	4	127	29,383	5	0	4	140	29,383	5	0	4	140
		R5S	27,454	4	0	2	131	30,163	4	0	2	144	30,163	4	0	2	144
		AFR	26,106	3	0	2	124	28,682	3	0	2	137	28,682	3	0	2	137
		AFRR90	26,354	4	0	3	123	28,955	5	0	3	136	28,955	5	0	3	136
		AFRL90	26,465	4	0	3	124	29,077	5	0	3	136	29,077	5	0	3	136
P6	244W	R2	27,646	3	0	2	112	30,374	3	0	2	123	30,374	3	0	2	123
		R3	27,549	3	0	4	113	30,267	3	0	4	124	30,267	3	0	4	124
		R3S	28,283	3	0	3	115	31,075	3	0	4	126	31,075	3	0	4	126
		R4	27,909	3	0	4	114	30,663	3	0	4	126	30,663	3	0	4	126
		R4S	26,928	3	0	3	110	29,585	3	0	3	121	29,585	3	0	3	121
		R5	28,284	5	0	4	116	31,075	5	0	4	127	31,075	5	0	4	127
		R5S	29,035	4	0	2	119	31,900	5	0	3	131	31,900	5	0	3	131
		AFR	27,608	3	0	2	112	30,332	3	0	2	123	30,332	3	0	2	123
		AFRR90	27,872	4	0	3	113	30,622	5	0	3	124	30,622	5	0	3	124
		AFRL90	27,989	4	0	3	113	30,751	5	0	3	125	30,751	5	0	3	125

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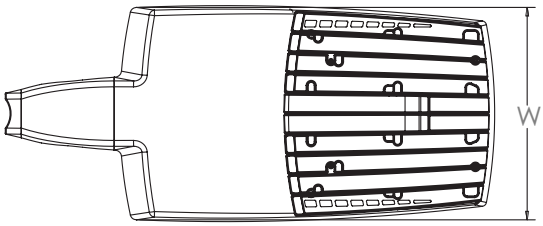
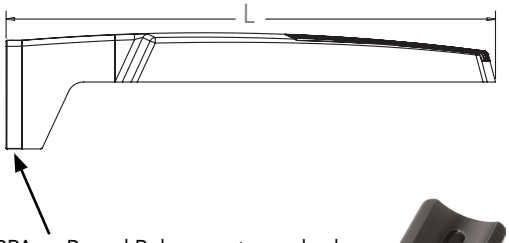
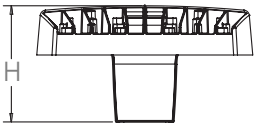
Dimensions

RSX2 with Round Pole Adapter (RPA)





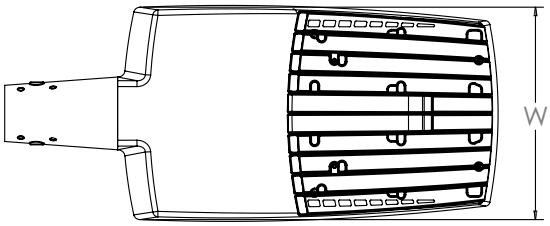


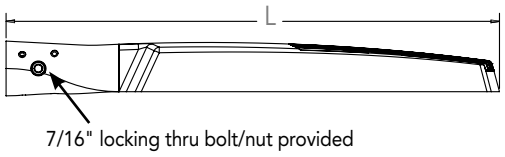
Length: 30.3" (77.0 cm)
Width: 13.4" (34.0 cm)
Height: 3.0" (7.6 cm) Main Body
7.2" (18.3 cm) Arm

Note: RPA — Round Pole mount can also be used to mount on square poles by omitting the round pole adapter plate shown here.



RSX2 with Mast Arm Adapter (MA)

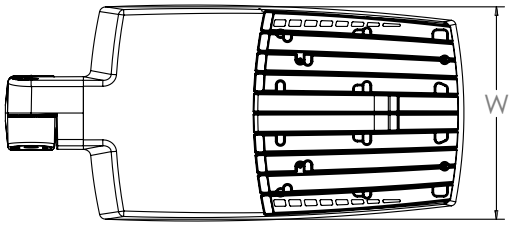


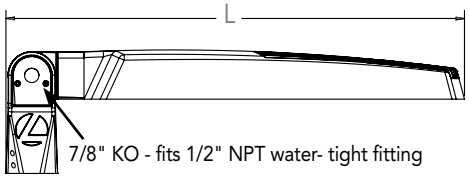


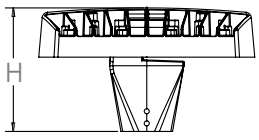


Length: 30.6" (77.7 cm)
Width: 13.4" (34.0 cm)
Height: 3.0" (7.6 cm) Main Body
3.5" (8.9 cm) Arm

RSX2 with Adjustable Slipfitter (IS)







Length: 28.3" (71.9 cm)
Width: 13.4" (34.0 cm)
Height: 3.0" (7.6 cm) Main Body
7.6" (19.3 cm) Arm

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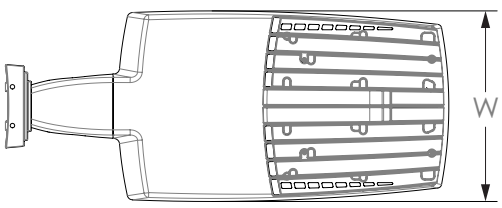
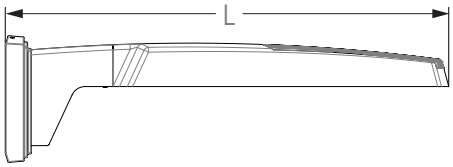
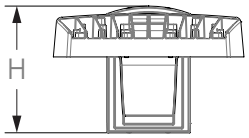
Dimensions

RSX2 with Wall Bracket (WBA)

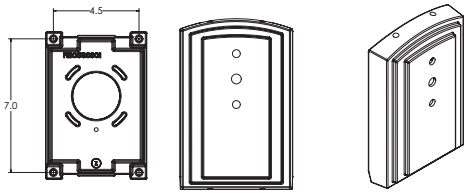




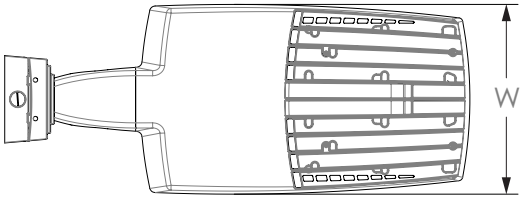


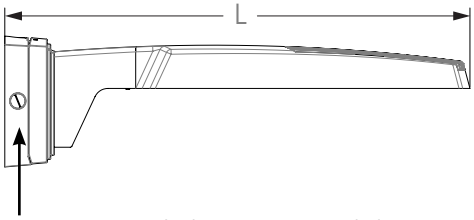
Length: 31.2" (79.2 cm)
Width: 13.4" (41.7 cm)
Height: 3.0" (7.6 cm) Main Body
8.9" (22.6 cm) Arm

Wall Bracket (WBA) Mounting Detail

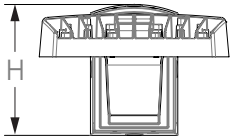


RSX2 with Wall Bracket with Surface Conduit Box (WBASC)



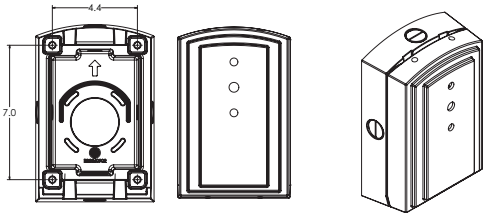


3/4" NPT taps with plugs - Qty (4) provided



Length: 32.8" (83.3 cm)
Width: 13.4" (41.7 cm)
Height: 3.0" (7.6 cm) Main Body
9.2" (23.4 cm) Arm

Surface Conduit Box (SCB) Mounting Detail



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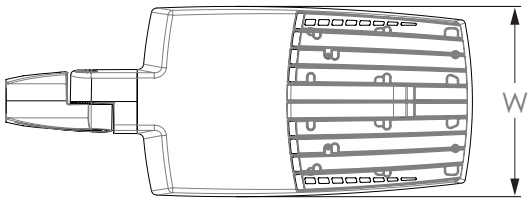
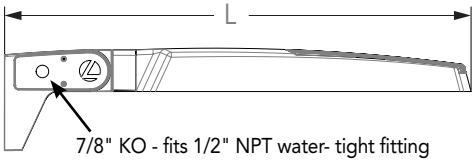
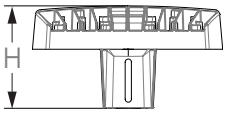
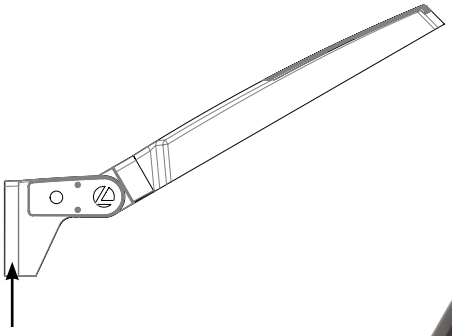
Dimensions

RSX2 with Adjustable Tilt Arm - Square or Round Pole (AASP or AARP)









Length: 32.8" (83.3 cm) **AASP**
33.8" (85.9 cm) **AARP**
Width: 13.4" (34.0 cm)
Height: 3.0" (7.6 cm) Main Body
7.2" (18.2 cm) Arm

NOTE:
RPA - Round Pole mount can also be used to mount on square poles by omitting the round pole adapter plate shown here.

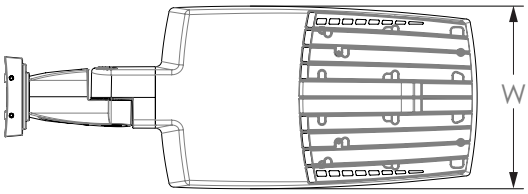


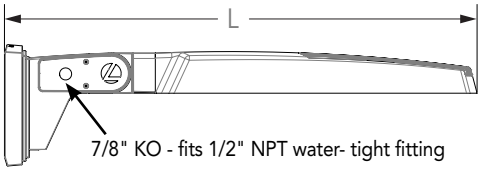
Notes

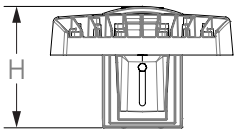
AASP: Requires 3.0" min. square pole for 1 at 90°. Requires 3.5" min. square pole for mounting 2, 3, 4 at 90°.

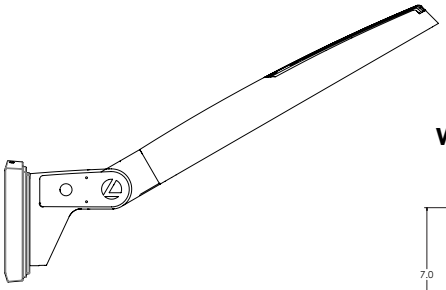
AARP: Requires 3.2" min. dia. round pole for 2, 3, 4 at 90°. Requires 3.0" min. dia. round pole for mounting 1 at 90°, 2 at 180°, 3 at 120°.

RSX2 with Adjustable Tilt Arm with Wall Bracket (AAWB)



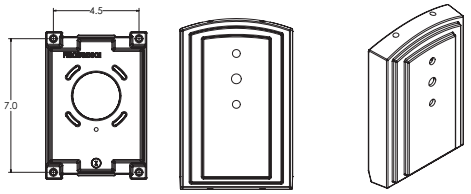






Length: 34.7" (88.0 cm)
Width: 13.4" (34.0 cm)
Height: 3.0" (7.6 cm) Main Body
8.9" (22.6 cm) Arm

Wall Bracket (WBA) Mounting Detail



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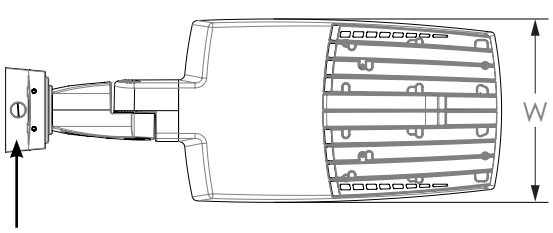
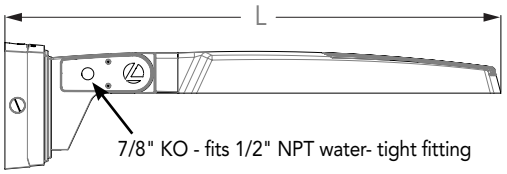
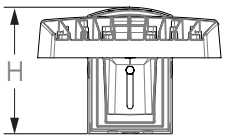
Dimensions

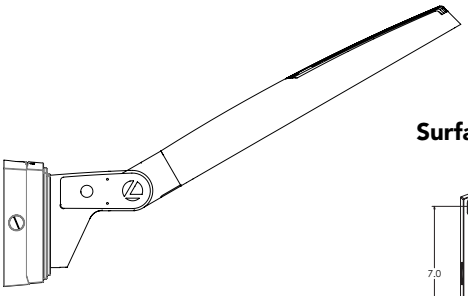
RSX2 with Adjustable Tilt Arm with Wall Bracket and Surface Conduit Box (AAWSC)



3/4" NPT taps
with plugs - Qty (4)
provided

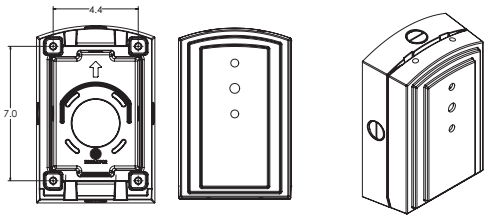




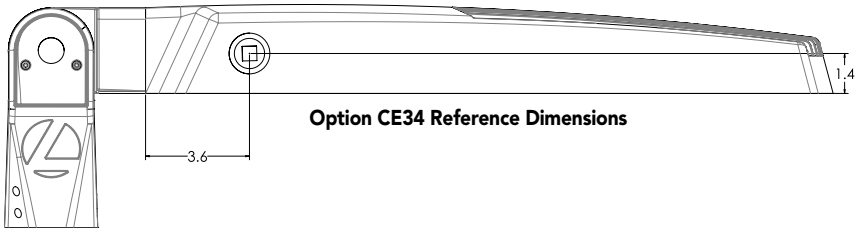


Length: 36.2" (91.9 cm)
Width: 13.4" (40.0 cm)
Height: 3.0" (7.6 cm) Main Body
9.2" (23.4 cm) Arm

Surface Conduit Box (SCB) Mounting Detail

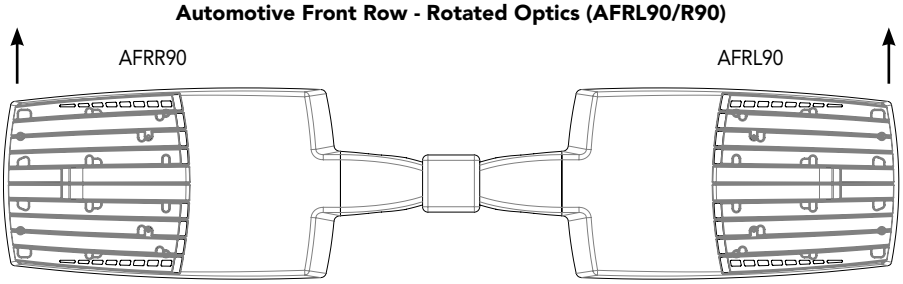


Additional Reference Drawings



Option CE34 Reference Dimensions

Automotive Front Row - Rotated Optics (AFRL90/R90)



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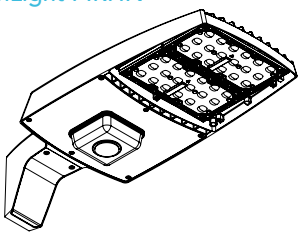
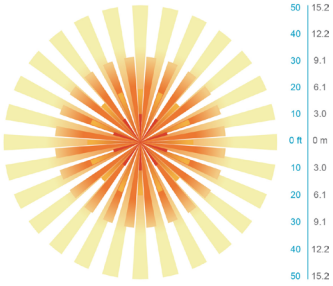
nLight Control - Sensor Coverage and Settings

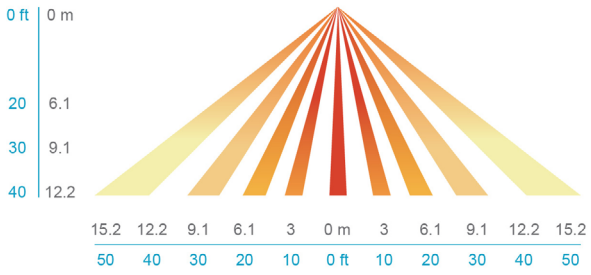
PIRHN nLight Sensor Coverage Pattern

nLight PIRHN





Top



Side

Motion Sensor Default Settings - Option PIRHN						
Option	Dimmed State (unoccupied)	High Level (when occupied)	Photocell Operation	Dwell Time (occupancy time delay)	Ramp-up Time (from unoccupied to occupied)	Ramp-down Time (from occupied to unoccupied)
PIRHN	Approx. 30% Output	100% Output	Enabled @ 1.5FC	7.5 minutes	3 seconds	5 minutes

*Note: PIRHN default settings including photocell set-point, high/low dim rates, and occupancy sensor time delay are all configurable using the Clairity Pro App.

FEATURES & SPECIFICATIONS

INTENDED USE
The RSX LED area family is designed to provide a long-lasting, energy-efficient solution for the one-for-one replacement of existing metal halide or high pressure sodium lighting. The RSX2 delivers 11,000 to 31,000 lumens and is ideal for replacing 250W to 1000W HID pole-mounted luminaires in parking lots and other area lighting applications.

CONSTRUCTION AND DESIGN
The RSX LED area luminaire features a rugged die-cast aluminum main body that uses heat-dissipating fins and flow-through venting to provide optimal thermal management that both enhances LED performance and extends component life. Integral "no drill" mounting arm allows the luminaire to be mounted on existing pole drillings, greatly reducing installation labor. The light engines and housing are sealed against moisture and environmental contaminants to IP66. The low-profile design results in a low EPA, allowing pole optimization. Vibration rated per ANSI C136.31: 3G Mountings: SPA, RPA, MA, IS, AASP, AARP rated for 3G vibration. 1.5G Mountings: WBA, WBASC, AAWB and AAWSC rated for 1.5G vibration.

FINISH
Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures superior adhesion as well as a minimum finish thickness of 3 mils. The result is a high-quality finish that is warrantied not to crack or peel.

OPTICS
Precision acrylic refractive lenses are engineered for superior application efficiency, distributing the light to where it is needed most. Available in short and wide pattern distributions including Type 2, Type 3, Type 3S, Type 4, Type 4S, Type 5, Type 5S, AFR (Automotive Front Row) and AFR rotated AFRR90 and ARFL90.

ELECTRICAL
Light engine(s) configurations consist of high-efficacy LEDs mounted on metal-core circuit boards and aluminum heat sinks to maximize heat dissipation. Light engines are IP66 rated. LED lumen maintenance is >L92/100,000 hours. CCT's of 3000K, 4000K and 5000K (minimum 70 CRI) are available. Class 1 electronic drivers ensure system power factor >90% and THD <20%. Easily serviceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

STANDARD CONTROLS
The RSX LED area luminaire has a wide assortment of control options. Dusk to dawn controls include MVOLT and 347V button-type photocells and NEMA twist-lock photocell receptacles.

nLIGHT AIR CONTROLS
The RSX LED area luminaire is also available with nLight® AIR for the ultimate in wireless control. This powerful controls platform provides out-of-the-box basic motion sensing with photocontrol functionality and is suitable for mounting heights up to 40 feet. No commissioning is required when using factory default settings that provide basic stand-alone motion occupancy dimming that is switched on and off with a built-in photocell. See chart above for motion sensor default out-of-box settings. For more advanced wireless functionality, such as group dimming, nLight AIR can be commissioned using a smartphone and the easy-to-use CLAIRITY app. nLight AIR equipped luminaries can be grouped, resulting in motion sensor and photocell group response without the need for additional equipment. Scheduled dimming with motion sensor over-ride can be achieved when used with the nLight Eclypse. Additional information about nLight Air can be found here.

INSTALLATION
Integral "no-drill" mounting arm allows for fast, easy mounting using existing pole drillings. Select the "SPA" option for square poles and the "RPA" option to mount to round poles. Note, the RPA mount can also be used for mounting to square poles by omitting the RPA adapter plate. Select the "MA" option to attach the luminaire to a 2 3/8" horizontal mast arm or the "IS" option for an adjustable slipfitter that mounts on a 2 3/8" OD tenon. The adjustable slipfitter has an integral junction box and offers easy installation. Can be tilted up to 90° above horizontal. Additional mountings are available including a wall bracket, adjustable tilt arm for direct-to-pole and wall and a surface conduit box for wall mount applications.

LISTINGS
CSA Certified to meet U.S. and Canadian standards. Suitable for wet locations. Rated for -40°C minimum ambient. DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

WARRANTY
5-year limited warranty. Complete warranty terms located at:
www.acuitybrands.com/support/customer-support/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

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RSX2 LED
Area Luminaire

Catalog Number: RSX2-LED-P3-40K-MVOLT-SPA

Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

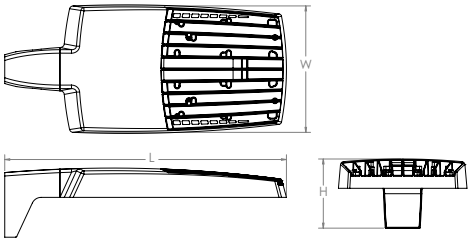
EPA (ft²@0°): 0.69 ft² (0.06 m²)

Length: 29.3" (74.4 cm) (SPA mount)

Width: 13.4" (34.0 cm)

Height: 3.0" (7.6 cm) Main Body 7.2" (18.3 cm) Arm

Weight (max): 39.0 lbs (17.7 kg)



Introduction

The new RSX LED Area family delivers maximum value by providing significant energy savings, long life and outstanding photometric performance at an affordable price. The RSX2 delivers 11,000 to 31,000 lumens allowing it to replace 250W to 1000W HID luminaires.

The RSX features an integral universal mounting mechanism that allows the luminaire to be mounted on most existing drill hole patterns. This "no-drill" solution provides significant labor savings. An easy-access door on the bottom of mounting arm allows for wiring without opening the electrical compartment. A mast arm adaptor, adjustable integral slipfitter and other mounting configurations are available.

Ordering Information

EXAMPLE: RSX2 LED P6 40K R3 MVOLT SPA DDBXD

RSX2 LED

Series	Performance Package	Color Temperature	Distribution	Voltage	Mounting
RSX2 LED	P1 P2 P3 P4 P5 P6	30K 3000K 40K 4000K 50K 5000K	R2 Type 2 Wide R3 Type 3 Wide R3S Type 3 Short R4 Type 4 Wide R4S Type 4 Short R5 Type 5 Wide [1] R5S Type 5 Short [1] AFR Automotive Front Row AFRR90 Automotive Front Row Right Rotated AFRL90 Automotive Front Row Left Rotated	MVOLT (120V-277V) [2] HVOLT (347V-480V) [3] **(use specific voltage for options as noted)** 120 [3] 277 [4] 208 [3] 347 [4] 240 [3] 480 [4]	SPA Square pole mounting (3.0" min. SQ pole for 1 at 90°, 3.5" min. SQ pole for 2, 3, 4 at 90°) RPA Round pole mounting (3.2" min. dia. RND pole for 2, 3, 4 at 90°, 3.0" min. dia. RND pole for 1 at 90°, 2 at 180°, 3 at 120°) MA Mast arm adaptor (fits 2-3/8" OD horizontal tenon) IS Adjustable slipfitter (fits 2-3/8" OD tenon) [5] WBA Wall bracket [1] WBASC Wall bracket with surface conduit box AASP Adjustable tilt arm square pole mounting [5] AARP Adjustable tilt arm round pole mounting [5] AAWB Adjustable tilt arm with wall bracket [5] AAWSC Adjustable tilt arm wall bracket and surface conduit box [5]

Options

Shipped Installed

HS	House-side shield [6]
PE	Photocontrol, button style [7,8]
PEX	Photocontrol external threaded, adjustable [8,9]
PER7	Seven-wire twist-lock receptacle only (no controls) [8,10,11,12]
CE34	Conduit entry 3/4" NPT (Qty 2)
SF	Single fuse (120, 277, 347) [4]
DF	Double fuse (208, 240, 480) [4]
SPD20KV	20KV Surge pack (10KV standard)
FAO	Field adjustable output [8,12]
DMG	0-10V dimming extend out back of housing for external control (control ordered separate) [8,12]
DS	Dual switching [8,13]

Shipped Installed

***Standalone and Networked Sensors/Controls (factory default settings, see table page 9)**

NLTAIR2	nLight AIR generation 2 [12,14,15]
PIRHN	Networked, Bi-Level motion/ambient sensor (for use with NLTAIR2) [12,15,16]

*Note: PIRHN with nLight Air can be used as a standalone dimming sensor with out-of-box settings or as a wireless networked solution. See factory default settings table. Sensor coverage pattern is affected when luminaire is tilted.

Shipped Separately (requires some field assembly)

EGS	External glare shield [5]
EGFV	External glare full visor (360° around light aperture) [6]
BS	Bird spikes [17]

Finish

DDBXD	Dark Bronze
DBLXD	Black
DNAXD	Natural Aluminum
DWHXD	White
DDBTXD	Textured Dark Bronze
DBLBXD	Textured Black
DNATXD	Textured Natural Aluminum
DWHGXD	Textured White

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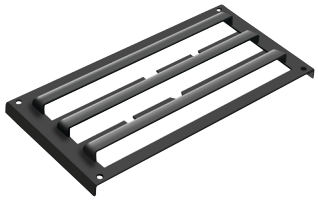
Ordering Information

Accessories
Ordered and shipped separately.

RSX2HS	RSX2 House side shield (includes 2 shields)
RSX2EGS (FINISH) U	External glare shield (specify finish)
RSX2HSAFRR (FINISH) U	RSX2 House side shields for AFR rotated optics (includes 2 shields)
RSX2EGFV (FINISH) U	External glare full visor (specify finish)
RSXRPA (FINISH) U	RSX Universal round pole adaptor plate (specify finish)
RSXWBA (FINISH) U	RSX WBA wall bracket (specify finish) [1]
RSXSCB (FINISH) U DLL127F 1.5 JU	RSX Surface conduit box (specify finish, for use with WBA, WBA not included) Photocell -SSL twist-lock (120-277V) [18]
DLL347F 1.5 CUL JU	Photocell -SSL twist-lock (347V) [18]
DLL480F 1.5 CUL JU	Photocell -SSL twist-lock (480V) [18]
DSHORT SBK U	Shorting cap [18]

NOTES
1. Any Type 5 distribution, is not available with WBA.
2. MVOLT driver operates on any line voltage from 120-277V (50/60 Hz).
3. HVOLT driver operates on any line voltage from 347-480V (50/60 Hz).
4. Single fuse (SF) requires 120V, 277V or 347V. Double fuse (DF) requires 208V, 240V or 480V.
5. Maximum tilt is 90° above horizontal.
6. It may be ordered as an accessory.
7. Requires MVOLT or 347V.
8. Not available in combination with other light sensing control options (following options cannot be combined: PE, PEX, PER7, FAO, DMG, DS, PIRHN).
9. Requires 120V, 208V, 240V, 277V or 347V.
10. Twistlock photocell ordered and shipped as a separate line item from Acuity Brands Controls. See accessories. Shorting Cap included. Dimming leads capped for future use.
11. For units with option PER7, the mounting must be restricted to +/- 45° from horizontal aim per ANSI C136.10-2010.
12. Two or more of the following options cannot be combined including DMG, DS, PER7, FAO and PIRHN.
13. DS only available on performance package P4, P5 and P6.
14. Must be ordered with PIRHN.
15. Requires MVOLT or HVOLT.
16. Must be ordered with NLTAIR2. For additional information on PIRHN visit here.
17. Must be ordered with fixture for factory pre-drilling.
18. Requires luminaire to be specified with PER7 option. Ordered and shipped as a separate line item from Acuity Brands Controls.

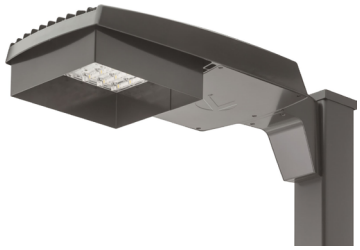
External Shields



House Side Shield



External Glare Shield

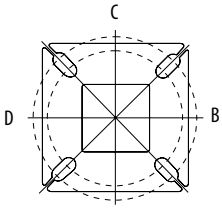


External 360 Full Visor

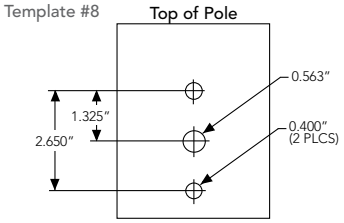
Pole/Mounting Informatiion

Accessories including bullhorns, cross arms and other adpaters are available under the accessories tab at Lithonia's Outdoor Poles and Arms product page. Click here to visit Accessories.

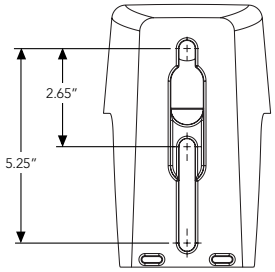
HANDHOLE ORIENTATION



RSX POLE DRILLING



RSX STANDARD ARM & ADJUSTABLE ARM



Round Tenon Mount - Pole Top Slipfitters

Tenon O.D.	RSX Mounting	Single	2 at 180°	2 at 90°	3 at 120°	3 at 90°	4 at 90°
2 - 3/8"	RPA, AARP	AS3-5 190	AS3-5 280	AS3-5 290	AS3-5 320	AS3-5 390	AS3-5 490
2 - 7/8"	RPA, AARP	AST25-190	AST25-280	AST25-290	AST25-320	AST25-390	AST25-490
4"	RPA, AARP	AST35-190	AST35-280	AST35-290	AST35-320	AST35-390	AST35-490

Drill/Side Location by Configuration Type

Drilling Template	Mounting Option	Single	2 @ 180	2 @ 90	3 @ 120	3 @ 90	4 @ 90
	Head Location	Side B	Side B & D	Side B & C	Round Pole Only	Side B, C & D	Side A, B, C & D
#8	**Drill Nomenclature**	DM19AS	DM28AS	DM29AS	DM32AS	DM39AS	DM49AS

RSX2 - Luminaire EPA

*Includes luminaire and integral mounting arm. Other tenons, arms, brackets or other accessories are not included in this EPA data.

Fixture Quantity & Mounting Configuration		Single	2 @ 90	2 @ 180	3 @ 90	3 @ 120	4 @ 90	2 Side by Side	3 Side by Side	4 Side by Side
Mounting Type	**Tilt**									
SPA - Square Pole Adaptor	0°	0.69	1.22	1.27	1.8	1.61	2.39	1.37	2.06	2.74
RPA - Round Pole Adaptor		0.74	1.27	1.37	1.9	1.71	2.49	1.42	2.16	2.84
MA - Mast Arm Adaptor		0.61	1.14	1.11	1.64	1.45	2.23	1.29	1.9	2.58
IS - Integral Slipfitter AASP/AARP - Adjustable Arm Square/Round Pole	0°	0.69	1.22	1.27	1.8	1.61	2.39	1.37	2.06	2.74
	10°	0.53	1.06	1.05	1.58	1.37	2.08	1.06	1.59	2.12
	20°	0.52	1.02	1.03	1.52	1.33	2.02	1.03	1.55	2.07
	30°	0.64	1.11	1.18	1.63	1.45	2.21	1.27	1.91	2.54
	40°	0.81	1.21	1.35	1.74	1.65	2.39	1.62	2.43	3.23
	45°	0.91	1.25	1.5	1.81	1.75	2.48	1.82	2.73	3.64
	50°	1.34	1.83	2.17	2.61	2.56	3.62	2.68	4.02	5.36
	60°	2.2	2.97	3.57	4.24	4.17	5.89	4.41	6.61	8.82
	70°	2.86	4.13	4.7	5.89	5.71	8.21	5.71	8.57	11.42
	80°	3.4	5.13	5.67	7.34	7.09	10.21	6.79	10.19	13.59
	90°	3.85	5.96	6.55	8.58	8.31	11.88	7.70	11.56	15.41

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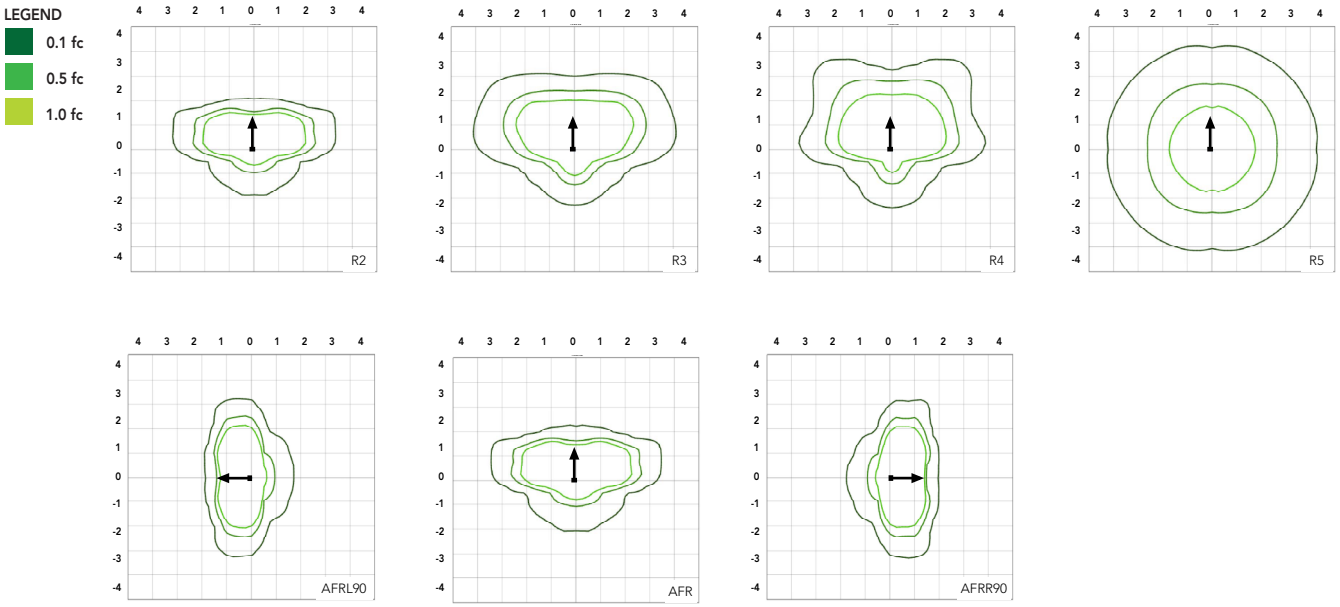
Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit Lithonia Lighting's RSX Area homepage.

Isofootcandle plots for the RSX2 LED P6 40K. Distances are in units of mounting height (30').



Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-50°C (32-122°F).

Ambient	Ambient	Lumen Multiplier
0°C	32°F	1.05
5°C	41°F	1.04
10°C	50°F	1.03
15°C	59°F	1.02
20°C	68°F	1.01
25°C	77°F	1.00
30°C	86°F	0.99
35°C	95°F	0.98
40°C	104°F	0.97
45°C	113°F	0.96
50°C	122°F	0.95

Electrical Load

		Current (A)					
Performance Package	System Watts (W)	120V	208V	240V	277V	347V	480V
P1	71W	0.59	0.34	0.30	0.26	0.20	0.15
P2	111W	0.93	0.53	0.46	0.40	0.32	0.23
P3	147W	1.23	0.70	0.61	0.53	0.42	0.31
P4	187W	1.55	0.90	0.78	0.68	0.53	0.38
P5	210W	1.75	1.01	0.87	0.76	0.60	0.44
P6	244W	2.03	1.17	1.01	0.88	0.70	0.51

Projected LED Lumen Maintenance

Operating Hours	50,000	75,000	100,000
Lumen Maintenance Factor	>0.97	>0.95	>0.92

Values calculated according to IESNA TM-21-11 methodology and valid up to 40°C.

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Performance Data

Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Performance Package	System Watts	Distribution. Type	30K (3000K, 70 CRI)					40K (4000K, 70 CRI)					50K (5000K, 70 CRI)				
			Lumens	B	U	G	LPW	Lumens	B	U	G	LPW	Lumens	B	U	G	LPW
P1	71W	R2	10,040	2	0	1	139	11,031	2	0	1	153	11,031	2	0	1	153
		R3	10,005	2	0	2	141	10,992	2	0	2	155	10,992	2	0	2	155
		R3S	10,271	2	0	2	143	11,285	2	0	2	157	11,285	2	0	2	157
		R4	10,136	2	0	2	143	11,136	2	0	2	157	11,136	2	0	2	157
		R4S	9,779	2	0	2	138	10,744	2	0	2	151	10,744	2	0	2	151
		R5	10,271	4	0	2	145	11,285	4	0	2	159	11,285	4	0	2	159
		R5S	10,544	3	0	1	149	11,585	3	0	2	163	11,585	3	0	2	163
		AFR	10,026	2	0	1	141	11,016	2	0	1	155	11,016	2	0	1	155
		AFRR90	10,122	3	0	2	140	11,121	3	0	2	154	11,121	3	0	2	154
		AFRL90	10,164	3	0	2	141	11,167	3	0	2	155	11,167	3	0	2	155
P2	111W	R2	15,712	2	0	2	138	17,263	2	0	2	151	17,263	2	0	2	151
		R3	15,657	2	0	3	141	17,202	3	0	3	155	17,202	3	0	3	155
		R3S	16,075	2	0	2	141	17,661	2	0	2	155	17,661	2	0	2	155
		R4	15,862	2	0	3	143	17,427	2	0	3	157	17,427	2	0	3	157
		R4S	15,304	2	0	2	138	16,815	2	0	2	151	16,815	2	0	2	151
		R5	16,075	4	0	2	145	17,661	5	0	3	159	17,661	5	0	3	159
		R5S	16,502	4	0	2	149	18,130	4	0	2	163	18,130	4	0	2	163
		AFR	15,691	2	0	2	141	17,240	2	0	2	155	17,240	2	0	2	155
		AFRR90	15,841	3	0	3	139	17,404	4	0	3	153	17,404	4	0	3	153
		AFRL90	15,907	3	0	3	139	17,477	4	0	3	153	17,477	4	0	3	153
P3	147W	R2	19,855	3	0	2	132	21,814	3	0	2	145	21,814	3	0	2	145
		R3	19,785	3	0	3	135	21,737	3	0	4	148	21,737	3	0	4	148
		R3S	20,312	3	0	3	135	22,317	3	0	3	149	22,317	3	0	3	149
		R4	20,044	3	0	3	136	22,022	3	0	4	150	22,022	3	0	4	150
		R4S	19,339	3	0	3	132	21,247	3	0	3	145	21,247	3	0	3	145
		R5	20,313	5	0	3	138	22,317	5	0	3	152	22,317	5	0	3	152
		R5S	20,852	4	0	2	142	22,910	4	0	2	156	22,910	4	0	2	156
		AFR	19,828	3	0	2	135	21,785	3	0	2	148	21,785	3	0	2	148
		AFRR90	20,017	4	0	3	133	21,992	4	0	3	147	21,992	4	0	3	147
		AFRL90	20,101	4	0	3	134	22,084	4	0	3	147	22,084	4	0	3	147
P4	187W	R2	22,836	3	0	2	120	25,090	3	0	2	132	25,090	3	0	2	132
		R3	22,756	3	0	4	122	25,002	3	0	4	134	25,002	3	0	4	134
		R3S	23,363	3	0	3	123	25,668	3	0	3	135	25,668	3	0	3	135
		R4	23,054	3	0	4	123	25,329	3	0	4	135	25,329	3	0	4	135
		R4S	22,243	3	0	3	119	25,059	3	0	3	134	25,059	3	0	3	134
		R5	23,363	5	0	3	125	25,669	5	0	4	137	25,669	5	0	4	137
		R5S	23,983	4	0	2	128	26,350	4	0	2	141	26,350	4	0	2	141
		AFR	22,806	3	0	2	122	25,056	3	0	2	134	25,056	3	0	2	134
		AFRR90	23,023	4	0	3	121	25,295	4	0	3	133	25,295	4	0	3	133
		AFRL90	23,120	4	0	3	122	25,401	4	0	3	134	25,401	4	0	3	134
P5	210W	R2	26,141	3	0	2	122	28,721	3	0	2	135	28,721	3	0	2	135
		R3	26,049	3	0	4	124	28,620	3	0	4	136	28,620	3	0	4	136
		R3S	26,744	3	0	3	125	29,383	3	0	4	138	29,383	3	0	4	138
		R4	26,390	3	0	4	126	28,994	3	0	4	138	28,994	3	0	4	138
		R4S	25,462	3	0	3	121	27,974	3	0	3	133	27,974	3	0	3	133
		R5	26,744	5	0	4	127	29,383	5	0	4	140	29,383	5	0	4	140
		R5S	27,454	4	0	2	131	30,163	4	0	2	144	30,163	4	0	2	144
		AFR	26,106	3	0	2	124	28,682	3	0	2	137	28,682	3	0	2	137
		AFRR90	26,354	4	0	3	123	28,955	5	0	3	136	28,955	5	0	3	136
		AFRL90	26,465	4	0	3	124	29,077	5	0	3	136	29,077	5	0	3	136
P6	244W	R2	27,646	3	0	2	112	30,374	3	0	2	123	30,374	3	0	2	123
		R3	27,549	3	0	4	113	30,267	3	0	4	124	30,267	3	0	4	124
		R3S	28,283	3	0	3	115	31,075	3	0	4	126	31,075	3	0	4	126
		R4	27,909	3	0	4	114	30,663	3	0	4	126	30,663	3	0	4	126
		R4S	26,928	3	0	3	110	29,585	3	0	3	121	29,585	3	0	3	121
		R5	28,284	5	0	4	116	31,075	5	0	4	127	31,075	5	0	4	127
		R5S	29,035	4	0	2	119	31,900	5	0	3	131	31,900	5	0	3	131
		AFR	27,608	3	0	2	112	30,332	3	0	2	123	30,332	3	0	2	123
		AFRR90	27,872	4	0	3	113	30,622	5	0	3	124	30,622	5	0	3	124
		AFRL90	27,989	4	0	3	113	30,751	5	0	3	125	30,751	5	0	3	125

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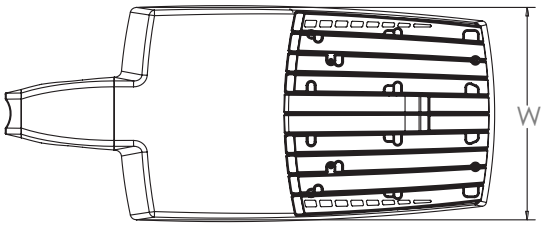
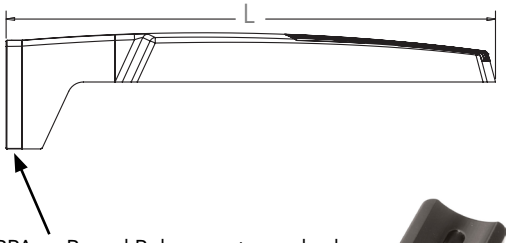
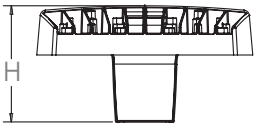
Dimensions

RSX2 with Round Pole Adapter (RPA)





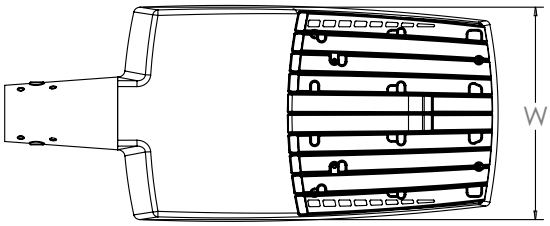


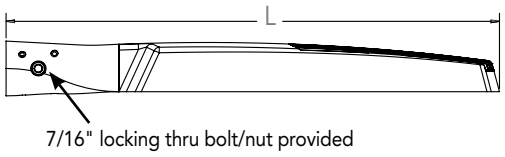
Length: 30.3" (77.0 cm)
Width: 13.4" (34.0 cm)
Height: 3.0" (7.6 cm) Main Body
7.2" (18.3 cm) Arm

Note: RPA — Round Pole mount can also be used to mount on square poles by omitting the round pole adapter plate shown here.



RSX2 with Mast Arm Adapter (MA)

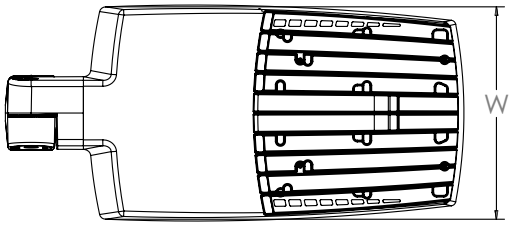


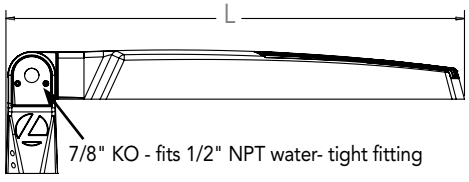


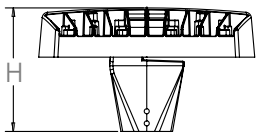


Length: 30.6" (77.7 cm)
Width: 13.4" (34.0 cm)
Height: 3.0" (7.6 cm) Main Body
3.5" (8.9 cm) Arm

RSX2 with Adjustable Slipfitter (IS)







Length: 28.3" (71.9 cm)
Width: 13.4" (34.0 cm)
Height: 3.0" (7.6 cm) Main Body
7.6" (19.3 cm) Arm

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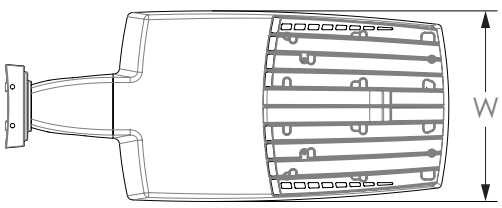
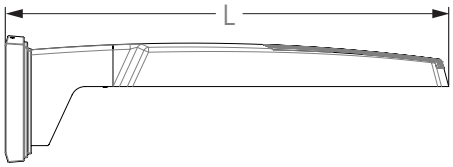
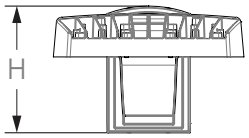
Dimensions

RSX2 with Wall Bracket (WBA)

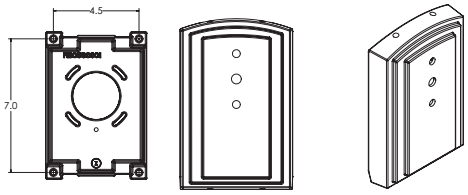




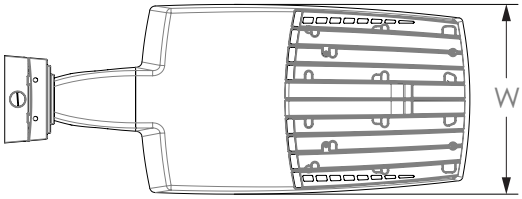


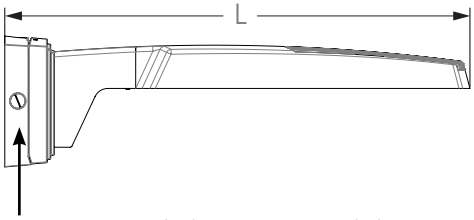
Length: 31.2" (79.2 cm)
Width: 13.4" (41.7 cm)
Height: 3.0" (7.6 cm) Main Body
8.9" (22.6 cm) Arm

Wall Bracket (WBA) Mounting Detail

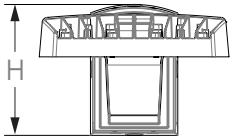


RSX2 with Wall Bracket with Surface Conduit Box (WBASC)



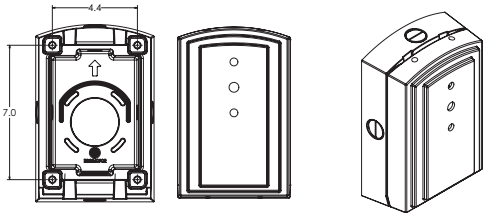


3/4" NPT taps with plugs - Qty (4) provided



Length: 32.8" (83.3 cm)
Width: 13.4" (41.7 cm)
Height: 3.0" (7.6 cm) Main Body
9.2" (23.4 cm) Arm

Surface Conduit Box (SCB) Mounting Detail



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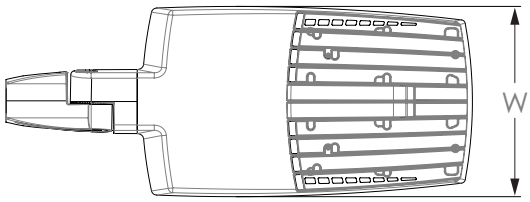
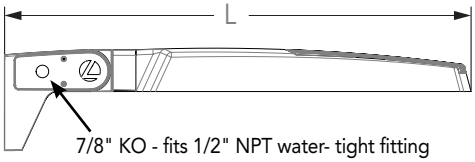
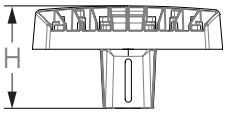
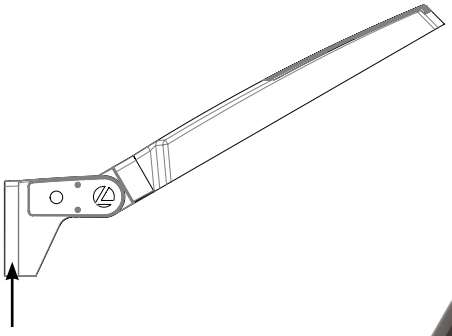
Dimensions

RSX2 with Adjustable Tilt Arm - Square or Round Pole (AASP or AARP)









Length: 32.8" (83.3 cm) **AASP**
33.8" (85.9 cm) **AARP**
Width: 13.4" (34.0 cm)
Height: 3.0" (7.6 cm) Main Body
7.2" (18.2 cm) Arm

NOTE:
RPA - Round Pole mount can also be used to mount on square poles by omitting the round pole adapter plate shown here.

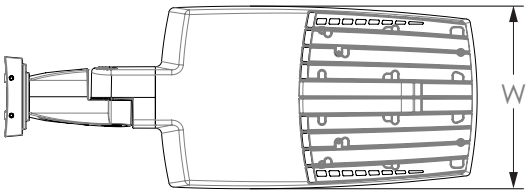


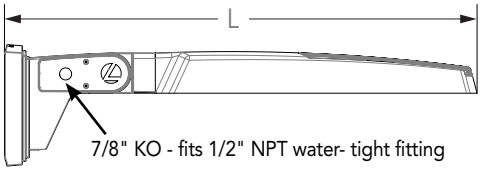
Notes

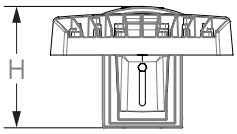
AASP: Requires 3.0" min. square pole for 1 at 90°. Requires 3.5" min. square pole for mounting 2, 3, 4 at 90°.

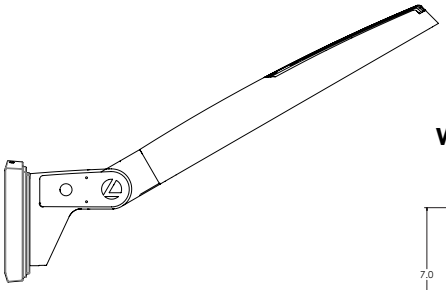
AARP: Requires 3.2" min. dia. round pole for 2, 3, 4 at 90°. Requires 3.0" min. dia. round pole for mounting 1 at 90°, 2 at 180°, 3 at 120°.

RSX2 with Adjustable Tilt Arm with Wall Bracket (AAWB)



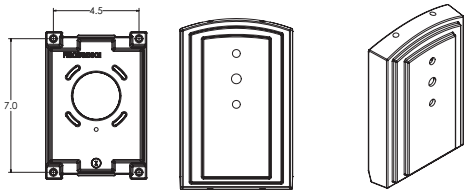






Length: 34.7" (88.0 cm)
Width: 13.4" (34.0 cm)
Height: 3.0" (7.6 cm) Main Body
8.9" (22.6 cm) Arm

Wall Bracket (WBA) Mounting Detail



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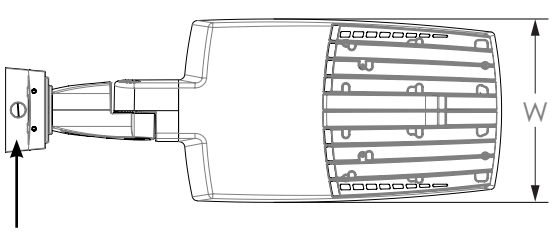
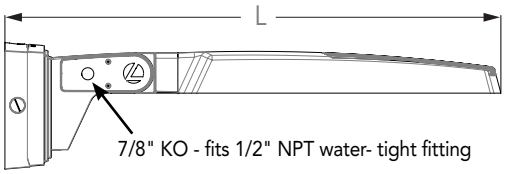
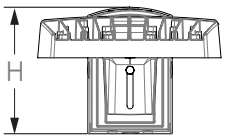
Dimensions

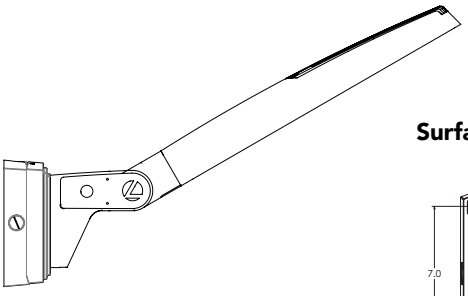
RSX2 with Adjustable Tilt Arm with Wall Bracket and Surface Conduit Box (AAWSC)



3/4" NPT taps
with plugs - Qty (4)
provided

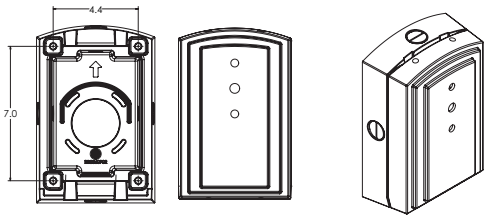




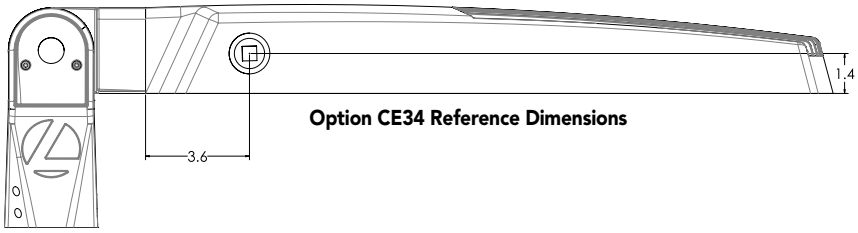


Length: 36.2" (91.9 cm)
Width: 13.4" (40.0 cm)
Height: 3.0" (7.6 cm) Main Body
9.2" (23.4 cm) Arm

Surface Conduit Box (SCB) Mounting Detail

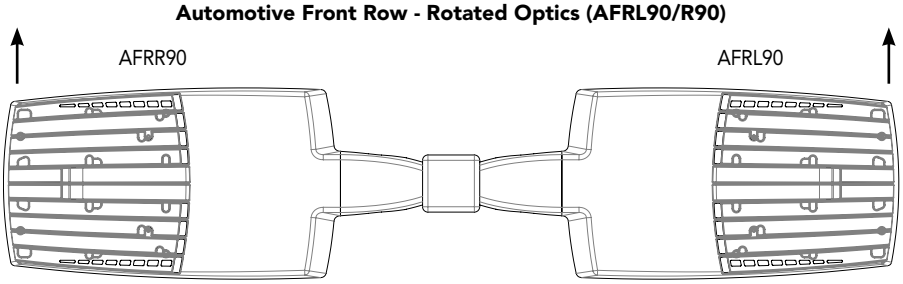


Additional Reference Drawings



Option CE34 Reference Dimensions

Automotive Front Row - Rotated Optics (AFRL90/R90)



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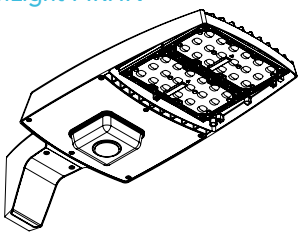
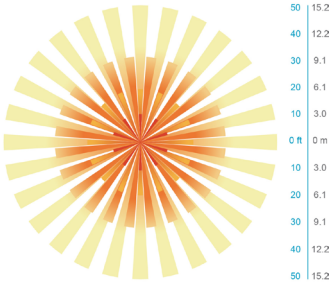
nLight Control - Sensor Coverage and Settings

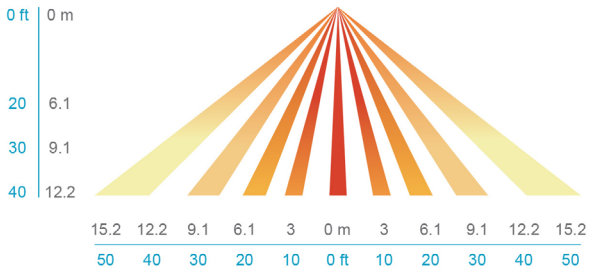
PIRHN nLight Sensor Coverage Pattern

nLight PIRHN





Top



Side

Motion Sensor Default Settings - Option PIRHN						
Option	Dimmed State (unoccupied)	High Level (when occupied)	Photocell Operation	Dwell Time (occupancy time delay)	Ramp-up Time (from unoccupied to occupied)	Ramp-down Time (from occupied to unoccupied)
PIRHN	Approx. 30% Output	100% Output	Enabled @ 1.5FC	7.5 minutes	3 seconds	5 minutes

*Note: PIRHN default settings including photocell set-point, high/low dim rates, and occupancy sensor time delay are all configurable using the Clairity Pro App.

FEATURES & SPECIFICATIONS

INTENDED USE
The RSX LED area family is designed to provide a long-lasting, energy-efficient solution for the one-for-one replacement of existing metal halide or high pressure sodium lighting. The RSX2 delivers 11,000 to 31,000 lumens and is ideal for replacing 250W to 1000W HID pole-mounted luminaires in parking lots and other area lighting applications.

CONSTRUCTION AND DESIGN
The RSX LED area luminaire features a rugged die-cast aluminum main body that uses heat-dissipating fins and flow-through venting to provide optimal thermal management that both enhances LED performance and extends component life. Integral "no drill" mounting arm allows the luminaire to be mounted on existing pole drillings, greatly reducing installation labor. The light engines and housing are sealed against moisture and environmental contaminants to IP66. The low-profile design results in a low EPA, allowing pole optimization. Vibration rated per ANSI C136.31: 3G Mountings: SPA, RPA, MA, IS, AASP, AARP rated for 3G vibration. 1.5G Mountings: WBA, WBASC, AAWB and AAWSC rated for 1.5G vibration.

FINISH
Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures superior adhesion as well as a minimum finish thickness of 3 mils. The result is a high-quality finish that is warrantied not to crack or peel.

OPTICS
Precision acrylic refractive lenses are engineered for superior application efficiency, distributing the light to where it is needed most. Available in short and wide pattern distributions including Type 2, Type 3, Type 3S, Type 4, Type 4S, Type 5, Type 5S, AFR (Automotive Front Row) and AFR rotated AFRR90 and ARFL90.

ELECTRICAL
Light engine(s) configurations consist of high-efficacy LEDs mounted on metal-core circuit boards and aluminum heat sinks to maximize heat dissipation. Light engines are IP66 rated. LED lumen maintenance is >L92/100,000 hours. CCT's of 3000K, 4000K and 5000K (minimum 70 CRI) are available. Class 1 electronic drivers ensure system power factor >90% and THD <20%. Easily serviceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

STANDARD CONTROLS
The RSX LED area luminaire has a wide assortment of control options. Dusk to dawn controls include MVOLT and 347V button-type photocells and NEMA twist-lock photocell receptacles.

nLIGHT AIR CONTROLS
The RSX LED area luminaire is also available with nLight® AIR for the ultimate in wireless control. This powerful controls platform provides out-of-the-box basic motion sensing with photocontrol functionality and is suitable for mounting heights up to 40 feet. No commissioning is required when using factory default settings that provide basic stand-alone motion occupancy dimming that is switched on and off with a built-in photocell. See chart above for motion sensor default out-of-box settings. For more advanced wireless functionality, such as group dimming, nLight AIR can be commissioned using a smartphone and the easy-to-use CLAIRITY app. nLight AIR equipped luminaries can be grouped, resulting in motion sensor and photocell group response without the need for additional equipment. Scheduled dimming with motion sensor over-ride can be achieved when used with the nLight Eclypse. Additional information about nLight Air can be found here.

INSTALLATION
Integral "no-drill" mounting arm allows for fast, easy mounting using existing pole drillings. Select the "SPA" option for square poles and the "RPA" option to mount to round poles. Note, the RPA mount can also be used for mounting to square poles by omitting the RPA adapter plate. Select the "MA" option to attach the luminaire to a 2 3/8" horizontal mast arm or the "IS" option for an adjustable slipfitter that mounts on a 2 3/8" OD tenon. The adjustable slipfitter has an integral junction box and offers easy installation. Can be tilted up to 90° above horizontal. Additional mountings are available including a wall bracket, adjustable tilt arm for direct-to-pole and wall and a surface conduit box for wall mount applications.

LISTINGS
CSA Certified to meet U.S. and Canadian standards. Suitable for wet locations. Rated for -40°C minimum ambient. DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

WARRANTY
5-year limited warranty. Complete warranty terms located at:
www.acuitybrands.com/support/customer-support/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

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LIGHTING FIXTURE SCHEDULE - ECC (KUNA)

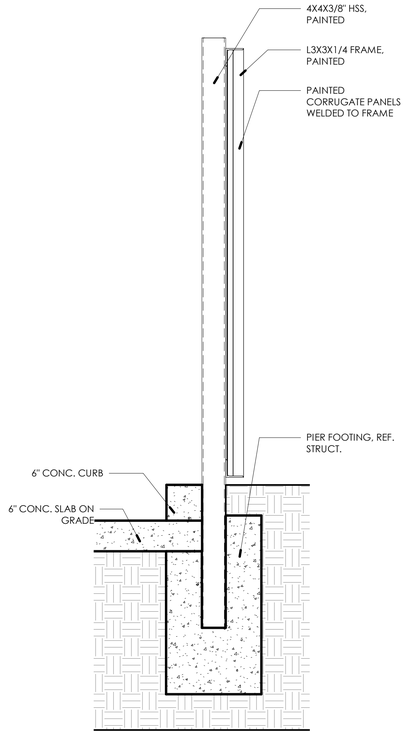
TYPE	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	MOUNTING	LAMPS	VOLTAGE	REMARKS
AL1	POLE MOUNTED SQUARE SOFT CORNER ALUMINUM HOUSING,GASKETED LENS, LED TYPE IV - WIDE DISTRIBUTION SINGLE HEAD, 25 FT. POLE W/ BASE COVER	LITHONIA NO.	RSX2-LED-P3-40K-R3-MVOLT-SPA-DDBX	POLE ARM MOUNTED	LED 22317 LMS 40 K 147 W	120/277	1
AL2	POLE MOUNTED SQUARE SOFT CORNER ALUMINUM HOUSING,GASKETED LENS, LED TYPE V - WIDE DISTRIBUTION SINGLE HEAD, 25 FT. POLE W/ BASE COVER	LITHONIA NO.	RSX2-LED-P3-40K-R5-MVOLT-SPA-DDBX	POLE ARM MOUNTED	LED 21737 LMS 40 K 147 W	120/277	1
WL1	EXTERIOR WALL LED	BROWNLEE NO.	7037-C37-40K	EXTERIOR WALL	LED 4380 LMS 3500K 35 W	120/277	1
WL1E	EXTERIOR WALL LED WITH EMERGECNY BATTERY PACK	BROWNLEE NO.	7037-C37-40K-BBI	EXTERIOR WALL	LED 4380 LMS 3500K 35 W	120/277	1,2

REMARKS

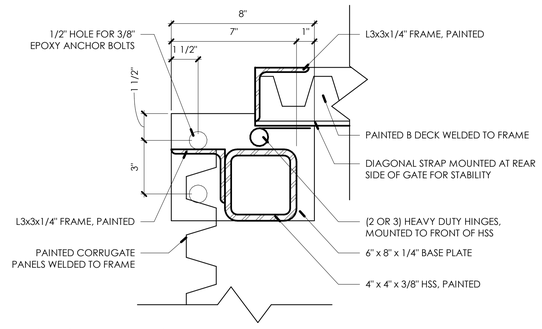
1. OR PRE-BID APPROVED EQUAL
2. PROVIDE WITH BODINE EMERGENCY DRIVER SUITABLE FOR LAMP TYPE AND HALF THE LAMP LUMEN OUTPUT, PROVIDE WITH SELF TEST LIGHT AND PUSHBUTTON.
3. SEE LIGHTING DRAWINGS AND LIGHITNG CONTROL PANEL SCHEDULES FOR ADDITIONAL INFORMATION INCLUDING NUMBER AND TYPE OF RELAYS
   THE ELECTRICAL CONTRACTOR SHALL INCLUDE FACTORY START-UP AND PROGRAMMING OF THE LIGHTING CONTOL SYSTEM AS WELL AS COMMISSIONING
4. WHEN INSTALLED IN AN INSULATED CEILING, FIXTURE TO BE INSTALLED WITH FIRE RATED OR IC RATED ENCLOSURE OR HAVE SHEET ROCK ENCLOSURE BUILT PER DETAIL

NOTE TO BIDDERS:

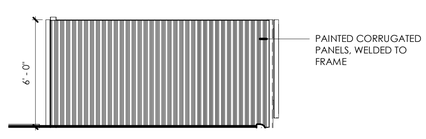
1. BID ONLY PRODUCTS THAT ARE SPECIFIED OR APPORVED VIA ADDENDUM. SUBMITTED ITEMS NOT APPROVED VIA ADDENDUM WILL BE REJECTED
2. PACKAGING OF LIGHT FIXTURES WITH OTHER SYSTEMS IS NOT ALLOWED
3. WHEN ONLY ONE PRODUCT IS APPROVED FOR BIDDING, THE PRICE FOR THAT ITEM SHALL BE BROKEN OUT SEPERATELY WHEN SUBMITTING PRICING
   TO THE VARIOUS DISTRIBUTORS AND/OR CONTRACTORS AS REQUESTED.



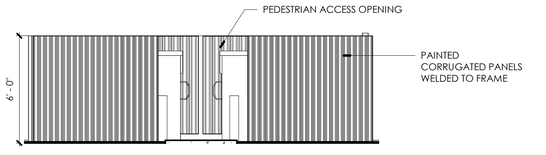
6 TRASH ENCLOSURE WALL SECTION
1" = 1'-0"



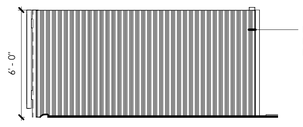
11 TRASH GATE DETAIL
3" = 1'-0"



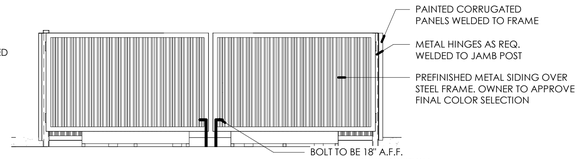
2 TRASH ENCLOSURE - NORTH
1/4" = 1'-0"



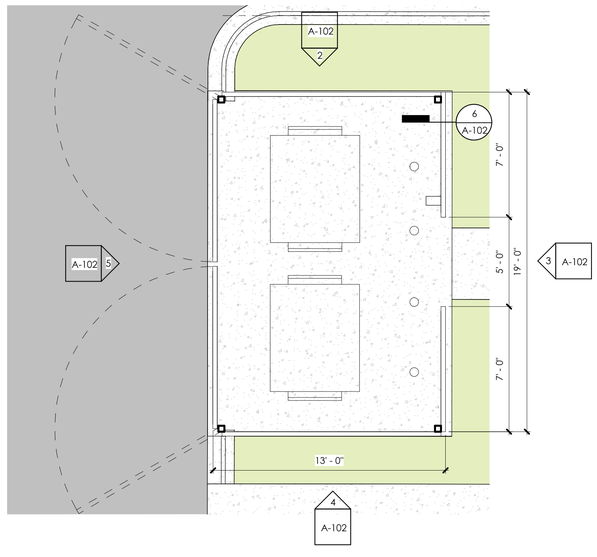
3 TRASH ENCLOSURE - EAST
1/4" = 1'-0"



4 TRASH ENCLOSURE - SOUTH
1/4" = 1'-0"



5 TRASH ENCLOSURE - WEST
1/4" = 1'-0"



1 EFP - TRASH ENCLOSURE
1/4" = 1'-0"

neUdesign ARCHITECTURE
725 E 2nd St
Meridian, ID 83642
208.884.2824

CONSULTANT

THIS DOCUMENT IS THE PROPERTY OF NEUDESIGN ARCHITECTURE, LLC AND IS NOT TO BE DUPLICATED WITHOUT WRITTEN AUTHORIZATION.

© NEUDESIGN ARCHITECTURE LLC

CLIENT: EAGLE CHRISTIAN CHURCH
EAGLE CHRISTIAN - KUNA
KUNA, ID

PROFESSIONAL SEAL

NOT FOR PERMIT

NO.	DESCRIPTION	DATE
A	DESIGN REVIEW	5/18/20

ENLARGED SITE PLAN AND DETAILS

A-102

JOB NUMBER 19301
DRAWN BY JDB

City of Kuna
P.O. Box 13
Kuna, Idaho 83634

Phone: (208) 922-5274
Fax: (208) 922-5989
Web: www.kunacity.id.gov

City of Kuna

COMMITMENT TO PROPERTY POSTING

Per City Code 5-1A-8, the applicant for all applications requiring a public hearing shall post the subject property not less than ten (10) days prior to the hearing. The applicant shall post a copy of the public hearing notice or the application(s) on the property under consideration.

The applicant shall submit proof of property posting in the form of a notarized statement and a photograph of the posting to the City no later than seven (7) days prior to the public hearing attesting to where and when the sign(s) were posted. Unless such Certificate is received by the required date, the hearing will be continued.

The sign(s) shall be removed no later than three (3) days after the end of the public hearing for which the sign(s) had been posted.

I am aware of the above requirements and will comply with the posting requirements as stated in Kun a City Code 5-1A-8.

Applicant/agent signature: _____ Date: 5/21/20

RENNISON
COMPANIES

April 22, 2020

Re: NEIGHBORHOOD MEETING
Development of New Church at the NW Corner of Ten Mile & Ardell, Kuna, ID

Dear Neighbor,

We are assisting a Treasure Valley-based church in developing an exciting new project in your area, and we would like to share some details with you during an on-site meeting in a few weeks. Our client wishes to construct a new church facility on the 9.5 acres (approx.) of land located at the northwest corner of W. Ardell Road and N. Ten Mile Road in Kuna, Idaho.

The proposed development will include a new worship center and parking amenities in the initial phase, and a softball field/recreational area for the church and an additional parking area are proposed in a future phase. A church is allowed within the current zone via Special Use Permit. One requirement of the SUP process is that the developer must hold a neighborhood meeting to share basic details about our plans and to hear from our valued neighbors. The project will also be subject to the City of Kuna's Design Review process to ensure that the community's high standards for buildings, landscaping, and overall site design are met.

We invite you to join us for a neighborhood meeting on **MONDAY, MAY 4TH, 2020, at 6:00 p.m.** We will hold the meeting on the south end of the property at existing gravel entrance off of Ardell.

With regard to COVID-19, we are anticipating that Idaho's stay-at-home order will be lifted or relaxed by this date. We do not anticipate more than 10-15 people to be in attendance, and we will engage in dialogue at a safe distance at all times.



Please feel free to call me at (208) 949-1690 with any questions or concerns. We look forward to seeing you on May 4th to share more details.

Sincerely,

Rennison Design, Inc.

Brian Liquin
Pre-Development Director

Neighborhood Meeting Certification

FIRST MEETING - LIVE

CITY OF KUNA PLANNING & ZONING * 763 W. Avalon, Kuna, Idaho, 83634 * www.kunacity.id.gov * (208) 922-5274 * Fax: (208) 922-5989

GENERAL INFORMATION:

You must conduct a neighborhood meeting prior to application for variance, conditional use, zoning ordinance map amendment, expansion or extension of a nonconforming use, and/or a subdivision. Please see Section 5-1A-2 of the Kuna City Code or ask one of our planners for more information on neighborhood meetings.

The meeting must be held either on a weekend between 10 a.m. and 7 p.m., or a weekday between 6 p.m. and 8 p.m. Meetings cannot be conducted on holidays, holiday weekends, or the day before or after a holiday or holiday weekend. The meeting must be held at one of the following locations:

- The Subject Property;
- The nearest available public meeting place (Examples include fire stations, libraries and community centers);
- An office space within a 1-mile radius of the subject property.

The meeting cannot take place more than 2 months prior to acceptance of the application and the application will not be accepted before the neighborhood meeting is conducted. You are required to send written notification of your meeting, allowing a reasonable amount of time before your meeting for property owners to plan to attend. Contacting and/or meeting individually with residents will not fulfill Neighborhood Meeting requirements.

You may request a list of the people you need to invite to the neighborhood meeting from our department. This list includes property owners within 300 feet of the subject property. Once you have held your neighborhood meeting, please complete this certification form and include it with your application.

Please Note: The neighborhood meeting must be conducted in one location for attendance by all neighboring residents. Contacting and/or meeting individually with residents does not comply with the neighborhood meeting requirements.

Please include a copy of the sign-in sheet for your neighborhood meeting, so we have written record of who attended your meeting and the letter of intent sent to each recipient. In addition, provide any concerns that may have been addressed by individuals that attended the meeting.

Description of proposed project: Eagle Christian Church to construct a new church, parking, & recreation area

Date and time of neighborhood meeting: Monday, May 4th (2020) at 6:00 p.m.

Location of neighborhood meeting: NWC of Ardell & Ten Mile in Kuna -- gather at existing gravel drive off Ardell

SITE INFORMATION:

Location: Quarter: NE Section: 15 Township: 2N Range: 1W Total Acres: 9.53

Subdivision Name: Parcel 1, ROS 8208 Lot: Block:

Site Address: NW Corner of W. Ardell Rd. & Ten Mile Rd. Tax Parcel Number(s): S1315142250

Kuna, ID 83634

Please make sure to include **all** parcels & addresses included in your proposed use.

CURRENT PROPERTY OWNER:

Name: Eagle Christian Church, Inc (Steve Crane)

Address: 100 Short Lane City: Eagle State: Idaho Zip: 83616

CONTACT PERSON (Mail recipient and person to call with questions):

Name: Brian Liquin Business (if applicable): Rennison Design

Address: 410 E. State St., Ste. 120 City: Eagle State: Idaho Zip: 83616

PROPOSED USE:

I request a neighborhood meeting list for the following proposed use of my property (check all that apply):

Application Type	***Brief Description***
Annexation	
Re-zone	
Subdivision (Sketch Plat and/or Prelim. Plat)	Development of a church within an agricultural (A) zone is allowed but requires a Special Use Permit. The SUP requires the developer/applicant to hold a neighborhood meeting prior to submitting applications to the City of Kuna.
Special Use	
Variance	
Expansion of Extension of a Nonconforming Use	
Zoning Ordinance Map Amendment	

APPLICANT:

Name: Brian Liquin -- Rennison Design

Address: 410 E. State St., Ste. 120

City: Eagle State: Idaho Zip: 83616

Telephone: (208) 577-2244 Email: BrianL@rennisoncompanies.com

I certify that a neighborhood meeting was conducted at the time and location noted on this form and in accord with Section 5-1A-2 of the Kuna City Code

Signature: (Applicant) Brian Liquin Date 5/4/20

SIGN IN SHEET

PROJECT NAME: Eagle Christian Church -- Kuna Campus

Date: 5/4/20

	Name	Address	Zip	Phone
1	ROBERT PEHRSON (RESIDENT TO SOUTH)	P.O. BOX 425 KUNA, ID	83634	208.922.3432 kodrunning@q.com
2	JUSTIN STURGEON (NEW BEGINNINGS CHRIST. CHURCH)	173 W. STEPH KUNA, ID	83634	208.249.5293
3	STEVE CRANE (EAGLE CHRISTIAN CHURCH)	100 S. SHORE RD. EAGLE, ID	83616	208.447.9454
4	JESSE FERRER (CONTRACTOR FOR EAGLE CC)	9909 W. LANKTREE GULCH ROAD, STAR, ID	83669	208.898.4045
5	BRIAN LIQUIN (RENNISON DESIGN)	410 E. STATE ST, STE 120 EAGLE, ID	83616	208.949.1690
6	BRYAN APPLEBY (RENNISON DESIGN)	410 E. STATE ST., STE 120 EAGLE, ID	83616	208.854-8192
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NEIGHBORHOOD MEETING MINUTES

Meeting Date: 5/4/20 -- 6:00 PM Number of Attendees: SIX (6)

Meeting Location: NWC of Ardell & Ten Mile in Kuna -- gathered at existing gravel drive off Ardell

Description of Project Presented:

Eagle Christian Church wishes to construct a new church, parking lot, and softball field/recreation area at the site. The first phase of the project will include the church, parking lot, and associated landscaping. Future phase(s) will include additional parking as well as a softball field/recreation area. Churches are allowed in an agricultural (A) zone but require a Special Use Permit, and the SUP requires a neighborhood meeting.

Attendee's comments:

- ROBERT (LIVES IMMEDIATELY TO THE SOUTH) – ONLY REAL CONCERN IS LIGHTING, DOESN'T WANT IT SPILLING ONTO PROPERTY
- STEVE NOTED THAT LOT LIGHTS ARE ON TIMERS SO THEY WON'T BE ON MUCH OF THE TIME; ROBERT IS APPRECIATIVE OF THIS
- STEVE SAID SUN A.M. & WED EVE TYP USAGE FOR THIS CHURCH

I hereby certify that the above information is complete and correct to the best of by knowledge.

Brian Liquin -- Rennison Design

Printed Name

B. Liquin

Signature

5/4/20

Date

RENNISON
COMPANIES

April 30, 2020

Re: ***VIRTUAL MEETING* FOLLOW-UP TO IN-PERSON NEIGHBORHOOD MEETING**
Development of New Church at the NW Corner of Ten Mile & Ardell, Kuna, ID

Dear Neighbor,

We are writing again regarding the upcoming project that we are helping with in your area. Recall that a Treasure Valley-based church is planning to develop a new facility at the northwest corner of W. Ardell Road and N. Ten Mile Road in Kuna.



We recently sent an invitation to attend our neighborhood meeting that that is being held on-site on **MONDAY, MAY 4TH, 2020, at 6:00 p.m.**, at the south end of the property at existing gravel entrance off of Ardell.

We are still holding this meeting on Monday, but due to concerns surrounding COVID-19, we are also hosting an on-line virtual version of the meeting that you are welcome to attend on the following day, TUESDAY, MAY 5TH, 2020, at 6:00 p.m.

To access the meeting on Tuesday evening, simply follow these instructions:

- Type the following into your web browser and press "enter":

  https://us04web.zoom.us/j/73034005270?pwd=SUdubWJhcUMrNWg0QU9SczlLSjJ3dz09

- Enter the following credentials when requested:

  Meeting ID: 730 3400 5270
  Password: 009386

I look forward to seeing you on Monday, May 4th, at our on-site meeting, or seeing you ***virtually*** on Tuesday, May 5th, on the on-line Zoom platform. Please feel free to call me at (208) 949-1690 with any questions or concerns.

Sincerely,

Rennison Design, Inc.

Brian Liquin
Pre-Development Director

SECOND MEETING — VIA ZOOM

Neighborhood Meeting Certification

CITY OF KUNA PLANNING & ZONING * 763 W. Avalon, Kuna, Idaho, 83634 * www.kunacity.id.gov * (208) 922-5274 * Fax: (208) 922-5989

GENERAL INFORMATION:

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Please include a copy of the sign-in sheet for your neighborhood meeting, so we have written record of who attended your meeting and the letter of intent sent to each recipient. In addition, provide any concerns that may have been addressed by individuals that attended the meeting.

Description of proposed project: Eagle Christian Church to construct a new church, parking, & recreation area

Date and time of neighborhood meeting: Tuesday, May 5th (2020) at 6:00 p.m.

Location of neighborhood meeting: VIRTUAL ZOOM MEETING - MEETING CREDENTIALS MAILED TO EACH PROPERTY OWNER

SITE INFORMATION:

Location: Quarter: NE Section: 15 Township: 2N Range: 1W Total Acres: 9.53

Subdivision Name: Parcel 1, ROS 8208 Lot: Block:

Site Address: NW Corner of W. Ardell Rd. & Ten Mile Rd. Kuna, ID 83634 Tax Parcel Number(s): S1315142250

Please make sure to include **all** parcels & addresses included in your proposed use.

CURRENT PROPERTY OWNER:

Name: Eagle Christian Church, Inc (Steve Crane)

Address: 100 Short Lane City: Eagle State: Idaho Zip: 83616

CONTACT PERSON (Mail recipient and person to call with questions):

Name: Brian Liquin Business (if applicable): Rennison Design

Address: 410 E. State St., Ste. 120 City: Eagle State: Idaho Zip: 83616

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I request a neighborhood meeting list for the following proposed use of my property (check all that apply):

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Variance	
Expansion of Extension of a Nonconforming Use	
Zoning Ordinance Map Amendment	

APPLICANT:

Name: Brian Liquin -- Rennison Design

Address: 410 E. State St., Ste. 120

City: Eagle State: Idaho Zip: 83616

Telephone: (208) 577-2244 Email: BrianL@rennisoncompanies.com

I certify that a neighborhood meeting was conducted at the time and location noted on this form and in accord with Section 5-1A-2 of the Kuna City Code

Signature: (Applicant) Brian Liquin Date 5/5/20

SIGN IN SHEET

PROJECT NAME: Eagle Christian Church -- Kuna Campus

Date: 5/5/20

	Name	Address	Zip	Phone
1	BRIAN LIQUIN	410 E. STATE ST., STE 120	83616	208.949.1690
2		EAGLE, ID		
3				
4				
5				
6				
7	NO OTHER ATTENDEES — NO ONE			
8	CONNECTED TO ZOOM MEETING			
9				
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NEIGHBORHOOD MEETING MINUTES

Meeting Date: 5/5/20 -- 6:00 PM Number of Attendees: 1 - ONLY B. LIQUIN (HOST)

Meeting Location: Virtual meeting -- meeting credentials were mailed out to property owners

Description of Project Presented:

Eagle Christian Church wishes to construct a new church, parking lot, and softball field/recreation area at the site. The first phase of the project will include the church, parking lot, and associated landscaping. Future phase(s) will include additional parking as well as a softball field/recreation area. Churches are allowed in an agricultural (A) zone but require a Special Use Permit, and the SUP requires a neighborhood meeting.

Attendee's comments:

* NO ONE CALLED IN OR CONNECTED TO THE VIRTUAL MEETING VIA ZOOM *

I hereby certify that the above information is complete and correct to the best of by knowledge.

Brian Liquin -- Rennison Design

Printed Name

Signature

5/6/20

Date

City of Kuna
P.O. Box 13
Kuna, Idaho 83634
Phone: (208) 922-5274
Fax: (208) 922-5989
www.Kunacity.id.gov

City of Kuna
Planning & Zoning Department

Agency Transmittal

June 8, 2020

Notice is hereby given by the City of Kuna the following actions are under consideration**:**

FILE NUMBER:	20-03-SUP (Special Use Permit) & 20-13-DR (Design Review) – Eagle Christian Church
PROJECT DESCRIPTION	The applicant seeks a Special Use Permit (SUP) to construct and operate a new church. The property is located at the northwest corner of W. Ardell Road and N. Ten Mile Road. (APN: S1315142250)
SITE LOCATION	NWC of W. Ardell Road and N. Ten Mile Road, Kuna, Idaho 83634.
APPLICANT	***Rennison Design*** *Brian Liquin* 410 E. State Street, Suite 120 Eagle, ID 83616 208.447.9454 brianl@rennisoncompanies.com
SCHEDULED HEARING DATE	Tuesday, **August 11, 2020.** 6:00 P.M.
STAFF CONTACT	Doug Hanson Dhanson@KunaId.Gov Phone**:** 922.5274 Fax**:** 922.5989

We have enclosed information to assist you with your consideration and response. *No response within 15 business days will indicate you have no objection or comments for this project.* We would appreciate any information as to how this action would affect the service(s) your agency provides. The hearing is scheduled to begin at 6:00 p.m. or as soon as it may be heard. Kuna City Hall is located at 751 W. 4th Street, Kuna, ID 83634. Please contact staff with questions. ***If your agency needs different plans or paper copies to review, notify our office know and we will send them. Please notify our office who future packets should be sent to, included their email as well.*** If your agency needs additional time for review, please let our office know ASAP.

received
6.10.2020

RON PLATT
CHAIRMAN OF THE BOARD

BRIAN MCDEVITT
VICE CHAIRMAN OF THE BOARD

ROBERT D. CARTER
PROJECT MANAGER

THOMAS RITTHALER
ASSISTANT PROJECT MANAGER

APRYL GARDNER
SECRETARY-TREASURER

MARY SUE CHASE
ASSISTANT SECRETARY-TREASURER

BOISE PROJECT BOARD OF CONTROL

(FORMERLY BOISE U.S. RECLAMATION PROJECT)

2465 OVERLAND ROAD
BOISE, IDAHO 83705-3155

OPERATING AGENCY FOR 167,000 ACRES FOR THE FOLLOWING IRRIGATION DISTRICTS

NAMPA-MERIDIAN DISTRICT
BOISE-KUNA DISTRICT
WILDER DISTRICT
NEW YORK DISTRICT
BIG BEND DISTRICT

TEL: (208) 344-1141
FAX: (208) 344-1437

08 June 2020

City of Kuna
751 W. 4th Street
Kuna, Idaho 83634

RE: New Beginnings Christian Church — **20-03-SUP, 20-13-DR**
W Ardell Rd, Kuna
Boise-Kuna Irrigation District — BK-286 B
Teed Lateral 234+70
Sec. 15, T2N, R1W, BM.

Doug Hanson:

The United States' Teed Canal lies within the boundary of the above-mentioned location. The easement for this canal is held in the name of the United States through the Bureau of Reclamation under the authority of the Act of August 30, 1890. (26 Stat. 391; 43 U.S.C. 945)

The Boise Project Board of Control is contracted to operate and maintain this canal. We assert the federal easement 25 feet south and 25 feet north of the canal's centerline. Whereas this area is for the operation and maintenance of our facility, no activity should hinder our ability to do so.

The Boise Project does not approve landscaping (other than grass or gravel) within its easements, as this will certainly increase our cost of maintenance. Easement must remain a flat drivable surface.

Fencing and pathways (as may be required) must be constructed just off the canal easement, to ensure public safety and prevent encroachments.

Parking lots, curbing, light poles, signs, etc. and the placing of asphalt and/or cement over Project facility easements must be approved by Boise Project Board of Control prior to construction.

Project facilities and/or easements that parallel, and are within and/or intended to be within road right-of-ways due to any development of this property must be relocated outside of road right-of-ways. The easements of Boise Project facilities will remain the same unless agreed upon and/or approved with written permission from Boise Project Board of Control.

The construction of any roadway crossings must be conducted only during the non-irrigation season when the canal is dewatered. In any case no work shall take place within the easement before the proper crossing agreements have been secured through the Bureau of Reclamation and the Boise Project Board of Control.

Utilities planning to cross any project facility must do so in accordance with the master policies now held between the Bureau of Reclamation and most of the utilities. In any case, no work shall take place within the easement before proper crossing agreements have been secured through both the Bureau of Reclamation and the Boise Project Board of Control.

Crossing agreements must be secured and signed by all parties prior to March 1st of each year. A time schedule for the construction to be done during the non-irrigation season must be approved by Boise Project prior to any activity within Project easements. No construction will be allowed within the easement boundaries of the Boise Project Board of Control facilities after March 15th of each year. However, on a case by case basis, overhead utilities and utilities boring underneath a Project facility may be allowed after March 15th if reviewed and approved by the Boise Project.

The piping and relocation of any Lateral, Canal and/or Drain must be reviewed and approved by the Project and is (to include all appurtenant boxes and/or structures) and must be warranted by the landowner for a period of (5) five-years. The Warrantee Agreement must be secured prior to ANY disturbance of that facility.

Boise Project Board of Control must approve any requests and/or relocation of delivery points prior to construction.

Storm Drainage and/or Street Runoff must be retained on site.

NO DISCHARGE into any live irrigation system is permitted.

Local irrigation/drainage ditches that cross this property, in order to serve neighboring properties, must remain unobstructed and protected by an appropriate easement.

Should there be any small (neighborhood) irrigation ditches on this site, the developers and/or landowners will be obligated to protect them and allow water to pass to downstream neighbors.

This development is subject to Idaho Code 31-3805, in accordance, this office is requesting a copy of the irrigation and drainage plans.

Whereas this property lies within the Boise-Kuna Irrigation District it is important that representatives of this development contact the BKID office as soon as possible to discuss a pressure system prior to any costly design work. If applicable, the irrigation system will have to be built to specific specifications as set by the District / Project.

Boise Project Board of Control must receive a written response from the Boise-Kuna Irrigation District as to who will own and operate the pressure irrigation system prior to review and approval of an irrigation plan by Boise Project Board of Control.

Wording on the preliminary and final recorded plat needs to state that any proposed and/or future usage of the Boise Project Board of Control facilities are subject to Idaho Statues, Title 42-1209.

Future preliminary and final plats must call out the Project easements and the plats must also note, which lots have surface irrigation water rights and which lots do not.

Whereas this development is in its preliminary stages, Boise Project Board of Control reserves the right to review plans and require changes when our easements and/or facilities are affected by unknown factors.

If you have any further questions or comments regarding this matter, please do not hesitate to contact me at (208) 344-1141.

Sincerely,

Thomas Ritthaler
Assistant Project Manager, BPBC

tbr/tr

cc: Clint McCormick Watermaster, Div; 2 BPBC
Lauren Boehlke Secretary – Treasurer, BKID
File

CENTRAL DISTRICT HEALTH DEPARTMENT

CENTRAL DISTRICT HEALTH DEPARTMENT
Environmental Health Division

Return to:
- ☐ ACZ
- ☐ Boise
- ☐ Eagle
- ☐ Garden City
- ☐ Meridian
- ☒ Kuna
- ☐ Star

Rezone # 20-03-SUP

Conditional Use # _____

Preliminary / Final / Short Plat _____

Eagle Christian Church – City of Kuna

☐ 1. We have No Objections to this Proposal.

☐ 2. We recommend Denial of this Proposal.

☐ 3. Specific knowledge as to the exact type of use must be provided before we can comment on this Proposal.

☐ 4. We will require more data concerning soil conditions on this Proposal before we can comment.

☐ 5. Before we can comment concerning individual sewage disposal, we will require more data concerning the depth of:
- ☐ high seasonal ground water
- ☐ bedrock from original grade
- ☐ waste flow characteristics
- ☐ other _____

☐ 6. This office may require a study to assess the impact of nutrients and pathogens to receiving ground waters and surface waters.

☐ 7. This project shall be reviewed by the Idaho Department of Water Resources concerning well construction and water availability.

☐ 8. After written approvals from appropriate entities are submitted, we can approve this proposal for:
- ☐ central sewage
- ☐ interim sewage
- ☐ individual sewage
- ☐ community sewage system
- ☐ central water
- ☐ individual water
- ☐ community water well

☐ 9. The following plan(s) must be submitted to and approved by the Idaho Department of Environmental Quality:
- ☐ central sewage
- ☐ sewage dry lines
- ☐ community sewage system
- ☐ central water
- ☐ community water

☐ 10. This Department would recommend deferral until high seasonal ground water can be determined if other considerations indicate approval.

☐ 11. If restroom facilities are to be installed, then a sewage system MUST be installed to meet Idaho State Sewage Regulations.

☒ 12. We will require plans be submitted for a plan review for any:
- ☒ food establishment
- ☐ beverage establishment
- ☐ swimming pools or spas
- ☐ grocery store
- ☐ child care center

(commercial kitchen)

☐ 13. Infiltration beds for storm water disposal are considered shallow injection wells. An application and fee must be submitted to CDHD.

☐ 14. _____

_____

_____ Reviewed By: _____

Date: 6 / 17 / 2020

received
6, 22, 20

ORGANIZED 1904

Nampa & Meridian Irrigation District

1503 FIRST STREET SOUTH
FAX #208-463-0092

NAMPA, IDAHO 83651-4395
nmid.org

OFFICE: Nampa 208-466-7861
SHOP: Nampa 208-466-0663

June 11, 2020

Doug Hanson, Planner I
City of Kuna
751 W. 4th Street
Kuna, ID 83634

RE: 20-03-SUP/ Eagle Christian Church

Dear Doug:

Nampa & Meridian Irrigation District (NMID) has no comment on the above referenced application as it lies outside of our district boundaries. Please contact Thomas Ritthaler, Boise Project- Board of Control, at 208-344-1141 or 2465 Overland Road Room 202 Boise, ID 83705-3173.

All private laterals and waste ways must be protected. All municipal surface drainage must be retained on-site. If any surface drainage leaves the site NMID must review drainage plans. Developers must comply with Idaho Code 31-3805.

Sincerely,

David T. Duvall
Asst. Water Superintendent
Nampa & Meridian Irrigation District
DTD/ gnf

Cc:
Office/ file
T. Ritthaler, Board of Control



APPROXIMATE IRRIGABLE ACRES
RIVER FLOW RIGHTS - 23,000
BOISE PROJECT RIGHTS - 40,000

Project/File: **Eagle Christian Church/ KUNA20-0006/ 20-03-SUP/20-13-DR**
This is a special use permit application to construct a new 22,396 square foot church.

Lead Agency: City of Kuna

Site address: NWC of Ardell Road and Ten Mile Road

Staff Approval: June 26, 2020

Applicant: Steve Crane
Eagle Christian Church
100 Short Lane
Eagle, ID 83616

Representative: Brian Liquin
Rennison Design
410 E. State Street, Suite 120
Eagle, ID 83616

Staff Contact: Paige Bankhead, E.I.
Phone: 387-6293
E-mail: pbankhead@achdidaho.org

Vicinity Map



A. Findings of Fact

1. **Description of Application:** The applicant is requesting approval of a special use permit to construct a new 22,396 square foot church. The property is zoned Agriculture.

   The City of Kuna's Future Land Use Map designates this area as commercial.

2. **Description of Adjacent Surrounding Area:**

Direction	Land Use	Zoning
North	Rural Residential (Ada County)	RR
South	Rural Urban Transition (Ada County)	RUT
East	Low Density Residential	R-4
West	Rural Residential (Ada County)	RR

3. **Site History:** ACHD has not previously reviewed this site for a development application.

4. **Adjacent Development:** The following developments are pending or underway in the vicinity of the site:

   - Wapiti Creek Subdivision, 42 single family building lots and 4 common lots on 15 acres located directly east of the site, approved by ACHD November 2, 2017.

- Cazador Subdivision, 154 single family building lots and 18 common lots on 40 acres located southeast of the site, approved by ACHD August 17, 2017.

5. **Transit:** Transit services are not available to serve this site.

6. **New Center Lane Miles:** The proposed development includes 0.0 centerline miles of new public road.

7. **Impact Fees:** There will be an impact fee that is assessed and due prior to issuance of any building permits. The assessed impact fee will be based on the impact fee ordinance that is in effect at that time. The impact fee assessment will not be released until the civil plans are approved by ACHD.

8. **Capital Improvements Plan (CIP)/ Integrated Five Year Work Plan (IFYWP):**
   - Ten Mile Road is listed in the CIP to be widened to 3-lanes from Ardell Road to Deer Flat Road between 2031 and 2035.

9. **Roadways to Bikeways Master Plan:** ACHD's Roadways to Bikeways Master Plan (BMP) was adopted by the ACHD Commission in May of 2009 and was update in 2018. The plan seeks to implement the Planned Bicycle Network to support bicycling as a viable transportation option for Ada County residents with a wide range of ages and abilities, maintain bicycle routes in a state of good repair in order to ensure they are consistently available for use, promote awareness of existing bicycle routes and features and support encouragement programs and to facilitate coordination and cooperation among local jurisdictions in implementing the Roadways to Bikeways Plan recommendations.

   The BMP identifies Ten Mile Road as Level 3 facility and Ardell Road as a Level 1 facility.

B. Traffic Findings for Consideration

1. **Trip Generation:** This development is estimated to generate 156 additional vehicle trips per day (0 existing); 11 additional vehicle trips per hour in the PM peak hour (0 existing), based on the Institute of Transportation Engineers Trip Generation Manual, 10th edition.

2. **Condition of Area Roadways**
   Traffic Count is based on Vehicles per hour (VPH)

Roadway	Frontage	Functional Classification	PM Peak Hour Traffic Count	PM Peak Hour Level of Service
Ten Mile Road	735-feet	Minor Arterial	277	*Better than "D"*
Ardell Road	555-feet	Collector	107	Better than "D"

   * Acceptable level of service for a two-lane minor arterial is "E" (575 VPH).
   * Acceptable level of service for a two-lane collector is "D" (425 VPH).

3. **Average Daily Traffic Count (VDT)**
   Average daily traffic counts are based on ACHD's most current traffic counts.
   - The average daily traffic count for Ten Mile Road north of Ardell Road was 7,965 on 11/06/2018.
   - The average daily traffic count for Ardell Road west of Ten Mile Road was 1,882 on 10/04/2017.

C. Findings for Consideration

1. Ten Mile Road/Ardell Road Intersection

a. Policy:

ACHD Master Street Map: ACHD Policy Section 3111.1 requires the Master Street Map (MSM) guide the right-of-way acquisition, collector street requirements, roundabout requirements, and specific roadway features required through development. A new roundabout was identified on the MSM. The new single lane roundabout is planned at the mid-mile at the Ardell Road and Ten Mile Road intersection.

b. Applicant Proposal: The applicant has proposed to dedicate additional right-of-way abutting the site to accommodate for the future construction of the multi-lane roundabout at the Ardell Road and Ten Mile Road intersection.

c. Staff Comments/Recommendations: The applicant's proposal to dedicate additional right-of-way is consistent with the MSM and should be approved, as proposed. The applicant should ensure the proposed right-of-way dedication at the Ten Mile Road/Ardell Road intersection is consistent with the template shown on attachment 3 to accommodate the future construction of the multi-lane roundabout at the intersection.

2. Ten Mile Road

a. Existing Conditions: Ten Mile Road is improved with 2-travel lanes and no curb, gutter or sidewalk abutting the site. There is 73-feet of right-of-way for Ten Mile Road (25-feet from centerline).

b. Policy:

Arterial Roadway Policy: District Policy 7205.2.1 states that the developer is responsible for improving all street frontages adjacent to the site regardless of whether or not access is taken to all of the adjacent streets.

Master Street Map and Typology Policy: District Policy 7205.5 states that the design of improvements for arterials shall be in accordance with District standards, including the Master Street Map and Livable Streets Design Guide. The developer or engineer should contact the District before starting any design.

Street Section and Right-of-Way Width Policy: District Policies 7205.2.1 & 7205.5.2 state that the standard 5-lane street section shall be 72-feet (back-of-curb to back-of-curb) within 96-feet of right-of-way. This width typically accommodates two travel lanes in each direction, a continuous center left-turn lane, and bike lanes on a minor arterial and a safety shoulder on a principal arterial.

Right-of-Way Dedication: District Policy 7205.2 states that The District will provide compensation for additional right-of-way dedicated beyond the existing right-of-way along arterials listed as impact fee eligible in the adopted Capital Improvements Plan using available impact fee revenue in the Impact Fee Service Area.

No compensation will be provided for right-of-way on an arterial that is not listed as impact fee eligible in the Capital Improvements Plan.

The District may acquire additional right-of-way beyond the site-related needs to preserve a corridor for future capacity improvements, as provided in Section 7300.

Sidewalk Policy: District Policy 7205.5.7 requires a concrete sidewalk at least 5-feet wide to be constructed on both sides of all arterial streets. A parkway strip at least 6-feet wide between the back-of-curb and street edge of the sidewalk is required to provide increased safety and protection of pedestrians. Consult the District's planter width policy if trees are to be placed

within the parkway strip. Sidewalks constructed next to the back-of-curb shall be a minimum of 7-feet wide.

Detached sidewalks are encouraged and should be parallel to the adjacent roadway. Meandering sidewalks are discouraged.

A permanent right-of-way easement shall be provided if public sidewalks are placed outside of the dedicated right-of-way. The easement shall encompass the entire area between the right-of-way line and 2-feet behind the back edge of the sidewalk. Sidewalks shall either be located wholly within the public right-of-way or wholly within an easement.

Frontage Improvements Policy: District Policy 7205.2.1 states that the developer shall widen the pavement to a minimum of 17-feet from centerline plus a 3-foot wide gravel shoulder adjacent to the entire site. Curb, gutter and additional pavement widening may be required (See Section 7205.5.5).

ACHD Master Street Map: ACHD Policy Section 3111.1 requires the Master Street Map (MSM) guide the right-of-way acquisition, arterial street requirements, and specific roadway features required through development. This segment of Ten Mile Road is designated in the MSM as a Transitional Commercial Arterial with 5-lanes and on-street bike lanes, a 72-foot street section within 96-feet of right-of-way.

c. Applicant Proposal: The applicant has proposed to dedicate additional right-of-way to total 48-feet from the centerline of Ten Mile Road and construct a 5-foot wide detached concrete sidewalk a minimum of 41-feet from the centerline of the roadway abutting the site.

d. Staff Comments/Recommendations: The applicant's proposal meets District policy and should be approved, as proposed. The applicant should also be required to improve Ten Mile Road abutting the site with pavement widening to total 17-feet from the centerline of the roadway plus a 3-foot wide gravel shoulder.

The applicant will be compensated for the right-of-way dedication consistent with District policy since this section of Ten Mile Road is listed in the CIP.

Ten Mile Road abutting the site is listed in the Five Year Pavement Moratorium until October 2023. No pavement cuts will be permitted without written approval from the ACHD Cut Committee. More information can be found in the Standard Conditions of Approval at the end of this staff report.

3. Ardell Road

a. Existing Conditions: Ardell Road is improved with 2-travel and no curb, gutter or sidewalk abutting the site. There is 50-feet of right-of-way for Ardell Road (25-feet from centerline).

b. Policy:

Collector Street Policy: District policy 7206.2.1 states that the developer is responsible for improving all collector frontages adjacent to the site or internal to the development as required below, regardless of whether access is taken to all of the adjacent streets.

Master Street Map and Typologies Policy: District policy 7206.5 states that if the collector street is designated with a typology on the Master Street Map, that typology shall be considered for the required street improvements. If there is no typology listed in the Master Street Map, then standard street sections shall serve as the default.

Street Section and Right-of-Way Policy: District policy 7206.5.2 states that the standard right-of-way width for collector streets shall typically be 50 to 70-feet, depending on the location and width of the sidewalk and the location and use of the roadway. The right-of-way width may be reduced, with District approval, if the sidewalk is located within an easement; in which case

the District will require a minimum right-of-way width that extends 2-feet behind the back-of-curb on each side.

The standard street section shall be 46-feet (back-of-curb to back-of-curb). This width typically accommodates a single travel lane in each direction, a continuous center left-turn lane, and bike lanes.

Residential Collector Policy: District policy 7206.5.2 states that the standard street section for a collector in a residential area shall be 36-feet (back-of-curb to back-of-curb). The District will consider a 33-foot or 29-foot street section with written fire department approval and taking into consideration the needs of the adjacent land use, the projected volumes, the need for bicycle lanes, and on-street parking.

Sidewalk Policy: District policy 7206.5.6 requires a concrete sidewalk at least 5-feet wide to be constructed on both sides of all collector streets. A parkway strip at least 6-feet wide between the back-of-curb and street edge of the sidewalk is required to provide increased safety and protection of pedestrians. Consult the District's planter width policy if trees are to be placed within the parkway strip. Sidewalks constructed next to the back-of-curb shall be a minimum of 7-feet wide.

Detached sidewalks are encouraged and should be parallel to the adjacent roadway. Meandering sidewalks are discouraged.

A permanent right-of-way easement shall be provided if public sidewalks are placed outside of the dedicated right-of-way. The easement shall encompass the entire area between the right-of-way line and 2-feet behind the back edge of the sidewalk. Sidewalks shall either be located wholly within the public right-of-way or wholly within an easement.

ACHD Master Street Map: ACHD Policy Section 3111.1 requires the Master Street Map (MSM) guide the right-of-way acquisition, collector street requirements, and specific roadway features required through development. This segment of Ardell Road is designated in the MSM as a Residential Collector with 2-lanes and on-street bike lanes, a 36-foot street section within 54-feet of right-of-way.

c. Applicant Proposal: The applicant has proposed to dedicate additional right-of-way to total 35-feet from the centerline of Ardell Road and construct a detached 5-foot wide concrete sidewalk and locate it 29-feet from the centerline of Ardell Road abutting the site.

d. Staff Comments/Recommendations: The applicant's proposal to dedicate additional right-of-way and construct the sidewalk meet District policy and should be approved, as proposed. Consistent with the MSM, the applicant should be required to improve Ardell Road abutting the site as ½ of a 36-foot wide residential collector street section with curb, gutter and 5-foot wide (or 7-foot attached) detached concrete sidewalk and dedicate additional right-of-way to extend a total of 2-feet behind the back of sidewalk. If the sidewalk is placed outside of the right-of-way, the applicant should provide a permanent right-of-way easement that extends from the right-of-way line to 2-feet behind the back of sidewalk.

If street trees are desired, a minimum 8-foot wide planter strip should be provided.

4. Driveways

4.1 Ten Mile Road

a. Existing Conditions: There is one 20-foot wide unpaved driveway from the site onto Ten Mile Road located 735-feet north of Ardell Road that is used to access Teed Lateral.

b. Policy:

Access Points Policy: District Policy 7205.4.1 states that all access points associated with development applications shall be determined in accordance with the policies in this section

and Section 7202. Access points shall be reviewed only for a development application that is being considered by the lead land use agency. Approved access points may be relocated and/or restricted in the future if the land use intensifies, changes, or the property redevelops.

Access Policy: District policy 7205.4.6 states that direct access to minor arterials is typically prohibited. If a property has frontage on more than one street, access shall be taken from the street having the lesser functional classification. If it is necessary to take access to the higher classified street due to a lack of frontage, the minimum allowable spacing shall be based on Table 1a under District policy 7205.4.6, unless a waiver for the access point has been approved by the District Commission.

Driveway Location Policy: District policy 7205.4.5 requires driveways located on minor arterial roadways from a signalized intersection with a single left turn lane shall be located a minimum of 330-feet from the nearest intersection for a right-in/right-out only driveway and a minimum of 660-feet from the intersection for a full-movement driveway.

District policy 7205.4.5 requires driveways located on minor arterial roadways from a signalized intersection with a dual left turn lane shall be located a minimum of 330-feet from the nearest intersection for a right-in/right-out only driveway and a minimum of 710-feet from the intersection for a full-movement driveway.

Successive Driveways: District policy 7205.4.6 Table 1a, requires driveways located on minor arterial roadways with a speed limit of 45 MPH to align or offset a minimum of 380-feet from any existing or proposed driveway.

Number of Driveways on Arterials: District policy 7205.4.4 states the guidelines shall be used when more than one access point is being requested with a development:

Additional driveways may be considered when one or more of the following conditions are met:

- The daily volume using one driveway exceeds 5,000 vehicles (total volume for entering and exiting traffic).
- Traffic using one driveway exceeds the volume to capacity ratio (v/c) equal to or greater than 1, of a STOP controlled intersection during either the peak hour of the street or the peak hour of the site traffic generation.
- A District approved traffic impact study and analysis determines that conditions warrant additional driveways.

Driveway Width Policy: District policy 7205.4.8 restricts high-volume driveways (100 VTD or more) to a maximum width of 36-feet and low-volume driveways (less than 100 VTD) to a maximum width of 30-feet. Curb return type driveways with 30-foot radii will be required for high-volume driveways with 100 VTD or more. Curb return type driveways with 15-foot radii will be required for low-volume driveways with less than 100 VTD.

Driveway Paving Policy: Graveled driveways abutting public streets create maintenance problems due to gravel being tracked onto the roadway. In accordance with District policy, 7205.4.8, the applicant should be required to pave the driveway its full width and at least 30-feet into the site beyond the edge of pavement of the roadway and install pavement tapers in accordance with Table 2 under District Policy 7205.4.8.

Driveway Design Requirements: District policy 7208.4.3 states if an access point is to be gated, the gate or keypad (whichever is closer) shall be located a minimum of 50-feet from the near edge of the intersection and a turnaround shall be provided.

Cross Access Easements/Shared Access Policy: District Policy 7202.4.1 states that cross access utilizes a single vehicular connection that serves two or more adjoining lots or parcels so that the driver does not need to re-enter the public street system.

c. Applicant's Proposal: The applicant has proposed to construct a 30-foot wide curb-return type driveway onto Ten Mile Road located 360-feet north of Ardell Road.

d. Staff Comments/Recommendations: The applicant's proposal to construct the driveway onto Ten Mile Road does not meet the District 's Access policy which states that if a property has frontage on more than one street, access shall be taken from the street having the lesser functional classification. In discussions with the applicant prior to the application submittal, the applicant was informed that access should be taken from Ardell Road since it is classified as a collector roadway which is a lesser classified road than Ten Mile Road, a minor arterial, consistent with the District's Access policy. If the applicant would like to further pursue an additional driveway onto Ten Mile Road, a traffic analysis to demonstrate that an additional driveway is necessary to service the site should be provided, consistent with District policy 7205.4.4.

The driveway onto Ten Mile Road located 735-feet north of Ardell Road provides access for maintenance along the Teed Lateral. The applicant should be required to install a gate to restrict the access, locate it outside of the right-of-way, and pave the access its full width and at least 30-feet into the site beyond the edge of pavement for Ten Mile Road.

4.2 Ardell Road

a. Existing Conditions: There is an existing 12-foot wide unpaved driveway from the site onto Ardell Road that is located 305-feet west of Ten Mile Road.

b. Policy:

Access Policy: District Policy 7205.4.1 states that all access points associated with development applications shall be determined in accordance with the policies in this section and Section 7202. Access points shall be reviewed only for a development application that is being considered by the lead land use agency. Approved access points may be relocated and/or restricted in the future if the land use intensifies, changes, or the property redevelops.

District Policy 7206.1 states that the primary function of a collector is to intercept traffic from the local street system and carry that traffic to the nearest arterial. A secondary function is to service adjacent property. Access will be limited or controlled. Collectors may also be designated at bicycle and bus routes.

Driveway Location Policy (Signalized Intersection): District policy 7206.4.3 requires driveways located on collector roadways near a signalized intersection to be located outside the area of influence; OR a minimum of 440-feet from the signalized intersection for a full-access driveway and a minimum of 220-feet from the signalized intersection for a right-in/right-out only driveway. Dimensions shall be measured from the centerline of the intersection to the centerline of the driveway.

Driveway Location Policy (Stop Controlled Intersection): District policy 7206.4.4 requires driveways located on collector roadways near a STOP controlled intersection to be located outside of the area of influence; OR a minimum of 150-feet from the intersection, whichever is greater. Dimensions shall be measured from the centerline of the intersection to the centerline of the driveway.

Successive Driveways: District policy 7206.4.5 Table 1, requires driveways located on collector roadways with a speed limit of 25 MPH and daily traffic volumes greater than 100 VTD to align or offset a minimum of 245-feet from any existing or proposed driveway.

Driveway Width Policy: District policy 7206.4.6 restricts high-volume driveways (100 VTD or more) to a maximum width of 36-feet and low-volume driveways (less than 100 VTD) to a maximum width of 30-feet. Curb return type driveways with 30-foot radii will be required for high-volume driveways with 100 VTD or more. Curb return type driveways with 15-foot radii will be required for low-volume driveways with less than 100 VTD.

Driveway Paving Policy: Graveled driveways abutting public streets create maintenance problems due to gravel being tracked onto the roadway. In accordance with District policy, 7206.4.6, the applicant should be required to pave the driveway its full width and at least 30-feet into the site beyond the edge of pavement of the roadway and install pavement tapers in accordance with Table 2 under District Policy 7206.4.6.

Minor Improvements Policy: District Policy 7203.3 states that minor improvements to existing streets adjacent to a proposed development may be required. These improvements are to correct deficiencies or replace deteriorated facilities. Included are sidewalk construction or replacement; curb and gutter construction or replacement; replacement of unused driveways with curb, gutter and sidewalk; installation or reconstruction of pedestrian ramps; pavement repairs; signs; traffic control devices; and other similar items.

c. Applicant's Proposal: The applicant has proposed to close the existing driveway that is located 305-feet west of Ten Mile Road with sidewalk. The applicant has also proposed to construct a 30-foot wide paved curb-return type driveway onto Ardell Road and align it centerline to centerline with the existing residential driveway to the south of Ardell Road that is located 410-feet west of Ten Mile Road and 208-feet east of another existing residential driveway.

d. **Staff Comments/Recommendations:** The applicant's proposal to close the existing driveway onto Ardell Road that is located 305-feet west of Ten Mile Road meets District policy and should be approved, as proposed.

The applicant's proposal to construct a driveway that is located 410-feet west of Ten Mile Road and 208-feet east of an existing residential driveway does not meet District's Successive Driveways policy which states that driveways on collector roadways with greater than 100 VTD be located a minimum of 245-feet from any existing or proposed driveway, or the District's Driveway Location policy which states that driveways on collector roadways near an existing or future signalized intersection or roundabout be located a minimum of 440-feet from the signalized intersection for a full-access driveway. The MSM shows a multi-lane roundabout at the intersection of Ardell Road and Ten Mile Road that is to be constructed in the future. However, staff recommends a modification of policy to allow the proposed driveway location due to the fact that there is only 555-feet of site frontage which limits the applicant's ability to meet the District's Successive Driveways policy and the District's Driveway Location policy concurrently. Therefore, staff recommends approval of the proposed driveway location. This is a 15% and 7% modification of policy and can be approved at the Development Services Manager level. The applicant may also construct the driveway with a maximum width of 36-feet.

5. Tree Planters

Tree Planter Policy: Tree Planter Policy: The District's Tree Planter Policy prohibits all trees in planters less than 8-feet in width without the installation of root barriers. Class II trees may be allowed in planters with a minimum width of 8-feet, and Class I and Class III trees may be allowed in planters with a minimum width of 10-feet.

6. Landscaping

Landscaping Policy: A license agreement is required for all landscaping proposed within ACHD right-of-way or easement areas. Trees shall be located no closer than 10-feet from all public storm drain facilities. Landscaping should be designed to eliminate site obstructions in the vision triangle at intersections. District Policy 5104.3.1 requires a 40-foot vision triangle and a 3-foot height restriction on all landscaping located at an uncontrolled intersection and a 50-foot offset from stop

signs. Landscape plans are required with the submittal of civil plans and must meet all District requirements prior to signature of the final plat and/or approval of the civil plans.

7. Other Access

Ten Mile Road is classified as minor arterial roadway and Ardell Road is classified as a collector roadway. Other than the access specifically approved with this application, direct lot access is prohibited to these roadways.

D. Site Specific Conditions of Approval

1. Dedicate additional right-of-way at the Ten Mile Road/Ardell Road intersection consistent with the template shown on attachment 3 to accommodate the future construction of the multi-lane roundabout at the intersection, as proposed.

2. Dedicate additional right-of-way to total 48-feet from the centerline of Ten Mile Road abutting the site. The applicant will receive compensation for this right-of-way dedication.

3. Construct a 5-foot wide detached concrete sidewalk located a minimum of 41-feet from the centerline of Ten Mile Road abutting the site, as proposed. Provide a right-of-way easement for detached sidewalks located outside of the dedicated right-of-way.

4. Widen the pavement on Ten Mile Road to a minimum of 17-feet from centerline plus a 3-foot wide gravel should abutting the site.

5. Improve Ardell Road abutting the site as ½ of a 36-foot wide residential collector street section with curb, gutter and 5-foot wide detached (or 7-foot wide attached) concrete sidewalks. Dedicate additional right-of-way to extend a total of 2-feet behind the back of sidewalk, or provide a permanent right-of-way easement for detached sidewalks located outside of the dedicated right-of-way. If street trees are desired, a minimum 8-foot wide planter strip should be required.

6. Construct one 30-foot wide paved curb return type driveway onto Ardell Road that will align centerline to centerline with the existing residential driveway that is located 410-feet west of Ten Mile Road, as proposed.

7. Pave the existing Teed Lateral access onto Ten Mile Road that is located 735-feet north of Ardell Road its full width and at least 30-feet into the site beyond the edge of pavement for Ten Mile Road. Install a gate outside of the right-of-way to restrict the access.

8. Close the existing driveway onto Ardell Road that is located 305-feet west of Ten Mile Road with sidewalk, as proposed.

9. Other than the access specifically approved with this application, direct lot access is prohibited onto Ten Mile Road and Ardell Road.

10. If the applicant would like to further pursue an additional driveway onto Ten Mile Road, a traffic analysis to demonstrate that an additional driveway is necessary to service the site should be provided, consistent with District policy 7205.4.4.

11. Submit civil plans to ACHD Development Services for review and approval. The impact fee assessment will not be released until the civil plans are approved by ACHD.

12. Payment of impact fees is due prior to issuance of a building permit.

13. Comply with all Standard Conditions of Approval.

E. Standard Conditions of Approval

1. All proposed irrigation facilities shall be located outside of the ACHD right-of-way (including all easements). Any existing irrigation facilities shall be relocated outside of the ACHD right-of-way (including all easements).
2. Private Utilities including sewer or water systems are prohibited from being located within the ACHD right-of-way.
3. In accordance with District policy, 7203.3, the applicant may be required to update any existing non-compliant pedestrian improvements abutting the site to meet current Americans with Disabilities Act (ADA) requirements. The applicant's engineer should provide documentation of ADA compliance to District Development Review staff for review.
4. Replace any existing damaged curb, gutter and sidewalk and any that may be damaged during the construction of the proposed development. Contact Construction Services at 387-6280 (with file number) for details.
5. A license agreement and compliance with the District's Tree Planter policy is required for all landscaping proposed within ACHD right-of-way or easement areas.
6. All utility relocation costs associated with improving street frontages abutting the site shall be borne by the developer.
7. It is the responsibility of the applicant to verify all existing utilities within the right-of-way. The applicant at no cost to ACHD shall repair existing utilities damaged by the applicant. The applicant shall be required to call DIGLINE (1-811-342-1585) at least two full business days prior to breaking ground within ACHD right-of-way. The applicant shall contact ACHD Traffic Operations 387-6190 in the event any ACHD conduits (spare or filled) are compromised during any phase of construction.
8. Utility street cuts in pavement less than five years old (Five Year Moratorium) are not allowed unless approved in writing by the District. Contact the District's Utility Coordinator at 387-6258 (with file numbers) for details.
9. All design and construction shall be in accordance with the ACHD Policy Manual, ISPWC Standards and approved supplements, Construction Services procedures and all applicable ACHD Standards unless specifically waived herein. An engineer registered in the State of Idaho shall prepare and certify all improvement plans.
10. Construction, use and property development shall be in conformance with all applicable requirements of ACHD prior to District approval for occupancy.
11. No change in the terms and conditions of this approval shall be valid unless they are in writing and signed by the applicant or the applicant's authorized representative and an authorized representative of ACHD. The burden shall be upon the applicant to obtain written confirmation of any change from ACHD.
12. If the site plan or use should change in the future, ACHD Planning Review will review the site plan and may require additional improvements to the transportation system at that time. Any change in the planned use of the property which is the subject of this application, shall require the applicant to comply with ACHD Policy and Standard Conditions of Approval in place at that time unless a waiver/variance of the requirements or other legal relief is granted by the ACHD Commission.

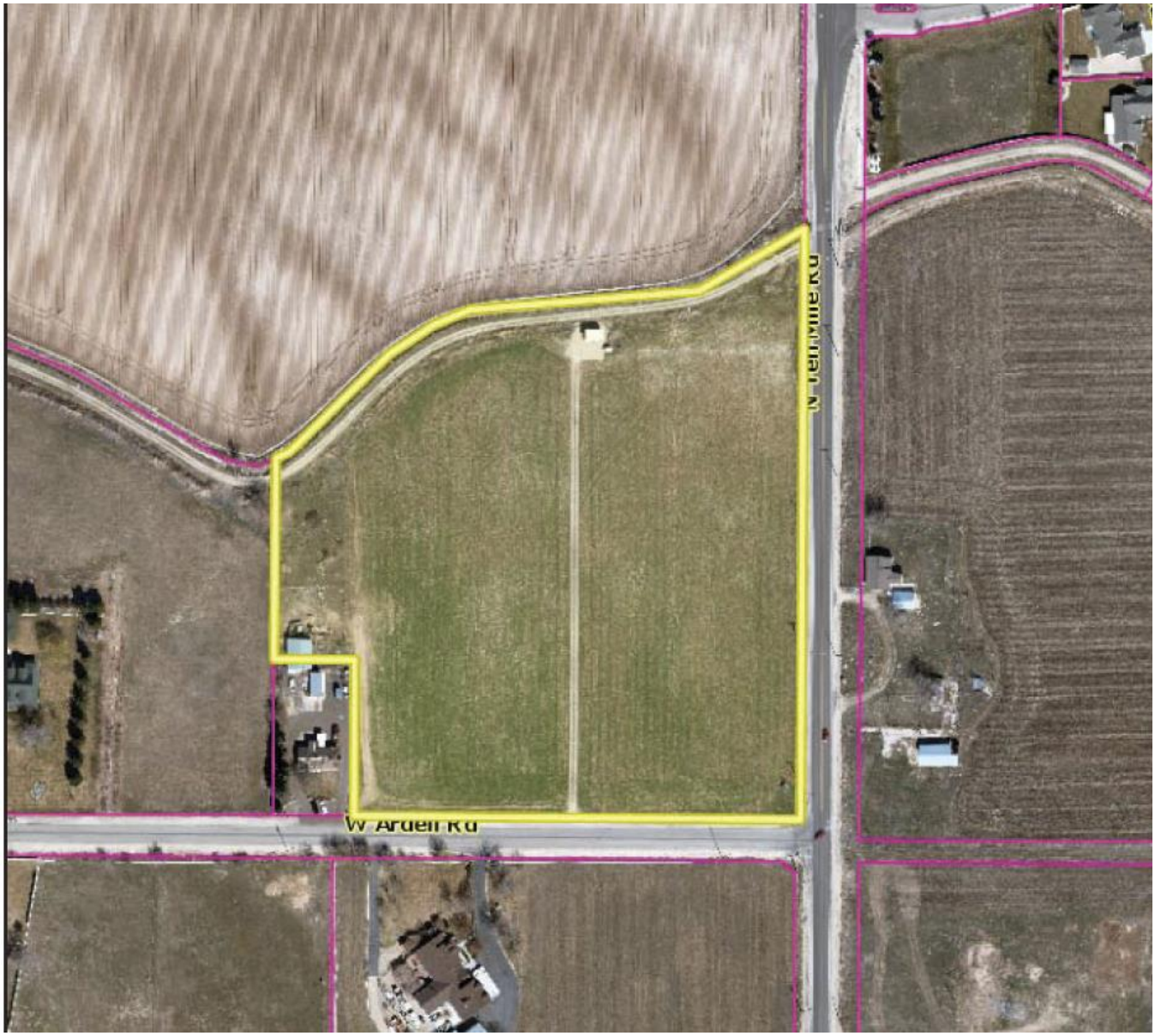
F. Conclusions of Law

1. The proposed site plan is approved, if all of the Site Specific and Standard Conditions of Approval are satisfied.
2. ACHD requirements are intended to assure that the proposed use/development will not place an undue burden on the existing vehicular transportation system within the vicinity impacted by the proposed development.

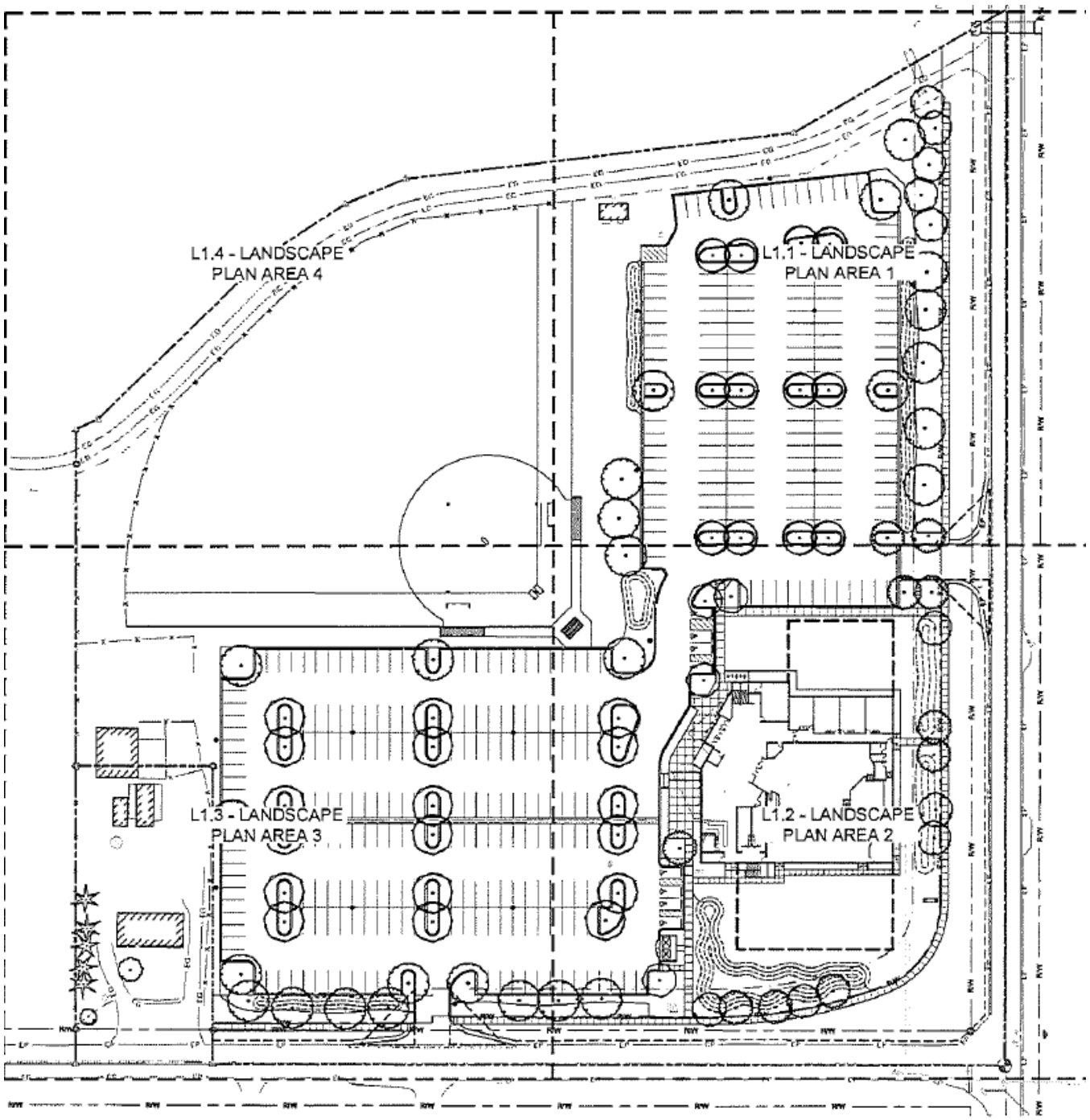
G. Attachments

1. Vicinity Map
2. Site Plan
3. Multi-Lane Roundabout Template
4. Utility Coordinating Council
5. Development Process Checklist
6. Request for Reconsideration Guidelines **OR** Appeal Guidelines

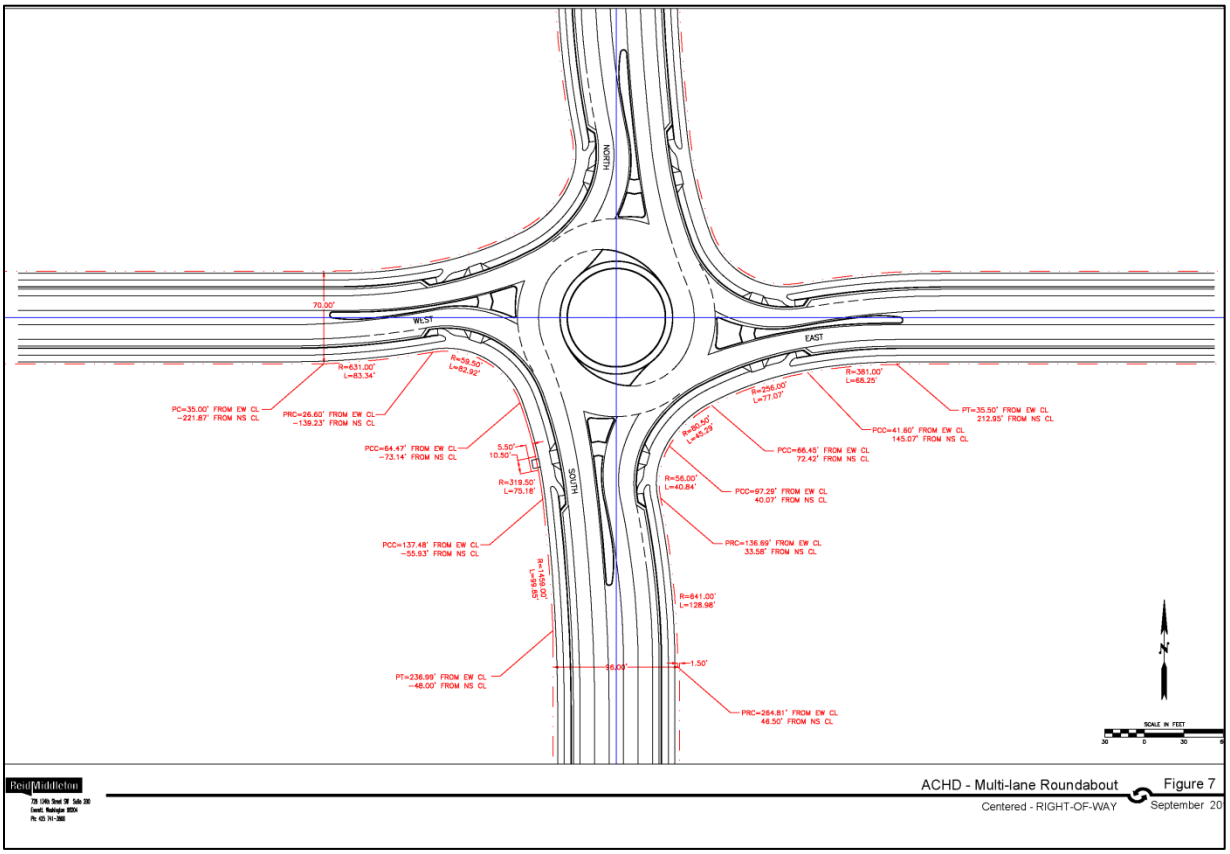
VICINITY MAP



SITE PLAN


L1.4 - LANDSCAPE PLAN AREA 4
L1.1 - LANDSCAPE PLAN AREA 1
L1.3 - LANDSCAPE PLAN AREA 3
L1.2 - LANDSCAPE PLAN AREA 2

Multi-Lane Roundabout Template



Ada County Utility Coordinating Council

Developer/Local Improvement District
Right of Way Improvements Guideline Request

Purpose: To develop the necessary avenue for proper notification to utilities of local highway and road improvements, to help the utilities in budgeting and to clarify the already existing process.

1) **Notification:** Within five (5) working days upon notification of required right of way improvements by Highway entities, developers shall provide written notification to the affected utility owners and the Ada County Utility Coordinating Council (UCC). Notification shall include but not be limited to, project limits, scope of roadway improvements/project, anticipated construction dates, and any portions critical to the right of way improvements and coordination of utilities.

2) **Plan Review:** The developer shall provide the highway entities and all utility owners with preliminary project plans and schedule a plan review conference. Depending on the scale of utility improvements, a plan review conference may not be necessary, as determined by the utility owners. Conference notification shall also be sent to the UCC. During the review meeting the developer shall notify utilities of the status of right of way/easement acquisition necessary for their project. At the plan review conference each company shall have the right to appeal, adjust and/or negotiate with the developer on its own behalf. Each utility shall provide the developer with a letter of review indicating the costs and time required for relocation of its facilities. Said letter of review is to be provided within thirty calendar days after the date of the plan review conference.

3) **Revisions:** The developer is responsible to provide utilities with any revisions to preliminary plans. Utilities may request an updated plan review meeting if revisions are made in the preliminary plans which affect the utility relocation requirements. Utilities shall have thirty days after receiving the revisions to review and comment thereon.

4) **Final Notification:** The developer will provide highway entities, utility owners and the UCC with final notification of its intent to proceed with right of way improvements and include the anticipated date work will commence. This notification shall indicate that the work to be performed shall be pursuant to final approved plans by the highway entity. The developer shall schedule a preconstruction meeting prior to right of way improvements. Utility relocation activity shall be completed within the times established during the preconstruction meeting, unless otherwise agreed upon.

Notification to the Ada County UCC can be sent to: 50 S. Cole Rd. Boise 83707, or Visit iducc.com for e-mail notification information.

Development Process Checklist

Items Completed to Date:

☒Submit a development application to a City or to Ada County

☒The City or the County will transmit the development application to ACHD

☒The ACHD **Planning Review Section** will receive the development application to review

☒The **Planning Review Section** will do one of the following:

☐Send a **"No Review"** letter to the applicant stating that there are no site specific conditions of approval at this time.

☒Write a **Staff Level** report analyzing the impacts of the development on the transportation system and evaluating the proposal for its conformance to District Policy.

☐Write a **Commission Level** report analyzing the impacts of the development on the transportation system and evaluating the proposal for its conformance to District Policy.

Items to be completed by Applicant:

☐For **ALL** development applications, including those receiving a **"No Review"** letter:

- The applicant should submit one set of engineered plans directly to ACHD for review by the **Development Review Section** for plan review and assessment of impact fees. (Note: if there are no site improvements required by ACHD, then architectural plans may be submitted for purposes of impact fee assessment.)
- The applicant is required to get a permit from Construction Services (ACHD) for ANY work in the right-of-way, including, but not limited to, driveway approaches, street improvements and utility cuts.

☐Pay Impact Fees prior to issuance of building permit. Impact fees cannot be paid prior to plan review approval.

DID YOU REMEMBER:
Construction (Non-Subdivisions)

☐ **Driveway or Property Approach(s)**

- Submit a "Driveway Approach Request" form to ACHD Construction (for approval by Development Services & Traffic Services). There is a one week turnaround for this approval.

☐ **Working in the ACHD Right-of-Way**

- Four business days prior to starting work have a bonded contractor submit a "Temporary Highway Use Permit Application" to ACHD Construction – Permits along with:
  a) Traffic Control Plan
  b) An Erosion & Sediment Control Narrative & Plat, done by a Certified Plan Designer, if trench is >50' or you are placing >600 sf of concrete or asphalt.

Construction (Subdivisions)

☐ **Sediment & Erosion Submittal**

- At least one week prior to setting up a Pre-Construction Meeting an Erosion & Sediment Control Narrative & Plan, done by a Certified Plan Designer, must be turned into ACHD Construction to be reviewed and approved by the ACHD Stormwater Section.

☐ **Idaho Power Company**

- Vic Steelman at Idaho Power must have his IPCO approved set of subdivision utility plans prior to Pre-Con being scheduled.

☐ **Final Approval from Development Services is required** prior to scheduling a Pre-Con.

Request for Appeal of Staff Decision

1. **Appeal of Staff Decision:** The Commission shall hear and decide appeals by an applicant of the final decision made by the Development Services Manager when it is alleged that the Development Services Manager did not properly apply this section 7101.6, did not consider all of the relevant facts presented, made an error of fact or law, abused discretion or acted arbitrarily and capriciously in the interpretation or enforcement of the ACHD Policy Manual.

    a. Filing Fee: The Commission may, from time to time, set reasonable fees to be charged the applicant for the processing of appeals, to cover administrative costs.

    b. Initiation: An appeal is initiated by the filing of a written notice of appeal with the Secretary and Clerk of the District, which must be filed within ten (10) working days from the date of the decision that is the subject of the appeal. The notice of appeal shall refer to the decision being appealed, identify the appellant by name, address and telephone number and state the grounds for the appeal. The grounds shall include a written summary of the provisions of the policy relevant to the appeal and/or the facts and law relied upon and shall include a written argument in support of the appeal. The Commission shall not consider a notice of appeal that does not comply with the provisions of this subsection.

    c. Time to Reply: The Development Services Manager shall have ten (10) working days from the date of the filing of the notice of appeal to reply to the notice of the appeal, and may during such time meet with the appellant to discuss the matter, and may also consider and/or modify the decision that is being appealed. A copy of the reply and any modifications to the decision being appealed will be provided to the appellant prior to the Commission hearing on the appeal.

    d. Notice of Hearing: Unless otherwise agreed to by the appellant, the hearing of the appeal will be noticed and scheduled on the Commission agenda at a regular meeting to be held within thirty (30) days following the delivery to the appellant of the Development Services Manager's reply to the notice of appeal. A copy of the decision being appealed, the notice of appeal and the reply shall be delivered to the Commission at least one (1) week prior to the hearing.

    e. Action by Commission: Following the hearing, the Commission shall either affirm or reverse, in whole or part, or otherwise modify, amend or supplement the decision being appealed, as such action is adequately supported by the law and evidence presented at the hearing.

Request for Reconsideration of Commission Action

1. **Request for Reconsideration of Commission Action:** A Commissioner, a member of ACHD staff or any other person objecting to any final action taken by the Commission may request reconsideration of that action, provided the request is not for a reconsideration of an action previously requested to be reconsidered, an action whose provisions have been partly and materially carried out, or an action that has created a contractual relationship with third parties.

    a. Only a Commission member who voted with the prevailing side can move for reconsideration, but the motion may be seconded by any Commissioner and is voted on by all Commissioners present.

       If a motion to reconsider is made and seconded it is subject to a motion to postpone to a certain time.

    b. The request must be in writing and delivered to the Secretary of the Highway District no later than 11:00 a.m. 2 days prior to the Commission's next scheduled regular meeting following the meeting at which the action to be reconsidered was taken. Upon receipt of the request, the Secretary shall cause the same to be placed on the agenda for that next scheduled regular Commission meeting.

    c. The request for reconsideration must be supported by written documentation setting forth new facts and information not presented at the earlier meeting, or a changed situation that has developed since the taking of the earlier vote, or information establishing an error of fact or law in the earlier action. The request may also be supported by oral testimony at the meeting.

    d. If a motion to reconsider passes, the effect is the original matter is in the exact position it occupied the moment before it was voted on originally. It will normally be returned to ACHD staff for further review. The Commission may set the date of the meeting at which the matter is to be returned. The Commission shall only take action on the original matter at a meeting where the agenda notice so provides.

    e. At the meeting where the original matter is again on the agenda for Commission action, interested persons and ACHD staff may present such written and oral testimony as the President of the Commission determines to be appropriate, and the Commission may take any action the majority of the Commission deems advisable.

    f. If a motion to reconsider passes, the applicant may be charged a reasonable fee, to cover administrative costs, as established by the Commission.

CITY OF KUNA

Paul A. Stevens, P.E.
Kuna City Engineer

SPECIAL USE PERMIT & DESIGN REVIEW MEMORANDUM

Date: **13 July 2020**

From: **Paul A. Stevens, P.E.**

To: **Wendy Howell, Planning and Zoning Director**

RE: **20-03-SUP & 2013-DR -- EAGLE CHRISTIAN CHURCH**

The EAGLE CHRISTIAN CHURCH special use permit and design review application dated 5 June 2020 has been reviewed. The following narrative is limited to the special use permit & design review request. Items such as number of parking spaces, sufficiency of Handicapped facilities and landscaping are not a function of Public Works. Comments regarding landscaping, parking and associated facilities will be generated from the respective disciplines. The subject property is located on the Northwest Corner of W. Ardell Road and N. Ten Mile Road.

1. **General**

    a. Public streetlights are not shown in the application
        i. Street lights will be required along the perimeter of the project. The perimeter will be Ten Mile Road and Ardell Road.
        ii. Comply with the City of Kuna street light detail and specification in place when construction takes place.
    b. All connections to City utilities (pressurized irrigation, sewer, water) shall adhere to the City of Kuna standards in effect at the time of construction.
    c. Coordinate connection to City utilities with the City of Kuna Public Works department.

2. **Inspection Fees**

    a. Building Department, electrical, and plumbing inspection fees will apply.

3. **Right-of-Way**

    a. The application shows an overlay of a proposed roundabout at the intersection of Ardell Road and Ten Mile Road. The applicant shall comply with all associated requirements.
    b. Road widening, curb, gutter, and sidewalk shall be installed as required.

4. **Grading**
    a. Grade the site such that a slope burden does not result onto adjoining properties.
    b. Increased storm water runoff from development shall be retained on site.
    c. No degradation of storm water quality as a result of development is not allowed.

5. **On Site Stormwater Retention**

    a. The site plan shows significant parking areas. The developer shall contain storm water on site. The storm water retention design and supporting calculations shall be submitted to the City Engineer for approval.

6. **Irrigation**
    a. Pressurized irrigation is included in the civil design package.
    b. Connection to potable water for irrigation is not allowed.

7. **Sewer**
    a. A sewer mainline of sufficient capacity is being extended to service this property.
    b. Commercial units require separate sewer services.

8. **Water**
    a. A water mainline of sufficient capacity is available to service this project is available in Ardell Road and Ten Mile Road.
    b. Commercial units require separate water services.
    c. The Kuna Fire Department shall review fire suppression capabilities of the lot and shall provide their requirements concerning fire hydrant location and building sprinkler system.

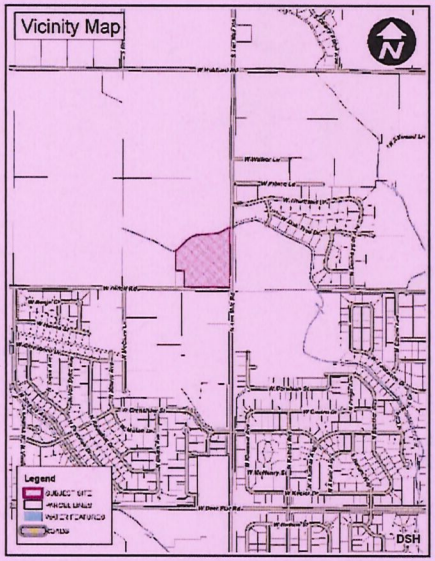
9. **As-Built Drawings**
    a. As-built drawings shall be developed in conjunction with the site improvements.
    b. As-built drawings shall be provided to the City of Kuna in PDF.

10. **Property Description**
    a. This property encompasses 9.5 acres. Several amenities are shown to service the community.
    b. Commercial development is occurring on the south side of Ardell Road.
    c. Initial Point High School is to the north.
    d. A roundabout is scheduled for installation in the Ada County Highway Department's five-year plan.
    e. The proposed use of this property is appropriate. The buildings will fit in and a positive community improvement will result.
    f. It is important that all improvements are installed as planned such that access to Ardell Road is secured and such that vision is not impeded at the intersection and eventually roundabout.
    g. Any road improvements to accommodate additional traffic and safeguard pedestrians should be installed with the development but not later than when the roundabout is installed.
    h. This installation can be supported by the city's infrastructure.

CITY OF KUNA
PLANNING & ZONING DEPARTMENT
PO Box 13 • 751 W. 4th St • Kuna, Idaho • 83634
Phone (208) 922-5274 • Fax: (208) 922-5989
www.kunacity.id.gov

Dear Property Owner:

NOTICE IS HEREBY GIVEN that the City of Kuna **Planning and Zoning Commission** is scheduled to hold a public hearing on **August 11, 2020,** beginning **at 6:00 pm** on the following case:



Rennison Design seeks a Special Use Permit (SUP) to construct and operate a new church. The property is located at the northwest corner of W. Ardell Road and N. Ten Mile Road. (APN: S1315142250)

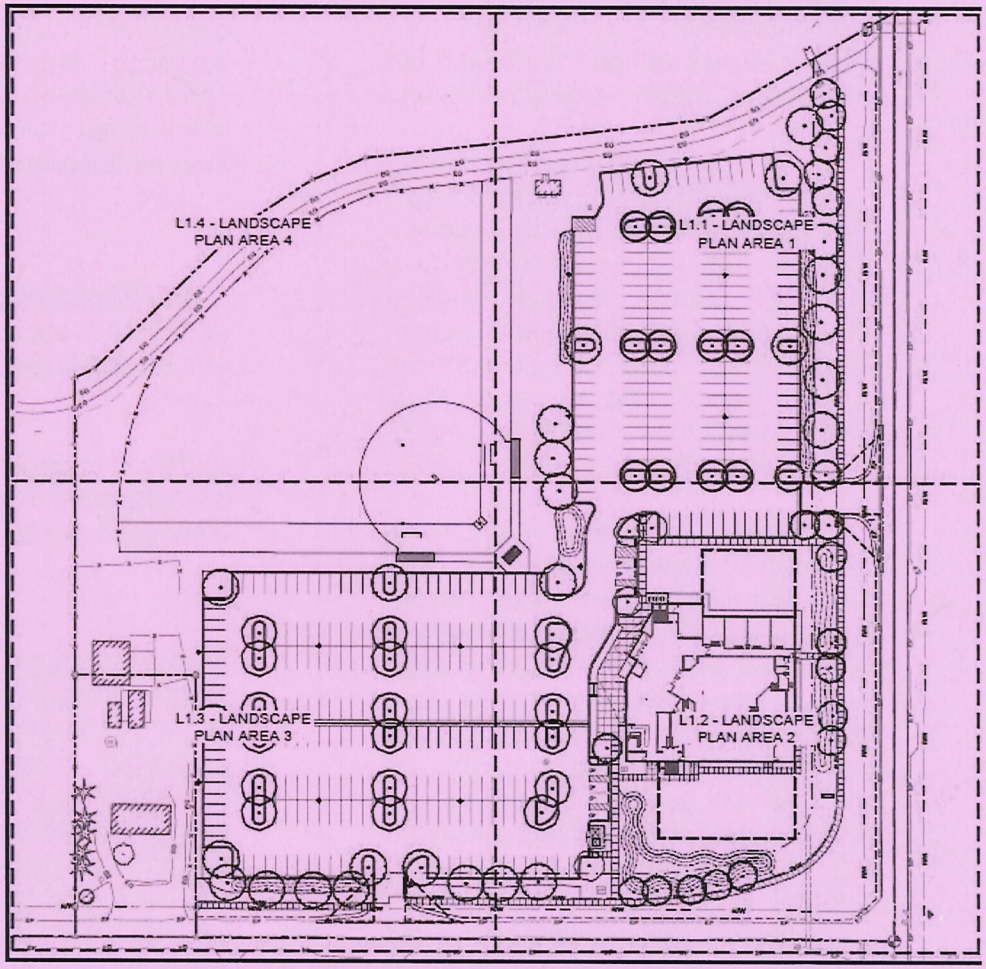
The hearing will be held **at 6:00 PM in the Council Chambers at City Hall located at 751 W. 4th Street, Kuna, Idaho.**

Due to required social distancing protocol, **the Council Chambers Audience Occupancy Capacity is 15**. The first 15 persons who appear, in addition to the Planning and Zoning Commission and staff, will be allowed in Council Chambers. Virtual participation/testimony via Zoom and the submittal of written testimony are available as alternative forms of public testimony (please see attached instructions for more details). Written testimony received by the close of business on ***August 5, 2020*** will be included in the packet that is distributed to the governing body prior to the hearing. Please submit written testimony via mail, email or the City's website (**http://kunacity.id.gov/FormCenter/City-Clerk-13/Public-Testimony-Form-121**). Late submissions will be presented to the governing body at time of the hearing.

All other persons may access the meeting via live streaming on the City of Kuna's Facebook page.

Mail written comments to PO Box 13, Kuna, ID 83634 or hand deliver them to City Hall.

If you have questions or need special assistance, please contact the Planning and Zoning Division at (208) 922-5274, or email **whowell@kunaid.gov**.



EAGLE CHRISTIAN CHURCH KUNA CAMPUS

MAILED 7/22/2020

City of Kuna
Planning and Zoning
PO Box 13
Kuna, ID 83634

LEGAL NOTICE

Suggestions For Testifying at the Public Hearing:

Social distancing due to Covid-19…

Due to required social distancing protocol, the Council Chambers Audience Occupancy Capacity is 15. The first 15 persons who appear, in addition to the Governing Body and Staff, will be allowed in Council Chambers. Virtual participation/ testimony via zoom is available (please see attached instructions for more details). All other persons may access the meeting via live streaming on the City of Kuna's Facebook page.

Be informed . . .

Review the proposal, staff report, applicable provisions of the ordinance, comprehensive plan and Idaho State Code (Title 67, Chapter 65).

All items pertaining to the application can be found the Friday prior to the hearing at http://kunacity.id.gov/240/Agendas-and-Meeting-Minutes.

Be on time . . .

Although the item you are interested in may not be first on the agenda, you never know when it will be heard. The governing body has authority to adjust the schedule according to its discretion. Thus, anticipate attending from the beginning.

Speak to the point . . .

The governing body appreciates pertinent, well organized, factual and concise comments. Redundant testimony is prohibited. The developer or their representative is given 10 minutes to present their project. Others wishing to testify are given three (3) minutes. The developer (or their representative) is given additional time for rebuttal to address issues raised during public testimony. Long stories, abstract complaints, or generalities may not be the best use of time. Neighborhood groups are encouraged to organize testimony and have one (1) person speak on behalf of the group. The group representative will receive 10 minutes to make comments.

If you don't wish to speak, write . . .

Written testimony submitted one (1) week prior to the hearing will be included in the packet that is distributed to the governing body prior to the hearing. Please submit all written testimony via mail, email or the City's website(http://kunacity.id.gov/FormCenter/City-Clerk-13/Public-Testimony-Form-121)

Late submissions will be presented to the governing body at time of hearing. As a reminder, it is unreasonable to submit extensive written comments or information at the hearing and expect them to be reviewed prior to a decision.

With the City Hall limited seating capacity to the public due to COVID-19, the *Planning and Zoning Commission* will be holding a virtual public hearing on *20-03-SUP and 20-13-DR; Eagle Christian Church*. The instructions and options available for public testimony are listed below.

APPLICANT PUBLIC WRITTEN AND ORAL HEARING TESTIMONY PROCESS:

Written - In Advance to be included in the Agenda Packet that is distributed to the Decision-Making body.

1. Submit any below stated option prior to 5:00 pm the Thursday before Public Hearing meeting. *Late submissions will not be included in the packet but will be provided at the meeting.*
2. Submit testimony via our website on the Public Testimony Form. This form will email directly to the City for inclusion in the Agenda Packet.
3. Submit testimony via email to PublicHearingTestimony@KunaID.gov
4. Submit via mail to:
   City of Kuna
   Attention: Planning and Zoning Department
   PO Box 13
   Kuna ID 83634

Written – Up to noon the day of the Public Hearing

1. Submit any below stated option prior to noon the day of the Public Hearing meeting. *Late submissions will not be included.*
2. Submit testimony via our website on the Public Testimony Form
   Kunacity.id.gov > Doing Business > Forms and Applications > Frequently Requested Applications and Forms > ONLINE Public Testimony Form
3. Submit testimony via email to PublicHearingTestimony@KunaID.gov
4. Submit via mail to:
   City of Kuna
   Attention: Planning and Zoning Department
   PO Box 13
   Kuna ID 83634

Oral – Via electronic call is allowed based on Governor Little's Open Meeting Law suspension proclamation of March 13, 2020, until testimony in person is allowed.

1. Submit request no later than noon the day of the Public Hearing meeting.
2. Email PublicHearingTestimony@KunaID.gov
   - ✓ Your name
   - ✓ Address
   - ✓ Phone Number you will be calling from to give testimony
   - ✓ Email Address
   - ✓ Date of Public Hearing
   - ✓ Case number or Identification of Public Hearing
3. Watch your email for a reply email with the information to join the meeting electronically. (Check your spam/junk folder as a precaution)
4. Follow the dial in information.
5. Call into the virtual lobby a minimum of 5 minutes prior to the meeting.

751 West 4th Street
P.O. Box 13
Kuna, ID 83634
Phone: 208-922-5274
Fax: 208-922-5989
www.kunacity.id.gov

CITY OF KUNA

PLANNING & ZONING DEPARTMENT

CERTIFICATE OF MAILING

Date: 07/22/2020

To: ☑ 400' Property Owners ☐ Other _____

Planner: Doug Hanson, Planner I

Case Name: 20-03-SUP & 20-13-DR Eagle Christian Church

I HEREBY CERTIFY that on this 22nd day of July, 2020, I caused a true and correct copy of the foregoing instrument to be deposited in the United States mail, with prepaid postage.

Signature

Attest

ABRAMS BRET LEE
ABRAMS NIKEELA RENAE
20655 MUDDY MUDDLE LN
GREENLEAF, ID 83626-0000

ARNOLD JACK L
ARNOLD BEVERLEY G
2575 N MORNING SUN AVE
KUNA, ID 83634-0000

CONTRERAS ENRIQUE FRIAS
PAZ ANA MARIA
1922 W ARDELL RD
KUNA, ID 83634-0000

EAGLE CHRISTIAN CHURCH INC
100 SHORT LN
EAGLE, ID 83616-4153

INTEREX USA INC
6854 W WRIGHT ST
BOISE, ID 83709-0000

JANSON JEREMY S
JANSON SHANNON
2290 N MCCLURE LN
KUNA, ID 83634-0000

L & L SERVICES LLC
PO BOX 730
KUNA, ID 83634-0000

N STAR FARM LLC
6152 W HALF MOON LN
EAGLE, ID 83616-0000

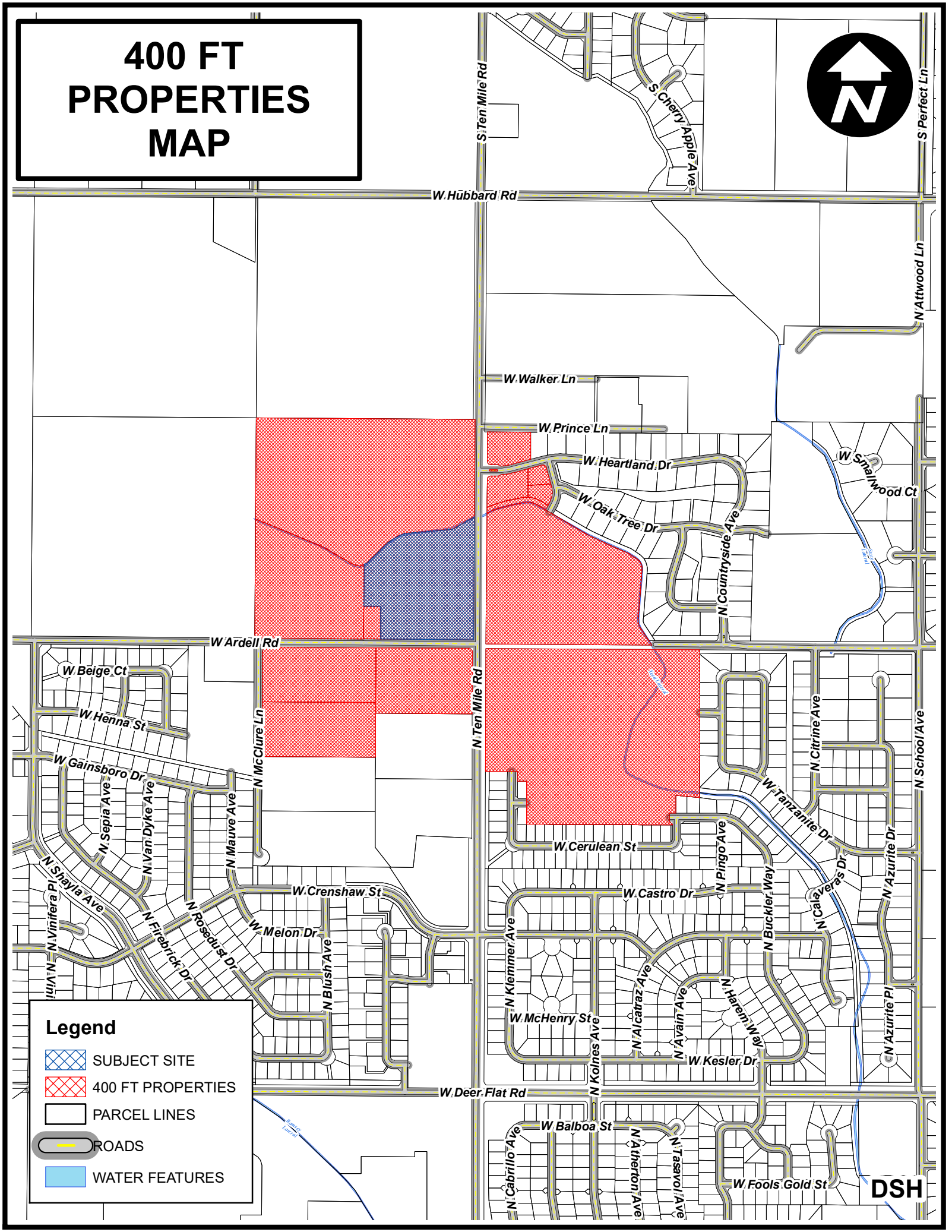
PEHRSON ROBERT D
PEHRSON MARGUERITE M
PO BOX 425
KUNA, ID 83634-0000

SCHAPANSKY DAVID
SCHAPANSKY JAN
2553 N MORNING SUN AVE
KUNA, ID 83634-0000

WALNUT CREEK HOA INC
1500 W BANNOCK ST
BOISE, ID 83702-0000

WALNUT CREEK TOWNHOMES LLC
1277 W OAK TREE DR
KUNA, ID 83634-0000

WORKMAN HARRY C
WORKMAN SHARLIE
2360 N MCCLURE LN
KUNA, ID 83634-0000


400 FT PROPERTIES MAP
S Ten Mile Rd
S Cherry Apple Ave
S Perfect Ln
W Hubbard Rd
N Attwood Ln
W Walker Ln
W Prince Ln
W Heartland Dr
W Snallwood Ct
W Oak Tree Dr
N Countryside Ave
W Ardell Rd
N Ten Mile Rd
W Beige Ct
W Henna St
N McClure Ln
W Gainsboro Dr
N Sepia Ave
N Van Dyke Ave
N Mauve Ave
N Citrine Ave
N School Ave
W Tanzanite Dr
W Cerulean St
N Pingo Ave
N Azurite Dr
N Calaveras Dr
N Shayla Ave
N Vinifera Pl
N Firebrick Dr
N Rosedust Dr
W Crenshaw St
W Castro Dr
N Buckler Way
W Melon Dr
N Blush Ave
N Klemmer Ave
N Alcatraz Ave
N Avain Ave
N Harem Way
N Azurite Pl
W McHenry St
N Kolnes Ave
W Kesler Dr
W Deer Flat Rd
W Balboa St
N Cabrillo Ave
N Atherton Ave
N Tasavo Ave
W Fools Gold St
Legend
SUBJECT SITE
400 FT PROPERTIES
PARCEL LINES
ROADS
WATER FEATURES
DSH

IDAHO PRESS-TRIBUNE
EMMETT MERIDIAN KUNA BOISE WKLY
C/O ISJ PAYMENT PROCESSING CENTER
PO BOX 1570
POCATELLO ID 83204
(208)467-9251
Fax (208)475-2321

ORDER CONFIRMATION

Salesperson: LEGALS — Printed at 07/20/20 09:33 by sje14

Acct #: 345222 — Ad #: 2027093 — Status: New CHOLD

1 KUNA, CITY OF
P.O. BOX 13
KUNA ID 83634

Start: 07/22/2020 — Stop: 07/22/2020
Times Ord: 1 — Times Run: ***
LEG 2.00 X 84.00 Words: 539
Total LEG 168.00
Class: 0006 GOVERNMENT NOTICES
Rate: L2 — Cost: 152.48
Affidavits: 1

Contact: CHRIS ENGLES
Phone: (208)387-7727
Fax#:
Email: awelker@kunaid.gov; gsmith@k
Agency:

Ad Descrpt: 20-03-SUP & 20-13-DR
Given by: DOUG HANSON
P.O. #:
Created: sje14 07/20/20 09:11
Last Changed: sje14 07/20/20 09:33

PUB	ZONE	EDT	TP	RUN DATES
KMN	A	96	S	07/22

AUTHORIZATION

Under this agreement rates are subject to change with 30 days notice. In the event of a cancellation before schedule completion, I understand that the rate charged will be based upon the rate for the number of insertions used.

DOUG HANSON
Name (print or type)

Name (signature)

(CONTINUED ON NEXT PAGE)

IDAHO PRESS-TRIBUNE
EMMETT MERIDIAN KUNA BOISE WKLY
C/O ISJ PAYMENT PROCESSING CENTER
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(208)467-9251
Fax (208)475-2321

ORDER CONFIRMATION (CONTINUED)

Salesperson: LEGALS Printed at 07/20/20 09:33 by sje14

Acct #: 345222 Ad #: 2027093 Status: New CHOLD CHOI

LEGAL NOTICE

Case # 20-03-SUP (Special Use Permit)
& 20-13-DR (Design Review)

NOTICE IS HEREBY GIVEN, the Kuna Planning and Zoning Commission will hold a public hearing, **Tuesday August 11, 2020, at 6:00 pm**, at Kuna City Hall, 751 W. 4th Street, Kuna, ID for a Special Use Permit and Design Review request from Rennison Design to construct and operate a new church located at the northwest corner of W Ardell Road and N Ten Mile Road, Kuna, Idaho (APN #: S1315142250).

Please do not contact the Planning & Zoning Commission or City Council including the Mayor as this may jeopardize the public hearing process since it is considered ex parte. If you have any questions or require special accommodations, please contact Kuna Planning & Zoning Department prior to the meeting at (208) 922-5274.

The public is invited to provide written or oral testimony. Due to current health precautions associated with the Coronavirus, the City of Kuna is providing alternative ways for the community to submit comments at public hearings.

APPLICANT AND PUBLIC WRITTEN AND ORAL HEARING TESTIMONY PROCESS:

Written - In Advance to be included in the Agenda Packet that is distributed to the Commission.
1. Submit any option prior to 5:00 pm the Thursday before Public Hearing meeting. Late submissions will not be included in the packet but will be provided at the meeting.
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Kuna Planning & Zoning Department

July 22, 2020 2027093

LEGAL NOTICES

To place an ad in our Legal Section Call 465-8129

LEGAL NOTICE

NOTICE TO CREDITORS
Case No. CV01-20-09591

IN THE DISTRICT COURT OF THE FOURTH JUDICIAL DISTRICT OF THE STATE OF IDAHO, IN AND FOR THE COUNTY OF ADA

In the matter of the Estate of
PAMELA JEAN PIERSON,
Deceased.

NOTICE IS HEREBY GIVEN that RANDI J. GRANADOS has been appointed Personal Representative of the above-named estate. All persons having claims against the decedent's estate are required to present their claims within four (4) months after the date of the first publication of this Notice or said claims will be forever barred.

Claims must be presented to the undersigned Personal Representative of the estate's attorney, Kristen R. Thompson of Thompson Law Firm at 78 SW 5th Avenue, Suite 2, Meridian, Idaho, 83642 and they must be filed with the Clerk of the Court.

Dated this 29th day of June 2020.

Kristen R. Thompson
78 SW 5th Avenue, Suite 2
Meridian, Idaho 83642
Telephone: 208-888-7278

July 8, 15, 22, 2020
2024028

LEGAL NOTICE

Case # 20-01-V (Variance)

NOTICE IS HEREBY GIVEN, the Kuna Planning and Zoning Commission will hold a public hearing, **Tuesday August 11, 2020, at 6:00 pm**, at Kuna City Hall, 751 W. 4th Street, Kuna, ID in connection with a Variance request from James Robert Hollingstead in order to create a parcel smaller than the minimum lot size permitted within the Central Business District through the Lot Split process located at 330 N. Avenue D, Idaho (APN #: R5070001086).

Please do not contact the Planning & Zoning Commission or City Council including the Mayor as this may jeopardize the public hearing process since it is considered ex parte. If you have any questions or require special accommodations, please contact Kuna Planning & Zoning Department prior to the meeting at (208) 922-5274.

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Kuna Planning & Zoning Department

July 22, 2020 2027207

LEGAL NOTICE

Case # 20-03-SUP (Special Use Permit) & 20-13-DR (Design Review)

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Please do not contact the Planning & Zoning Commission or City Council including the Mayor as this may jeopardize the public hearing process since it is considered ex parte. If you have any questions or require special accommodations, please contact Kuna Planning & Zoning Department prior to the meeting at (208) 922-5274.

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√ Your name
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Kuna Planning & Zoning Department

July 22, 2020 2027093

LEGAL NOTICE

File # 19-09-S, Corbin's Cove Subdivision

NOTICE IS HEREBY GIVEN, that the City Council will hold a public hearing, Tuesday, **August 18, 2020 at 6:00 pm**, or as soon as can be heard at Kuna City Hall, 751 W. 4th St, Kuna, ID; in connection with a **Preliminary Plat (S)** request for a Subdivision. Gary McAllister requests preliminary plat approval in order to subdivide the approx. 6.00 acres into 22 total lots. The proposed gross and net densities are approximately 3.74 DUA, and 4.20 DUA respectively. This will be a re-subdivision of Kuna Home Tracts, Lots 7 and 8. The site is located near School and Avalon Roads, on existing Sharp Lane Kuna, ID 83634, Section 26, Township 2 North, Range 1 West; (APNs: R5070251061, R5070251161 and R5070251166).

The public is invited to present written or oral comments. Written testimony received by the close of business on **August 13, 2020** will be included in the packets distributed to the governing body. Late submissions (must include eight (8) copies) will be presented to the governing body at the time of the hearing. Please mail written comments to PO Box 13, Kuna, ID 83634, or drop them off at City Hall: 751 West 4th Street, Kuna, ID.

Please do not contact anyone who would be involved in this decision-making process, which would include the City Council Members, or the Mayor; as such private conversations would be considered ex parte (one sided) and could jeopardize the public hearing process.

If you have any questions or require special accommodations, please contact the Kuna Planning & Zoning Department prior to the meeting at (208) 922-5274.

Kuna Planning & Zoning Department

July 22, 2020 2026524

LEGAL NOTICE

Notice of Public Hearing
Kuna Urban Renewal Agency
Proposed Budget for Fiscal Year 2021

Notice is hereby given that a public hearing for consideration of the proposed Urban Renewal Agency of the City of Kuna, Idaho's budget for the fiscal year that begins October 1, 2020, and ends September 30, 2021, will be held at City Hall, City Council Chambers, 751 4th Street, Kuna, Idaho on August 5, 2020, at 6:00 p.m., pursuant to Idaho Code §§ 50-2903(5) and 50-1002. Due to social distancing protocol, the Council Chambers Audience Occupancy Capacity is 15. Social Distancing will be required. The first 15 persons who appear, in addition Agency Commissioners, and staff, will be allowed in Council Chambers. All other persons may access the meeting via Live Streaming. Written or oral comments about the proposed budget are welcome. Written comments may be submitted prior to the meeting to Kuna Urban Renewal Agency, c/o Lisa Holland at lholland@junaid.gov.

The Agency budget funds the programs, services, and projects that the Agency Board and the City Council have determined to be important to meet the Agency's strategic goals. For FY2021, the costs are related to planning efforts in support of establishment of a revenue allocation area.

This public hearing on the proposed budget is required for formal adoption of the FY 2021 budget. The proposed expenditures and revenues for FY 2021 have been tentatively approved by the Kuna Urban Renewal Agency Board of Commissioners at its regular meeting on July 1, 2020.

The City Hall is accessible to persons with disabilities.

	FY2021 PROPOSED
CAPITAL PROJECTS REVENUE	
Grant from City	96,687
Carryover	0
TOTAL REVENUE	**96,687**
CAPITAL PROJECTS EXPENDITURES	
Capital Improvements	96,687
TOTAL EXPENDITURES	**96,687**
GRAND TOTAL NET	**0**

July 22, 29, 2020 2026523

City of Kuna
PROOF OF PROPERTY POSTING

City of Kuna
P.O. Box 13
Kuna, Idaho 83634

Phone: (208) 922-5274
Fax: (208) 922-5989
Web: www.kunacity.id.gov

This notice shall confirm that the Public Hearing Notice for (NWC) of W Ardell Rd + N Ten Mile Road Kuna ID 83634 **(NAME OF SUBDIVISION OR ADDRESS)** was posted as required per Kuna City Ordinance 5-1A-8. Sign posted Friday, July 24, 2020 **(DAY OF THE WEEK, MONTH, DATE AND YEAR)**. *This form is required to be returned three (3) calendar days subsequent to posting and signs are to be removed from the site three (3) calendar days after the hearing.*

DATED *this* 24th *day of* July, 2020

Signature,

Owner/Developer

STATE OF IDAHO)
): ss
County of Ada)

On this 24th *day of* July, 2020, *before me the undersigned, a Notary Public in and for said State, personally appeared before me (Owner, Developer).*

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

Notary Public
Residing at 10909 W State St. Boise 83709

Commission Expires 3/30/2021

HOLLY WEIGEL
NOTARY
PUBLIC
STATE OF IDAHO


CITY OF KUNA
PUBLIC HEARING NOTICE
Kuna Planning & Zoning Commission
THE CITY OF KUNA will hold a public hearing on August 11th, 2020 at 6:00 PM, at Kuna City Hall
PURPOSE: 20-03-SUP Special Use Permit & 20-13-DR Design Review - Eagle Christian Church seeks to construct a new worship center, parking area, and recreation field on the subject site. Since the current zoning is "A - Agricultural", a Special Use Permit is required for a church.
LOCATION: Northwest Corner (NWC) of W. Ardell Road & N. Ten Mile Rd., Kuna, ID 83634 APN #S1315142250 - 9.53 acres
APPLICATION BY: Steve Crane, Eagle Christian Church, Inc. 100 Short Lane, Eagle , ID 83616 - 208-447-9454
CONTACT: Kuna Planning & Zoning at 208-922-5546
ID Fence
idfencecompany.com
Vinyl / Wood / Wrought Iron
Call Today
ID Lic # RCE-48237
208-994-7855


CITY OF KUNA
PUBLIC HEARING NOTICE
Kuna Planning & Zoning Commission
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PURPOSE: 20-03-SUP Special Use Permit & 20-13-DR Design Review - Eagle Christian Church seeks to construct a new worship center, parking area, and recreation field on the subject site. Since the current zoning is "A - Agricultural", a Special Use Permit is required for a church.
LOCATION: Northwest Corner (NWC) of W. Ardell Road & N. Ten Mile Rd., Kuna, ID 83634 APN #S1315142250 - 9.53 acres
APPLICATION BY: Steve Crane, Eagle Christian Church, Inc. 100 Short Lane, Eagle , ID 83616 - 208-447-9454
CONTACT: Kuna Planning & Zoning at 208-922-5546

City of Kuna

Planning and Zoning Commission
Staff Report

P.O. Box 13
Phone: (208) 922-5274
Fax: (208) 922-5989
www.Kunacity.id.gov

To:	**Planning and Zoning Commission**
File Numbers:	**20-01-V** (Variance)
Location:	330 N. Avenue D Kuna, Idaho 83634
Planner:	Doug Hanson, Planner I
Hearing date:	August 11, 2020
Applicant:	**James Hallingshead** 443 S. Wagontown Avenue Kuna, ID 83634 208.861.3454 bobby@3bmtax.com
Owner:	**Harry Knox** 3420 N. Knox Drive 208-599-0773 King Hill, ID 83633

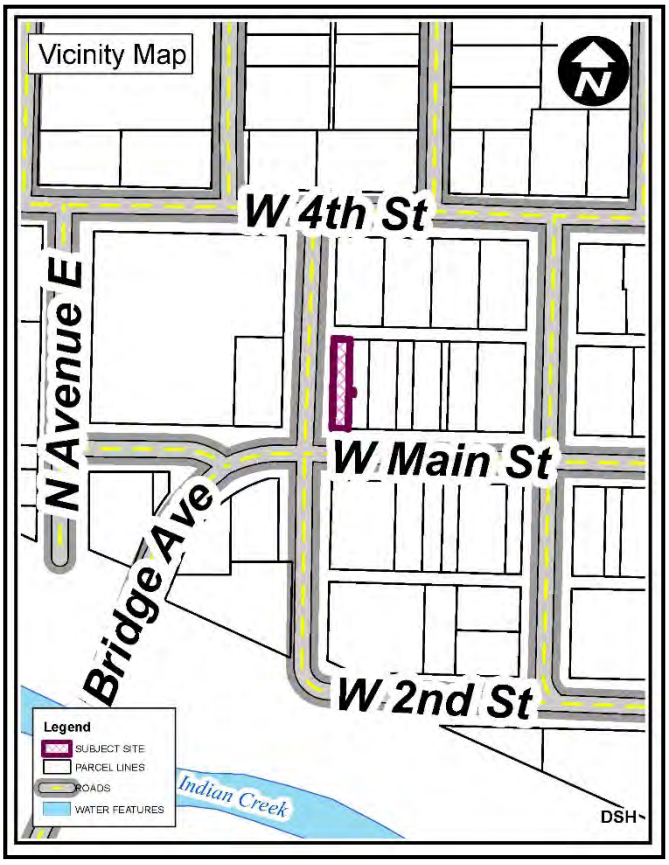


Table of Contents:

A. Course Proceedings
B. Applicants Request
C. History
D. General Project Facts
E. Staff Analysis
F. Applicable Standards
G. Proposed Comprehensive Plan Analysis
H. Proposed Kuna City Code Analysis
I. Proposed Order of Decision by Council

A. Course of Proceedings:

1. Kuna City Code (KCC), Title 5, Chapter 11, Section 4, states that Variance Requests are designated as public hearings, with the Planning and Zoning Commission as the decision-making body. These land use applications were given proper public notice and followed the requirements set forth in Idaho Code, Chapter 65 Local Planning Act.

a. Notifications

i.	Neighborhood Meeting	July 13, 2020 (No Attendees)
ii.	Agencies	July 15, 2020
iii.	300' Notice to Property Owners	July 22, 2020
iv.	Kuna Melba Newspaper	July 22, 2020
v.	Site Posted	July 29, 2020

B. Applicants Request:

The applicant is seeking approval of this Variance request, in order to create parcels smaller than the minimum lot size permitted within the Central Business District through the Lot Split Process for Ada County Assessor's Parcel No. R5070001086.

C. History: This property has historically been used for commercial businesses.

D. General Project Facts:

1. **Surrounding Land Uses:**

North	CBD	Commercial Business District – Kuna City
South	CBD	Commercial Business District – Kuna City
East	CBD	Commercial Business District – Kuna City
West	CBD	Commercial Business District – Kuna City

2. **Parcel Sizes, Current Zoning, Parcel Numbers:**

- Parcel Size: Approximately 0.08 acres.
- Zoning: CBD (Commercial Business District)
- Parcel #: R5070001086

3. **Services:**

Sanitary Sewer– City of Kuna
Potable Water – City of Kuna
Pressurized Irrigation – Kuna Municipal Irrigation District
Fire Protection – Kuna Rural Fire District
Police Protection – Kuna Police (Ada County Sheriff)
Sanitation Services – J & M Sanitation

4. **Existing Structures, Vegetation and Natural Features:**

The site currently has two buildings, approximately 600 square feet and 2,500 square feet. Vegetation on site is consistent with a downtown commercial business.

5. **Transportation / Connectivity:**

The subject site's frontage is adjacent to N. Avenue D, which is accessed via W. 4th Street to the north and W. Main Street to the south. Attached sidewalks provide pedestrian connectivity.

6. **Environmental Issues:**

Staff is not aware of any environmental issues, health or safety conflicts beyond the designation of being in the nitrate priority area.

7. **Comprehensive Future Land Use Map:** The Future Land Use Map (FLUM) identifies this site as Commercial Business District. Staff views this proposed Variance request to be consistent with the approved Comprehensive Plan Future Land Use Map.

8. **Agency Responses:**

The following agencies returned comments which are included as exhibits with this case file:

- Kuna Economic Development Director.....Exhibit B-1

E. Staff Analysis:

KCC 5-3-3 establishes a minimum lost size of 1,000 square feet within the Commercial Business District (CBD), the applicant requests a Variance in order to create parcels smaller than the minimum lot size permitted through the Lot Split process.

KCC 5-3-3 establishes official height and area standards in order to create compatibility and uniformity throughout the City of Kuna. Staff has no concern with a variance request to reduce the minimum lot size within the CBD for the subject site. The established structures have been in place for many years, under singular ownership. The splitting of the parcel would facilitate new business ownership and improvements to the downtown area.

If approved by the Commission this Variance would grant the ability for the applicant to submit a Lot Split Application as a public meeting item to the City Council.

Staff has determined that this application complies with Title 5 of KCC, Idaho Code, the Comprehensives Plan and the FLUM. Staff recommends that if the Planning and Zoning Commission approves Case No. 20-01-V that the applicant be subject to the recommended conditions of approval listed in section "I" of this report.

F. Applicable Standards:

1. Kuna City Code, Title 5, Zoning Regulations
2. City of Kuna Comprehensive Plan
3. Idaho Code, Title 67, Chapter 65, Local Land Use Planning Act

G. Proposed Comprehensive Plan Analysis:

The Kuna Planning and Zoning Commission may (*accept or reject*) the Comprehensive Plan components, and has determined the requested Special Use Permit for the site (*is/is not*) consistent with the following Comprehensive Plan components as described below:

1. The proposed Variance application for the site is consistent with the following comprehensive plan components:

Goal Area 1: Kuna will be Economically Diverse and Vibrant.

- Goal 1.A: Ensure land use in Kuna will support economic development.
  - Objective 1.A.1: Continue to focus on developing Downtown Kuna as a commerce center.

- Goal 1.C: Attract and encourage new and existing businesses.
  - Objective 1.C.2: Create an environment that is friendly to business creation, expansion and relocation.

Goal Area 3: Kuna's Land uses will support a desirable, distinctive and well-designed community.

- Goal 3.G: Respect and protect private property rights.
  - Objective 3.G.1: Ensure land use policies, restrictions, and fees do not violate private property rights.
    - Policy 3.G.1.c: Ensure City land use actions, decisions and regulations do not prevent a private property owner from taking advantage of a fundamental property right. Ensure city actions do not impose a substantial and significant limitation on the use of the property.

H. Proposed Kuna City Code Analysis:

1. This request appears to be *consistent/inconsistent* and *in compliance/not in compliance* with Kuna City Code (KCC).

Comment: *The proposed application adheres to the applicable requirements of Title 5 of the KCC.*

2. The site *is/ is not* physically suitable for the proposed application.

   Comment: *The 0.08-acre project proposes no changes to the footprint of the buildings.*

3. The special use permit *is likely/is not likely* to cause substantial environmental damage or avoidable injury to wildlife or their habitat.

   Comment: *Roads and structures already exist and will therefore not cause environmental damage or loss of habitat.*

4. The Variance *is likely/is not likely* to cause adverse public health problems.

   Comment: *The proposed subject site is connected to Kuna public sewer and water therefore eliminating the occurrence of adverse public health problems.*

5. The application appears to avoid detriment to the present and potential surrounding uses; to the health, safety, and general welfare of the public taking into account the physical features of the site, public facilities and existing adjacent uses.

   Comment: *The Variance request considers the location of the property and adjacent uses. The adjacent uses are commercial – as referenced in the Kuna Comprehensive Plan Future Land Use Map.*

6. The existing utility services in proximity to the site are suitable and adequate for the proposed use.

   Comment: *Utility services are already available and connected to the existing subject site.*

I. Proposed Decision by the Commission:

Note: This motion is for approval, conditional approval or denial of these requests. However, if the Planning and Zoning Commission wishes to approve or deny specific parts of these requests as detailed in the report, those changes must be specified.

Based on the facts outlined in staff's report and public testimony as presented, the Planning and Zoning Commission of Kuna, Idaho, hereby (*approves, conditionally approves or denies*) Case No. 20-01-V, a Variance request by James Hollingshead with the following conditions of approval:

1. In the event the uses or the buildings on these parcels are enlarged, expanded, changed or altered in anyway (even for temporary purposes), the owner/applicant/developer, and any future assigns having interest in the subject property, shall seek an amendment to the approvals of this Variance through the public hearing process.
2. Applicant shall make/improve connections to city services and utilities, and pay any differences that may arise with the expansion of the buildings, for sewer, potable water and/or pressure Irrigation connection fees.
3. This Variance will remain valid as long as the conditions of approval are adhered to continuously. In the event the conditions are not continuously followed; the Variance approval may be revoked by the Planning and Zoning Commission.
4. This Variance is *not* transferable to another property.
5. The owner/applicant/developer shall follow all staff and agency recommendations.
6. The owner/applicant/developer shall comply with all local, state and federal laws.

DATED: this 11th day of August, 2020

City of Kuna
P.O. Box 13
Phone: (208) 922-5274
Fax: (208) 922-5989
www.Kunacity.id.gov

Kuna Planning and Zoning Commission
Proposed Findings of Fact and Conclusions of Law

Based upon the record contained in Case No. 20-01-V including the Comprehensive Plan, Kuna City Code, Staff's Memorandums, the exhibits, and the testimony during the public hearing, the Kuna Planning and Zoning Commission hereby (*approves/conditionally approves/denies)* Case No. 20-01-V, a request from James Hollingshead to create parcels smaller than the minimum lot size permitted within the Central Business District through the Lot Split Process for Ada County Assessor's Parcel No. R5070001086.

If the Planning and Zoning Commission wishes to approve, deny or modify specific parts of the Findings of Facts and Conclusions of Law as detailed below, those changes must be specified.

1. Based on the evidence contained in Case Nos. 20-01-V, this proposal ***does/does not*** generally comply with Kuna City Code.

   Staff Finding: *The applicants have submitted a complete application, and following staff review for technical compliance the application appears to be in general compliance with the variance standards, supplementary conditions and safeguards in Kuna City Code Title 5.*

2. Based on the evidence contained in Case No. 20-01-V, this proposal ***does/does not*** generally comply with the Comprehensive Plan.

   Staff Finding: *The current zoning district is CBD (Commercial Business District). The Comp Plan Map designates this property as Commercial Business District.*

3. The public notice requirements were met and the public hearing was conducted within the guidelines of applicable Idaho Code and City Ordinances.

   Staff Finding: *As noted in the process and noticing sections, notice requirements were met to hold a public hearing on August 11th, 2020.*

DATED this 11th day of August, 2020.


Aerial Map
W 4th St
N Avenue E
W Main St
Bridge Ave
W 2nd St
Legend
SUBJECT SITE
ROADS
WATER FEATURES
Indian Creek
DSH

CityofKuna
Planning& Zoning
Department
P.O. Box 13
Kuna, Idaho 83634
208.922.5274
Fax: 208.922.5989
Website: www.kunacity.id.gov

Commission & Council Review Application

Note: Engineering fees shall be paid by the applicant if required.

*Please submit the appropriate checklist (s) with application

Type of Review (check all that apply):

- ☐ Annexation
- ☐ Appeal
- ☐ Comprehensive Plan Amendment
- ☐ Design Review
- ☐ Development Agreement
- ☐ Final Planned Unit Development
- ☐ Final Plat
- ☐ Lot Line Adjustment
- ☐ Lot Split
- ☐ Planned Unit Development
- ☐ Preliminary Plat
- ☐ Rezone
- ☐ Special Use
- ☐ Temporary Business
- ☐ Vacation
- ☐ Variance

For Office Use Only	
File Number (s)	20-01-V
Project name	KNOX LOT SPLIT VARIANCE
Date Received	7/14/20
Date Accepted/ Complete	7/15/20
Cross Reference Files	N/A
Commission Hearing Date	8/11/20
City Council Hearing Date	N/A

Contact/Applicant Information

Owners of Record: HARRY KNOX	Phone Number: 208. 599.0773
Address: 3420 N. KNOX DR.	E-Mail: hwkriverranch@hotmail.com
City, State, Zip: KING HILL ID 83633	Fax #:
Applicant (Developer): JAMES HOLLINGSTEAD	Phone Number: 208. 861. 3454
Address: 443 S. WAGONTOWN AVE	E-Mail: bobby@3bmtax.com
City, State, Zip: KUNA ID 83634	Fax #:
Engineer/Representative:	Phone Number:
Address:	E-Mail:
City, State, Zip:	Fax #:

Subject Property Information

Site Address: 330 N AVE D

Site Location (Cross Streets): W MAIN ST + N AVE D

Parcel Number (s): R5070001086

Section, Township, Range:

Property size : 0.08

Current land use: Proposed land use:

Current zoning district: CBD Proposed zoning district: SAME

Lot Split Variance Application

Applicant & Authorized Agent:

Harry W Knox II, Owner

3420 N Knox Dr

King Hill, ID 83633

Home/Office: (208) 366-7484

Cell: (208) 599-0773

James Robert Hallingshead

443 S Wagontown Ave

Kuna, ID 83634

Cell: (208) 861-3454

REQUEST

Lot Split: To split Parcel #R5070001086 into three (3) parcels.

Special Circumstances existing that are not the result of actions of the applicant:

The Stucco building was constructed in approximately 1930. The original Kuna State Bank unknown, Country Cuts, and Kuna-Melba News in the 1950's and 1960's.

Special Privilege/Public Benefit/Zoning and Land Use:

The use will remain office space per the existing approved zoning. The split will confer benefits to the City, present and future owners, and those within the original downtown business district (multiple beneficiaries).

The City by way of the elimination of a structure falling within a 'slum and blight' category. The Applicant/Owner can move forward in discussion with the future Tenant/Owner willing to invest and upgrade the structure, and the general public, community, and nearby business owners could realize aesthetic and value increases from the improvements.

Reason for Variance Request: Due to existing walls, lot splits between the buildings is logical but it falls short of meeting the ordinance requirement of 1,000 square feet (by approximately 100 square feet). To fully comply, additional space would be necessary. This would become an impossible burden for future owners and tenants.

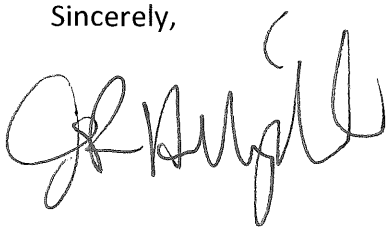
Applicant has been approached by a local business owner desiring to make a significant investment in updating both the exterior and interior. The party cannot justify the investment as a tenant, nor is it financially feasible for the applicant to make the investment as a landlord. Attracting the interested party will lead to the retention of this business owner as a landowner within the original platted business district of the community.

Applicant believes that the variance does not conflict with the public's interest, but rather supports and enhances the objectives of the City.

Physical and Financial Hardship: To meet the 1,000 square feet minimum would require the removal of two buildings' walls and ancillary costs that constitute both a physical and financial hardship that can't be justified. A literal interpretation of the Code (in this case) would result in unnecessary hardship and the loss of the present party wanting to improve this section of town.

Thank you for your consideration of this matter.

Sincerely,



James Robert Hallingshead, EA

City of Kuna
AFFIDAVIT OF LEGAL INTEREST

City of Kuna
P.O. Box 13
Kuna, Idaho 83634

Phone: (208) 922-5274
Fax: (208) 922-5989
Web: www.cityofkuna.com

State of Idaho)
) ss.
County of Ada)

I, HARRY W. KNOX II, 3420 N. KNOX DR.
Name **Address**

King Hill, Idaho 83633
City **State** **Zip Code**

being first duly sworn upon oath, depose and say:

(If Applicant is also Owner of Record, skip to B)

A. That I am the record owner of the property described on the attached, and I grant my permission to Bobby Hallingshead (Name) 443 S. Wagontown Ave Kuna, Id 83634 (Address) 208-861-3454 to submit the accompanying application pertaining to that property.

B. I agree to indemnify, defend and hold City of Kuna and its employees harmless from any claim or liability resulting from any dispute as to the statements contained herein or as to the ownership of the property which is the subject of the application.

C. I hereby grant permission to the City of Kuna staff to enter the subject property for the purpose of site inspections related to processing said application(s),

Dated this 9th day of July, 2020

Harry W. Knox II
Signature

Subscribed and sworn to before me the day and year first above written.

Tina M Payne
Notary Public for Idaho

Residing at: Elmore

My commission expires: 11-02-2024

TINA M PAYNE
Notary Public - State of Idaho
Commission Number 60473
My Commission Expires Nov 2, 2024

Exhibit A
Legal Description of Premises

Lot Thirteen (13), of Block Ten (10), of the Original Townsite of Kuna, Ada County, State of Idaho, as the same is numbered and designated on the Official Plat thereof now on file in the office of the County Recorder of Ada County, State of Idaho.

And, also the North Six (6) feet of the South Sixty (60) feet of the West Six and One-Half (6 1/2) inches of Lot Fourteen (14) of Block Ten (10), of the Original Townsite of Kuna, Ada County, State of Idaho, as the same is numbered and designated on the Official Plat thereof now on file in the office of the County Recorder of Ada County, State of Idaho, subject to the terms of that certain party wall agreement between W. E. Miller and Elmina B. Miller, husband and wife, and Knab Corporation, an Idaho corporation, dated May 15, 1962, and recorded June 7, 1962, records of Ada County, State of Idaho.

When recorded, please return to:

Harry Knox
3420 N Knox Dr
King Hill, Id 83633

ADA COUNTY RECORDER Phil McGrane
BOISE IDAHO Pgs=2 CHE FOWLER
HARRY KNOX II

2020-080295
06/30/2020 10:18 AM
AMOUNT:$15.00

00805561202000802950020025

GRANT DEED

FOR VALUE RECEIVED, Harry W Knox, II, who took title as Harry Knox, II and Associates (the "Grantor"), does hereby grant unto Harry W Knox, II, a single man whose address is 3420 N Knox Dr King Hill, Idaho 83633 (the "Grantee") all of Grantor's right, title and interest in and to that certain real property located in Ada County, Idaho, and legally described on Exhibit A, attached hereto and incorporated herein (the "Premises");

TOGETHER WITH all and singular hereditaments and appurtenances thereunto belonging, or in any ways appertaining, and the reversion and reversions, remainder and remainders, rents, issues and profits thereof; and all the estate, right, title, interest, claim and demand whatsoever of Grantor, either in law or equity, of, in and to the Premises;

TO HAVE AND TO HOLD the Premises, with its appurtenances unto the Grantee, its successors and assigns, forever; and

SUBJECT TO a) general taxes and assessments for the current year not yet due and payable that are prorated between Grantor and Grantee as of the effective date of this Grant Deed, and b) all other matter of record.

TN WITNESS WHEREOF, the undersigned have caused their names to be hereunto subscribed as of June , 2020.

GRANTOR:

Harry W Knox II, who acquired title as Harry Knox II & Associates

STATE OF IDAHO)
)
COUNTY OF Elmore)

This record was acknowledged before me on June 22, 2020, by Harry W Knox II

MIKELENE J. ZUIDERVELD
COMMISSION #67880
NOTARY PUBLIC
STATE OF IDAHO

Notary Public for the State of Idaho
My Commission Expires 6/8/22

Neighborhood Meeting Certification

CITY OF KUNA PLANNING & ZONING * 763 W. Avalon, Kuna, Idaho, 83634 * www.kunacity.id.gov * (208) 922-5274 * Fax: (208) 922-5989

GENERAL INFORMATION:

You must conduct a neighborhood meeting prior to application for variance, conditional use, zoning ordinance map amendment, expansion or extension of a nonconforming use, and/or a subdivision. Please see Section 5-1A-2 of the Kuna City Code or ask one of our planners for more information on neighborhood meetings.

The meeting must be held either on a weekend between 10 a.m. and 7 p.m., or a weekday between 6 p.m. and 8 p.m. Meetings cannot be conducted on holidays, holiday weekends, or the day before or after a holiday or holiday weekend. The meeting must be held at one of the following locations:

- The Subject Property;
- The nearest available public meeting place (Examples include fire stations, libraries and community centers);
- An office space within a 1-mile radius of the subject property.

The meeting cannot take place more than 2 months prior to acceptance of the application and the application will not be accepted before the neighborhood meeting is conducted. You are required to send written notification of your meeting, allowing a reasonable amount of time before your meeting for property owners to plan to attend. Contacting and/or meeting individually with residents will not fulfill Neighborhood Meeting requirements.

You may request a list of the people you need to invite to the neighborhood meeting from our department. This list includes property owners within 300 feet of the subject property. Once you have held your neighborhood meeting, please complete this certification form and include it with your application.

Please Note: The neighborhood meeting must be conducted in one location for attendance by all neighboring residents. Contacting and/or meeting individually with residents does not comply with the neighborhood meeting requirements.

Please include a copy of the list of neighbors notified and the sign-in sheet for your neighborhood meeting, so we have written record of who attended your meeting and the letter of intent sent to each recipient. In addition, provide any concerns that may have been addressed by individuals that attended the meeting.

Description of proposed project: Lot split in lot 13, Blk 10 Original Townsite,

Date and time of neighborhood meeting: Monday July 13, 2020 6 to 8 pm.

Location of neighborhood meeting: 330 Ave. D

SITE INFORMATION:

Location: Quarter: ____ Section: ____ Township: ____ Range: ____ Total Acres: ____

Subdivision Name: NA Lot: 13 Block: 10

Site Address: 330 Ave D Original Kuna Townsite Tax Parcel Number(s): R5070001084

Please make sure to include **all** parcels & addresses included in your proposed use.

CURRENT PROPERTY OWNER:

Name: Harry W. Knox

Address: 3420 N. Knox Dr City: King Hill State: Id Zip: 83633

CONTACT PERSON (Mail recipient and person to call with questions):

Name: Same Business (if applicable): ____

Address: ____ City: ____ State: ____ Zip: ____

SIGN IN SHEET

PROJECT NAME: LOT SPLIT : LOT 13 BLK 10 ORIGINAL KUNA TOWN SITE

Date: 7-13-20

	Name	Address	Zip	Phone
1	No attendance			
2				
3				
4				
5				
6				
7				
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10				
11				
12				
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PRIMOWNER	SECOWNER	ADDCONCAT
1111 KUNA LLC		P O BOX 905
ADA COUNTY HIGHWAY DISTRICT		3775 N ADAMS ST
ATKINS WYLAND L	ATKINS KAREN K	PO BOX 102
BROWN ROGER W	BROWN PAMELA E	278 N BRIDGE AVE
BTC PROPERTIES LLC		72 N SARATOGA CT
CARDOZA RICHARD C		PO BOX 217
CLUFF DWAIN A		463 W 4TH ST
CONPAZ MARTEESON LLC		PO BOX 444
CROWE WILLIAM CHARLES	CROWE SHERYL ANNE	1241 W OWYHEE ST
HAUMANN TINA M		PO BOX 109
JK VOND LLC		7601 S CHISUM PL
KNOX HARRY W II & ASSOCIATES		3420 N KNOX DR
KUNA JOINT SCHOOL DIST #3		711 E PORTER RD
MCCLINTICK VIRGINIA		447 W 4TH ST
MRS PROPERTIES LLC		PO BOX 100
NEAL GARY J	NEAL LAURALE J	423 N MARTEESON AVE
PACKWEST BARS LLC		2354 BLACK CAT RD
QWEST CORPORATION		700 W MINERAL AVE
RUSSELL JAMES D	RUSSELL SHERI J	781 S SCHOOL AVE
SALEWSKI ROBERT G	SALEWSKI BONNIE L	9707 W COUNTRYMAN DR
SOTO LLC		1922 W ARDELL RD
TRUDELL RANDY J		PO BOX 531
US BANK NATIONAL ASSOCIATION		2800 E LAKE ST
W & H LIMITED LIABILITY CO		720 W 20TH ST
WOOD-ANDREWS KUNA R/E LLC		11027 W INGLIN DR

STATCONCAT
KUNA, ID 83634-0000
GARDEN CITY, ID 83714-6447
KUNA, ID 83634-2052
KUNA, ID 83634-0000
NAMPA, ID 83687-0000
KUNA, ID 83634-0000
KUNA, ID 83634-0000
KUNA, ID 83634-0000
KUNA, ID 83634-0000
KUNA, ID 83634-0000
MERIDIAN, ID 83642-0000
KING HILL, ID 83633-0000
KUNA, ID 83634-0000
KUNA, ID 83634-2052
KUNA, ID 83634-0000
KUNA, ID 83634-0000
KUNA, ID 83634-0000
LITTLETON, CO 80120-0000
KUNA, ID 83634-0000
BOISE, ID 83709-0000
KUNA, ID 83634-0000
KUNA, ID 83634-0000
MINNEAPOLIS, MN 55406-0000
PITTSBURG, KS 66762-0000
BOISE, ID 83709-0000

DATE: July 2, 2020

TO: NEIGHBORS

FROM: Harry W. Knox

RE: LOT SPLIT: LOT 13 BLK 10 OROIGINAL KUNA TOWNSITE (330 Ave D)

A variance application for a lot split is being made to split the above lot between the stucco building at the north end of the lot and the adjacent building rented to Bel Estrada dba Bel's Country Cuts. The purpose of the variance is to allow the split between the building walls which falls short approximately 100 Sq Ft of meeting present City Code.

This letter is notice of an opportunity to review and discuss the application at a neighborhood meeting as required by City Code; however, this is not a public hearing and public officials will not be present.

The neighborhood meeting will be held on site at 330 Ave D, Kuna, Idaho, which is the opposite end of the lot from the Edward Jones location.

The date of the meeting will be held on Monday July 13, 2020 between 6:00 pm and 8:00 pm.

I look forward to addressing any of your questions and concerns.

Sincerely,

Harry W Knox



City of Kuna
P.O. Box 13
Kuna, Idaho 83634

Phone: (208) 922-5274
Fax: (208) 922-5989
Web: www.cityofkuna.com

City of Kuna

COMMITMENT TO PROPERTY POSTING

Per City Code 5-1A-8, the applicant for all applications requiring a public hearing shall post the subject property not less than ten (10) days prior to the hearing. The applicant shall post a copy of the public hearing notice or the application (s) on the property under consideration.

The applicant shall submit proof of property posting in the form of a notarized statement and a photograph of the posting to the City no later than seven (7) days prior to the public hearing attesting to where and when the sign (s) were posted. Unless such Certificate is received by the required date, the hearing will be continued.

The sign (s) shall be removed no later than three (3) days after the end of the public hearing for which the sign (s) had been posted.

I am aware of the above requirements and will comply with the posting requirements as stated in Kuna City Code 5-1A-8

Applicant/agent signature

July 12, 2020
Date

City of Kuna
Planning & Zoning Department

City of Kuna
P.O. Box 13
Kuna, Idaho 83634
Phone: (208) 922-5274
Fax: (208) 922-5989
www.Kunacity.id.gov

Agency Transmittal

July 15, 2020

Notice is hereby given by the City of Kuna the following actions are under consideration**:**

FILE NUMBER:	20-01-V, (Variance) – Harry Knox 330 N. Avenue D
PROJECT DESCRIPTION	The applicant is seeking a variance in order to create a parcel smaller than the minimum lot size permitted within the Central Business District through the Lot Split Process. (APN: R5070001086)
SITE LOCATION	330 N. Avenue D, Kuna, Idaho 83634.
APPLICANT	*James Robert Hollingstead* 443 S. Wagontown Avenue Kuna, ID 83634 208.861.3454
SCHEDULED HEARING DATE	Tuesday, **August 11, 2020.** 6:00 P.M.
STAFF CONTACT	Doug Hanson Dhanson@KunaId.Gov Phone**:** 922.5274 Fax**:** 922.5989

We have enclosed information to assist you with your consideration and response. *No response within 15 business days will indicate you have no objection or comments for this project.* We would appreciate any information as to how this action would affect the service(s) your agency provides. The hearing is scheduled to begin at 6:00 p.m. or as soon as it may be heard. Kuna City Hall is located at 751 W. 4th Street, Kuna, ID 83634. Please contact staff with questions. ***If your agency needs different plans or paper copies to review, notify our office know and we will send them. Please notify our office who future packets should be sent to, included their email as well.*** If your agency needs additional time for review, please let our office know ASAP.

CITY OF KUNA
P.O. BOX 13
KUNA, ID 83634
www.kunacity.id.gov

MEMO

Date: August 11, 2020

From: Lisa Holland, Economic Development Director

To: Planning & Zoning Commission

RE: Harry Knox Variance Request

Planning & Zoning Commissioners,

Harry Knox is in front of you today with a request for a variance to City Code that would allow him to split APN R5070001086. Currently all of the adjacent buildings on the East side of Avenue D are owned by Harry Knox as one parcel. Mr. Knox is requesting a variance and lot split so that future owners can take over the spaces, and do some needed improvements.

Having available commercial spaces in downtown Kuna has been a challenge, and Economic Development is supportive of the request for a variance and lot split. Downtowns typically have a variety of different building sizes, and since it is an existing structure, it is a reasonable request to divide the parcel so that there can be more than one owner. We think new buyers of the properties could help with façade improvements and upgrade the sites for other commercial uses in the future.

Thanks for your consideration.

Best Regards,

Lisa Holland
Economic Development Director
lholland@kunaid.gov
208-559-5926

CITY OF KUNA
PLANNING & ZONING DEPARTMENT
PO Box 13 • 751 W. 4th St • Kuna, Idaho • 83634
Phone (208) 922-5274 • Fax: (208) 922-5989
www.kunacity.id.gov

Dear Property Owner:

NOTICE IS HEREBY GIVEN that the City of Kuna **Planning and Zoning Commission** is scheduled to hold a public hearing on **August 11, 2020,** beginning **at 6:00 pm** on the following case:

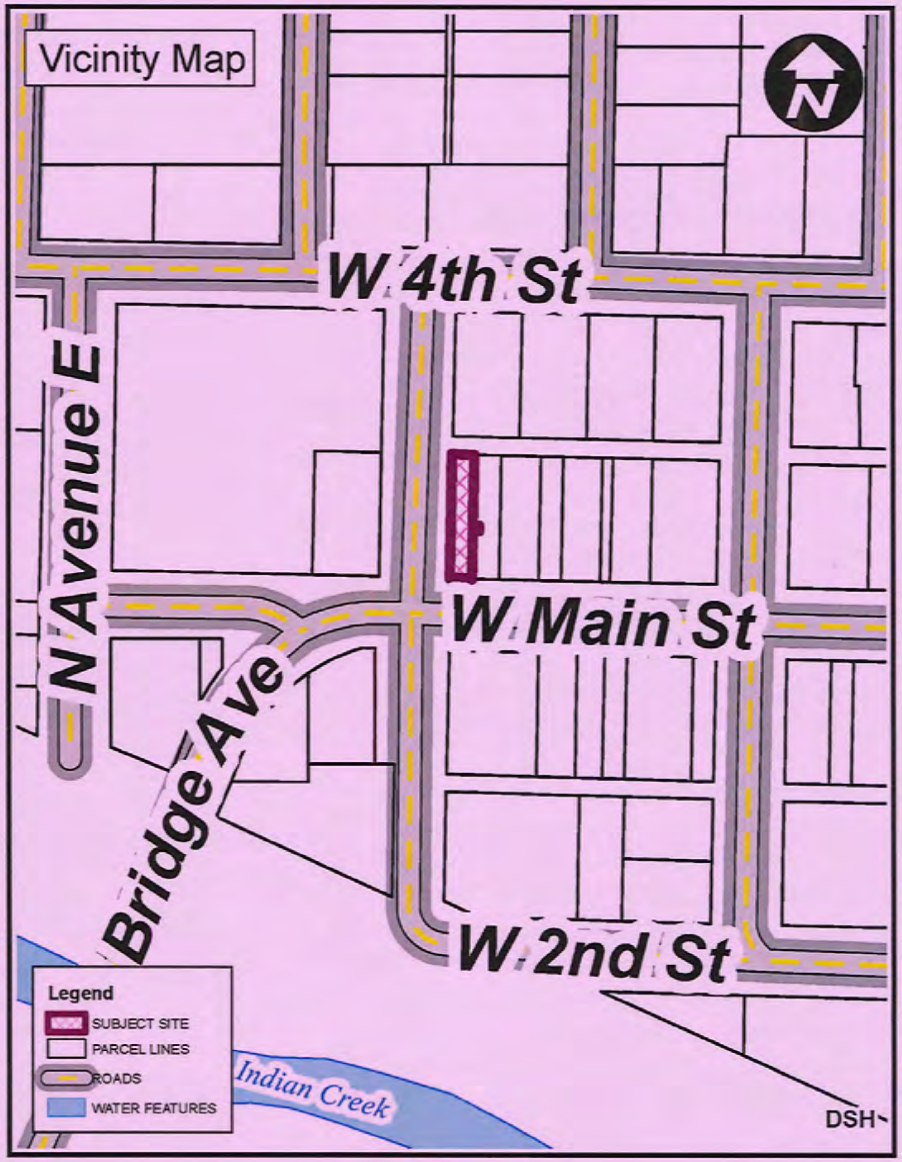
James Robert Hollingstead is seeking a variance in order to create a parcel smaller than the minimum lot size permitted within the Central Business District through the Lot Split Process at 330 N. Avenue D, Kuna, ID 83634 (APN: R5070001086). The hearing will be held **at 6:00 PM in the Council Chambers at City Hall located at 751 W. 4th Street, Kuna, Idaho.**

Due to required social distancing protocol, **the Council Chambers Audience Occupancy Capacity is 15**. The first 15 persons who appear, in addition to the Planning and Zoning Commission and staff, will be allowed in Council Chambers. Virtual participation/testimony via Zoom and the submittal of written testimony are available as alternative forms of public testimony (please see attached instructions for more details). Written testimony received by the close of business on ***August 5, 2020*** will be included in the packet that is distributed to the governing body prior to the hearing. Please submit written testimony via mail, email or the City's website (**http://kunacity.id.gov/FormCenter/City-Clerk-13/Public-Testimony-Form-121**). Late submissions will be presented to the governing body at time of the hearing.

All other persons may access the meeting via live streaming on the City of Kuna's Facebook page.

Mail written comments to PO Box 13, Kuna, ID 83634 or hand deliver them to City Hall.

If you have questions or need special assistance, please contact the Planning and Zoning Division at (208) 922-5274, or email **whowell@kunaid.gov**.



MAILED 7/22/20

City of Kuna
Planning and Zoning
PO Box 13
Kuna, ID 83634

LEGAL NOTICE

Suggestions For Testifying at the Public Hearing:

Social distancing due to Covid-19…

Due to required social distancing protocol, the Council Chambers Audience Occupancy Capacity is 15. The first 15 persons who appear, in addition to the Governing Body and Staff, will be allowed in Council Chambers. Virtual participation/ testimony via zoom is available (please see attached instructions for more details). All other persons may access the meeting via live streaming on the City of Kuna's Facebook page.

Be informed . . .

Review the proposal, staff report, applicable provisions of the ordinance, comprehensive plan and Idaho State Code (Title 67, Chapter 65).

All items pertaining to the application can be found the Friday prior to the hearing at http://kunacity.id.gov/240/Agendas-and-Meeting-Minutes.

Be on time . . .

Although the item you are interested in may not be first on the agenda, you never know when it will be heard. The governing body has authority to adjust the schedule according to its discretion. Thus, anticipate attending from the beginning.

Speak to the point . . .

The governing body appreciates pertinent, well organized, factual and concise comments. Redundant testimony is prohibited. The developer or their representative is given 10 minutes to present their project. Others wishing to testify are given three (3) minutes. The developer (or their representative) is given additional time for rebuttal to address issues raised during public testimony. Long stories, abstract complaints, or generalities may not be the best use of time. Neighborhood groups are encouraged to organize testimony and have one (1) person speak on behalf of the group. The group representative will receive 10 minutes to make comments.

If you don't wish to speak, write . . .

Written testimony submitted one (1) week prior to the hearing will be included in the packet that is distributed to the governing body prior to the hearing. Please submit all written testimony via mail, email or the City's website(http://kunacity.id.gov/FormCenter/City-Clerk-13/Public-Testimony-Form-121)

Late submissions will be presented to the governing body at time of hearing. As a reminder, it is unreasonable to submit extensive written comments or information at the hearing and expect them to be reviewed prior to a decision.

With the City Hall limited seating capacity to the public due to COVID-19, the *Planning and Zoning Commission* will be holding a virtual public hearing on *20-01-V (Variance) Harry Knox 330 N. Ave D*. The instructions and options available for public testimony are listed below.

APPLICANT PUBLIC WRITTEN AND ORAL HEARING TESTIMONY PROCESS:

Written - In Advance to be included in the Agenda Packet that is distributed to the Decision-Making body.

1. Submit any below stated option prior to 5:00 pm the Thursday before Public Hearing meeting. *Late submissions will not be included in the packet but will be provided at the meeting.*
2. Submit testimony via our website on the Public Testimony Form. This form will email directly to the City for inclusion in the Agenda Packet.
3. Submit testimony via email to PublicHearingTestimony@KunaID.gov
4. Submit via mail to:
   City of Kuna
   Attention: Planning and Zoning Department
   PO Box 13
   Kuna ID 83634

Written – Up to noon the day of the Public Hearing

1. Submit any below stated option prior to noon the day of the Public Hearing meeting. *Late submissions will not be included.*
2. Submit testimony via our website on the Public Testimony Form
   Kunacity.id.gov > Doing Business > Forms and Applications > Frequently Requested Applications and Forms > ONLINE Public Testimony Form
3. Submit testimony via email to PublicHearingTestimony@KunaID.gov
4. Submit via mail to:
   City of Kuna
   Attention: Planning and Zoning Department
   PO Box 13
   Kuna ID 83634

Oral – Via electronic call is allowed based on Governor Little's Open Meeting Law suspension proclamation of March 13, 2020, until testimony in person is allowed.

1. Submit request no later than noon the day of the Public Hearing meeting.
2. Email PublicHearingTestimony@KunaID.gov
   - ✓ Your name
   - ✓ Address
   - ✓ Phone Number you will be calling from to give testimony
   - ✓ Email Address
   - ✓ Date of Public Hearing
   - ✓ Case number or Identification of Public Hearing
3. Watch your email for a reply email with the information to join the meeting electronically. (Check your spam/junk folder as a precaution)
4. Follow the dial in information.
5. Call into the virtual lobby a minimum of 5 minutes prior to the meeting.

751 West 4th Street
P.O. Box 13
Kuna, ID 83634
Phone: 208-922-5274
Fax: 208-922-5989
www.kunacity.id.gov

CITY OF KUNA

PLANNING & ZONING DEPARTMENT

CERTIFICATE OF MAILING

Date: 07/22/2020

To: ☑ 300' Property Owners ☐ Other _____

Planner: Doug Hanson, Planner I

Case Name: 20-01-V Harry Knox 330 N. Ave D

I HEREBY CERTIFY that on this 22nd day of July, 2020, I caused a true and correct copy of the foregoing instrument to be deposited in the United States mail, with prepaid postage.

Signature

Attest

1111 KUNA LLC
P O BOX 905
KUNA, ID 83634-0000

ADA COUNTY HIGHWAY DISTRICT
3775 N ADAMS ST
GARDEN CITY, ID 83714-6447

ATKINS WYLAND L
ATKINS KAREN K
PO BOX 102
KUNA, ID 83634-2052

BROWN ROGER W
BROWN PAMELA E
278 N BRIDGE AVE
KUNA, ID 83634-0000

BTC PROPERTIES LLC
72 N SARATOGA CT
NAMPA, ID 83687-0000

CARDOZA RICHARD C
PO BOX 217
KUNA, ID 83634-0000

CLUFF DWAIN A
463 W 4TH ST
KUNA, ID 83634-0000

CONPAZ MARTEESON LLC
PO BOX 444
KUNA, ID 83634-0000

CROWE WILLIAM CHARLES
CROWE SHERYL ANNE
1241 W OWYHEE ST
KUNA, ID 83634-0000

HAUMANN TINA M
PO BOX 109
KUNA, ID 83634-0000

JK VOND LLC
7601 S CHISUM PL
MERIDIAN, ID 83642-0000

KNOX HARRY W II & ASSOCIATES
3420 N KNOX DR
KING HILL, ID 83633-0000

KUNA JOINT SCHOOL DIST #3
711 E PORTER RD
KUNA, ID 83634-0000

MCCLINTICK VIRGINIA
447 W 4TH ST
KUNA, ID 83634-2052

MRS PROPERTIES LLC
PO BOX 100
KUNA, ID 83634-0000

NEAL GARY J
NEAL LAURALE J
423 N MARTEESON AVE
KUNA, ID 83634-0000

PACKWEST BARS LLC
2354 BLACK CAT RD
KUNA, ID 83634-0000

QWEST CORPORATION
700 W MINERAL AVE
LITTLETON, CO 80120-0000

RUSSELL JAMES D
RUSSELL SHERI J
P O BOX 250
KUNA, ID 83634-0000

RUSSELL JAMES D
RUSSELL SHERI J
781 S SCHOOL AVE
KUNA, ID 83634-0000

SALEWSKI ROBERT G
SALEWSKI BONNIE L
9707 W COUNTRYMAN DR
BOISE, ID 83709-0000

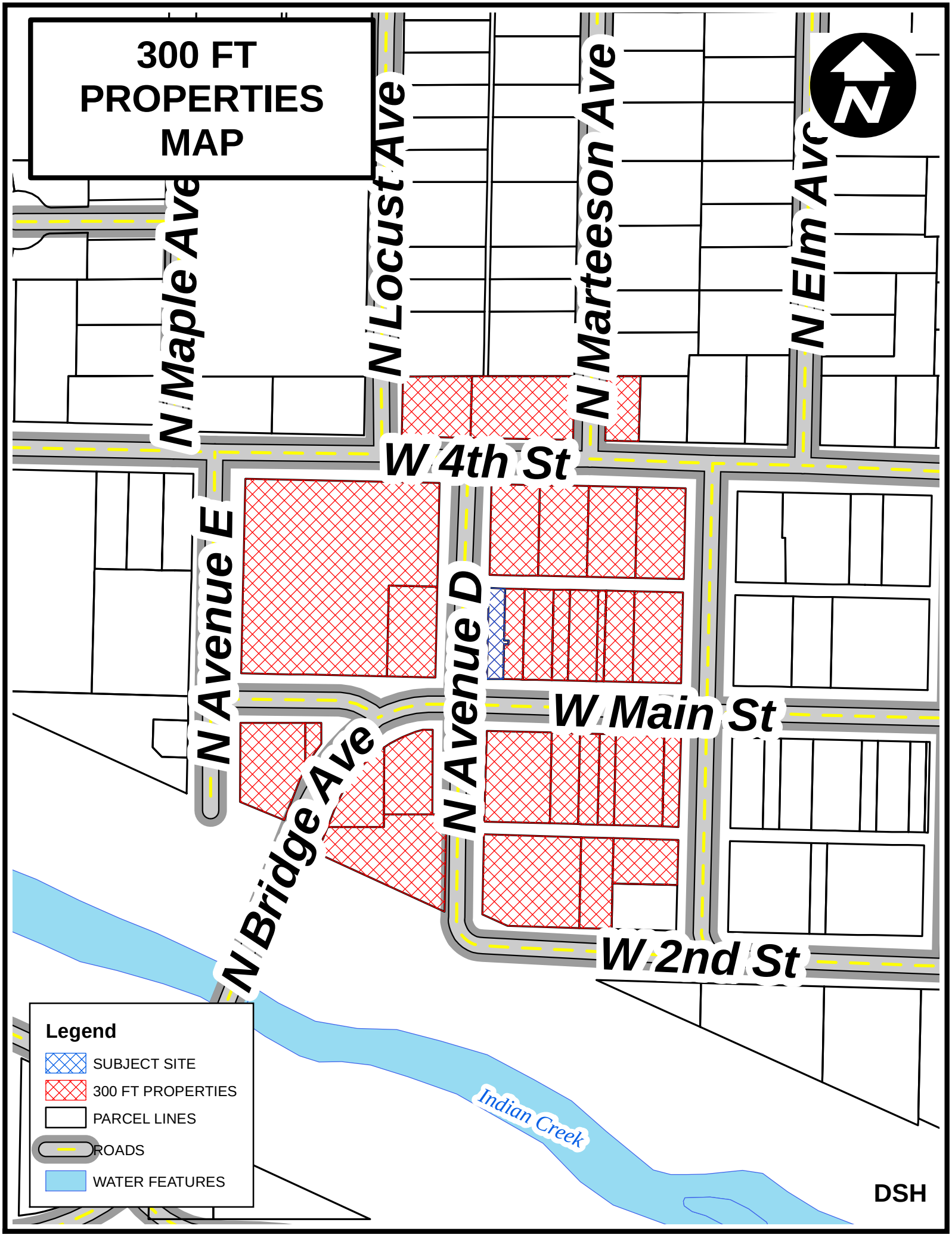
SOTO LLC
1922 W ARDELL RD
KUNA, ID 83634-0000

TRUDELL RANDY J
PO BOX 531
KUNA, ID 83634-0000

US BANK NATIONAL ASSOCIATION
2800 E LAKE ST
MINNEAPOLIS, MN 55406-0000

W & H LIMITED LIABILITY CO
720 W 20TH ST
PITTSBURG, KS 66762-0000

WOOD-ANDREWS KUNA R/E LLC
11027 W INGLIN DR
BOISE, ID 83709-0000


300 FT PROPERTIES MAP
N Maple Ave
N Locust Ave
N Marteeson Ave
N Elm Ave
W 4th St
N Avenue E
N Avenue D
W Main St
N Bridge Ave
W 2nd St
Indian Creek
Legend
SUBJECT SITE
300 FT PROPERTIES
PARCEL LINES
ROADS
WATER FEATURES
DSH

IDAHO PRESS-TRIBUNE
EMMETT MERIDIAN KUNA BOISE WKLY
C/O ISJ PAYMENT PROCESSING CENTER
PO BOX 1570
POCATELLO ID 83204
(208)467-9251
Fax (208)475-2321

ORDER CONFIRMATION

Salesperson: LEGALS — Printed at 07/20/20 10:39 by sje14

Acct #: 345222 — Ad #: 2027207 — Status: New CHOLD

1 KUNA, CITY OF
P.O. BOX 13
KUNA ID 83634

Start: 07/22/2020 — Stop: 07/22/2020
Times Ord: 1 — Times Run: ***
LEG 2.00 X 84.00 — Words: 540
Total LEG 168.00
Class: 0006 GOVERNMENT NOTICES
Rate: L2 — Cost: 152.48
Affidavits: 1

Contact: CHRIS ENGLES
Phone: (208)387-7727
Fax#:
Email: awelker@kunaid.gov; gsmith@k
Agency:

Ad Descrpt: 20-01-V
Given by: DOUG HANSON
P.O. #:
Created: sje14 07/20/20 10:34
Last Changed: sje14 07/20/20 10:39

PUB	ZONE	EDT	TP	RUN DATES
KMN	A	96	S	07/22

AUTHORIZATION

Under this agreement rates are subject to change with 30 days notice. In the event of a cancellation before schedule completion, I understand that the rate charged will be based upon the rate for the number of insertions used.

DOUG HANSON

Name (print or type) — Name (signature)

(CONTINUED ON NEXT PAGE)

IDAHO PRESS-TRIBUNE
EMMETT MERIDIAN KUNA BOISE WKLY
C/O ISJ PAYMENT PROCESSING CENTER
PO BOX 1570
POCATELLO ID 83204
(208)467-9251
Fax (208)475-2321

ORDER CONFIRMATION (CONTINUED)

Salesperson: LEGALS Printed at 07/20/20 10:39 by sje14

Acct #: 345222 Ad #: 2027207 Status: New CHOLD CHOI

LEGAL NOTICE

Case # 20-01-V (Variance)

NOTICE IS HEREBY GIVEN, the Kuna Planning and Zoning Commission will hold a public hearing, **Tuesday August 11, 2020, at 6:00 pm**, at Kuna City Hall, 751 W. 4th Street, Kuna, ID in connection with a Variance request from James Robert Hollingstead in order to create a parcel smaller than the minimum lot size permitted within the Central Business District through the Lot Split process located at 330 N. Avenue D, Idaho (APN #: R5070001086).

Please do not contact the Planning & Zoning Commission or City Council including the Mayor as this may jeopardize the public hearing process since it is considered ex parte. If you have any questions or require special accommodations, please contact Kuna Planning & Zoning Department prior to the meeting at (208) 922-5274.

The public is invited to provide written or oral testimony. Due to current health precautions associated with the Coronavirus, the City of Kuna is providing alternative ways for the community to submit comments at public hearings.

APPLICANT AND PUBLIC WRITTEN AND ORAL HEARING TESTIMONY PROCESS:

Written - In Advance to be included in the Agenda Packet that is distributed to the Commission.
1. Submit any option prior to 5:00 pm the Thursday before Public Hearing meeting. Late submissions will not be included in the packet but will be provided at the meeting.
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Kuna Planning & Zoning Department

July 22, 2020 2027207

LEGAL NOTICES

To place an ad in our Legal Section Call 465-8129

LEGAL NOTICE

NOTICE TO CREDITORS
Case No. CV01-20-09591

IN THE DISTRICT COURT OF THE FOURTH JUDICIAL DISTRICT OF THE STATE OF IDAHO, IN AND FOR THE COUNTY OF ADA

In the matter of the Estate of
PAMELA JEAN PIERSON,
Deceased.

NOTICE IS HEREBY GIVEN that RANDI J. GRANADOS has been appointed Personal Representative of the above-named estate. All persons having claims against the decedent's estate are required to present their claims within four (4) months after the date of the first publication of this Notice or said claims will be forever barred.

Claims must be presented to the undersigned Personal Representative of the estate's attorney, Kristen R. Thompson of Thompson Law Firm at 78 SW 5th Avenue, Suite 2, Meridian, Idaho, 83642 and they must be filed with the Clerk of the Court.

Dated this 29th day of June 2020.

Kristen R. Thompson
78 SW 5th Avenue, Suite 2
Meridian, Idaho 83642
Telephone: 208-888-7278

July 8, 15, 22, 2020
2024028

LEGAL NOTICE

Case # 20-01-V (Variance)

NOTICE IS HEREBY GIVEN, the Kuna Planning and Zoning Commission will hold a public hearing, **Tuesday August 11, 2020, at 6:00 pm**, at Kuna City Hall, 751 W. 4th Street, Kuna, ID in connection with a Variance request from James Robert Hollingstead in order to create a parcel smaller than the minimum lot size permitted within the Central Business District through the Lot Split process located at 330 N. Avenue D, Idaho (APN #: R5070001086).

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√ Your name
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√ Phone Number you will be calling from to give testimony
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√ Case number or Identification of Public Hearing
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Kuna Planning & Zoning Department

July 22, 2020 2027207

LEGAL NOTICE

Case # 20-03-SUP (Special Use Permit) & 20-13-DR (Design Review)

NOTICE IS HEREBY GIVEN, the Kuna Planning and Zoning Commission will hold a public hearing, **Tuesday August 11, 2020, at 6:00 pm**, at Kuna City Hall, 751 W. 4th Street, Kuna, ID for a Special Use Permit and Design Review request from Rennison Design to construct and operate a new church located at the northwest corner of W Ardell Road and N Ten Mile Road, Kuna, Idaho (APN #: S1315142250).

Please do not contact the Planning & Zoning Commission or City Council including the Mayor as this may jeopardize the public hearing process since it is considered ex parte. If you have any questions or require special accommodations, please contact Kuna Planning & Zoning Department prior to the meeting at (208) 922-5274.

The public is invited to provide written or oral testimony. Due to current health precautions associated with the Coronavirus, the City of Kuna is providing alternative ways for the community to submit comments at public hearings.

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√ Your name
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√ Phone Number you will be calling from to give testimony
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Kuna Planning & Zoning Department

July 22, 2020 2027093

LEGAL NOTICE

File # 19-09-S, Corbin's Cove Subdivision

NOTICE IS HEREBY GIVEN, that the City Council will hold a public hearing, Tuesday, **August 18, 2020 at 6:00 pm**, or as soon as can be heard at Kuna City Hall, 751 W. 4th St, Kuna, ID; in connection with a **Preliminary Plat (S)** request for a Subdivision. Gary McAllister requests preliminary plat approval in order to subdivide the approx. 6.00 acres into 22 total lots. The proposed gross and net densities are approximately 3.74 DUA, and 4.20 DUA respectively. This will be a re-subdivision of Kuna Home Tracts, Lots 7 and 8. The site is located near School and Avalon Roads, on existing Sharp Lane Kuna, ID 83634, Section 26, Township 2 North, Range 1 West; (APNs: R5070251061, R5070251161 and R5070251166).

The public is invited to present written or oral comments. Written testimony received by the close of business on **August 13, 2020** will be included in the packets distributed to the governing body. Late submissions (must include eight (8) copies) will be presented to the governing body at the time of the hearing. Please mail written comments to PO Box 13, Kuna, ID 83634, or drop them off at City Hall: 751 West 4th Street, Kuna, ID.

Please do not contact anyone who would be involved in this decision-making process, which would include the City Council Members, or the Mayor; as such private conversations would be considered ex parte (one sided) and could jeopardize the public hearing process.

If you have any questions or require special accommodations, please contact the Kuna Planning & Zoning Department prior to the meeting at (208) 922-5274.

Kuna Planning & Zoning Department

July 22, 2020 2026524

LEGAL NOTICE

Notice of Public Hearing
Kuna Urban Renewal Agency
Proposed Budget for Fiscal Year 2021

Notice is hereby given that a public hearing for consideration of the proposed Urban Renewal Agency of the City of Kuna, Idaho's budget for the fiscal year that begins October 1, 2020, and ends September 30, 2021, will be held at City Hall, City Council Chambers, 751 4th Street, Kuna, Idaho on August 5, 2020, at 6:00 p.m., pursuant to Idaho Code §§ 50-2903(5) and 50-1002. Due to social distancing protocol, the Council Chambers Audience Occupancy Capacity is 15. Social Distancing will be required. The first 15 persons who appear, in addition Agency Commissioners, and staff, will be allowed in Council Chambers. All other persons may access the meeting via Live Streaming. Written or oral comments about the proposed budget are welcome. Written comments may be submitted prior to the meeting to Kuna Urban Renewal Agency, c/o Lisa Holland at lholland@junaid.gov.

The Agency budget funds the programs, services, and projects that the Agency Board and the City Council have determined to be important to meet the Agency's strategic goals. For FY2021, the costs are related to planning efforts in support of establishment of a revenue allocation area.

This public hearing on the proposed budget is required for formal adoption of the FY 2021 budget. The proposed expenditures and revenues for FY 2021 have been tentatively approved by the Kuna Urban Renewal Agency Board of Commissioners at its regular meeting on July 1, 2020.

The City Hall is accessible to persons with disabilities.

	FY2021 PROPOSED
CAPITAL PROJECTS REVENUE	
Grant from City	96,687
Carryover	0
TOTAL REVENUE	**96,687**
CAPITAL PROJECTS EXPENDITURES	
Capital Improvements	96,687
TOTAL EXPENDITURES	**96,687**
GRAND TOTAL NET	**0**

July 22, 29, 2020 2026523

City of Kuna
PROOF OF PROPERTY POSTING

City of Kuna
P.O. Box 13
Kuna, Idaho 83634

Phone: (208) 922-5274
Fax: (208) 922-5989
Web: www.kunacity.id.gov

This notice shall confirm that the Public Hearing Notice for 330 N Ave D, Kuna (**NAME OF SUBDIVISION OR ADDRESS**) was posted as required per Kuna City Ordinance 5-1A-8. Sign posted 29TH, July, 2021 (**DAY OF THE WEEK, MONTH, DATE AND YEAR**). *This form is required to be returned three (3) calendar days subsequent to posting and signs are to be removed from the site three (3) calendar days after the hearing.*

DATED *this* 29TH *day of* July, 2020.

Signature,

Owner/Developer

STATE OF IDAHO)
): ss
County of Ada)

On this 29th *day of* July, 2020 *before me the undersigned, a Notary Public in and for said State, personally appeared before me (Owner, Developer).* James Hallingshead

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

Dawn Stephens
Notary Public
Residing at Kuna, ID
Commission Expires 3-7-24

DAWN STEPHENS NOTARY PUBLIC Comm. No. 46213 STATE OF IDAHO


CITY OF KUNA
PUBLIC HEARING NOTICE
KUNA PLANNING AND ZONING COMMISSION
WHEN: The City of Kuna will hold a public hearing on August 11, 2020
at 6:00pm at Kuna City Hall - 751 W. 4th St. Kuna, ID 83634
PURPOSE: A variance in order to create a parcel smaller than the
minimum lot size permitted within the Core of Business District through
the Lot Split Process
LOCATION: 330 N Ave O Kuna ID 83634 APN: R0070001080
APPLICATION BY: James Hollingshead
CONTACT: Doug Hanson dhanson@kunaid.gov 208.922.5274


CITY OF KUNA
PUBLIC HEARING NOTICE
KUNA PLANNING AND ZONING COMMISSION
WHEN:
PURPOSE:
LOCATION:
APPLICATION BY:
CONTACT:
4X4

City of Kuna

Planning and Zoning Commission
Staff Report

P.O. Box 13
Phone: (208) 922-5274
Fax: (208) 922-5989
www.Kunacity.id.gov

To: Planning and Zoning Commission

Case Numbers: 20-01-ZC 11 20-02-S (Preliminary Plat) and 20-05-DR (Design Review) – **Sera Sole Subdivision.**

Site Location: Near the Northwest Corner (NWC) of Swan Falls & Sunbeam Ave., in Kuna, ID 83634

Planner: Troy Behunin, Planner III

Hearing Date: August 11, 2020

Owners: **CCI Group LLC**
4202 N. Marcliff Ave.
Boise, ID 83704
And,
Fred & Sharon Wheeler
846 S. Ash Ave.
Kuna, ID, 83634

Representative: **Riley Planning LLC**
Penelope Riley
P.O. Box 405
Boise, ID 83701
208.908.1609
penelope@rileyplanning.com

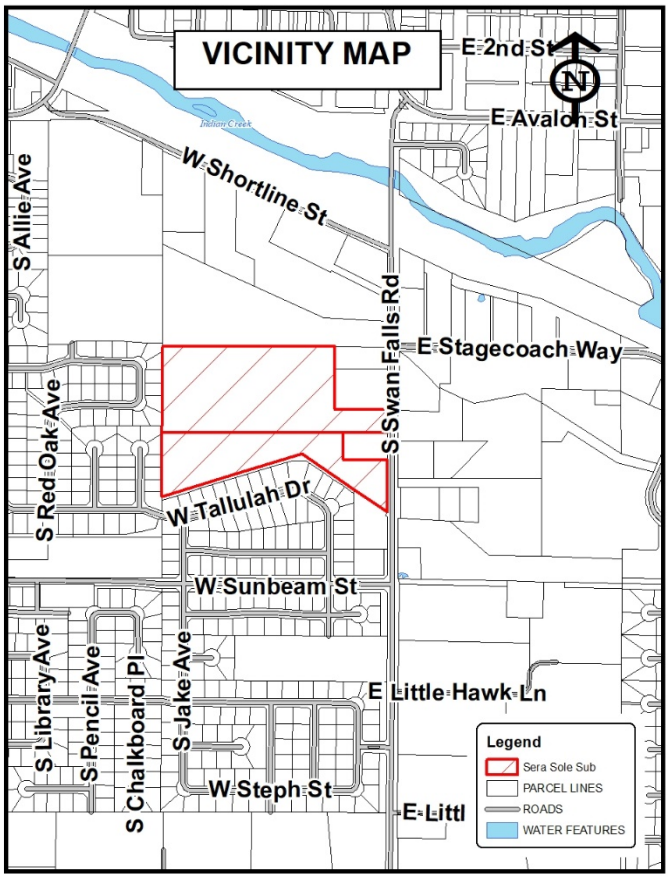


Table of Contents:

A. Process and Noticing
B. Applicants Request
C. Site History
D. General Project Facts
E. Staff Analysis
F. Applicable Standards
G. Proposed Comprehensive Plan Analysis
H. Proposed Kuna City Code Analysis
I. Commission's Recommendation

A. Process and Noticing:

1. Kuna City Code (KCC), Title 1, Chapter 14, Section 3, states that design reviews are designated as *public meetings*, with the Planning and Zoning Commission (acting as the Design Review Board) as the decision-making body; and that rezones and preliminary plats are designated as public hearings, with the Planning and Zoning Commission as a recommending body and City Council as the decision-making body. These land use applications were given proper public notice and followed the requirements set forth in Idaho Code, Chapter 65, Local Planning Act.

a. Notifications

i.	Neighborhood Meeting	February 1, 2020 (4 people attended)
ii.	Agency Comment Request	March 30, and Updated April 17, 2020
iii.	400' Property Owners Notice	July 31, 2020

iv. Kuna Melba Newspaper July 8, 2020
v. Site Posted July 31, 2020

B. Applicant's Request:

Riley Planning, LLC requests to rezone two parcels consisting of approximately 19.22-ac in Kuna City, from Agriculture (Ag.) ***TO*** the R-6 MDR (Medium Density Residential) zone and to subdivide the same lands into 89 total lots (78 buildable lots and 11 common lots). The subject site is located near the NWC of Swan Falls Road and Sunbeam Street within Section 26, Township 2 North, Range 1 West; (APNs: S1326141870 & S1326142025.).

C. Site History:

Both parcels are currently zoned Agriculture (AG), however, they are both in Kuna City. Historically these parcels have served as farmland.

D. General Projects Facts:

1. **Comprehensive Plan Map:** The Future Land Use Map (FLUM) is intended to serve as a *guide* for the decision-making body for the City. The FLUM indicates land use designations generally speaking, it is not the actual zone. The Future Land Use Map identifies the approximately 19.22-acre site as Mixed-Use.

2. **Recreation and Pathways Map:** The Recreation and Pathways Master Plan Map does not indicate a future pathway/trail through the subject site; however, bike routes and a Scenic Byway are proposed along Swan Falls Road. The applicant has proposed internal HOA owned trails and open spaces.

3. **Surrounding Land Uses:**

North	M-1	Light Industrial – Kuna City
South	R-6	Medium Density Residential – Kuna City
East	Ag. M-1 R1, RUT	Agriculture – City of Kuna Light Industrial – City of Kuna Low Residential & Rural Residential – Ada County
West	R-6	Medium Density Residential – Kuna City

4. **Parcel Sizes, Current Zoning, Parcel Numbers:**

Property Owner	Parcel Size:	Current Zone:	APN:
CCI Group, LLC	12.24	Agriculture (Ag)	S1326141870
Fred & Sharon Wheeler	7.00	Agriculture (Ag)	S1326142025

5. **Services:**

Sanitary Sewer– City of Kuna
Potable Water – City of Kuna
Pressurized Irrigation – City of Kuna (KMIS)
Fire Protection – City of Kuna (KRFD)
Police Services – Kuna Police (Ada County Sheriff's office)
Sanitation Services – J & M Sanitation

6. **Existing Structures, Vegetation and Natural Features:**

The proposed project site contains no residences or outbuildings. The vegetation on-site is consistent with that of farmed fields and pasture for livestock. The site has an estimated average slope of 3% to 5.9%. According to the USDA Soil Survey for Ada County, bedrock depth is estimated to be greater than 60 inches across a majority of proposed development area, however there are some areas where bedrock depth is between 20" and 40" along the southern boundaries of the development area.

7. **Transportation / Connectivity:**

The applicant proposes two connections to Swan Falls Road, a classified roadway. There are no existing stubs from existing Subdivisions for this developer to connect to other subdivisions. This application does not propose a stub for the M-1 property to the north as those two uses and their traffic do not mix.

8. **Environmental Issues:**

Staff is not aware of any environmental issues, health or safety conflicts beyond the designation of being in the nitrate priority area. Idaho Department of Environmental Quality (DEQ) has provided recommendations for surface and groundwater protection practices and requirements for development of the site.

9. **Agency Responses:** The following responding agency comments are included as exhibits with this case file:

- City Engineer ..... Exhibit B-1
- Ada County Highway District ..... Exhibit B-2
- Boise Project Board of Control ..... Exhibit B-3
- Central District Health Department ..... Exhibit B-4
- Department of Environmental Quality ..... Exhibit B-5
- Community Planning Association of Southwest Idaho (COMPASS)..... Exhibit B-6
- Econ Development Department ..... Exhibit B-7
- ID Transportation Dept. ..... Exhibit B-8

E. Staff Analysis:

On September 12, 2019 Planning and Zoning staff held a pre-application meeting with the applicant, Public Works, the Parks Department, The Kuna School District, Kuna Rural Fire District and Kuna Police Department to discuss the project. The applicant held a neighborhood meeting with land owners within 350 ft of the proposed project area on February 1, 2020 and four (4) residents attended the meeting. Neighborhood meeting minutes as well as mailed materials have been added to this packet.

Staff views this project to be in concert with the FLUM as this project has limited frontage adjacent to Swan Falls and the fronting parcels will be reserved for the Mixed-Use component should they develop in the future.

The applicant is proposing to rezone the approximately (approx) 19.22-acres already Kuna City Limits from Agriculture (Ag) to an R-6 zone Medium Density Residential (MDR). The applicant is proposing 78 lots over the approx 19.22 ac, with a gross density for the project at 4.05 dwelling units per acre (DUA). The net density is proposed to be 5.61 (DUA). The applicant has proposed 11 common lots totaling 2.83 ac, which equals approx 14.7% total open space. KCC 5-17 requires developments with a range of 51 to 100 dwelling units to devote 7.50% of the development area to useable open space. Staff notes the applicant has chosen to place the useable open space in Lot 35, Block 1(L 35,B 1) and is approx. 1.83 acres in size, or approx 9.5% of the site. While staff and the Parks Department prefer to see useable open space located centrally, with walking paths through long blocks of lots, staff views the open space to be in compliance with Kuna City Code. Staff notes that part of L 35, B 1 is also designated as a storm water retention area. Therefore, staff recommends that the applicant be conditioned to work with the City engineer to ensure that the area designated for "open space" ***and*** as water retention, is able to serve both purposes ***and*** maintain the proper open space requirements; see condition # 17. The original Sera Sole project from 2006 was part of the LID, however, according to the Public Works Department, this project has no reserved sewer connections.

With this Preliminary Plat, the applicant is proposing to widen Swan Falls Road along the east property line. Swan Falls Road is listed a north-south Minor Arterial Road according to Kuna's Street Circulation Map. The sidewalk width requirement for Arterial Roads is an eight-foot sidewalk with vertical curb and gutter. Staff would note that the applicant will be required to install curb/gutter and sidewalks in accordance with KCC 5-17-13 and 6-4-2. The existing subdivisions to the south and west, did not provide future stub streets and this subdivision will not be required to provide a stub to the south or the west. Applicant shall be conditioned to satisfy the Kuna Rural Fire Districts requirements at time of final design for the EMS ingress/egress.

The installation of streetlights are required public improvements are a required public improvement listed under Kuna City Code 6-4-2. Staff was unable to locate any proposed locations of streetlights on the preliminary plat or the landscape plan. Staff will require the applicant to work with staff in order to comply with KCC and install street lights a maximum spacing of 250 ft. The final location of street lights will be approved at the time of construction

documPent review. Staff would note that these streetlights must be designed and installed according to "Dark Sky" standards and shall use LED lighting throughout the site.

A design review application for common area landscaping and open space was included as a part of the application. Applicant is required to comply with KCC 5-5-5-F and install "see-through" fence for areas next to common areas and a solid vinyl perimeter fence. Staff finds the proposed landscaping, buffers and common space to be in compliance with Kuna City Code. However, staff recommends the applicant be conditioned to place "Sod" where the landscape plan (dated Feb. 24, 2020) identifies "Grass" and provide staff an updated landscaping plan reflecting the change. This landscape plan will be considered a binding site plan. Additionally, staff notes that if this project is approved, at the time of civil plan development, landscaping cannot be placed within ten (10) feet of any and all meter pits, pressurized irrigation valves, and ACHD underground facilities. In the event that locations of landscaping are within the locations listed above, the landscaping in that area must be moved to an alternate location, and an updated landscape plan must be provided to staff ***prior*** to scheduling a final landscape inspection. No design review application has been submitted for a monument sign however, design review approval will be required prior to submitting for a building permit. The developer, owner and/or applicant is hereby notified that this project is subject to design review inspection fees. Required inspections (post construction), are to verify landscaping compliance prior to signature on the final plat.

Kuna's Comprehensive Plan (Comp Plan) encourages a variety of housing types for all income levels, open space and pathways numerous times throughout the document. Pertinent sections of the Comp Plan that address the above listed items are included below in Section G of this staff report. Staff has reviewed the proposed preliminary plat for technical compliance with KCC, and finds the pre-plat and landscape plan are in compliance Kuna City, Title 5 and Title 6 of the Kuna City Code; Idaho Statute § 67-6511; and the Kuna Comprehensive Plan. The applicant will require the applicant wo work with Kuna's staff, Ada County Highway District (ACHD), the Kuna Rural Fire District (KRFD) and any other applicable agencies to ensure conformance to each agency's requirements. Staff recommends that if the Planning and Zoning Commission recommends approval of Case No's 20-01-ZC (Rezone) and 20-02-S (Preliminary Plat) and approves Case No. 20-05-DR (Design Review), the applicant be subject to the conditions of approval listed in section "I" of this report, as well as any additional conditions requested by the Planning and Zoning Commission.

F. Applicable Standards:

1. City of Kuna Zoning Ordinance Title 5.
2. City of Kuna Subdivision Ordinance Title 6.
3. City of Kuna Comprehensive Plan.
4. Idaho Code, Title 67, Chapter 65 - Local Land Use Planning Act.

G. Proposed Comprehensive Plan Analysis:

Kuna Planning and Zoning Commission may accept or reject the Comprehensive Plan components, and shall determine if the proposed annexation and preliminary plat requests for the site ***are/are not*** consistent with the following Comprehensive Plan components as described below:

Goal Area 2: Kuna will be a healthy, safe community.

- Goal 2.A: Maintain and expand an interconnected greenbelt, pathways and trail system.
    - Objective 2.A.2: Maintain and expand the pathway and trail network with a focus on building connectivity to key activity and population centers that serve all areas of Kuna.
        - Policy 2.A.2.d: Work with private developers and landowners to direct expansion of the trails and pathways system throughout Kuna, including:
            - Ensure appropriate polices and ordinances are in place to incentivize and require construction of new pathways and trails infrastructure as development and redevelopment occurs.

- Require all new neighborhood and subdivision developments to incorporate pathway connectivity within the neighborhood and tie into existing or anticipated pathways and trails.
- Clearly identify locations where trails and pathways infrastructure should be publicly accessible, and who will be responsible to provide regular maintenance for these areas.

- Goal 2.B: Maintain and expand parks and public gathering spaces.
  - Objective 2.B.1 Maintain and expand the parks system
    - Policy 2.B.1.b: Continue to require neighborhood park development through the subdivision development process.

Goal Area 3: Kuna's land uses will support a desirable, distinctive and well-designed community.

- Goal 3.D: Encourage development of housing options and strong neighborhoods.
  - Objective 3.D.1: Encourage development of housing options for all citizens.
    - Policy 3.D.1.a: Encourage preservation and development of housing that meets demand for household sizes, lifestyles and settings.
  - Objective 3.D.2: Create strong neighborhoods through preservation, new development, connectivity and programming.
    - Policy 3D.2.d: Work to ensure that all neighborhoods in Kuna benefit from good connectivity through sidewalk, pathway and trail, on-street and transit infrastructure.
- Goal 3.G: Respect and protect private property rights.
  - Objective 3.G.1: Ensure land use policies, restrictions, and fees do not violate private property rights.
    - Policy 3.G.1.b: Ensure City land use actions, decisions and regulations will not cause an unconstitutional regulatory taking of private property; and do not effectively eliminate all economic value of the subject property.
    - Policy 3.G.1.c: Ensure City land use actions, decisions and regulations do not prevent a private property owner from taking advantage of a fundamental property right. Ensure city actions do not impose a substantial and significant limitation on the use of the property.

Goal Area 4: Kuna will be a connected community through strong transportation and infrastructure systems.

- Goal 4.B: Increase sidewalk coverage and connectivity and invest in pedestrian facilities to increase walkability.
  - Objective 4.B.2: Maintain and expand sidewalks and pedestrian facilities within the community.
    - Policy 4.B.2b: Install detached sidewalks and/or protected pedestrian routes/facilities along high trafficked roads as development occurs.
    - Policy 4.B.2.c: Promote the installation of off-system pedestrian pathways to create neighborhood connections and reduce the length of non-motorized transportation routes.
    - Policy 4.B.2.g: Coordinate with developers to connect and/or enhance pedestrian facilities, including on and off-system pathways, footbridges (across canals, etc.), road bridges, sidewalks, pedestrian crossings and wayfinding signage.
- Goal 4.C: Increase pathway, trail and on-street bicycle facilities to create an expanded and connected bicycle network.
  - Objective 4.C.1: Maintain and enhance existing pathways, trails and on-street bicycle facilities.
    - Policy 4.C.1.a: Expand the bicycle network as identified in the Kuna Pathways Master Plan and ACHD Roadways to Bikeways Plans through land use developments and capital improvement projects.
    - Policy 4.C.1.e: Coordinate with developers to connect to and/or enhance bicycle facility connections, including pathways, non-motorized canal crossings, road bridges and wayfinding signage.
  - Objective 4.C.2: Ensure expansion of pathways, trails and on-street bicycle routes.
    - Policy 4.C.2.b: Promote the installation of off-system bicycle pathways to create neighborhood connections and reduce non-motorized transportation route lengths.
- Goal 4.D: Promote a connected street network that incorporates mid-mile collectors and crossing for improved neighborhood connectivity.

- Objective 4.D.2: Ensure the continued expansion/development of mid-mile collector system throughout the community.
  - Policy 4.D.2.a: Extend and expand mid-mile roads as growth occurs.
  - Policy 4.D.1.b: Preserve adequate right-of-way along all mid-mile roads or other approved alternative locations to align roads.

H. Proposed Kuna City Code Analysis:

1. This request appears to be consistent and in compliance with all Kuna City Code (KCC).

   Comment: *The proposed applications **adhere/do not adhere** to the applicable requirements of Title 5 and Title 6 of KCC.*

2. The Planning and Zoning Commission feels the site ***is/is not*** physically suitable for the proposed development.

   Comment: *The approx 19.22-ac site **does/does not** appear to be suitable for the proposed development.*

3. The preliminary plat request is not likely to cause substantial environmental damage or avoidable injury to wildlife or their habitat.

   Comment: *The land to be developed is not used as wildlife habitat. Roads, driveways, family units and open spaces are planned for construction according the City and ACHD requirements and best practices and will therefore not cause environmental damage or loss of habitat.*

4. These applications ***are/are not*** likely to cause adverse public health problems.

   Comment: *The project would connect to public sewer and potable water systems, therefore eliminating the occurrence of adverse public health problems.*

5. The application appears to avoid detriment to the present and potential surrounding uses; to the health, safety, and general welfare of the public taking into account the physical features of the site, public facilities and existing adjacent uses.

   Comment*: The rezone and preliminary plat requests did consider the location of the property and adjacent uses. The adjacent uses range from Medium Density Residential and Industrial (Kuna City) to Rural Urban Transition & Low Density (Ada County).*

6. The existing and proposed street and utility services in proximity to the site are suitable *or* adequate for a commercial development.

   Comment: *Correspondence from ACHD and Kuna Public Works confirms that the streets and utility services are suitable and adequate for this project.*

I. Commission's Recommendation:

*Note: These motions are for the **approval, conditional approval or denial** of the design review application and the recommendation of **approval, conditional approval or denial** of the Rezone and Preliminary Plat applications to the City Council. However, if the planning and Zoning Commission wishes to approve or deny specific parts of these requests as detailed in the report, those changes must be specified.*

Based on the facts outlined in staff's report and public testimony as presented, the Planning and Zoning Commission of Kuna, Idaho, hereby recommends ***approval/conditional approval/denial*** of Case No's *20-01-ZC (Rezone) and 20-02-S* (Preliminary Plat), a request from Riley Planning, LLC to rezone two parcels consisting of approx 19.2- ac in Kuna City Limits from Ag. *TO* R-6 MDR zoning district and to subdivide the same lands into 89

total lots (78 buildable lots and 11 common lots); AND ***approves/conditionally approves/denies*** Case No. 20-05-DR (Design Review), subject to the following conditions of approval:

1. The applicant and/or owner shall obtain written approval on letterhead or may be written/stamped on the approved plans of the construction plans from the agencies noted below. All submittals are required to include the lighting, landscaping, drainage, and development plans. All site improvements are prohibited prior to approval of the following agencies:
    a. The City Engineer shall approve the sewer hook-ups.
    b. The City Engineer shall approve all civil plans. No construction, grading, filling, clearing or excavation of any kind shall be initiated until the applicant has received approval of the drainage plan.
    c. Central District Health Department recommends the plan be designed and constructed in conformance with standards contained in, "Catalog for Best Management Practices for Idaho Cities and Counties".
    d. The Kuna Fire District shall approve fire flow requirements and/or building plans. Installation of fire protection facilities as required by Kuna Fire District are required.
    e. The Kuna Municipal Irrigation System and Boise Project Board of Control shall approve any modifications to the existing irrigation system.
    f. Approval from Ada County Highway District (ACHD) shall be obtained and Impact Fees must be paid prior to *issuance* of any building permit(s).
    g. All public rights-of-way shall be dedicated and constructed to standards of the City and Ada County Highway District. No public street construction may commence without the approval and permit from Ada County Highway District.
2. Installation of service facilities shall comply with the requirements of the public utility or irrigation district providing the services. All utilities shall be installed underground, see **KCC 6-4-2-W**.
3. Compliance with Idaho Code, Section §31-3805 pertaining to irrigation waters is required. Irrigation/drainage waters shall not be impeded by any construction on site. Compliance with the requirements of the Boise Project Board of Control is required.
4. When required, submit a petition to the City (as necessary, confirmed with the City engineer) consenting to the pooling of irrigation surface water rights for delivery purposes and request to annex the irrigation surface water rights appurtenant to the property over to the Kuna Municipal Pressure Irrigation system of the City (KMID).
5. Connection to City Services (Sewer, Water, Pressurized Irrigation) is required. The applicant shall conform all corresponding Master Plans.
6. Curb, gutter and sidewalk shall be installed in accordance with Kuna City Code Titles 5 Chapter 17 and 6 Chapter 4.
7. Applicant shall work with staff in order to provide final locations of street lights as required by Kuna City Code.
8. Street lights for the site shall be LED lighting and must comply with Kuna City Code and established Dark Sky practices.
9. Fencing within and around the site shall comply with Kuna City Code (Unless specifically approved otherwise and permitted).
10. All required landscaping shall be permanently maintained in a healthy growing condition. The property owner shall remove and replace unhealthy or dead plant material within 3 days or as the planting season permits as required to meet the standards of these requirements. Maintenance and planting within public rights-of-way shall be with approval from the public entities owning the property.
11. Landscaping shall not be placed within ten (10) feet of any and all meter pits, pressurized irrigation valves and/or ACHD underground facilities and must honor all vision triangles.
12. The applicant shall install sod wherever the landscape plan (dated March 23, 2020) identifies "Lawn" and provide staff an updated landscaping plan accommodating the requested change.
13. Subdivision amenities such as the proposed pool and pool house are subject to Design Review approval.

14. All signage within/for the project shall comply with Kuna City Code, and shall be approved through the applicable sign approval process listed in KCC 5-10.
15. If any revisions are made, the applicant shall provide the Planning and Zoning Staff with a revised copy of the preliminary plat.
16. Any revisions of the plat are subject to administrative determination to rule if the revision is substantial.
17. Applicant shall work with the City engineer to ensure that the area designated for "open space" ***and*** as water retention, is able to serve both purposes ***and*** maintain the proper open space requirements.
18. Applicant shall satisfy the Kuna Rural Fire Districts requirements at time of final design for the EMS ingree/egress.
19. The land owner/applicant/developer, and any future assigns having an interest in the subject property, shall fully comply with all conditions of development as approved by the City Council, or seek amending them through public hearing processes.
20. Developer/owner/applicant shall follow staff, City engineers and other agency recommended requirements as applicable.
21. Developer/owner/applicant shall comply with all local, state and federal laws.

DATED this ____Th day of _____, 2020.

P.O. Box 13
Phone: (208) 922-5274
Fax: (208) 922-5989
www.Kunacity.id.gov

Based upon the record contained in Case Nos. 20-01-ZC, 20-02-S and 20-05-DR including the Comprehensive Plan, Kuna City Code, Staff's Memorandums, including the exhibits, and the testimony during the public hearing, the Kuna Commission hereby **approves/conditionally approves/denies** Case No. 20-07-DR and recommends ***approval/conditional approval/denial*** *of* the Findings of Fact and Conclusions of Law, and conditions of approval for Case Nos. 20-01-ZC and 20-02-S, a request from Riley Planning, LLC, to Rezone two parcels consisting of approximately 19.22-ac in Kuna City Limits from Ag. to the R-6 MDR zone and to subdivide the 19.22-ac into 89 total lots (78 buildable lots and 11 common lots).

If the planning and Zoning Commission wishes to approve, deny or modify specific parts of the Findings of Facts and Conclusions of Law as detailed below, those changes must be specified.

1. *Based on the evidence contained in Case Nos. 20-01-ZC, 20-02-S and 20-05-DR, this proposal* ***does/ does not*** *generally comply with the City Code.*

   Staff Finding: *The applicant has submitted a complete application, and following staff review for technical compliance the application appears to be in general compliance with the design requirements, public improvement requirements, objectives and considerations listed in Kuna City Code Title 5 and Title 6.*

2. The public notice requirements have been met and the neighborhood meeting was conducted within the guidelines of applicable Idaho Code and City Ordinances.

   Staff Finding: *The applicant held neighborhood meetings on February 1, 2020. A total of four residents attended the meetings. Neighborhood Notices were mailed out to residents within 450-FT of the proposed project site on July 8, 2020 and a legal notice was published in the Kuna Melba Newspaper on July 8, 2020. The applicant posted sign on the property on July 31, 2020.*

3. *Based on the evidence contained in Case Nos. 20-01-ZC, 20-02-S and 20-05-DR, this proposal* ***does/does not*** *generally comply with the Comprehensive Plan.*

   Staff Finding: *The Comp Plan has listed numerous goals for providing a variety of housing densities and types to accommodate various lifestyles, ages and economic group in Kuna, as well as the installation of pathways and open space. The proposed zoning district is R-6 MDR. The Comp Plan Map designates the properties as Medium Density.*

4. The contents of the proposed preliminary plat application *does* contain all of the necessary requirements as listed in Kuna City Code 6-2-3: - Preliminary Plat.

   Staff Finding: *Review by Staff of the proposed preliminary plat confirms all technical requirements listed in KCC 6-2-3 were provided.*

5. The availability of existing and proposed public services and streets *can* accommodate the proposed development.

   Staff Finding: *Correspondence from ACHD and Kuna Public Works confirms that the streets and utility services and suitable and adequate to accommodate the proposed project. It should be noted that installation of this project will place a commensurate impact on City services.*

6. The proposed development *is* continuous with Master Utility Plans (Sewer/Water/Pressurized Irrigation).

   Staff Finding: *Correspondence from Kuna Public Works recommends the applicant be required to conform to the Master Sewer Plan, Master Water Plan and Master Pressurized Irrigation Plan, therefore satisfying this requirement.*

7. The public *does* have the financial capability to provide supporting services to the proposed development.

   Staff Finding: *Throughout the development of the project and beyond, connection fees, impact fees (Fire, police, Park and Ada County Highway District), and property taxes will be collected, therefore satisfying the financial capability to provide supporting services.*

8. The proposed project ***does/does not*** consider health and safety of the public and the surrounding area's environment***.***

   Staff Finding: *Connection to City services, as well as other public improvements such as streetlights, fire hydrants, sidewalks, bike lanes, etc. are required to be implemented as a part of this project. No major wildlife habitats will be impacted by the proposed development.*

9. All private landowners have consented to Rezone & the Preliminary Plat.

   Staff Finding: *An affidavit of legal interest was signed by the CCI Group, LLC and Fred and Sharon Wheeler allowing Riley Planning, LLC to act on their behalf of this project, therefore consenting to the Rezone of the proposed project site.*

10. The proposed project lands *are* within Kuna City Limits.

    Staff Finding: *The parcel is within City limits and eligible for a Rezone.*

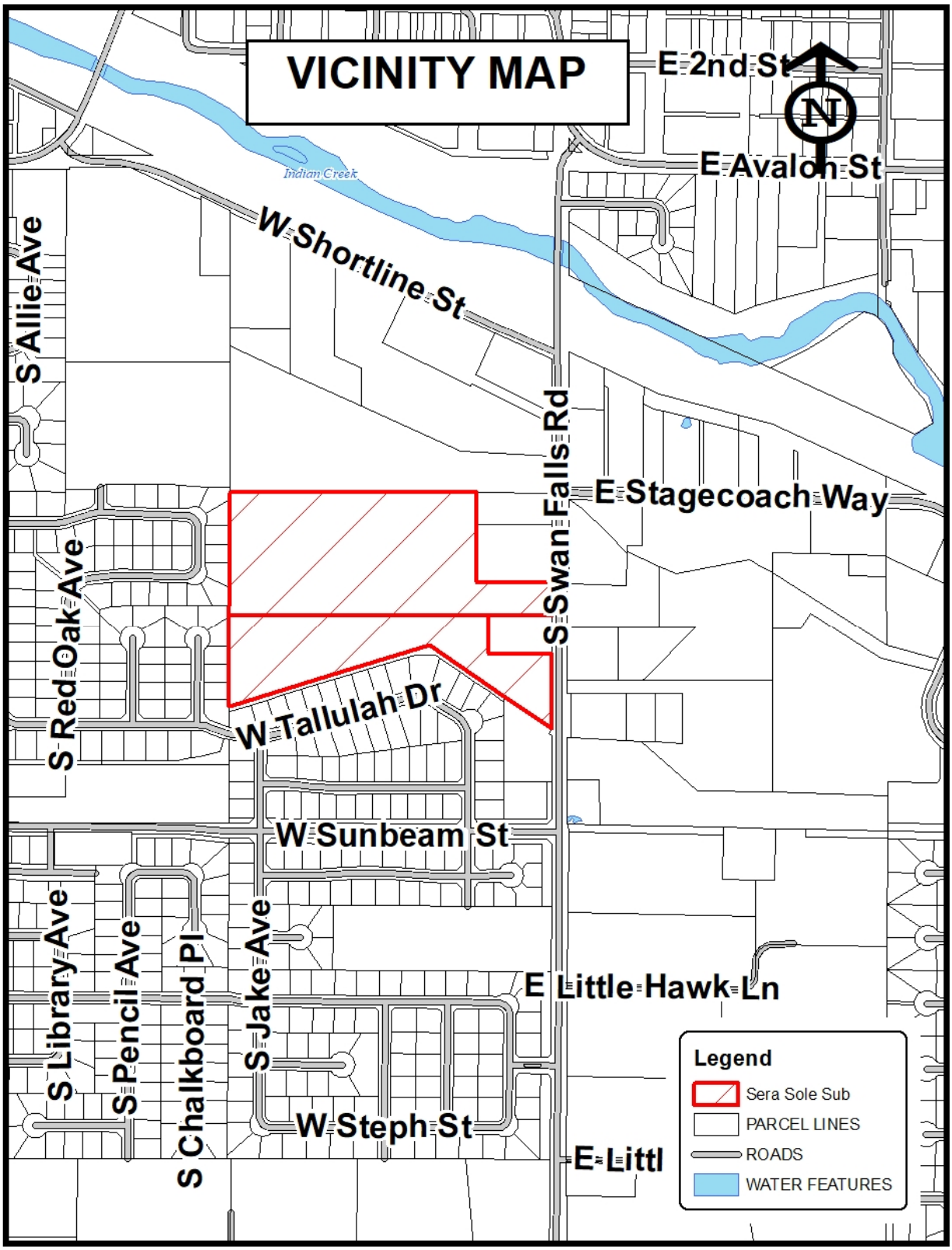
11. The site landscaping ***does/does not*** minimize the impact on adjacent properties through the use of screening.

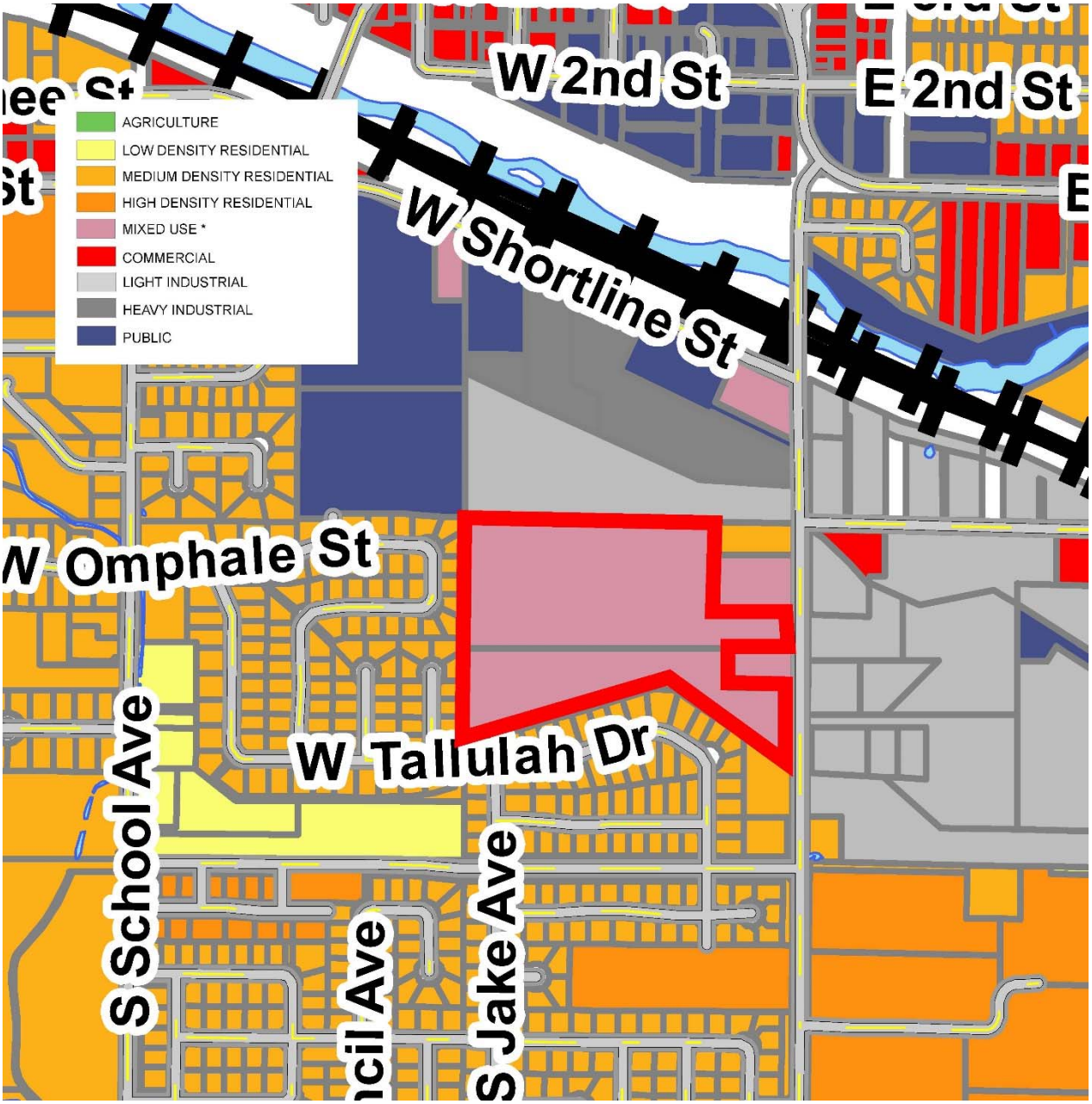
    Staff Finding: *Per the submitted landscape Plan, the applicant is proposing an open space on the south side of the project and houses back house to the west. A six-foot vinyl fence is required around the entire project.*

12. The applicant and/or owner of the property have the right to request a written regulatory taking analysis.

    Staff Finding: *Pursuant to Idaho Code 67-8003, the owner of private property that is subject of such action may submit a written request for a regulatory taking analysis with the City Clerk. Not more that twenty-eight (28) days after the final decision concerning the matter at issue, the City shall prepare a written taking analysis concerning the action if requested.*

DATED this ___th day of _____, 2020.


VICINITY MAP
E 2nd St
N
E Avalon St
Indian Creek
W Shortline St
S Allie Ave
S Swan Falls Rd
E Stagecoach Way
S Red Oak Ave
W Tallulah Dr
W Sunbeam St
S Library Ave
S Pencil Ave
S Chalkboard Pl
S Jake Ave
E Little Hawk Ln
W Steph St
E Littl
Legend
Sera Sole Sub
PARCEL LINES
ROADS
WATER FEATURES


W 2nd St
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AGRICULTURE
LOW DENSITY RESIDENTIAL
MEDIUM DENSITY RESIDENTIAL
HIGH DENSITY RESIDENTIAL
MIXED USE *
COMMERCIAL
LIGHT INDUSTRIAL
HEAVY INDUSTRIAL
PUBLIC
W Omphale St
W Tallulah Dr
S School Ave
S Jake Ave

RILEY PLANNING SERVICES

P.O. Box 405
Boise, ID 83701

February 26, 2020

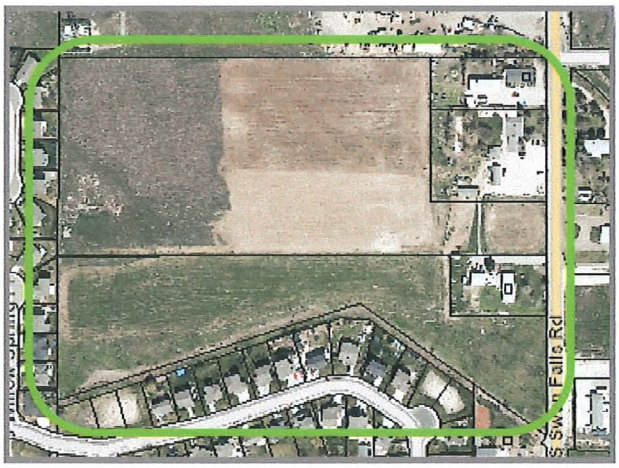
City of Kuna City Council / Kuna Planning & Zoning Commission
ATTN: Mr. Troy Behunin, Planner III
City of Kuna
751 W. 4th Street
Kuna, ID 83634

RE: SERA SOLE SUBDIVISION – PRELIMINARY PLAT / REZONE

Dear Mr. Behunin:

On behalf of CCI Group, LLC, and Mr. and Mrs. Fred Wheeler, please accept the attached materials for the Sera Sole Subdivision Preliminary Plat and Rezone Applications.

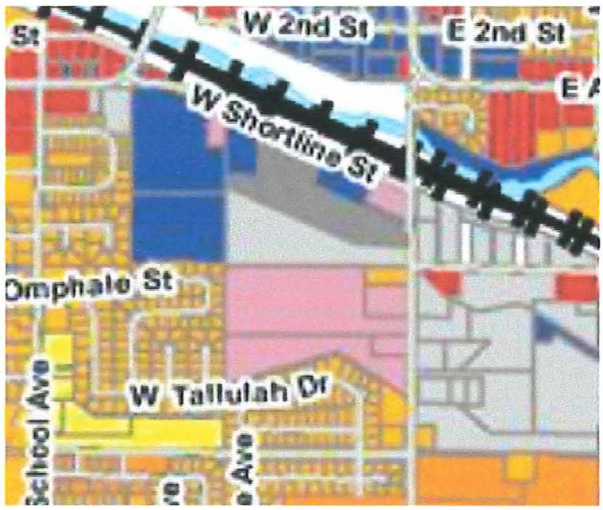
The subject site is located on the west side of Swan Falls Road just north of Ryan Meadows Subdivision. The site is a grouping of two parcels with a combined acreage is about 19.22 acres. The Future Land Use Designation for these parcels is Mixed Use. Established residential development with R-6 zoning is present to the west and south of the site. Light industrial zoning and uses are north and east of the site.



Originally approved in 2007, the subdivision mirrors the original layout of 78 lots with an improved component of open space by moving the increased area common lot to the southern boundary to make area available for the commercial lot and adding the walking path. Open space and common area is estimated to be 14.7 percent.

The Future Land Use Map for the City of Kuna designates the site as Mixed-Use. According to the Comprehensive Plan, this land use contain at least two types of complementary and integrated uses.

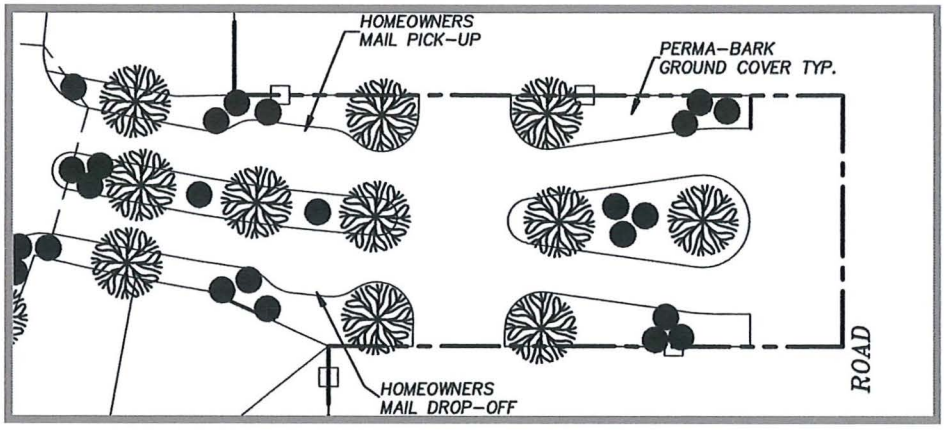
To incorporate a second land use, the proposed subdivision includes a non-residential lot in the only portion of the site adjacent to Swan Falls Road with sufficient frontage. An ideal use would be a neighborhood oriented office use or neighborhood commercial. While it appears, based on an internet survey of available commercial lots of comparable size, there is an ample supply of commercial lots available in Kuna, this particular location is unique.



The Comprehensive Plan acknowledges that Mixed-Use needs definition in the Kuna adopted zoning code. The combination of the horizontal residential development with a pedestrian connection to the proposed commercial parcel appears to satisfy the spirit of the Comprehensive Plan discussion of Mixed-Use.

A 135-foot wide connection to Swan Falls provides access to the site. To provide an attractive entry along Swan Falls Road, a split entry with center islands are proposed with a community mail facilities. A generous combination of deciduous trees and ornamental shrubs are proposed for the entry area.

SUBDIVISION ENTRY



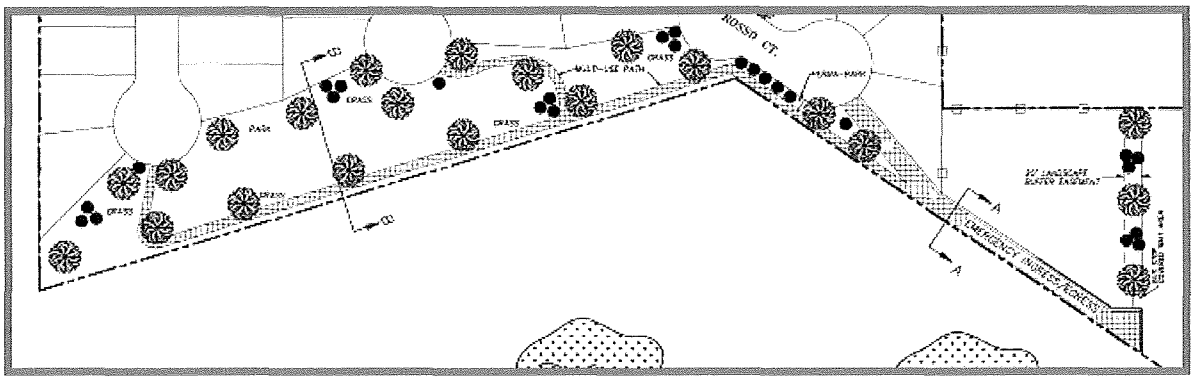
While connectivity to adjacent development of a similar character is customarily desired, there are no opportunities for stub streets to the south and west. North of the site is an industrial use and connectivity would not be appropriate. Ryan Meadows to the south and Willow Glen to the west were designed and built out without connectivity to the subject site.

Seventy-eight (78) new residential lots are proposed along with a commercial lot at the southeast corner and the proposed preliminary plat includes 9 common lots. Sewer services are available with 78 City of Kuna sewer hook-ups reserved for the site. The gross proposed density is 4.058 units per acre and the net density is 5.493. Excluding the common lots, the average lot size is 6,273.51 s.f. and the median lot size is 5,500 s.f. These densities and lot sizes will complement the adjacent zoning and residential development.

The net proposed density is less than the 'not to exceed' density of 6 dwelling units per acre allowed in a medium density residential district. Lot sizes are larger than the minimum lot size permitted in an R-6 zone.

Storm water detention is combined with a substantial open space and pedestrian walking path for the benefit of the subdivision residents in a 1.83 acre lot. Turf and a mixture of deciduous trees and ornamental shrubs to complement the park like area is shown below.

COMMON LOT / RESIDENT PARK AREA



A covered bus pick-up area for children is proposed at the southeast corner of the site as requested by the School District. Additional details and design will be discussed with representatives of the Kuna School District with the design review / final plat element of the subdivision approval. A community mail facility will be provided and is tentatively planned for the north side of the entry drive. A mail drop-off is shown on the south side for residents exiting the site.

Commercial and secondary access to the site is proposed at the southeast corner of the site at the commercial lot. This access will separate commercial or office traffic from residential traffic and be signed for no parking. The preliminary plat shows this entrance as an emergency access but will be modified to provide full public access to the non-residential lot. Break-away gate or bollards, or another appropriate separation tool as determined by the Kuna Fire Department, will provide a second access into the residential area while keeping the non-residential traffic separated from the residential traffic.

The preliminary plat includes information about lot geometry for easements and building envelop area, street sections and pathway details. The application packet includes supplemental items to further understanding of the proposed subdivision. These include:

- Preliminary Declaration of CCR's providing information on maintenance and ownership of common areas and landscape buffers and islands;
- A Soils Map and associated information;
- Existing Conditions Map;
- Flood Hazard Map;
- Utility Plan; and
- Originally proposed Development Agreement.

Locations of adjacent lots and residences, and site topography are shown on the Existing Conditions Map. The Utility Plan shows proposed locations of sewer and water lines and preliminary storm water details.

Two pre-application meetings were held with the City of Kuna Staff on September 12, 2019, and on February 21, 2020.

A neighborhood meeting was held on Saturday, February 1st in the conference room at the Kuna Public Library. With 255 notification letters mailed, the meeting was split into two sessions – 11:00 to 11:30 and 11:30 to noon. Five (5) individuals attended representing 4 households.
Topics of discussion included fencing, pedestrian facilities along Swan Falls Road, and traffic at the intersection of South Swan Falls Road and East Avelon Street. The Neighborhood Meeting Certification packet include copies of the neighborhood meeting notice.

The project team is pleased to present this application to you and look forward to working with you to craft a successful project that will be an asset to the City of Kuna.

Please do not hesitate to contact me if you have questions or need additional materials.

Best regards,

RILEY PLANNING SERVICES LLC

P. Constantikes

Penelope Constantikes
Principal

received
2-28-20

CityofKuna
Planning& Zoning
Department
P.O. Box 13
Kuna, Idaho 83634
208.922.5274
Fax: 208.922.5989
Website: www.kunacity.id.gov

Commission & Council Review Application

Note: Engineering fees shall be paid by the applicant if required.

*Please submit the appropriate checklist (s) with application

For Office Use Only	
File Number (s)	20-02-S
Project name	Sera Sole
Date Received	2-28-20
Date Accepted/ Complete	
Cross Reference Files	06-14-S, 06-12-ZC, 20-01-ZC 06-10-DA, 09-05-TE
Commission Hearing Date	
City Council Hearing Date	

Type of Review (check all that apply):

- ☐ Annexation
- ☐ Appeal
- ☐ Comprehensive Plan Amendment
- ☐ Design Review
- ☐ Development Agreement
- ☐ Final Planned Unit Development
- ☐ Final Plat
- ☐ Lot Line Adjustment
- ☐ Lot Split
- ☐ Planned Unit Development
- ☑ Preliminary Plat
- ☑ Rezone
- ☐ Special Use
- ☐ Temporary Business
- ☐ Vacation
- ☐ Variance

Contact/Applicant Information

Owners of Record: CCI Group LLC / Fred & Sharon Wheeler	Phone Number:
Address: 4202 N. Marcliff Ave, Boise, ID 83704	E-Mail:
City, State, Zip: 846 S. Ash Ave, Kuna, ID 83634	Fax #:
Applicant (Developer): SAME	Phone Number:
Address:	E-Mail:
City, State, Zip:	Fax #:
Engineer/Representative: Penelope Constantikes	Phone Number: 208.908.1609
Address: Riley Plannining LLC, P.O. Box 405	E-Mail: penelope@rileyplanning.com
City, State, Zip: Boise, ID 83701	Fax #:

Subject Property Information

Site Address: S. Swan Falls Road

Site Location (Cross Streets): South of Stagecoach Road on west side

Parcel Number (s): S1326141870 & S1326142025

Section, Township, Range: 26 / 2N / 1W

Property size : 19.22 A

Current land use: Agriculture — Proposed land use: Residential / Mixed Use

Current zoning district: A — Proposed zoning district: R-6

Project Description

Project / subdivision name: Sera Sole Subdivision

General description of proposed project / request: Preliminary Plat AND Rezone

Type of use proposed (check all that apply):

- ☑ Residential 78 buildable lots, 89 total lots
- ☑ Commercial and / or Office - 1
- ☐ Office
- ☐ Industrial
- ☐ Other

Amenities provided with this development (if applicable): Walking path and community gathering area

Residential Project Summary (if applicable)

Are there existing buildings? ☐ Yes ☑ No

Please describe the existing buildings:

Any existing buildings to remain? ☐ Yes ☑ No

Number of residential units: 78 Number of building lots: 78

Number of common and/or other lots: 11

Type of dwellings proposed:

- ☑ Single-Family
- ☐ Townhouses
- ☐ Duplexes
- ☐ Multi-Family
- ☐ Other

Minimum Square footage of structure (s):

Gross density (DU/acre-total property): 4.058/A Net density (DU/acre-excluding roads): 5.619/A

Percentage of open space provided: 14.7 Acreage of open space: 2.83

Type of open space provided (i.e. landscaping, public, common, etc.): Landscaping/open space/walking path

Non-Residential Project Summary (if applicable)

Number of building lots: 1 Other lots: Common Lots

Gross floor area square footage: TBD Existing (if applicable): N/A

Hours of operation (days & hours): TBD Building height: TBD

Total number of employees: TBD Max. number of employees at one time: TBD

Number and ages of students/children: N/A Seating capacity: N/A / TBD

Fencing type, size & location (proposed or existing to remain): Perimeter fencing to remain as appropriate with additional preimeter fencing as needed/required

Proposed Parking: N/A

a. Handicapped spaces: Dimensions:

b. Total Parking spaces: Dimensions:

c. Width of driveway aisle:

Proposed Lighting: TBD

Proposed Landscaping (berms, buffers, entrances, parking areas, common areas, etc.): Subject site has very limited frontage. Landscaping include street buffer.

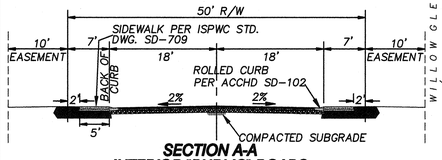
Applicant's Signature: P. Constantides Date: 2/26/2020

PRELIMINARY PLAT
SERA SOLE SUBDIVISION
GEOMETRY AND NOTES

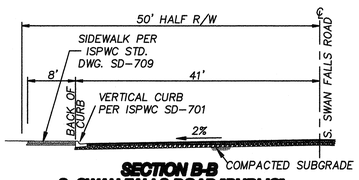
NOTES

1. THIS DEVELOPMENT CONSISTS OF 2 EXISTING PARCELS. COMBINED, THESE PARCELS CONTAIN 19.22 ACRES +/- INCLUDING THE PRESCRIPTIVE RIGHTS-OF-WAY FOR S. SWAN FALLS ROAD.
   78 RESIDENTIAL LOTS EQUATING TO 4.06 LOTS / ACRE (GROSS) AND 1 COMMERCIAL LOT.
2. 9 COMMON AREA LOTS ARE PROPOSED CONSISTING OF 124,300 S.F. OR 2.85 ACRES. LOT 35, BLOCK 1 WILL CONTAIN THE STORM WATER RETENTION FACILITIES AND A NEIGHBORHOOD PARK. LOT 54, BLOCK 1 IS PROPOSED FOR PEDESTRIAN INGRESS/EGRESS AND EMERGENCY INGRESS/EGRESS PURPOSES. ALL COMMON AREA LOTS RESERVED FOR PUBLIC UTILITIES, DRAINAGE AND IRRIGATION PURPOSES, TO BE OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION.
3. ALL ROADS ARE PROPOSED TO BE DEDICATED TO THE PUBLIC (ACHD) WITH THE EXCEPTION OF THE EMERGENCY INGRESS, EGRESS ROADWAY OVER LOT 59, BLOCK 1. THE DEDICATION OF 191,056 S.F. OR 4.39 ACRES IS PROPOSED FOR PUBLIC ROAD RIGHTS-OF-WAY (22.84% OF TOTAL AREA).
4. MIN. LOT SIZE 4,749 S.F.
   MAX. LOT SIZE 7,510 S.F. (NOT INCLUDING LOT 555 BLOCK 1 WHICH CONTAINS 39,044 S.F.)
   AVE. LOT SIZE EXCLUDING LOT 55 (79 LOTS) 6,273 S.F.
5. SWAN FALLS ROAD IS CLASSIFIED AS AN ARTERIAL ROADWAY.
6. EASEMENTS (SEE EASEMENT DETAIL THIS SHEET) A 10' WIDE EASEMENT IS PROPOSED ADJACENT TO THE SUBDIVISION BOUNDARY AND ALL RIGHT-OF-WAY LINES. A 5' EASEMENT IS PROPOSED ON EACH SIDE OF ALL INTERIOR LOT LINES.

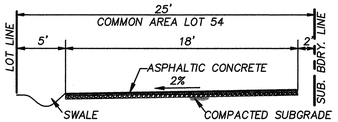
   ALL THE EASEMENTS WILL BE RESERVED FOR PUBLIC UTILITIES, DRAINAGE AND IRRIGATION PURPOSES.
7. SHEET INDEX
   - SHEET 1 OF 4 EXISTING SITE CONDITIONS
   - SHEET 2 OF 4 CURRENT SHEET
   - SHEET 3 OF 4 PROPOSED UTILITY PLAN AND CORSS SECTION E-E
   - SHEET 4 OF 4 PRELIMINARY LANDSCAPE PLAN



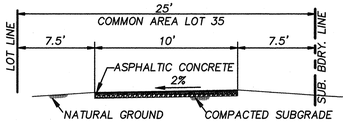
SECTION A-A
INTERIOR "PUBLIC" ROADS
NTS



SECTION B-B
S. SWAN FALLS ROAD "PUBLIC"
NTS



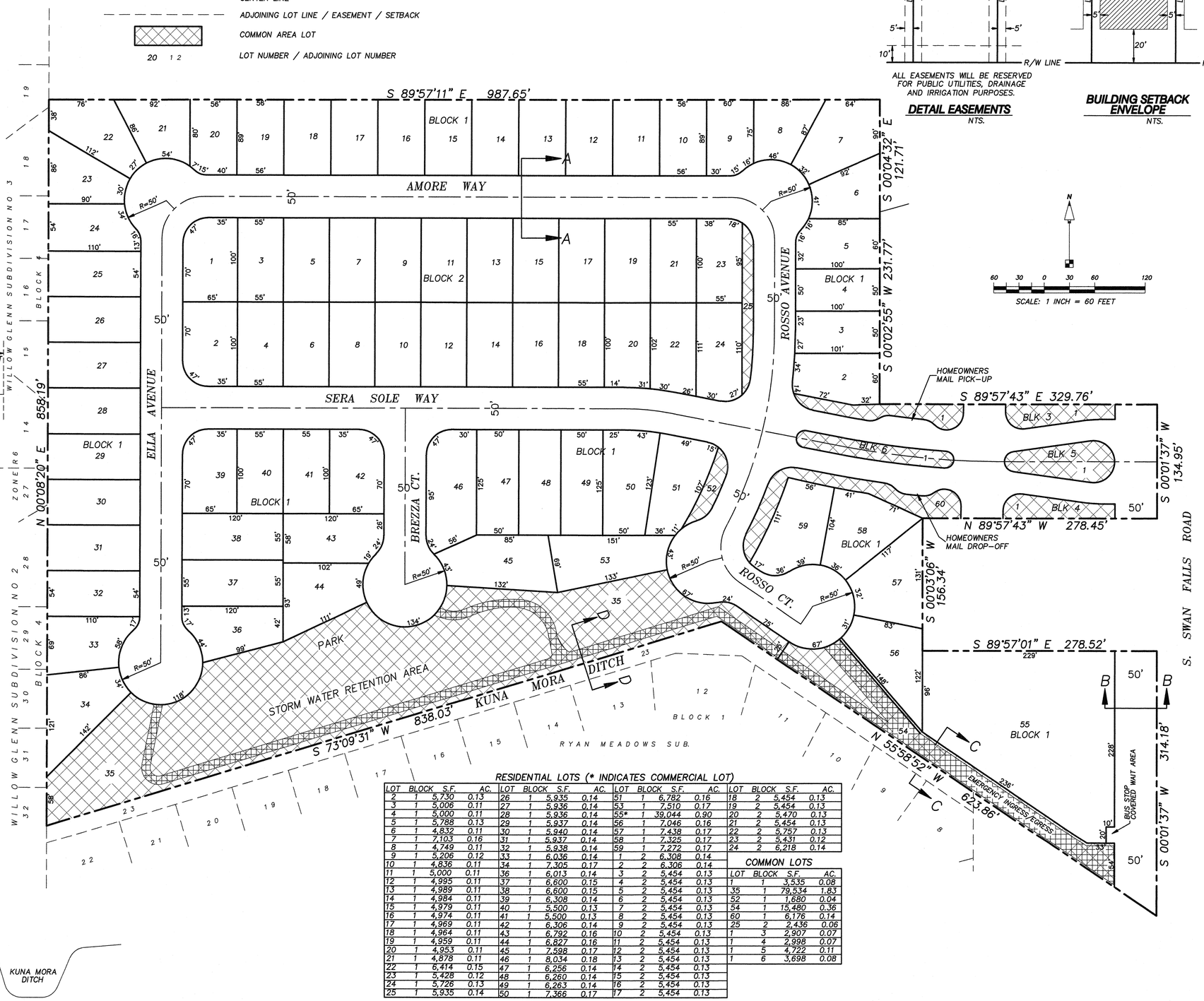
SECTION C-C
EMERGENCY INGRESS/EGRESS
NTS

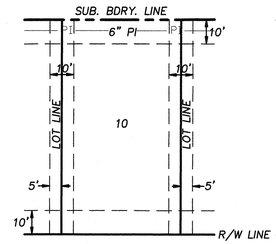


SECTION D-D
PEDESTRIAN PATHWAY
NTS

LEGEND

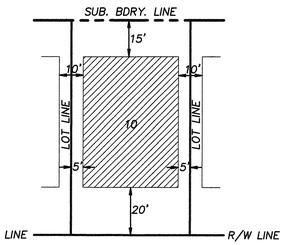
- BOUNDARY LINE
- PROPOSED LOT OR RIGHTS-OF-WAY LINE
- CENTER LINE
- ADJOINING LOT LINE / EASEMENT / SETBACK
- COMMON AREA LOT
- 20 1 2 — LOT NUMBER / ADJOINING LOT NUMBER





ALL EASEMENTS WILL BE RESERVED FOR PUBLIC UTILITIES, DRAINAGE AND IRRIGATION PURPOSES.

DETAIL EASEMENTS
NTS.



BUILDING SETBACK ENVELOPE
NTS.

RESIDENTIAL LOTS (* INDICATES COMMERCIAL)

LOT	BLOCK	S.F.	AC.	LOT	BLOCK	S.F.	AC.	LOT	BLOCK	S.F.	AC.	LOT	BLOCK	S.F.	AC.
2	1	5,730	0.13	26	1	5,935	0.14	51	1	6,782	0.16	18	2	5,454	0.13
3	1	5,006	0.11	27	1	5,936	0.14	53	1	7,510	0.17	19	2	5,454	0.13
4	1	5,000	0.11	28	1	5,936	0.14	55*	1	39,044	0.90	20	2	5,470	0.13
5	1	5,788	0.13	29	1	5,937	0.14	56	1	7,046	0.16	21	2	5,454	0.13
6	1	4,832	0.11	30	1	5,940	0.14	57	1	7,438	0.17	22	2	5,757	0.13
7	1	7,103	0.16	31	1	5,937	0.14	58	1	7,325	0.17	23	2	5,431	0.12
8	1	4,749	0.11	32	1	5,938	0.14	59	1	7,272	0.17	24	2	6,218	0.14
9	1	5,206	0.12	33	1	6,036	0.14	1	2	6,308	0.14				
10	1	4,836	0.11	34	1	7,305	0.17	2	2	6,306	0.14				
11	1	5,000	0.11	36	1	6,013	0.14	3	2	5,454	0.13				
12	1	4,995	0.11	37	1	6,600	0.15	4	2	5,454	0.13				
13	1	4,989	0.11	38	1	6,600	0.15	5	2	5,454	0.13				
14	1	4,984	0.11	39	1	6,308	0.14	6	2	5,454	0.13				
15	1	4,979	0.11	40	1	5,500	0.13	7	2	5,454	0.13				
16	1	4,974	0.11	41	1	5,500	0.13	8	2	5,454	0.13				
17	1	4,969	0.11	42	1	6,306	0.14	9	2	5,454	0.13				
18	1	4,964	0.11	43	1	6,792	0.16	10	2	5,454	0.13				
19	1	4,959	0.11	44	1	6,827	0.16	11	2	5,454	0.13				
20	1	4,953	0.11	45	1	7,598	0.17	12	2	5,454	0.13				
21	1	4,878	0.11	46	1	8,034	0.18	13	2	5,454	0.13				
22	1	6,414	0.15	47	1	6,256	0.14	14	2	5,454	0.13				
23	1	5,428	0.12	48	1	6,260	0.14	15	2	5,454	0.13				
24	1	5,726	0.13	49	1	6,263	0.14	16	2	5,454	0.13				
25	1	5,935	0.14	50	1	7,366	0.17	17	2	5,454	0.13				

COMMON LOTS

LOT	BLOCK	S.F.	AC.
1	1	3,535	0.08
35	1	79,534	1.83
52	1	1,680	0.04
54	1	15,480	0.36
60	1	6,176	0.14
25	2	2,436	0.06
1	3	2,907	0.07
1	4	2,998	0.07
1	5	4,722	0.11
1	6	3,698	0.08

ENGEBRITSON LAND SURVEYS, PLLC.
251 S. SUMAC STREET
BOISE, IDAHO 83705
PHONE (208) 859-6032 EMAIL: MIKE@ELSURVEYS.COM

PRELIMINARY PLAT
SERA SOLE SUBDIVISION
GEOMETRY AND NOTES
WITHIN THE SE 1/4 OF THE NE 1/4 OF SECTION 26
TOWNSHIP 2 NORTH, RANGE 1 WEST, BOISE MERIDIAN
CITY OF KUNA, ADA COUNTY, IDAHO

DEVELOPER
C.C.I. GROUP, LLC.
TOM BEVAN
4202 N. MARCLIFFE AVE.
BOISE, IDAHO 83704
(208) 323-7873

FRED WHEELER CONSTRUCTION
FRED WHEELER
846 S. ASH AVE.
KUNA, IDAHO 83634
(208) 922-4336

PROFESSIONAL LAND SURVEYOR
8793
STATE OF IDAHO
MICHAEL R ENGEBRITSON
24 FEB. 2020

REVISIONS		
ITEM	DESCRIPTION	DATE

DRAWING DIRECTORY
ELS PROJECT NUMBER 190802

SHEET 2 OF 4 SHEET

PRELIMINARY PLAT
SERA SOLE SUBDIVISION
PRELIMINARY LANDSCAPE PLAN

LEGEND

- 2" MIN. CALIPER DECIDUOUS TREE. ALL TREES PLANTED WITHIN 15' OF THE PUBLIC STREET R/W OR PAVED WALKING PATH TO HAVE ROOT BARRIER TO PROTECT HARD SURFACE IMPROVEMENTS.
- ORNAMENTAL SCRUB TYPICAL
- INSTALL WHITE VINYL FENCEING AS SHOWN
- EXISTING WOODEN FENCE TO REMAIN

NOTES

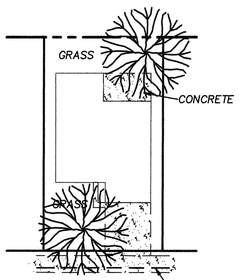
1. NO EXISTING TREES ARE CURRENTLY ON SITE
2. ACCEPTED NURSERY STANDARDS AND PRACTICES SHALL BE FOLLOWED IN THE PLANTING AND MEAINTENANCE OF LANDSCAPED AREAS.
3. ROOT BARRIERS SHALL BE INSTALLED FOR ALL TREES PLANTED ADJACENT TO EXISTING OR PROPOSED PUBLIC OR PRIVATE SIDEWALKS AND PAVING.
4. ALL REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN A HEALTHY GROWING CONDITION BY THE PROPERTY OWNER. THE OWNER SHALL REMOVE AND REPLACE ANY UNHEALTHY OR DEAD PLANT MATERIAL IMMEDIATELY OR AS THE PLANTING SEASON PERMITS.
5. LANDSCAPE BERMS OR SIDEWALLS FOR STORMWATER SYSTEM SHALL HAVE A MAXIMUM OF THREE TO ONE SIDE SLOPES.
6. AN UNDERGROUND AUTOMATIC IRRIGATION SYSTEM IS PROPOSED.
7. A MINIMUM OF ONE (1) DECIDUOUS SHADE TREE PER ONE THOUSAND (1000) SQUARE FEET OF SITE.



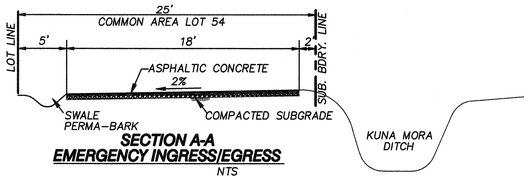
N

60 30 0 30 60 120

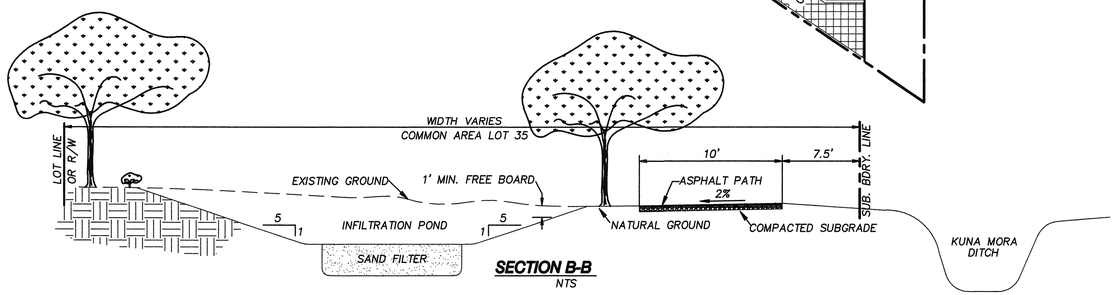
SCALE: 1 INCH = 60 FEET



TYP. LOT LANDSCAPING
NTS.



SECTION A-A
EMERGENCY INGRESS/EGRESS
NTS



SECTION B-B
NTS

ENGEBRITSON LAND SURVEYS, PLLC.
251 S. SUMAC STREET
BOISE, IDAHO 83706
PHONE (208) 859-6032 EMAIL: MIKE@ELSURVEYS.COM

SERA SOLE SUBDIVISION
PRELIMINARY LANDSCAPE PLAN
WITHIN THE SE 1/4 OF THE NE 1/4 OF SECTION 26
TOWNSHIP 2 NORTH, RANGE 1 WEST, BOISE MERIDIAN
CITY OF KUNA, ADA COUNTY, IDAHO

DEVELOPERS/OWNERS
C.C.I. GROUP, LLC. FRED WHEELER CONSTRUCTION
TOM BEVAN FRED WHEELER
4202 N. MARCLIFFE AVE. 846 S. ASH AVE.
BOISE, IDAHO 83704 KUNA, IDAHO 83634
(208) 323-7873 (208) 922-4336

PROFESSIONAL LAND SURVEYOR
REGISTERED
8793
STATE OF IDAHO
MICHAEL R ENGEBRITSON
24 FEB. 2020

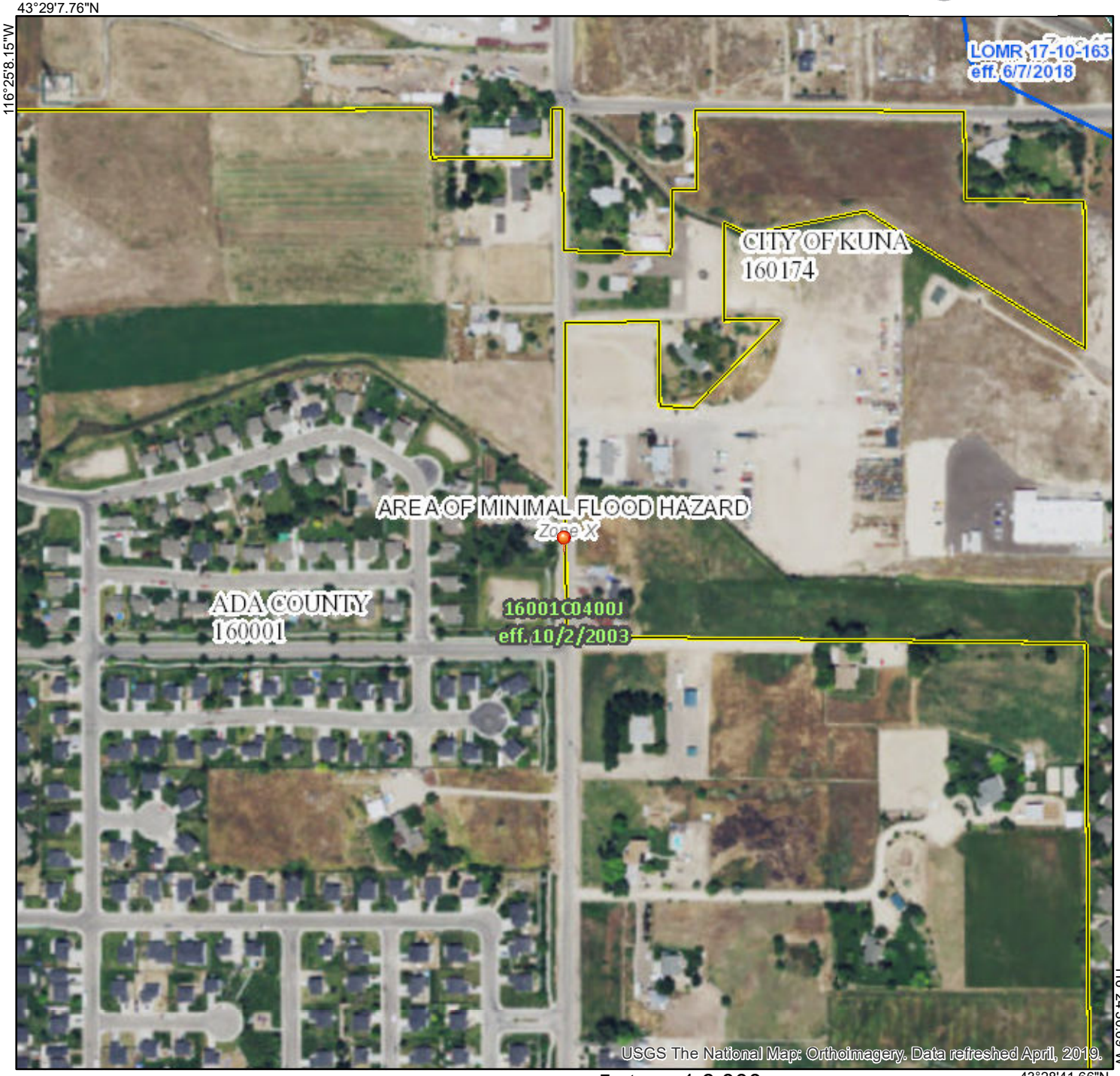
REVISIONS		
ITEM	DESCRIPTION	DATE

DRAWING DIRECTORY
ELS PROJECT NUMBER 190802

SHEET 4 OF 4 SHEET

National Flood Hazard Layer FIRMette

FEMA



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS	Without Base Flood Elevation (BFE) *Zone A, V, A99* With BFE or Depth *Zone AE, AO, AH, VE, AR* Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X* Future Conditions 1% Annual Chance Flood Hazard *Zone X* Area with Reduced Flood Risk due to Levee. See Notes. *Zone X* Area with Flood Risk due to Levee *Zone D*
OTHER AREAS	NO SCREEN Area of Minimal Flood Hazard *Zone X* Effective LOMRs Area of Undetermined Flood Hazard *Zone D*
GENERAL STRUCTURES	Channel, Culvert, or Storm Sewer Levee, Dike, or Floodwall
OTHER FEATURES	20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation Coastal Transect 513 Base Flood Elevation Line (BFE) Limit of Study Jurisdiction Boundary Coastal Transect Baseline Profile Baseline Hydrographic Feature
MAP PANELS	Digital Data Available No Digital Data Available Unmapped

N

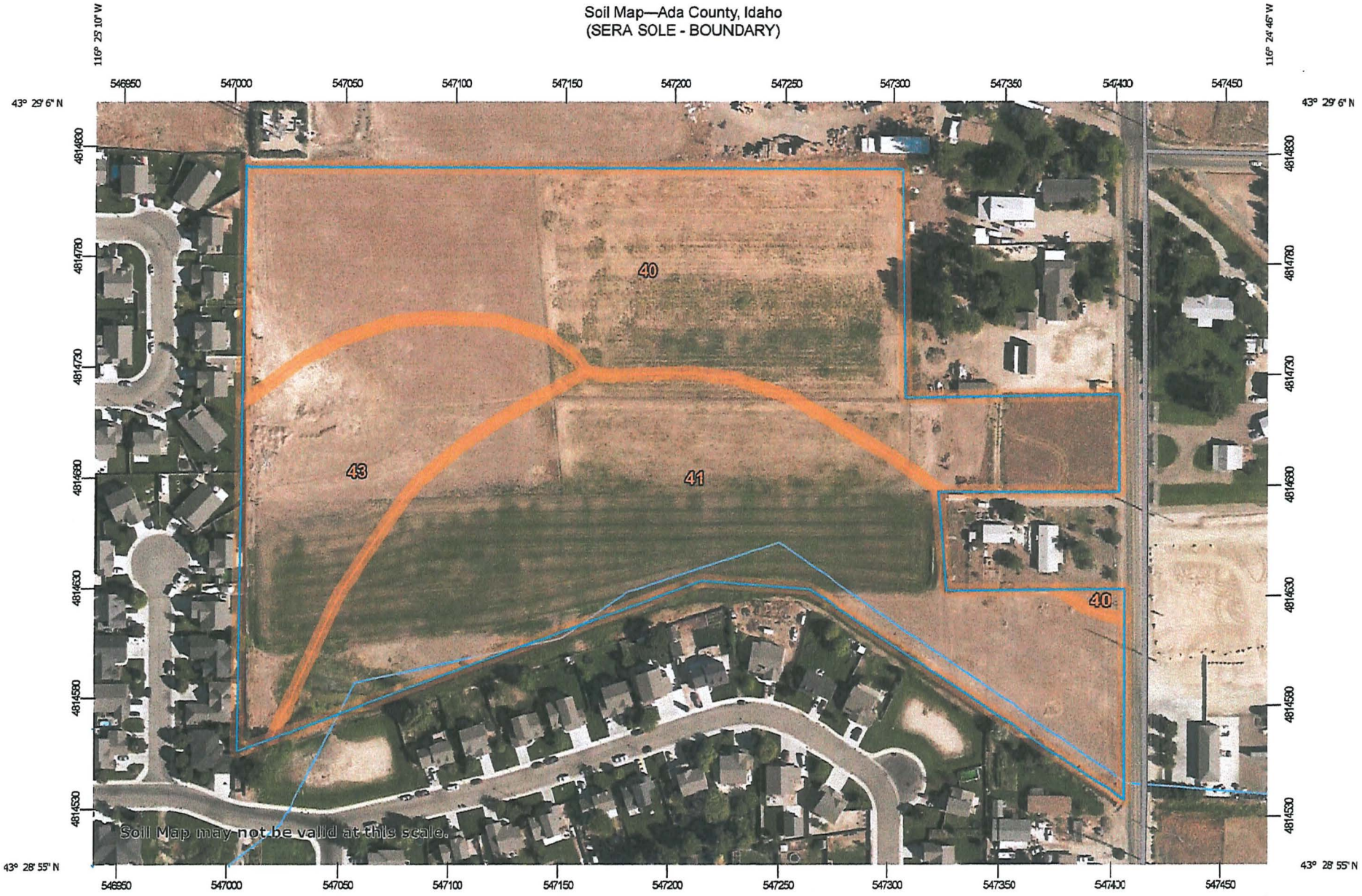
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/9/2020 at 1:55:23 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Soil Map—Ada County, Idaho
(SERA SOLE - BOUNDARY)



Map Scale: 1:2,430 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 35 70 140 210

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Ada County, Idaho
Survey Area Data: Version 7, Sep 16, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

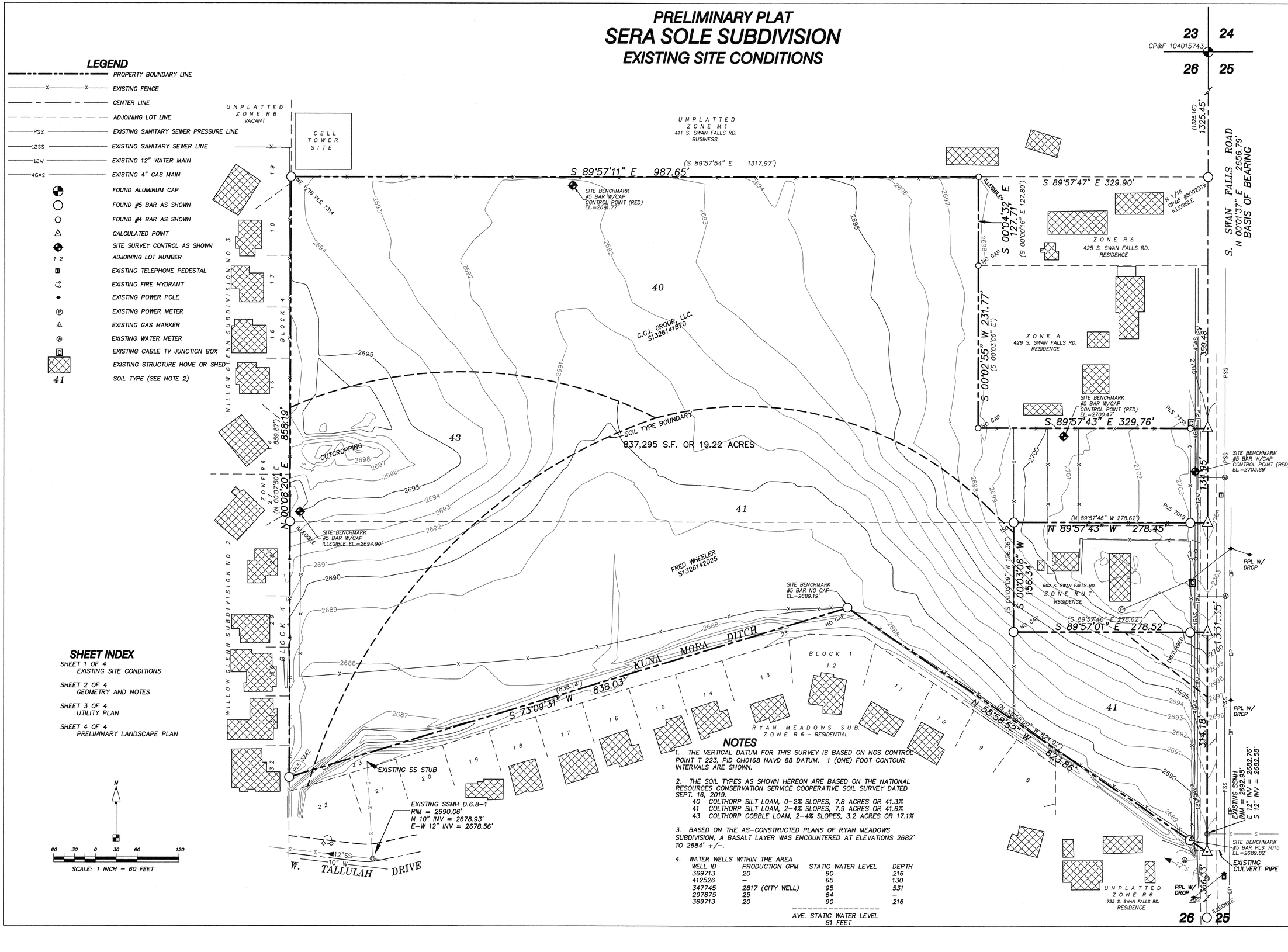
Date(s) aerial images were photographed: Aug 1, 2018—Aug 31, 2018

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
40	Colthorp silt loam, 0 to 2 percent slopes	7.8	41.3%
41	Colthorp silt loam, 2 to 4 percent slopes	7.9	41.6%
43	Colthorp cobbly loam, 2 to 4 percent slopes	3.2	17.1%
Totals for Area of Interest		**18.9**	**100.0%**

PRELIMINARY PLAT
SERA SOLE SUBDIVISION
EXISTING SITE CONDITIONS



SHEET INDEX

SHEET 1 OF 4 — EXISTING SITE CONDITIONS

SHEET 2 OF 4 — GEOMETRY AND NOTES

SHEET 3 OF 4 — UTILITY PLAN

SHEET 4 OF 4 — PRELIMINARY LANDSCAPE PLAN

N

60 30 0 30 60 120

SCALE: 1 INCH = 60 FEET

NOTES

1. THE VERTICAL DATUM FOR THIS SURVEY IS BASED ON NGS CONTROL POINT T 223, PID OH0168 NAVD 88 DATUM. 1 (ONE) FOOT CONTOUR INTERVALS ARE SHOWN.

2. THE SOIL TYPES AS SHOWN HEREON ARE BASED ON THE NATIONAL RESOURCES CONSERVATION SERVICE COOPERATIVE SOIL SURVEY DATED SEPT. 16, 2019.
   - 40 COLTHORP SILT LOAM, 0–2% SLOPES, 7.8 ACRES OR 41.3%
   - 41 COLTHORP SILT LOAM, 2–4% SLOPES, 7.9 ACRES OR 41.6%
   - 43 COLTHORP COBBLE LOAM, 2–4% SLOPES, 3.2 ACRES OR 17.1%

3. BASED ON THE AS–CONSTRUCTED PLANS OF RYAN MEADOWS SUBDIVISION, A BASALT LAYER WAS ENCOUNTERED AT ELEVATIONS 2682' TO 2684' +/–.

4. WATER WELLS WITHIN THE AREA

WELL ID	PRODUCTION GPM	STATIC WATER LEVEL	DEPTH
369713	20	90	216
412526	–	65	130
347745	2817 (CITY WELL)	95	531
297875	25	64	–
369713	20	90	216
		AVE. STATIC WATER LEVEL	81 FEET

ENGEBRITSON LAND SURVEYS, PLLC.
2251 S. SUMAC STREET
BOISE, IDAHO 83706
PHONE (208) 859–6032 EMAIL: MIKE@ELSURVEYS.COM

PRELIMINARY PLAT
SERA SOLE SUBDIVISION
EXISTING SITE CONDITIONS
WITHIN THE SE 1/4 OF THE NE 1/4 OF SECTION 26
TOWNSHIP 2 NORTH, RANGE 1 WEST, BOISE MERIDIAN
CITY OF KUNA, ADA COUNTY, IDAHO

DEVELOPER
C.C.I. GROUP, LLC.
TOM BEVAN
4202 N. MARCLIFFE AVE.
BOISE, IDAHO 83704
(208) 323–7873

FRED WHEELER CONSTRUCTION
FRED WHEELER
846 S. ASH AVE.
KUNA, IDAHO 83634
(208) 922–4336

PROFESSIONAL LAND SURVEYOR — 8793 — STATE OF IDAHO — MICHAEL R. ENGEBRITSON
24 FEB. 2020

REVISIONS		
ITEM	DESCRIPTION	DATE

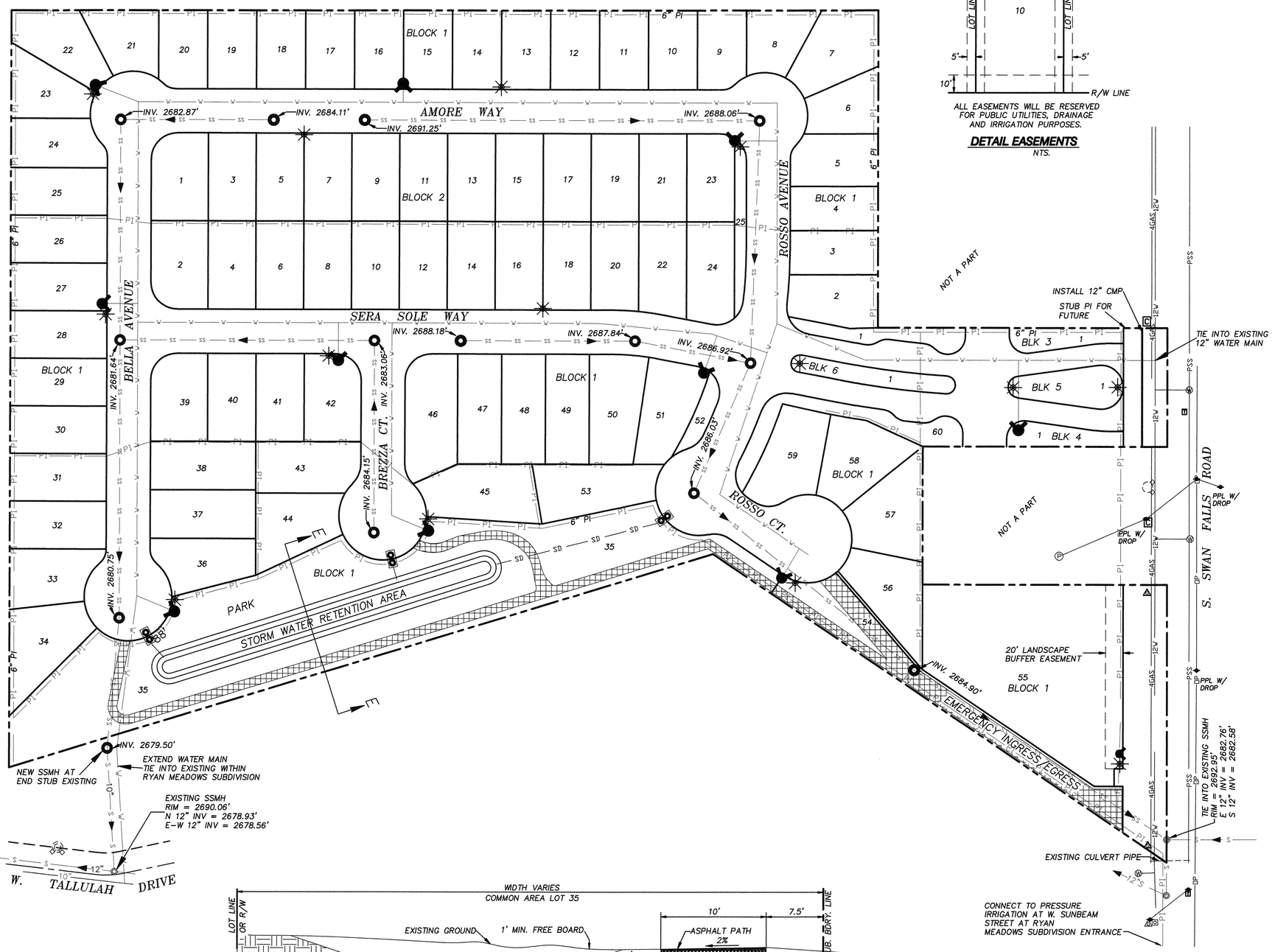
DRAWING DIRECTORY
ELS PROJECT NUMBER 190802

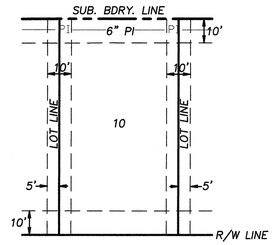
SHEET 1 OF 4 SHEET

PRELIMINARY PLAT
SERA SOLE SUBDIVISION
UTILITY PLAN

LEGEND

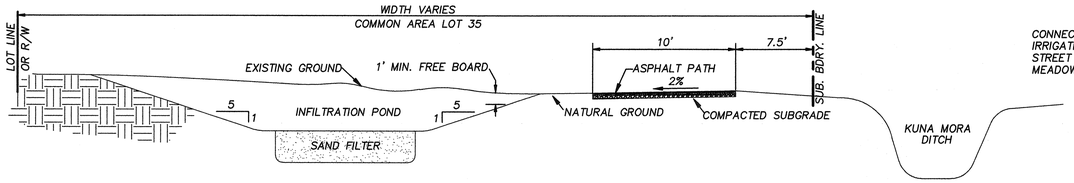
- BOUNDARY LINE
- PROPOSED LOT OR R/W LINE
- PROPOSED WATER MAIN
- EXISTING WATER MAIN
- PROPOSED SANITARY SEWER MAIN
- EXISTING SANITARY SEWER MAIN
- PROPOSED PRESSURE IRRIGATION
- PROPOSED STORM DRAIN
- EXISTING SANITARY SEWER PRESSURE LINE
- EXISTING 12" WATER MAIN
- EXISTING 4" GAS MAIN
- EXISTING TELEPHONE PEDESTAL
- EXISTING FIRE HYDRANT
- EXISTING POWER POLE
- EXISTING GAS MARKER
- EXISTING WATER METER
- EXISTING CABLE TV JUNCTION BOX
- PROPOSED MANHOLE
- PROPOSED STREET LIGHT
- PROPOSED FIRE HYDRANT





ALL EASEMENTS WILL BE RESERVED FOR PUBLIC UTILITIES, DRAINAGE AND IRRIGATION PURPOSES.

DETAIL EASEMENTS
NTS.



SECTION E-E
NTS

ENGEBRITSON LAND SURVEYS, PLLC.
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PRELIMINARY PLAT
SERA SOLE SUBDIVISION
UTILITY PLAN
WITHIN THE SE 1/4 OF THE NE 1/4 OF SECTION 26
TOWNSHIP 2 NORTH, RANGE 1 WEST, BOISE MERIDIAN
CITY OF KUNA, ADA COUNTY, IDAHO

DEVELOPER
C.C.I. GROUP, LLC. FRED WHEELER CONSTRUCTION
TOM BEVAN FRED WHEELER
4202 N. MARCLIFFE AVE. 846 S. ASH AVE.
BOISE, IDAHO 83704 KUNA, IDAHO 83634
(208) 323-7873 (208) 922-4336

PROFESSIONAL LAND SURVEYOR
REGISTERED
8793
STATE OF IDAHO
MICHAEL R. ENGEBRITSON
24 FEB. 2020

REVISIONS

ITEM	DESCRIPTION	DATE

DRAWING DIRECTORY
ELS PROJECT NUMBER 190802

SHEET 3 OF 4 SHEET

Exhibit B-1

CITY OF KUNA
P.O. BOX 13
KUNA, ID 83634
www.kunacity.id.gov

Paul A. Stevens, P.E.
Kuna City Engineer

MEMORANDUM

Date: **April 8, 2020**

From: **Paul A. Stevens, P.E.**

To: **Wendy Howell, Planning and Zoning Director**

RE: **Sera Sol Subdivision 20-02-S**

The Sera Sol Subdivision 20-02-S application dated 26 February 2020 has been reviewed. The application provides a preliminary plat, a narrative explaining the developers vision for the subdivision, a comprehensive picture gallery, and supporting documents. These comments apply to the preliminary plat as it affects public works infrastructure. Landscaping, population density, parking requirements, emergency access, and similar topics are evaluated by the Planning and Zoning Department. Review and evaluation of civil design drawings is accomplished separately by the City Engineer and Kuna Fire Department (KFD), when received.

These comments may be expanded or refined based on future land-use actions. The following comments apply considering current, effective requirements:

1. **General**
   a. The Sera Sol Subdivision site is approximately 19.22 acres and is currently zoned A agriculture. Requested zoning is R-6 medium density residential. This application does not specifically request a zone change.
   b. The application shows 89 total new lots. 78 lots are designated residential. 11 lots are common lots. The applicant suggests that one or two lots could be set aside for commercial use.
   c. Typical dwelling units are reckoned at approximately 3.18 people per household. At this rate the projected population for this subdivision will be approximately 248 people or 13 people per gross acre. A commensurate impact on the City of Kuna's, pressurized irrigation, sewer, and water will result. The policy of "to and through" applies to all utilities.
   d. Pressurized irrigation is anticipated to be an extension of the City of Kuna pressurized irrigation system.
   e. Potable water will be an extension of the City of Kuna water distribution system. Water main line is available in Swan Falls Road.
   f. One access to the subdivision is shown. KFD normally requires a secondary access.
   g. Access to Sera Sol Subdivision is from S Swan Falls Road.
   h. Areas for outside activities are incorporated into the project. Connection to the City of Kuna pathways presents a long-term goal that should be considered.
   i. A plan approval letter will be required if this project affects any local irrigation districts.
   j. State the vertical datum used for elevations on all drawings.
   k. Provide engineering certification on all final engineering drawings.

2. **Inspection Fees**
    a. An inspection fee will be levied for City inspection of pressurized irrigation, sewer, and water facilities constructed in associated with this development. The current inspection fee is $1.00 per lineal foot of sewer, water and pressure irrigation pipe. Payment is due and payable prior to City's approval of final construction plans.
    b. The developer shall retain a qualified responsible, Idaho registered professional engineer to provide sufficient inspection to certify to DEQ that the project was completed in accordance with approved plans and specifications and to provide accurate as-built drawings to the City. IDAPA 10.01.02 lists the professional engineer's project responsibilities.
    c. The developer's engineer and the City's inspector are encouraged to coordinate inspections.

3. **Right-of-Way**
    a. Sera Sol Subdivision will impact travel on S Swan Falls Road.
    a. All street construction must meet or exceed ACHD and City of Kuna development standards.
    b. Sufficient right-of-way for existing and future classified streets shall be provided pursuant to City & ACHD standards.
    c. Approaches onto classified streets must comply with ACHD and City of Kuna approach policies.
    d. Sidewalk, curb and gutter, street widening and any related storm drainage facilities, consistent with city code and policies, shall be provided in connection with property development.
    e. All city mainlines crossing proposed lots, running along the back of lots and sides of lots shall have easements that allow the City of Kuna to access and maintain the utilities.
    f. All mainlines owned by the development shall be placed in easements large enough to allow maintenance and repairs.

4. **Sanitary Sewer & Potable Water**
    a. It is recommended that this application be conditioned to conform to the sewer and water master plans as applicable.
    b. Water system improvements must meet or exceed the quality requirements of the City of Kuna.
    c. The applicant's property is not connected to City services and is subject to connection fees for the ultimate connected sewer load as provided in the City's Standard Tables. City Code (6-4-2) requires connection to the City sewer system for all sanitary sewer needs.
    d. All sewer infrastructure must meet or exceed City of Kuna requirements.
    e. Sewer collection pipe shall be evaluated and a determination made regarding adequacy for the projected sewage flows. Upsizing and or participation in a main trunk line construction project may be needed.
    f. Water and sewer flow models will be required to verify adequate water supply and fire suppression and sewage removal.
    g. Sewer and water connection fees apply to each lot containing a home or other facility.
    h. All existing sewage treatment facilities (septic tank and drain field) must be decommissioned in accordance with Idaho Department of Environmental Quality requirements. Documentation shall be provided to the City of Kuna.
    i. Decommission wells as needed, in accordance with Idaho Department of Water Resources (IDWR) requirements. Documentation shall be provided to the City of Kuna.

5. **Pressurized Irrigation**
    a. It is recommended that this application be conditioned to conform to the Pressurized Irrigation Master Plan.

b. The applicant's property is not connected to the City's pressurized irrigation system. Relying on drinking water for irrigation purposes conflicts with City Code (6-4-2).
c. All pressurized irrigation infrastructure shall meet or exceed City of Kuna standards.
d. Irrigation of Sera Sol Subdivision shall be from on site, existing irrigation wells.
e. Existing irrigation ditches (supply & drain) must be relocated as needed and as approved by the irrigation ditch company/users.
f. Pressurized irrigation flow model will be required to verify adequate pressurized irrigation supply.

6. Grading and Storm Drainage

a. Verify that existing and proposed elevations match at property boundaries such that a slope burden is not imposed on adjacent properties. Slopes shall not be steeper than 3:1 on lots adjacent to a street or common lot and no steeper than 4:1 for lots with common rear lot lines.
b. Provide a grading and drainage plan which supports and maintains all upstream drainage rights and all downstream irrigation delivery rights as they presently exist for this property.
c. The City of Kuna relies on the ACHD Stormwater Policy Manual to establish the requirements for design of private storm water disposal systems.
d. Provide a storm water disposal & treatment plan which accounts for increased storm water runoff volumes. Provide detailed drawings of drainage & treatment facilities with supporting calculations for review and approval.
e. Runoff from public right-of-way is regulated by ACHD. On site storm water retention shall be reviewed by the City Engineer in conjunction with the Civil Engineering construction improvements review.

7. As-Built (Record) Drawings

a. As-built drawings are required at the conclusion of any public facility construction project and are the responsibility of the developer's engineer. The city may help track changes but will not be responsible for the finished product. As-built drawings will be required before occupancy or final plat approval is granted.

8. Property Description

a. The applicant provided a preliminary plat and supporting documents as part of the application.

Applicant Response to Ex B-1

RILEY PLANNING SERVICES

P.O. Box 405
Boise, ID 83701
208.908.1609

MEMORANDUM

TO: City of Kuna c/o Troy Behunin

FROM: Penelope Constantikes

DATE: July 27, 2020

RE: **SERA SOLE REZONE AND PRELIMINARY PLAT APPLICATIONS CITY ENGINEER COMMENTS -RESPONSE**

The applicant and project team appreciate the City Engineers assistance in obtaining documentation of the previously reserved sewer taps.

CITY ENGINEER COMMENTS – Dated April 8, 2020

1. General
    a. A rezone application has been submitted for an R-6 Zone.
    b. The combined parcels (S1326141870 and S1326142025 is proposed to be platted for 78 new residential lots and one lot designated commercial for future development (Lot 55, Block 1).
    c. No comment.
    d. Pressurized irrigation to each residential lot and the commercial is proposed.
    e. Potable water is proposed.
    f. Two accesses are proposed. The main access is proposed between 429 S. Swan Falls Road and 605 S. Swan Falls Road. A second access is proposed at the southeast corner of the site where the future commercial lot is located. This access will provide commercial access as a public road. At the boundary of the non-residential and residential areas of Sera Sole, the applicant proposes bollard or another Kuna Fire Department approved barrier such as a break away gate to restrict commercial traffic in the residential portion of the site.
    g. Access to Sera Sole is from S. Swan Falls Road.
    h. Open space and pathway is proposed for the subdivision to provide residents with recreational activities.
    i. There is an irrigation facility along the south boundary of the site. The application will work with the appropriate entity to protect and preserve existing water delivery and install / construct associated structures as necessary.
    j. Vertical datum used for elevations on all drawings will be added.
    k. All engineered drawings will include engineering certification.

2. Inspection fees
    a. Understood.
    b. Understood.
    c. The project engineer will coordinate inspections as needed.

3. Right-of-Way
    a. No comment.
    b. Understood. All street construction will meet or exceed ACHD and City of Kuna development standards.
    c. (b) Sufficient right-of-way will be provided.
    d. (c) Approaches will comply with all approach policies.
    e. (d) Street and pedestrian improvements and storm water facilities will be provided / constructed as required.
    f. (e) Easements for municipal services will be provided to allow for access and maintenance.
    g. (f) Easements will be of sufficient size to all maintenance and repairs.

4. Sanitary Sewer and Potable Water
    a. The applicant will conform to sewer and water master plans as appropriate.
    b. Water system improvements will meet or exceed City of Kuna quality requirements.
    c. The subject site has confirmation of 78 sewer taps as provided by the Kuna City Engineering Department. These reserved sewer taps will be used to provide sanitary sewer needs for the proposed subdivision.
    d. Sewer infrastructure will be constructed to meet or exceed City of Kuna requirements.
    e. The project engineer will coordinate collection pipe sizing for adequacy of sewage flows.
    f. Sewer and water modeling will be provided as needed by the project engineer.
    g. Understood.
    h. There are no existing residences on the subject site. If there are abandoned septic tanks and/or drain fields, they will be decommissioned as required.
    i. If any wells are present on the site, it / they will be decommissioned as required and documentation will be provided to the City of Kuna.

5. Pressurized Irrigation
    a. Understood.
    b. The subject site is in agricultural use presently and not utilizing drinking water for irrigation purposes.
    c. The pressurized irrigation system for the Sera Sole Subdivision will meet or exceed City of Kuna standards.
    d. A grading and drainage plan will be provided by a professional engineer at such time it is required.
    e. Existing irrigation facilities on the subject site will be protected and preserved, and relocated as needed.
    f. The project engineer will provide a pressurized irrigation flow model as required to verity adequate supply.

6. Grading and Storm Drainage
    a. Existing and proposed elevations will be verified as needed to determine that slope burden will not impose of adjacent properties.
    b. A grading and drainage plan will be provided.
    c. Private storm water disposal and treatment will meet the ACHD Stormwater Policy Manual.
    d. The storm water disposal and treatment plan will account for increased storm water runoff and detailed drawings will be provided.
    e. Understood.

7. As-Built (Record) Drawings
    a. Understood.

8. No comment.

Exhibit B-2

Development Services Department

Project/File: **Sera Sole/ KPP20-0005/ 20-02-S/ 20-01-ZC**
This is a rezone and a preliminary plat application consisting of 89 lots on 19 acres. The site is located on the west side of Swan Falls Road south of Stagecoach Way.

Lead Agency: City of Kuna

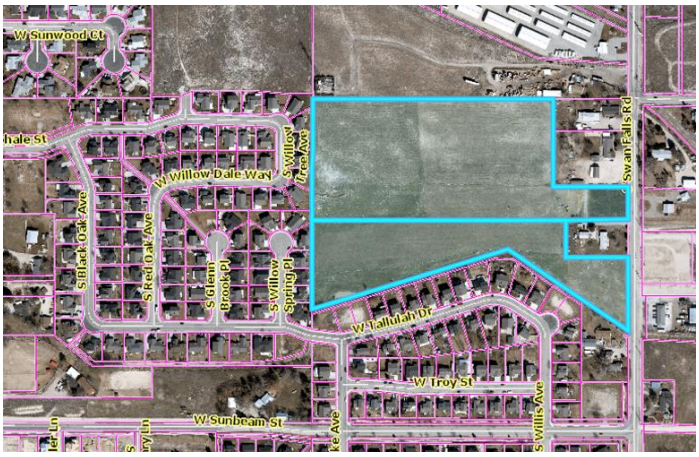
Site address: Swan Falls Road

Staff Approval: May 5, 2020

Representative: Penelope Constantikes
Riley Planning, LLC
PO Box 405
Boise, ID 83701

Owners: CCI Group LLC
4202 N. Marcliff Avenue
Boise, ID 83704 and
Fred and Sharon Wheeler
846 S. Ash Avenue
Kuna, ID 83634

Staff Contact: Dawn Battles
Phone: 387-6218
E-mail: dbattles@achdidaho.org



A. Findings of Fact

1. **Description of Application:** The applicant is requesting approval for a rezone from A (Agriculture) to R-6 (Medium Density Residential) and a preliminary plat consisting of 78 buildable lots, a commercial lot and 9 common lots on 19 acres.

   The applicant's proposal for R-6 zoning is consistent with the City of Kuna's comprehensive plan which calls for mixed use for this site.

2. **Description of Adjacent Surrounding Area:**

Direction	Land Use	Zoning
North	Manufacturing/Industrial, Agriculture, Medium Density Residential	M-1, A, R-6
South	Medium Density Residential	R-6
East	Rural Urban-Transition (Ada County), Manufacturing/Industrial and Low Density Residential	RUT, M-1 and R-1
West	Medium Density Residential	R-6

3. **Site History:** ACHD staff previously reviewed this site as Sera Sole K06-14-S/K06-12-ZC/ K06-10-DA in April 2007. The requirements of this staff report have been updated to reflect the revised site plan and current ACHD policies.

4. **Adjacent Development:** The following developments are pending or underway in the vicinity of the site:

   - Owl Subdivision, a 4-lot residential subdivision located south of the site was approved by ACHD Commission in January 2019.

5. **Transit:** Transit services are not available to serve this site.

6. **New Center Lane Miles:** The proposed development includes 0.62 centerline miles of new public road.

7. **Impact Fees:** There will be an impact fee that is assessed and due prior to issuance of any building permits. The assessed impact fee will be based on the impact fee ordinance that is in effect at that time. The impact fee assessment will not be released until the civil plans are approved by ACHD.

8. **Capital Improvements Plan (CIP)/ Integrated Five Year Work Plan (IFYWP):**
   There are no roadways, bridges or intersections in the general vicinity of the project that are in the Integrated Five Year Work Plan (IFYWP) or the District's Capital Improvement Plan (CIP).

B. Traffic Findings for Consideration

1. **Trip Generation:** This development is estimated to generate 736 additional vehicle trips per day; 78 additional vehicle trips per hour in the PM peak hour, based on the Institute of Transportation Engineers Trip Generation Manual, 10th edition.

2. **Condition of Area Roadways**
   Traffic Count is based on Vehicles per hour (VPH)

Roadway	Frontage	Functional Classification	PM Peak Hour Traffic Count	PM Peak Hour Level of Service
Swan Falls Road	476-feet	Minor Arterial	529	Better than "E"

   * Acceptable level of service for a two-lane minor arterial is "E" (575 VPH).

3. **Average Daily Traffic Count (VDT)**
   Average daily traffic counts are based on ACHD's most current traffic counts.

   - The average daily traffic count for Swan Falls Road north of Shortline Street was 9,366 on October 25, 2017.

C. Findings for Consideration

1. Swan Falls Road

a. Existing Conditions: Swan Falls Road is improved with 2-travel lanes, 24-feet of pavement and no curb, gutter or sidewalk abutting the site. There is 58 to 63-feet of right-of-way for Swan Falls Road (24-feet from centerline).

b. Policy:
Arterial Roadway Policy: District Policy 7205.2.1 states that the developer is responsible for improving all street frontages adjacent to the site regardless of whether or not access is taken to all of the adjacent streets.

Master Street Map and Typology Policy: District Policy 7205.5 states that the design of improvements for arterials shall be in accordance with District standards, including the Master Street Map and Livable Streets Design Guide. The developer or engineer should contact the District before starting any design.

Street Section and Right-of-Way Width Policy: District Policies 7205.2.1 & 7205.5.2 state that the standard 5-lane street section shall be 72-feet (back-of-curb to back-of-curb) within 96-feet of right-of-way. This width typically accommodates two travel lanes in each direction, a continuous center left-turn lane, and bike lanes on a minor arterial and a safety shoulder on a principal arterial.

Right-of-Way Dedication: District Policy 7205.2 states that The District will provide compensation for additional right-of-way dedicated beyond the existing right-of-way along arterials listed as impact fee eligible in the adopted Capital Improvements Plan using available impact fee revenue in the Impact Fee Service Area.

No compensation will be provided for right-of-way on an arterial that is not listed as impact fee eligible in the Capital Improvements Plan.

The District may acquire additional right-of-way beyond the site-related needs to preserve a corridor for future capacity improvements, as provided in Section 7300.

Sidewalk Policy: District Policy 7205.5.7 requires a concrete sidewalk at least 5-feet wide to be constructed on both sides of all arterial streets. A parkway strip at least 6-feet wide between the back-of-curb and street edge of the sidewalk is required to provide increased safety and protection of pedestrians. Consult the District's planter width policy if trees are to be placed within the parkway strip. Sidewalks constructed next to the back-of-curb shall be a minimum of 7-feet wide.

Detached sidewalks are encouraged and should be parallel to the adjacent roadway. Meandering sidewalks are discouraged.

A permanent right-of-way easement shall be provided if public sidewalks are placed outside of the dedicated right-of-way. The easement shall encompass the entire area between the right-of-way line and 2-feet behind the back edge of the sidewalk. Sidewalks shall either be located wholly within the public right-of-way or wholly within an easement.

Frontage Improvements Policy: District Policy 7205.2.1 states that the developer shall widen the pavement to a minimum of 17-feet from centerline plus a 3-foot wide gravel shoulder adjacent to the entire site. Curb, gutter and additional pavement widening may be required (See Section 7205.5.5).

ACHD Master Street Map: ACHD Policy Section 3111.1 requires the Master Street Map (MSM) guide the right-of-way acquisition, arterial street requirements, and specific roadway features required through development. This segment of Swan Falls Road is designated in the MSM as a Transitional/Commercial Arterial with 5-lanes and on-street bike lanes, a 72-foot street section within 96-feet of right-of-way.

c. **Applicant Proposal:** The applicant is proposing to dedicate additional right-of-way to total 50-feet from centerline of Swan Falls Road.

The applicant is proposing to construct vertical curb and 8-foot wide concrete sidewalk on Swan Falls Road abutting the site.

The applicant is proposing to construct an 18-foot wide driveway onto Swan Falls Road located at the southeast property line to provide emergency access to the site. This driveway is proposed to be modified in the future to provide full access to the commercial lot. The applicant is proposing to restrict the driveway to emergency access only with a gate or bollards.

d. Staff Comments/Recommendations: The applicant should be required to dedicate additional right-of-way to total 48-feet from centerline of Swan Falls Road abutting the site. The applicant will not be compensated for any right-of-way dedication, as Swan Falls Road is not listed in ACHD's IFYWP or CIP.

The applicant's proposal to construct 8-foot wide concrete sidewalk on Swan falls Road abutting the site exceeds District policy and should be approved.

The applicant should be required to locate the sidewalk a minimum of 41-feet from centerline of Swan Falls Road.

The applicant's proposal to construct vertical curb on Swan Falls Road abutting the site does not meet District policy and should not be approved. Staff recommends that the City of Kuna not require vertical curb on Swan Falls Road as part of this application. Vertical curb would cause drainage issues for the out parcel and would create a maintenance burden for ACHD.

The applicant should improve Swan Falls Road with 17-feet of pavement from centerline and a 3-foot gravel shoulder abutting the site.

The applicant's proposal to construct an 18-foot wide driveway onto Swan Falls Road located at the southeast property line to provide emergency access to the site and access to the future commercial lot is approved. The applicant should locate the gate or bollards outside of the right-of-way, as determined by the appropriate fire department.

2. Internal Local Streets

a. Existing Conditions: There are no local streets within the site.

b. Policy:

Local Roadway Policy: District Policy 7207.2.1 states that the developer is responsible for improving all local street frontages adjacent to the site regardless of whether or not access is taken to all of the adjacent streets.

Street Section and Right-of-Way Policy: District Policy 7207.5 states that right-of-way widths for all local streets shall generally not be less than 47-feet wide and that the standard street section shall be 33-feet (back-of-curb to back-of-curb).

Standard Urban Local Street—33-foot Street Section and Right-of-way Policy: District Policy 7207.5.2 states that the standard street section shall be 33-feet (back-of-curb to back-of-curb) for developments with any buildable lot that is less than 1 acre in size. This street section shall include curb, gutter, and minimum 5-foot wide concrete sidewalks on both sides and shall typically be constructed within 47-feet of right-of-way.

For the City of Kuna and City of Star: Unless otherwise approved by Kuna or Star, the standard street section shall be 36-feet (back-of-curb to back-of-curb) for developments with any buildable lot that is less than 1 acre in size. This street section shall include curb, gutter, and minimum 5-foot wide concrete sidewalks on both sides and shall typically be constructed within 50-feet of right-of-way.

Sidewalk Policy: District Policy 7207.5.7 states that five-foot wide concrete sidewalk is required on both sides of all local street, except those in rural developments with net densities of one dwelling unit per 1.0 acre or less, or in hillside conditions where there is no direct lot frontage, in which case a sidewalk shall be constructed along one side of the street. Some local jurisdictions may require wider sidewalks.

The sidewalk may be placed next to the back-of-curb. Where feasible, a parkway strip at least 8-feet wide between the back-of-curb and the street edge of the sidewalk is recommended to provide increased safety and protection of pedestrians and to allow for the planting of trees in accordance with the District's Tree Planting Policy. If no trees are to be planted in the parkway

strip, the applicant may submit a request to the District, with justification, to reduce the width of the parkway strip.

Detached sidewalks are encouraged and should be parallel to the adjacent roadway. Meandering sidewalks are discouraged.

A permanent right-of-way easement shall be provided if public sidewalks are placed outside of the dedicated right-of-way. The easement shall encompass the entire area between the right-of-way line and 2-feet behind the back edge of the sidewalk. Sidewalks shall either be located wholly within the public right-of-way or wholly within an easement.

Cul-de-sac Streets Policy: District policy 7207.5.8 requires cul-de-sacs to be constructed to provide a minimum turning radius of 45-feet; in rural areas or for temporary cul-de-sacs the emergency service providers may require a greater radius. Landscape and parking islands may be constructed in turnarounds if a minimum 29-foot street section is constructed around the island. The pavement width shall be sufficient to allow the turning around of a standard AASHTO SU design vehicle without backing. The developer shall provide written approval from the appropriate fire department for this design element.

The District will consider alternatives to the standard cul-de-sac turnaround on a case-by-case basis. This will be based on turning area, drainage, maintenance considerations and the written approval of the agency providing emergency fire service for the area where the development is located.

Landscape Medians Policy: District policy 7207.5.16 states that landscape medians are permissible where adequate pavement width is provided on each side of the median to accommodate the travel lanes and where the following is provided:

- The median is platted as right-of-way owned by ACHD.
- The width of an island near an intersection is 12-feet maximum for a minimum distance of 150-feet. Beyond the 150-feet, the island may increase to a maximum width of 30-feet.
- At an intersection that is signalized or is to be signalized in the future, the median width shall be reduced to accommodate the necessary turn lane storage and tapers.
- The Developer or Homeowners Association shall apply for a license agreement if landscaping is to be placed within these medians.
- The license agreement shall contain the District's requirements of the developer including, but not limited to, a "hold harmless" clause; requirements for maintenance by the developer; liability insurance requirements; and restrictions.
- Vertical curbs are required around the perimeter of any raised median. Gutters shall slope away from the curb to prevent ponding.

c. **Applicant's Proposal:** The applicant is proposing to construct the entry roadway, Sera Sole Way, with two travel lanes, a tear shaped center landscape island, a 2nd center landscape island, a planter strip, a mail pick-up area on the north side and a mail drop-off area on the south side of the entrance.

The applicant is proposing to construct the local internal streets as 36-foot street sections with rolled curb, gutter and 7-foot wide concrete sidewalk within 50-feet of right-of-way.

The applicant is proposing to construct a cul-de-sac at the terminus of Rosso Court, Brezza Court and Ella Avenue.

The applicant is proposing to construct knuckles at the following intersections:

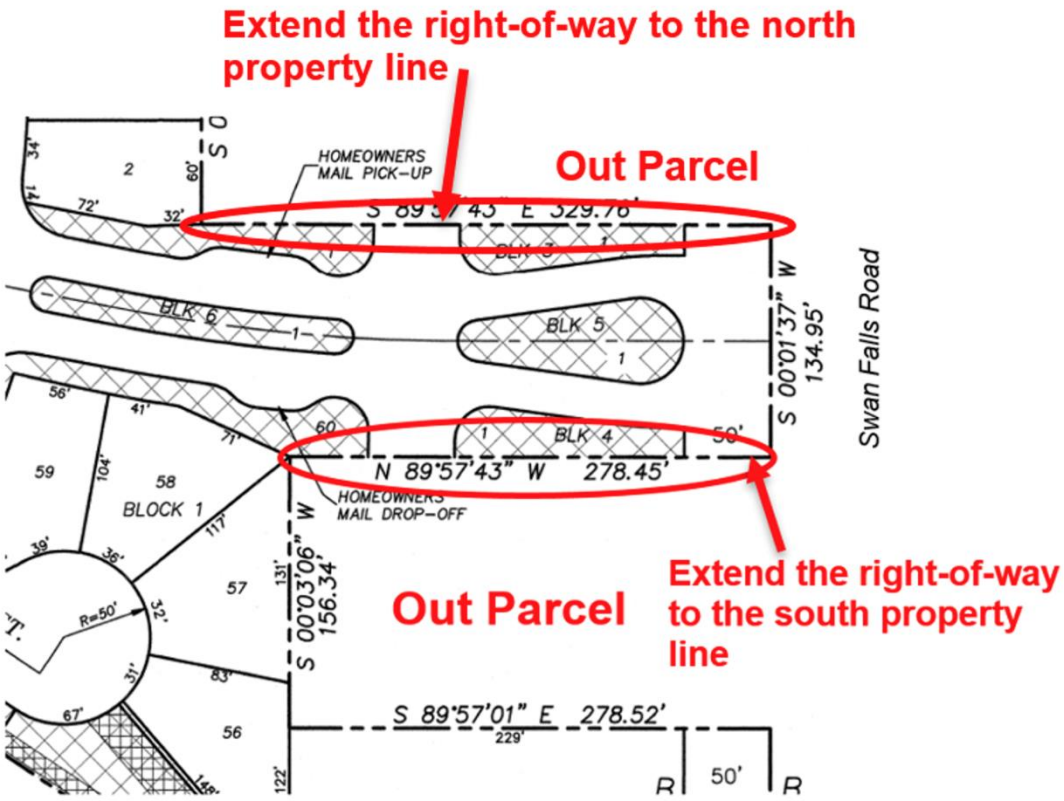
- Rosso Avenue and Rosso Court

- Rosso Avenue and Amore Way
- Amore Way and Ella Avenue

d. Staff Comments/Recommendations: The applicant should be required to construct the entrance roadway, Sera Sole Way, with two 21-foot wide travel lanes, a maximum 12-foot wide center landscape island for a minimum distance of 150-feet, the 2nd center landscape island may increase to a maximum width of 30-feet wide beyond the 150-feet, vertical curb, gutter, a minimum 6-foot wide planter strip and a minimum 5-foot wide detached concrete sidewalk within the entry way. If street trees are desired, then an 8-foot wide planter strip should be provided.

The center landscape islands should be platted as right-of-way owned by ACHD. The applicant or homeowner's association should enter into a license agreement for any landscaping proposed within the island.

The applicant should extend the right-of-way for Sera Sole Way to the north and south property line within the entrance portion of the roadway to ensure that the out parcels, depicted below, have access to a local street and enter into a license agreement for any landscaping located



within the right-of-way.

The applicant should relocate the mail pick-up and drop-off area out of the entrance way due to the potential of stacking onto Swan Falls Road and the delay of exiting onto Swan Falls Road.

The applicant's proposal to construct a cul-de-sac at the terminus of Rosso Court, Brezza Court and Ella Avenue with a minimum 45-foot radius meets District policy. However, staff recommends Brezza Court and Ella Avenue to be constructed to intersect to increase the connectivity within the site and reduce long term maintenance costs assocated with cul-de-sac turnarounds.

The applicant's proposal to construct knuckles at the following intersections meets District policy and should be approved, as proposed:

- Rosso Avenue and Rosso Court
- Rosso Avenue and Amore Way
- Amore Way and Ella Avenue

3. Roadway Offsets

a. Existing Conditions: There are no roadways within the site.

b. Policy:

Local Street Intersection Spacing on Minor Arterials: District policy 7205.4.3 states that new local streets should not typically intersect arterials. Local streets should typically intersect collectors. If it is necessary, as determined by ACHD, for a local street to intersect an arterial, the minimum allowable offset shall be 660-feet as measured from all other existing roadways as identified in Table 1a (7205.4.6).

Local Offset Policy: District policy 7207.4.2, requires local roadways to align or provide a minimum offset of 125-feet from any other street (measured centerline to centerline).

c. Applicant's Proposal: The applicant is proposing to construct one new local roadway, Sera Sole Way, to intersect Swan Falls Road located 420-feet south of Stagecoach Road and in alignment with a driveway across Swan Falls Road east of the site.

The applicant is proposing to construct the internal local streets to align or offset by a minimum of 125-feet.

d. Staff Comments/Recommendations: The applicant's proposal to construct one new local roadway, Sera Sole Way, to intersect Swan Falls Road located 420-feet south of Stagecoach Road does not meet District Local Street Intersection Spacing on Minor Arterials which requires a minimum offset of 660-feet from Stagecoach Road. However, staff recommends a modification of policy because a local street was previously approved in this location, it meets spacing requirements from all other public streets and aligns with a driveway across from site meeting the intent of the policy. This is a 37% modification to the dimensional standard and is approved at the discretion of the Development Services Manager.

4. Tree Planters

Tree Planter Policy: Tree Planter Policy: The District's Tree Planter Policy prohibits all trees in planters less than 8-feet in width without the installation of root barriers. Class II trees may be allowed in planters with a minimum width of 8-feet, and Class I and Class III trees may be allowed in planters with a minimum width of 10-feet.

5. Landscaping

Landscaping Policy: A license agreement is required for all landscaping proposed within ACHD right-of-way or easement areas. Trees shall be located no closer than 10-feet from all public storm drain facilities. Landscaping should be designed to eliminate site obstructions in the vision triangle at intersections. District Policy 5104.3.1 requires a 40-foot vision triangle and a 3-foot height restriction on all landscaping located at an uncontrolled intersection and a 50-foot offset from stop signs. Landscape plans are required with the submittal of civil plans and must meet all District requirements prior to signature of the final plat and/or approval of the civil plans.

6. Other Access

Swan Falls Road classified as a minor arterial roadway. Other than the access specifically approved with this application, direct lot access is prohibited to this roadway and should be noted on the final plat.

D. Site Specific Conditions of Approval

1. Dedicate additional right-of-way to total 48-feet from centerline of Swan Falls Road abutting the site. No compensation will be provided for any right-of-way dedication, as Swan Falls Road is not listed in ACHD's IFYWP or CIP.

2. Improve Swan Falls Road with 17-feet of pavement from centerline, a 3-foot gravel shoulder and a minimum 5-foot wide detached concrete sidewalk located 41-feet from centerline abutting the site

3. Construct an 18-foot wide driveway onto Swan Falls Road located at the southeast property line to provide emergency access to the site and access to the future commercial lot. Restrict the driveway to emergency access only with the installation of gate or bollards located outside of the right-of-way, as determined by the appropriate fire department.

4. Construct the entrance roadway, Sera Sole Way, with two 21-foot wide travel lanes, a maximum 12-foot wide center landscape island for a minimum distance of 150-feet, the 2nd center landscape island may increase to a maximum width of 30-feet wide beyond the 150-feet, with vertical curb, gutter, a minimum 6-foot wide planter strip and a minimum 5-foot wide detached concrete sidewalk within the entry portion of the roadway.. If street trees are desired, then an 8-foot wide planter strip should be provided.

5. Plat the center landscape islands as right-of-way owned by ACHD. The applicant or homeowner's association should enter into a license agreement for any landscaping proposed within the island.

6. Extend the right-of-way for the entry portion of Sera Sole Way to the north and south property lines to ensure the out parcels, depicted above, have access to a local street and enter into a license agreement for any landscaping located within the entrance.

7. Relocate the mail pick-up and drop-off area out of the entrance way.

8. Construct a cul-de-sac at the terminus of Rosso Court with a minimum 45-foot radius.

9. Construct Brezza Court and Ella Avenue to intersect to increase connectivity and reduce long time maintenance costs.

10. Construct knuckles at the following intersections:

- Rosso Avenue and Rosso Court
- Rosso Avenue and Amore Way
- Amore Way and Ella Avenue

11. Construct one new local roadway, Sera Sole Way, to intersect Swan Falls Road located 420-feet south of Stagecoach Road.

12. Construct the internal local streets to align or offset by a minimum of 125-feet.

13. Other than access specifically approved with this application, direct lot access is prohibited to Swan Falls Road, and shall be noted on the final plat.

14. Submit civil plans to ACHD Development Services for review and approval. The impact fee assessment will not be released until the civil plans are approved by ACHD.

15. Payment of impact fees is due prior to issuance of a building permit.

16. Comply with all Standard Conditions of Approval.

E. Standard Conditions of Approval

1. All proposed irrigation facilities shall be located outside of the ACHD right-of-way (including all easements). Any existing irrigation facilities shall be relocated outside of the ACHD right-of-way (including all easements).
2. Private Utilities including sewer or water systems are prohibited from being located within the ACHD right-of-way.
3. In accordance with District policy, 7203.3, the applicant may be required to update any existing non-compliant pedestrian improvements abutting the site to meet current Americans with Disabilities Act (ADA) requirements. The applicant's engineer should provide documentation of ADA compliance to District Development Review staff for review.
4. Replace any existing damaged curb, gutter and sidewalk and any that may be damaged during the construction of the proposed development. Contact Construction Services at 387-6280 (with file number) for details.
5. A license agreement and compliance with the District's Tree Planter policy is required for all landscaping proposed within ACHD right-of-way or easement areas.
6. All utility relocation costs associated with improving street frontages abutting the site shall be borne by the developer.
7. It is the responsibility of the applicant to verify all existing utilities within the right-of-way. The applicant at no cost to ACHD shall repair existing utilities damaged by the applicant. The applicant shall be required to call DIGLINE (1-811-342-1585) at least two full business days prior to breaking ground within ACHD right-of-way. The applicant shall contact ACHD Traffic Operations 387-6190 in the event any ACHD conduits (spare or filled) are compromised during any phase of construction.
8. Utility street cuts in pavement less than five years old are not allowed unless approved in writing by the District. Contact the District's Utility Coordinator at 387-6258 (with file numbers) for details.
9. All design and construction shall be in accordance with the ACHD Policy Manual, ISPWC Standards and approved supplements, Construction Services procedures and all applicable ACHD Standards unless specifically waived herein. An engineer registered in the State of Idaho shall prepare and certify all improvement plans.
10. Construction use and property development shall be in conformance with all applicable requirements of ACHD prior to District approval for occupancy.
11. No change in the terms and conditions of this approval shall be valid unless they are in writing and signed by the applicant or the applicant's authorized representative and an authorized representative of ACHD. The burden shall be upon the applicant to obtain written confirmation of any change from ACHD.
12. If the site plan or use should change in the future, ACHD Planning Review will review the site plan and may require additional improvements to the transportation system at that time. Any change in the planned use of the property which is the subject of this application, shall require the applicant to comply with ACHD Policy and Standard Conditions of Approval in place at that time unless a waiver/variance of the requirements or other legal relief is granted by the ACHD Commission.

F. Conclusions of Law

1. The proposed site plan is approved, if all of the Site Specific and Standard Conditions of Approval are satisfied.
2. ACHD requirements are intended to assure that the proposed use/development will not place an undue burden on the existing vehicular transportation system within the vicinity impacted by the proposed development.

G. Attachments

1. Vicinity Map
2. Site Plan
3. Utility Coordinating Council
4. Development Process Checklist
5. Appeal Guidelines

Exhibit B-2

VICINITY MAP



SITE PLAN

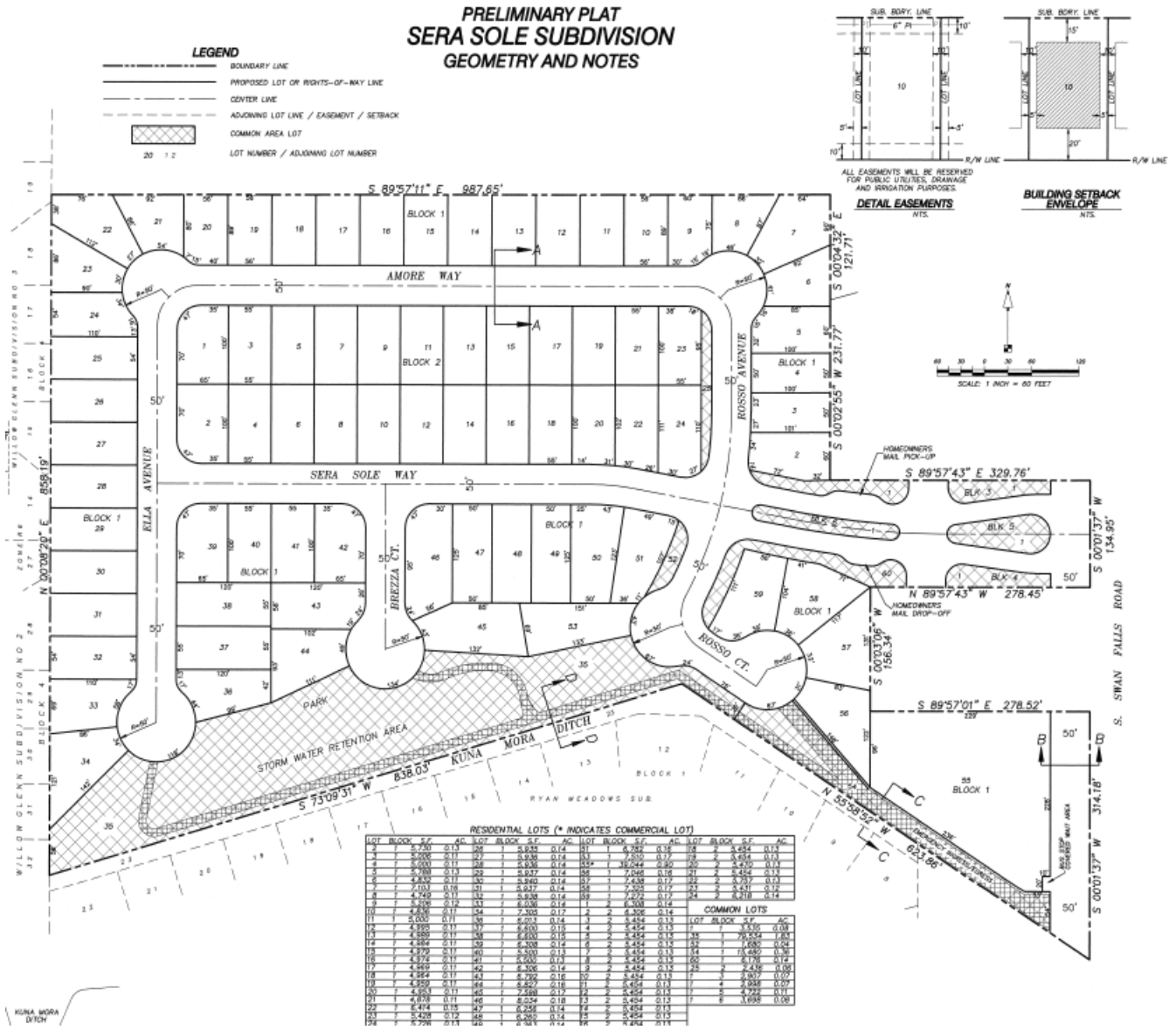

PRELIMINARY PLAT
SERA SOLE SUBDIVISION
GEOMETRY AND NOTES
LEGEND
BOUNDARY LINE
PROPOSED LOT OR RIGHTS-OF-WAY LINE
CENTER LINE
ADJOINING LOT LINE / EASEMENT / SETBACK
COMMON AREA LOT
LOT NUMBER / ADJOINING LOT NUMBER
DETAIL EASEMENTS
NTS.
BUILDING SETBACK ENVELOPE
NTS.
ALL EASEMENTS WILL BE RESERVED FOR PUBLIC UTILITIES, DRAINAGE AND IRRIGATION PURPOSES.
SCALE: 1 INCH = 60 FEET
AMORE WAY
SERA SOLE WAY
ELLA AVENUE
ROSSO AVENUE
BREZZA CT.
ROSSO CT.
KUNA MORA DITCH
STORM WATER RETENTION AREA
PARK
RYAN MEADOWS SUB.
S. SWAN FALLS ROAD
HOMEOWNERS MAIL PICK-UP
HOMEOWNERS MAIL DROP-OFF
S 89°57'11" E 987.65'
S 89°57'43" E 329.76'
N 89°57'43" W 278.45'
S 89°57'01" E 278.52'
S 73°09'31" W 838.03'
N 55°58'52" W 623.86'
S 00°01'37" W 134.95'
S 00°01'37" W 314.18'
S 00°04'32" E 121.71'
S 00°02'55" W 231.77'
S 00°03'06" W 156.34'
N 00°08'20" E 858.19'
WILLOW GLENN SUBDIVISION NO 2
WILLOW GLENN SUBDIVISION NO 3
RESIDENTIAL LOTS (* INDICATES COMMERCIAL LOT)
COMMON LOTS

Exhibit B-2

Ada County Utility Coordinating Council

Developer/Local Improvement District
Right of Way Improvements Guideline Request

Purpose: To develop the necessary avenue for proper notification to utilities of local highway and road improvements, to help the utilities in budgeting and to clarify the already existing process.

1) **Notification:** Within five (5) working days upon notification of required right of way improvements by Highway entities, developers shall provide written notification to the affected utility owners and the Ada County Utility Coordinating Council (UCC). Notification shall include but not be limited to, project limits, scope of roadway improvements/project, anticipated construction dates, and any portions critical to the right of way improvements and coordination of utilities.

2) **Plan Review:** The developer shall provide the highway entities and all utility owners with preliminary project plans and schedule a plan review conference. Depending on the scale of utility improvements, a plan review conference may not be necessary, as determined by the utility owners. Conference notification shall also be sent to the UCC. During the review meeting the developer shall notify utilities of the status of right of way/easement acquisition necessary for their project. At the plan review conference each company shall have the right to appeal, adjust and/or negotiate with the developer on its own behalf. Each utility shall provide the developer with a letter of review indicating the costs and time required for relocation of its facilities. Said letter of review is to be provided within thirty calendar days after the date of the plan review conference.

3) **Revisions:** The developer is responsible to provide utilities with any revisions to preliminary plans. Utilities may request an updated plan review meeting if revisions are made in the preliminary plans which affect the utility relocation requirements. Utilities shall have thirty days after receiving the revisions to review and comment thereon.

4) **Final Notification:** The developer will provide highway entities, utility owners and the UCC with final notification of its intent to proceed with right of way improvements and include the anticipated date work will commence. This notification shall indicate that the work to be performed shall be pursuant to final approved plans by the highway entity. The developer shall schedule a preconstruction meeting prior to right of way improvements. Utility relocation activity shall be completed within the times established during the preconstruction meeting, unless otherwise agreed upon.

Notification to the Ada County UCC can be sent to: 50 S. Cole Rd. Boise 83707, or Visit iducc.com for e-mail notification information.

Development Process Checklist

Items Completed to Date:

☒Submit a development application to a City or to Ada County

☒The City or the County will transmit the development application to ACHD

☒The ACHD **Planning Review Section** will receive the development application to review

☒The **Planning Review Section** will do one of the following:

☐Send a **"No Review"** letter to the applicant stating that there are no site specific conditions of approval at this time.

☒Write a **Staff Level** report analyzing the impacts of the development on the transportation system and evaluating the proposal for its conformance to District Policy.

☒Write a **Commission Level** report analyzing the impacts of the development on the transportation system and evaluating the proposal for its conformance to District Policy.

Items to be completed by Applicant:

☐For **ALL** development applications, including those receiving a **"No Review"** letter:

- The applicant should submit one set of engineered plans directly to ACHD for review by the **Development Review Section** for plan review and assessment of impact fees. (Note: if there are no site improvements required by ACHD, then architectural plans may be submitted for purposes of impact fee assessment.)
- The applicant is required to get a permit from Construction Services (ACHD) for ANY work in the right-of-way, including, but not limited to, driveway approaches, street improvements and utility cuts.

☐Pay Impact Fees prior to issuance of building permit. Impact fees cannot be paid prior to plan review approval.

DID YOU REMEMBER:
Construction (Non-Subdivisions)

☐ **Driveway or Property Approach(s)**

- Submit a "Driveway Approach Request" form to ACHD Construction (for approval by Development Services & Traffic Services). There is a one week turnaround for this approval.

☐ **Working in the ACHD Right-of-Way**

- Four business days prior to starting work have a bonded contractor submit a "Temporary Highway Use Permit Application" to ACHD Construction – Permits along with:
  a) Traffic Control Plan
  b) An Erosion & Sediment Control Narrative & Plat, done by a Certified Plan Designer, if trench is >50' or you are placing >600 sf of concrete or asphalt.

Construction (Subdivisions)

☐ **Sediment & Erosion Submittal**

- At least one week prior to setting up a Pre-Construction Meeting an Erosion & Sediment Control Narrative & Plan, done by a Certified Plan Designer, must be turned into ACHD Construction to be reviewed and approved by the ACHD Stormwater Section.

☐ **Idaho Power Company**

- Vic Steelman at Idaho Power must have his IPCO approved set of subdivision utility plans prior to Pre-Con being scheduled.

☐ **Final Approval from Development Services is required** prior to scheduling a Pre-Con.

Exhibit B-2

Request for Appeal of Staff Decision

1. **Appeal of Staff Decision:** The Commission shall hear and decide appeals by an applicant of the final decision made by the Development Services Manager when it is alleged that the Development Services Manager did not properly apply this section 7101.6, did not consider all of the relevant facts presented, made an error of fact or law, abused discretion or acted arbitrarily and capriciously in the interpretation or enforcement of the ACHD Policy Manual.

    a. Filing Fee: The Commission may, from time to time, set reasonable fees to be charged the applicant for the processing of appeals, to cover administrative costs.

    b. Initiation: An appeal is initiated by the filing of a written notice of appeal with the Secretary and Clerk of the District, which must be filed within ten (10) working days from the date of the decision that is the subject of the appeal. The notice of appeal shall refer to the decision being appealed, identify the appellant by name, address and telephone number and state the grounds for the appeal. The grounds shall include a written summary of the provisions of the policy relevant to the appeal and/or the facts and law relied upon and shall include a written argument in support of the appeal. The Commission shall not consider a notice of appeal that does not comply with the provisions of this subsection.

    c. Time to Reply: The Development Services Manager shall have ten (10) working days from the date of the filing of the notice of appeal to reply to the notice of the appeal, and may during such time meet with the appellant to discuss the matter, and may also consider and/or modify the decision that is being appealed. A copy of the reply and any modifications to the decision being appealed will be provided to the appellant prior to the Commission hearing on the appeal.

    d. Notice of Hearing: Unless otherwise agreed to by the appellant, the hearing of the appeal will be noticed and scheduled on the Commission agenda at a regular meeting to be held within thirty (30) days following the delivery to the appellant of the Development Services Manager's reply to the notice of appeal. A copy of the decision being appealed, the notice of appeal and the reply shall be delivered to the Commission at least one (1) week prior to the hearing.

    e. Action by Commission: Following the hearing, the Commission shall either affirm or reverse, in whole or part, or otherwise modify, amend or supplement the decision being appealed, as such action is adequately supported by the law and evidence presented at the hearing.

RON PLATT
CHAIRMAN OF THE BOARD

BRIAN MCDEVITT
VICE CHAIRMAN OF THE BOARD

ROBERT D. CARTER
PROJECT MANAGER

THOMAS RITTHALER
ASSISTANT PROJECT MANAGER

APRYL GARDNER
SECRETARY-TREASURER

MARY SUE CHASE
ASSISTANT SECRETARY-TREASURER

BOISE PROJECT BOARD OF CONTROL

(FORMERLY BOISE U.S. RECLAMATION PROJECT)

2465 OVERLAND ROAD
BOISE, IDAHO 83705-3155

OPERATING AGENCY FOR 167,000 ACRES FOR THE FOLLOWING IRRIGATION DISTRICTS

NAMPA-MERIDIAN DISTRICT
BOISE-KUNA DISTRICT
WILDER DISTRICT
NEW YORK DISTRICT
BIG BEND DISTRICT

TEL: (208) 344-1141
FAX: (208) 344-1437

02 April 2020

City of Kuna
751 W 4th St.
Kuna, Idaho 83634

RE: Sera Sol Sub **20-02-S**
Swan Falls Rd, Kuna 83634
Boise-Kuna Irrigation District BK1291 B, 1291 A1
South Railroad Lateral 170+90
Sec. 23, T2N, R1W, BM.

Troy Behunin, Planner III:

There are no Boise Project facilities located on the above-mentioned property and our records indicate that the property does have a valid water right.

The developer must get in contact with the Boise Kuna Irrigation District and with the City of Kuna as to how the property will be irrigated. Boise Project is requesting a full set of drainage and irrigation plans for this project.

Local irrigation/drainage ditches that cross this property, in order to serve neighboring properties, must remain unobstructed and protected by an appropriate easement.

.

If you have any further questions or comments regarding this matter, please do not hesitate to contact me at (208) 344-1141.

Sincerely,

Thomas Ritthaler
Assistant Project Manager, BPBC

tbr/tr

cc: Ray Moore Watermaster, Div; 3 BPBC
Lauren Boehlke Secretary – Treasurer, BKID
File

CENTRAL DISTRICT HEALTH DEPARTMENT

CENTRAL DISTRICT HEALTH DEPARTMENT
Environmental Health Division

Return to:
- ☐ ACZ
- ☐ Boise
- ☐ Eagle
- ☐ Garden City
- ☐ Meridian
- ☒ Kuna
- ☐ Star

Rezone # _____

Conditional Use # _____

Preliminary / Final / Short Plat 20-02-S

Sera Sol

☐ 1. We have No Objections to this Proposal.

☐ 2. We recommend Denial of this Proposal.

☐ 3. Specific knowledge as to the exact type of use must be provided before we can comment on this Proposal.

☐ 4. We will require more data concerning soil conditions on this Proposal before we can comment.

☐ 5. Before we can comment concerning individual sewage disposal, we will require more data concerning the depth of:
- ☐ high seasonal ground water
- ☐ bedrock from original grade
- ☐ waste flow characteristics
- ☐ other _____

☐ 6. This office may require a study to assess the impact of nutrients and pathogens to receiving ground waters and surface waters.

☐ 7. This project shall be reviewed by the Idaho Department of Water Resources concerning well construction and water availability.

☒ 8. After written approvals from appropriate entities are submitted, we can approve this proposal for:
- ☒ central sewage
- ☐ interim sewage
- ☐ individual sewage
- ☐ community sewage system
- ☒ central water
- ☐ individual water
- ☐ community water well

☒ 9. The following plan(s) must be submitted to and approved by the Idaho Department of Environmental Quality:
- ☒ central sewage
- ☐ sewage dry lines
- ☐ community sewage system
- ☒ central water
- ☐ community water

☐ 10. This Department would recommend deferral until high seasonal ground water can be determined if other considerations indicate approval.

☐ 11. If restroom facilities are to be installed, then a sewage system MUST be installed to meet Idaho State Sewage Regulations.

☐ 12. We will require plans be submitted for a plan review for any:
- ☐ food establishment
- ☐ beverage establishment
- ☐ swimming pools or spas
- ☐ grocery store
- ☐ child care center

☒ 13. Infiltration beds for storm water disposal are considered shallow injection wells. An application and fee must be submitted to CDHD.

☐ 14. _____

Reviewed By: _____

Date: 4 / 7 / 2020

Applicant Response to Ex B-3, 4, & 5

RILEY PLANNING SERVICES

P.O. Box 405
Boise, ID 83701
208.908.1609

MEMORANDUM

TO: City of Kuna c/o Troy Behunin

FROM: Penelope Constantikes PC

DATE: July 27, 2020

RE: **DEQ COMMENTS – RESPONSE**
BOISE PROJECT BOARD OF CONTROL COMMENTS – RESPONSE
CENTRAL DISTRICT HEALTH COMMENTS - RESPONSE

---

1. Department of Environmental Quality
    a. The DEQ correspondence will be provided to the project engineer.
2. Boise Project Board of Control
    a. The Boise Board of Control comments will be provided to the project engineer.
3. Central District Health
    a. The CDH comment sheet will be provided to the project engineer.

Exhibit B-6

Communities in Motion 2040 2.0 Development Review

The Community Planning Association of Southwest Idaho (COMPASS) is the metropolitan planning organization (MPO) for Ada and Canyon Counties. COMPASS has developed this review as a tool for local governments to evaluate whether land developments are consistent with the goals of *Communities in Motion 2040 2.0* (CIM 2040), the regional long-range transportation plan for Ada and Canyon Counties. This checklist is not intended to be prescriptive, but rather a guidance document based on CIM 2040 2.0 goals.

Development Name: Sera Sole **Agency: Kuna**

CIM Vision Category: Existing Neighborhoods

New households: 78 **New jobs: 10** **Exceeds CIM forecast: No**

CIM Corridor: **Swan Falls Road** Pedestrian level of stress: **PG-13** Bicycle level of stress: **R**	Level of Stress considers facility type, number of vehicle lanes, and speed. Roads with **G or PG** ratings better support bicyclists and pedestrians of all ages and comfort levels.
Housing within 1 mile: **2,220** Jobs within 1 mile: **1,390** Jobs/Housing Ratio: **0.6**	A good jobs/housing balance – a ratio between **1 and 1.5** – reduces traffic congestion. Higher numbers indicate the need for more housing and lower numbers indicate an employment need.
Nearest police station: **0.8 miles** Nearest fire station: **1 mile**	Developments within **1.5 miles** of police and fire stations ensure that emergency services are more efficient and reduce the cost of these important public services.
Farmland consumed: **No** Farmland within 1 mile: **435 acres**	Farmland contributes to the local economy, creates additional jobs, and provides food security to the region. Development in farm areas decreases the productivity and sustainability of farmland.
Nearest bus stop: **>4 miles** Nearest public school: **1.5 miles** Nearest public park: **0.5 miles** Nearest grocery store: **0.9 miles**	Residents who live or work less than **½ mile** from critical services have more transportation choices. Walking and biking reduces congestion by taking cars off the road, while supporting a healthy and active lifestyle.

Recommendations

The construction of a railroad crossing on Swan Falls Road, is the #12 local system priority in the *Communities in Motion* 2040 2.0 plan. More information about transportation priorities in the plan are available at: https://compassidaho.org/CIM2040-2.0/prioritizing-projects/. This area is not currently served by public transportation. ValleyConnect 2.0 proposes a route to connect downtown Kuna to the Boise Research Center, via downtown Meridian, with 20-minute frequencies. This route will be approximately ½ mile north of this proposal. Providing safe bicycle and pedestrian access is critical in the success of this route. The proposal requests a new local road, as well as additional vehicle access to a non-residential lot, to Swan Falls Road, an arterial road. Consider restricting the direct access to the non-residential lot to improve efficiency and safety.

More information about COMPASS and *Communities in Motion 2040 2.0*:

Web: www.compassidaho.org
Email info@compassidaho.org
More information about the development review process:
http://www.compassidaho.org/dashboard/devreview.htm

COMPASS
COMMUNITY PLANNING ASSOCIATION
of Southwest Idaho

Exhibit B-5

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1445 North Orchard • Boise, ID 83706 • (208) 373-0550

Brad Little, Governor
John H. Tippets, Director

April 10, 2020

Troy Behunin
City of Kuna
P.O. Box 13
Kuna, Idaho 83634

RE: Sera Sol Subdivision, 20-02-S

Thank you for the opportunity to respond to your request for comment. While DEQ does not review projects on a project-specific basis, we attempt to provide the best review of the information provided. DEQ encourages agencies to review and utilize the Idaho Environmental Guide to assist in addressing project-specific conditions that may apply. This guide can be found at: deq.idaho.gov/assistance-resources/environmental-guide-for-local-govts.

The following information does not cover every aspect of this project; however, we have the following general comments to use as appropriate:

1. **Air Quality**
   - Please review IDAPA 58.01.01 for all rules on Air Quality, especially those regarding fugitive dust (58.01.01.651), trade waste burning (58.01.01.600-617), and odor control plans (58.01.01.776).

     All property owners, developers, and their contractor(s) must ensure that reasonable controls to prevent fugitive dust from becoming airborne are utilized during all phases of construction activities per IDAPA 58.01.01.651.

     DEQ recommends the city/county require the development and submittal of a dust prevention and control plan prior to final plat approval. Dust prevention and control plans incorporate appropriate best management practices to control fugitive dust that may be generated at sites.

     Citizen complaints received by DEQ regarding fugitive dust from development and construction activities will be referred to the city or county to address under their ordinances.

     Information on fugitive dust control plans can be found at:
     http://www.deq.idaho.gov/media/61833-dust_control_plan.pdf

   - Per IDAPA 58.01.01.600-617, the open burning of any construction waste is prohibited. The property owner, developer, and their contractor(s) are responsible for ensuring no prohibited open burning occurs during construction.

     For questions, contact David Luft, Air Quality Manager, at (208) 373-0550.

2. **Wastewater and Recycled Water**

- DEQ recommends verifying that there is adequate sewer to serve this project prior to approval. Please contact the sewer provider for a capacity statement, declining balance report, and willingness to serve this project.

- IDAPA 58.01.16 and IDAPA 58.01.17 are the sections of Idaho rules regarding wastewater and recycled water. Please review these rules to determine whether this or future projects will require DEQ approval. IDAPA 58.01.03 is the section of Idaho rules regarding subsurface disposal of wastewater. Please review this rule to determine whether this or future projects will require permitting by the district health department.

  All projects for construction or modification of wastewater systems require preconstruction approval. Recycled water projects and subsurface disposal projects require separate permits as well.

- DEQ recommends that projects be served by existing approved wastewater collection systems or a centralized community wastewater system whenever possible. Please contact DEQ to discuss potential for development of a community treatment system along with best management practices for communities to protect ground water.

- DEQ recommends that cities and counties develop and use a comprehensive land use management plan, which includes the impacts of present and future wastewater management in this area. Please schedule a meeting with DEQ for further discussion and recommendations for plan development and implementation.

  For questions, contact Valerie Greear, Water Quality Engineering Manager at (208) 373-0550.

3. <u>Drinking Water</u>

- DEQ recommends verifying that there is adequate water to serve this project prior to approval. Please contact the water provider for a capacity statement, declining balance report, and willingness to serve this project.

- IDAPA 58.01.08 is the section of Idaho rules regarding public drinking water systems. Please review these rules to determine whether this or future projects will require DEQ approval.

  All projects for construction or modification of public drinking water systems require preconstruction approval.

- DEQ recommends verifying if the current and/or proposed drinking water system is a regulated public drinking water system (refer to the DEQ website at: deq.idaho.gov/water-quality/drinking-water.aspx). For non-regulated systems, DEQ recommends annual testing for total coliform bacteria, nitrate, and nitrite.

- If any private wells will be included in this project, we recommend that they be tested for total coliform bacteria, nitrate, and nitrite prior to use and retested annually thereafter.

- DEQ recommends using an existing drinking water system whenever possible or construction of a new community drinking water system. Please contact DEQ to discuss this project and to explore options to both best serve the future residents of this development and provide for protection of ground water resources.

- DEQ recommends cities and counties develop and use a comprehensive land use management plan which addresses the present and future needs of this area for adequate, safe, and sustainable drinking water. Please schedule a meeting with DEQ for further discussion and recommendations for plan development and implementation.

  For questions, contact Valerie Greear, Water Quality Engineering Manager at (208) 373-0550.

4. Surface Water

- A DEQ short-term activity exemption (STAE) from this office is required if the project will involve de-watering of ground water during excavation and discharge back into surface water, including a description of the water treatment from this process to prevent excessive sediment and turbidity from entering surface water.

- Please contact DEQ to determine whether this project will require a National Pollution Discharge Elimination System (NPDES) Permit. A Construction General Permit from EPA may be required if this project will disturb one or more acres of land, or will disturb less than one acre of land but are part of a common plan of development or sale that will ultimately disturb one or more acres of land.

- If this project is near a source of surface water, DEQ requests that projects incorporate construction best management practices (BMPs) to assist in the protection of Idaho's water resources. Additionally, please contact DEQ to identify BMP alternatives and to determine whether this project is in an area with Total Maximum Daily Load stormwater permit conditions.

- The Idaho Stream Channel Protection Act requires a permit for most stream channel alterations. Please contact the Idaho Department of Water Resources (IDWR), Western Regional Office, at 2735 Airport Way, Boise, or call (208) 334-2190 for more information. Information is also available on the IDWR website at:
  http://www.idwr.idaho.gov/WaterManagement/StreamsDams/Streams/AlterationPermit/AlterationPermit.htm

- The Federal Clean Water Act requires a permit for filling or dredging in waters of the United States. Please contact the US Army Corps of Engineers, Boise Field Office, at 10095 Emerald Street, Boise, or call 208-345-2155 for more information regarding permits.

  For questions, contact Lance Holloway, Surface Water Manager, at (208) 373-0550.

5. Hazardous Waste And Ground Water Contamination

- **Hazardous Waste.** The types and number of requirements that must be complied with under the federal Resource Conservations and Recovery Act (RCRA) and the Idaho Rules and Standards for Hazardous Waste (IDAPA 58.01.05) are based on the quantity and type of waste generated. Every business in Idaho is required to track the volume of waste generated, determine whether each type of waste is hazardous, and ensure that all wastes are properly disposed of according to federal, state, and local requirements.

- No trash or other solid waste shall be buried, burned, or otherwise disposed of at the project site. These disposal methods are regulated by various state regulations including Idaho's Solid Waste Management Regulations and Standards, Rules and Regulations for Hazardous Waste, and

Rules and Regulations for the Prevention of Air Pollution.

- **Water Quality Standards.** Site activities must comply with the Idaho Water Quality Standards (IDAPA 58.01.02) regarding hazardous and deleterious-materials storage, disposal, or accumulation adjacent to or in the immediate vicinity of state waters (IDAPA 58.01.02.800); and the cleanup and reporting of oil-filled electrical equipment (IDAPA 58.01.02.849); hazardous materials (IDAPA 58.01.02.850); and used-oil and petroleum releases (IDAPA 58.01.02.851 and 852).

  Petroleum releases must be reported to DEQ in accordance with IDAPA 58.01.02.851.01 and 04. Hazardous material releases to state waters, or to land such that there is likelihood that it will enter state waters, must be reported to DEQ in accordance with IDAPA 58.01.02.850.

- **Ground Water Contamination.** DEQ requests that this project comply with Idaho's Ground Water Quality Rules (IDAPA 58.01.11), which states that "No person shall cause or allow the release, spilling, leaking, emission, discharge, escape, leaching, or disposal of a contaminant into the environment in a manner that causes a ground water quality standard to be exceeded, injures a beneficial use of ground water, or is not in accordance with a permit, consent order or applicable best management practice, best available method or best practical method."

  For questions, contact Albert Crawshaw, Waste & Remediation Manager, at (208) 373-0550.

6. **Additional Notes**
   - If an underground storage tank (UST) or an aboveground storage tank (AST) is identified at the site, the site should be evaluated to determine whether the UST is regulated by DEQ. EPA regulates ASTs. UST and AST sites should be assessed to determine whether there is potential soil and ground water contamination. Please call DEQ at (208) 373-0550, or visit the DEQ website deq.idaho.gov/waste-mgmt-remediation/storage-tanks.aspx for assistance.

   - If applicable to this project, DEQ recommends that BMPs be implemented for any of the following conditions: wash water from cleaning vehicles, fertilizers and pesticides, animal facilities, composted waste, and ponds. Please contact DEQ for more information on any of these conditions.

We look forward to working with you in a proactive manner to address potential environmental impacts that may be within our regulatory authority. If you have any questions, please contact me, or any of our technical staff at (208) 373-0550.

Sincerely,



Aaron Scheff
Regional Administrator
Boise Regional Office

ec: CM#2020AEK92

Exhibit B-7

Troy Behunin

From: Lisa Holland
Sent: Monday, April 6, 2020 9:10 AM
To: Troy Behunin
Cc: Wendy Howell
Subject: RE: Sera Sol Sub Request for Comments

Categories: Important, Agency Comments

Good morning Troy!

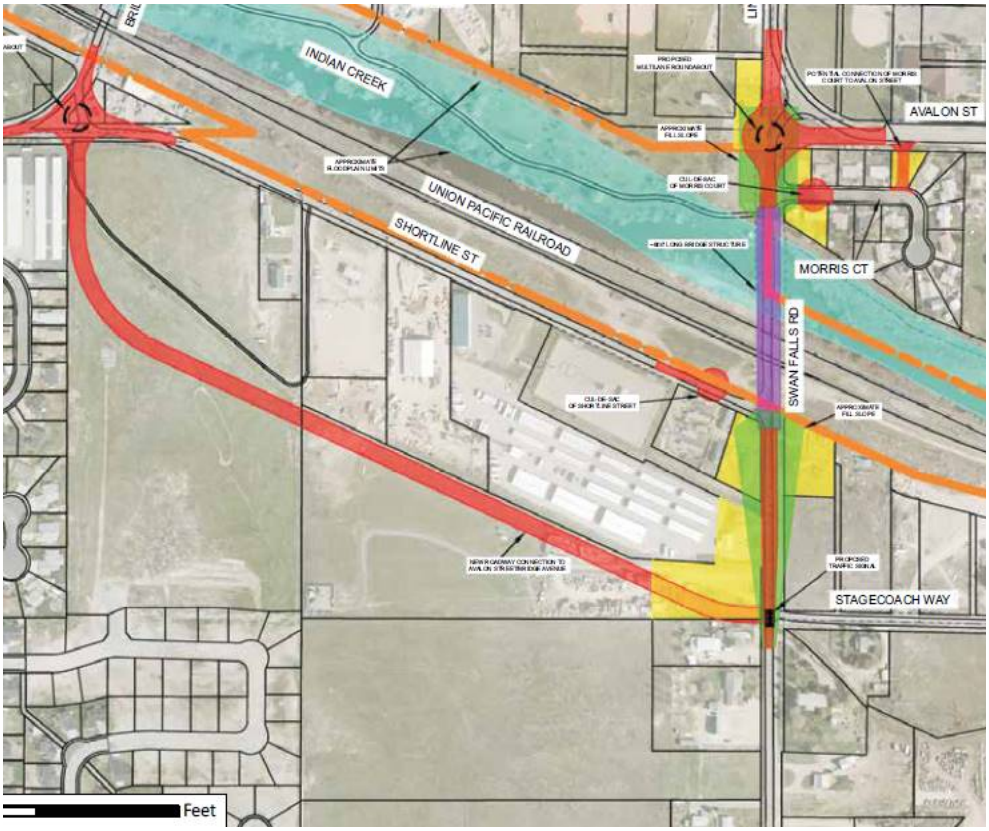
I talked briefly with Wendy last week about this project, and I know we've had a couple chats as well. I do have a few concerns I want to raise about this project, and wondering if there is anything we can do to work with the applicant on it?

The way that it is currently laid out, it puts R-6 residential adjacent to an industrial property. Right now, it's a pallet manufacturer to the North, but could change uses as some point in the future. When possible, I know it's better to transition into an industrial area with either higher density housing, a larger buffer area, or another type of transitional use. I'm a little worried that this project could cause similar challenges we've seen over in the Best Bath loop.

Looking at their plat, I'm wondering if they could almost flip the open space to the Northern boundary. That way, pathways could potentially even tie in to the Zamzow Park. Or, I'd rather see a higher density on the northern parcel and a bigger proportion of open space to create a better transition.

Another challenge – if ACHD moves forward with the suggested study of putting in an overpass at Swan Falls someday, then there will be some roadway configurations that affect this parcel too. It's too bad that the NE corner is not part of the project, because if it was, that would be a much better location for a commercial lot (especially when looking at how the road could intersect there at some point).

Exhibit B-7



Those are my thoughts for now….

Lisa Holland
Economic Development Director
City of Kuna
C: (208) 559-5926
lholland@kunaid.gov

From: Troy Behunin <tbehunin@kunaid.gov>
Sent: Wednesday, April 1, 2020 4:56 PM
To: ACHD <planningreview@achdidaho.org>; Becky Rone - Kuna USPS Addressing <rebecca.i.rone@usps.gov>; Bob Bachman <bbachman@kunaid.gov>; Boise Project Brd Cntrl <TRitthaler@boiseproject.org>; Boise-Kuna Irrigation Distr. <laurenboehlke@yahoo.com>; Brent Moore <bmoore@adacounty.id.gov>; Cable One Business <Adam.ingram@cableone.biz>; Cable One t.v. <cheryl.goettsche@cableone.biz>; Central District Health Dept. CDHD <lbadigia@cdhd.idaho.gov>; Chief Roberts <proberts@kunafire.com>; COMPASS <cmiller@compassidaho.org>; Dave R. - KSD <Dreinhart@kunaschools.org>; DEQ <Alicia.martin@deq.idaho.gov>; Eric Adolfson <eadolfson@compassidaho.org>; Idaho Power <bwatson2@idahopower.com>; Idaho Power - Jacky Chris <easements@idahopower.com>; Idaho Power - K Funke <kfunke@idahopower.com>; Intermountain Gas <robert.miller@mdu.com>; Intermountain Gas <bryce.ostler@intgas.com>; ITD <D3Development.Services@itd.idaho.gov>; J&M Sanitation - Chad Gordon <Chad.Gordon@jmsanitation.com>; Jim O. - KSD <Jim@kunaschools.org>; Julie Stanley - Regional Address Mgmt. <Julie.R.Stanley@usps.gov>; Kuna Police Chief <so4217@adaweb.net>; Kuna Postmaster - Marc C. Boyer <marc.c.boyer@usps.gov>; Kuna School District <kbekkedahl@kunaschools.org>; Kuna School District <bsaxton@kunaschools.org>; Kuna School District <wjohnson@kunaschools.org>; Lisa Holland <lholland@kunaid.gov>; Mike Borzick <mborzick@kunaid.gov>; New York Irrigation District <terri@nyid.org>; Paul Stevens <PStevens@kunaid.gov>; Planning Mgr: Ada County Development Services <jboal@adaweb.net>; Reggie Edwards <redwards@kunafire.com>
Subject: Sera Sol Sub Request for Comments

Exhibit B-7

Evening Salutations everyone,
Please review the attached PDF for the *SERA SOL Subdivision* request by Penelope Riley. Please return relevant comments about the service your office provides to our office by the date requested. If you need additional time, please notify our office as soon as possible.
If you need additional time for review, or additional information and/or paper copies, we will be happy to send them your way. There is a high likelihood that the tentative date with our Commission may be delayed due to the Covid-19 situation.
Thank you so much in advance,
Troy

Troy Behunin
Planner III
City of Kuna
751 W. 4th Street
Kuna, ID 83634
TBehunin@KunaId.Gov

CONFIDENTIALITY NOTICE
This e-mail and any attachments may contain confidential or privileged information. If you are not the intended recipient, you are not authorized to use or distribute any information included in this e-mail or its attachments. If you receive this e-mail in error, please delete it from your system and contact the sender.

Applicant Response to Ex B-7

RILEY PLANNING SERVICES

P.O. Box 405
Boise, ID 83701
208.908.1609

MEMORANDUM

TO: City of Kuna c/o Troy Behunin, Planner III

FROM: Penelope Constantikes

DATE: July 27, 2020

RE: **ECONOMIC DEVELOPMENT COMMENTS**

Ms. Holland, Kuna Economic Development Director, provided comments regarding the Sera Sole Subdivision and Rezone. Exploration of options and different ways of looking at sites is always a valuable exercise.



While the current use of the parcel to the north is industrial, the Kuna Comprehensive Plan designates this area as Future Downtown which anticipates that the industrial use is not intended to be a long term use as Kuna and Kuna's downtown grows. Google Earth imagery shows the parcel to the north as vacant in 2018 – it appears that the pallet manufacturer is a fairly recent addition to the neighborhood.

The proposed development includes a future commercial parcel in anticipation of changes to the Swan Falls Road corridor. At considerable expense the applicant has reserved sewer service for the previously approved preliminary plat and Sera Sole Subdivision is proposed to be developed almost identically to the previous plat.

As a resident of a 'mixed use'development, office buildings with late night parking lot cleaning and restaurants with middle of the night and very early morning truck deliveries are very disruptive and have real quality of life consequence for residential elements in mixed use developments.

While flipping the plat to provide the open space at the north boundary of the site would be possible given a different site geometry, the existing topography precludes this. The site drains south with the lower elevation of the site at the south boundary. Drainage constraints make the open space in the southern area a must to utilize the existing slope of the site.

An overpass on Swan Falls Road at the railroad tracks would be considerable undertaking. With the access and the commercial lot adjacent to Swan Falls Road, an overpass would not likely impact the residential portion of the site, or minimally. The cost of such an undertaking would be substantial and there are no preliminary plans for an overpass or an estimated date for further exploration or an overpass that the project team is aware of.

The North / South Kuna Corridor handout published by ACHD does discuss various elements of an overpass, but does not provide any guidance on when this may occur.

There has been some discussion about relocating the commercial lot to the location of the split lane entry area. With only about 135 feet of total frontage, a 47 to 50-foot right-of-way would consume almost 40% of the overall width, and with parking requirements for commercial uses, this area would only be able to support a commercial use of modest size. The proposed southern parcel has a better geometry for supporting a more substantial commercial use.

Overall the proposed Sera Sole Preliminary Plat, very similar to the previously approved plat of the same name, utilizes the parcel efficiently and is compatible with the residential development to the west and south and other residential area in near proximity to the site.

Again, the Economic Development discussion is appreciated. The project team hopes these comments are helpful in Kuna's review of the Sera Sole Subdivision review.

Troy Behunin

From: Lisa Holland
Sent: Monday, April 6, 2020 9:10 AM
To: Troy Behunin
Cc: Wendy Howell
Subject: RE: Sera Soi Sub Request for Comments

Categories: Important, Agency Comments

Good morning Troy!

I talked briefly with Wendy last week about this project, and I know we've had a couple chats as well. I do have a few concerns I want to raise about this project, and wondering if there is anything we can do to work with the applicant on it?

The way that it is currently laid out, it puts R-6 residential adjacent to an industrial property. Right now, it's a pallet manufacturer to the North, but could change uses as some point in the future. When possible, I know it's better to transition into an industrial area with either higher density housing, a larger buffer area, or another type of transitional use. I'm a little worried that this project could cause similar challenges we've seen over in the Best Bath loop.

Looking at their plat, I'm wondering if they could almost flip the open space to the Northern boundary. That way, pathways could potentially even tie in to the Zamzow Park. Or, I'd rather see a higher density on the northern parcel and a bigger proportion of open space to create a better transition.

Another challenge – if ACHD moves forward with the suggested study of putting in an overpass at Swan Falls someday, then there will be some roadway configurations that affect this parcel too. It's too bad that the NE corner is not part of the project, because if it was, that would be a much better location for a commercial lot (especially when looking at how the road could intersect there at some point).

Exhibit B-8

Troy Behunin

From: D3 Development Services <D3Development.Services@itd.idaho.gov>
Sent: Thursday, April 2, 2020 3:45 PM
To: Troy Behunin
Subject: 2002-S Sera Sol Subdivision

Good afternoon,
ITD has received application 20-02-S for review. ITD does not anticipate any significant traffic impact to the State Highway system from this development and has no objections to the proposed development.

Thank you,

Sarah Arjona
Development Services Coordinator
ITD District 3
(208) 334-8338

From: Troy Behunin <tbehunin@kunaid.gov>
Sent: Wednesday, April 1, 2020 4:56 PM
To: ACHD <planningreview@achdidaho.org>; Becky Rone - Kuna USPS Addressing <rebecca.i.rone@usps.gov>; Bob Bachman <bbachman@kunaid.gov>; Boise Project Brd Cntrl <TRitthaler@boiseproject.org>; Boise-Kuna Irrigation Distr. <laurenboehlke@yahoo.com>; Brent Moore <bmoore@adacounty.id.gov>; Cable One Business <Adam.ingram@cableone.biz>; Cable One t.v. <cheryl.goettsche@cableone.biz>; Central District Health Dept. CDHD <lbadigia@cdhd.idaho.gov>; Chief Roberts <proberts@kunafire.com>; COMPASS <cmiller@compassidaho.org>; Dave R. - KSD <Dreinhart@kunaschools.org>; DEQ <Alicia.martin@deq.idaho.gov>; Eric Adolfson <eadolfson@compassidaho.org>; Idaho Power <bwatson2@idahopower.com>; Idaho Power - Jacky Chris <easements@idahopower.com>; Idaho Power - K Funke <kfunke@idahopower.com>; Intermountain Gas <robert.miller@mdu.com>; Intermountain Gas <bryce.ostler@intgas.com>; D3 Development Services <D3Development.Services@itd.idaho.gov>; J&M Sanitation - Chad Gordon <Chad.Gordon@jmsanitation.com>; Jim O. - KSD <Jim@kunaschools.org>; Julie Stanley - Regional Address Mgmt. <Julie.R.Stanley@usps.gov>; Kuna Police Chief <so4217@adaweb.net>; Kuna Postmaster - Marc C. Boyer <marc.c.boyer@usps.gov>; Kuna School District <kbekkedahl@kunaschools.org>; Kuna School District <bsaxton@kunaschools.org>; Kuna School District <wjohnson@kunaschools.org>; Lisa Holland <lholland@kunaid.gov>; Mike Borzick <mborzick@kunaid.gov>; New York Irrigation District <terri@nyid.org>; Paul Stevens <PStevens@kunaid.gov>; Planning Mgr: Ada County Development Services <jboal@adaweb.net>; Reggie Edwards <redwards@kunafire.com>
Subject: [EXTERNAL] Sera Sol Sub Request for Comments

--- This email is from an external sender. Be cautious and DO NOT open links or attachments if the sender is unknown. ---
Evening Salutations everyone,
Please review the attached PDF for the *SERA SOL Subdivision* request by Penelope Riley. Please return relevant comments about the service your office provides to our office by the date requested. If you need additional time, please notify our office as soon as possible.
If you need additional time for review, or additional information and/or paper copies, we will be happy to send them your way. There is a high likelihood that the tentative date with our Commission may be delayed due to the Covid-19 situation.
Thank you so much in advance,
Troy

ELS *ENGEBRITSON LAND SURVEYS, PLLC.*

2251 S. Sumac Street, Boise, Idaho 83706 *Telephone (208) 859-6032 mike@elsurveys.com*

6 August 2019

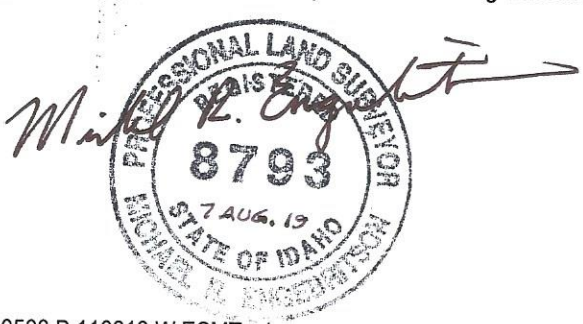
ELS Project No. 190802
Land Description
Sera Sole – PUD and Preliminary Plat applications
Contains 19.22 acres more or less

A tract of land within the SE ¼ of the NE ¼ of Section 26, T. 2 N., R. 1 W., B.M., Kuna, Ada County Idaho, described as follows:

Commencing at a found aluminum cap monumenting the NE corner of said Section 26 on the center line of South Swan Falls Road, thence southerly along said center line and the easterly line of said Section S 00°01'37" W a distance of 1819.88 feet to the POINT OF BEGINNING from which a found steel pin monumenting the East ¼ corner of said Section bears S 00°01'37" W a distance of 836.99 feet;

Thence leaving said lines N 89°57'43" W a distance of 278.45 feet (formerly N 89°57'46" W a distance of 278.62 feet) to a found steel pin;
Thence S 00°03'06" W a distance of 156.34 feet (formerly S 00°02'09" W a distance of 156.36 feet) to a found steel pin;
Thence S 89°57'01" E a distance of 278.52 feet (formerly S 89°57'46" E a distance of 278.62 feet) to a point of said center line and Section line;
Thence southerly along said lines, S 00°01'37" W a distance of 314.18 feet (formerly S 00°02'09" W a distance of 314.40 feet) to a point;
Thence leaving said lines, N 55°58'52" W a distance of 623.86 feet (formerly N 55°58'00" W a distance of 624.02 feet) to a found steel pin on the northerly boundary of Ryan Meadows Subdivision (a recorded Plat on file in Book 87 at Page 10012, records of Ada County, Idaho);
Thence continuing along said northerly boundary S 73°09'31" W a distance of 838.03 feet (formerly 838.14 feet) to a found steel pin monumenting the northwest corner of said subdivision and the southeast corner of Willow Glenn Subdivision Number 2 (a recorded Plat on file in Book 96 at Page 11820, records of Ada County, Idaho) on the westerly line of said SE ¼ of the NE ¼;
Thence northerly along said westerly line and subdivision boundary N 00°08'20" E a distance of 858.19 feet (formerly N 00°07'50" E a distance of 859.87 feet) to the NE 1/16th corner;
Thence leaving said lines S 89°57'11" E a distance of 987.65 feet (formerly S 89°57'54" E) to a found steel pin;
Thence S 00°04'32" E a distance of 127.71 feet (formerly S 00°00'16" E 127.89 feet) to a found steel pin;
Thence S 00°02'55" W a distance of 231.77 feet (formerly S 00°03'06" E) to a found steel pin;
Thence S 89°57'43" E a distance of 329.76 feet to a point on said center line and Section line;
Thence along said lines S 00°01'37" W a distance of 134.95 feet to the POINT OF BEGINNING.

The above-described tract of land contains 0.22 acres more or less subject to all existing easements and rights-of-way.



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BDRY Sera Sole - PUD

North: 663548.5600		East : 2445053.5287	
Line	Course: N 00-08-20 E	Length: 858.19	
North: 664406.7474		East : 2445055.6090	
Line	Course: N 89-57-11 E	Length: 987.65	
North: 664407.5567		East : 2446043.2587	
Line	Course: S 00-04-32 E	Length: 127.71	
North: 664279.8468		East : 2446043.4271	
Line	Course: S 00-02-55 W	Length: 231.77	
North: 664048.0769		East : 2446043.2305	
Line	Course: S 89-57-43 E	Length: 329.76	
North: 664047.8578		East : 2446372.9904	
Line	Course: S 00-01-37 W	Length: 134.95	
North: 663912.9078		East : 2446372.9269	
Line	Course: N 89-57-43 W	Length: 278.45	
North: 663913.0928		East : 2446094.4770	
Line	Course: S 00-03-06 W	Length: 156.34	
North: 663756.7529		East : 2446094.3360	
Line	Course: S 89-57-01 E	Length: 278.52	
North: 663756.5112		East : 2446372.8559	
Line	Course: S 00-01-37 W	Length: 314.18	
North: 663442.3312		East : 2446372.7082	
Line	Course: N 55-58-52 W	Length: 623.86	
North: 663791.3598		East : 2445855.6198	
Line	Course: S 73-09-31 W	Length: 838.03	
North: 663548.5630		East : 2445053.5325	

Perimeter: 5159.42 Area: 837,295 Sq Ft 19.22 Ac.

Mapcheck Closure - (Uses listed courses, radii, and deltas)

Error Closure: 0.0049	Course: N 51-47-31 E
Error North: 0.00301	East : 0.00382
Precision 1: 1,052,940.82	

Neighborhood Meeting Certification

CITY OF KUNA PLANNING & ZONING * 763 W. Avalon, Kuna, Idaho, 83634 * www.kunacity.id.gov * (208) 922-5274 * Fax: (208) 922-5989

GENERAL INFORMATION:

You must conduct a neighborhood meeting prior to application for variance, conditional use, zoning ordinance map amendment, expansion or extension of a nonconforming use, and/or a subdivision. Please see Section 5-1A-2 of the Kuna City Code or ask one of our planners for more information on neighborhood meetings.

The meeting must be held either on a weekend between 10 a.m. and 7 p.m., or a weekday between 6 p.m. and 8 p.m. Meetings cannot be conducted on holidays, holiday weekends, or the day before or after a holiday or holiday weekend. The meeting must be held at one of the following locations:

- The Subject Property;
- The nearest available public meeting place (Examples include fire stations, libraries and community centers);
- An office space within a 1-mile radius of the subject property.

The meeting cannot take place more than 2 months prior to acceptance of the application and the application will not be accepted before the neighborhood meeting is conducted. You are required to send written notification of your meeting, allowing a reasonable amount of time before your meeting for property owners to plan to attend. Contacting and/or meeting individually with residents will not fulfill Neighborhood Meeting requirements.

You may request a list of the people you need to invite to the neighborhood meeting from our department. This list includes property owners within 300 feet of the subject property. Once you have held your neighborhood meeting, please complete this certification form and include it with your application.

Please Note: The neighborhood meeting must be conducted in one location for attendance by all neighboring residents. Contacting and/or meeting individually with residents does not comply with the neighborhood meeting requirements.

Please include a copy of the sign-in sheet for your neighborhood meeting, so we have written record of who attended your meeting and the letter of intent sent to each recipient. In addition, provide any concerns that may have been addressed by individuals that attended the meeting.

Description of proposed project: Sera Sole Subdivision Rezone, Preliminary Plat and PUD

Date and time of neighborhood meeting: Feb. 1, 2020 - 11:00 to 12:00 Noon

Location of neighborhood meeting: Kuna Public Library Conference Room

SITE INFORMATION:

Location: Quarter: SE NE Section: 26 Township: 2N Range: 1W Total Acres: 19.22

Subdivision Name: Sera Sole Subdivision Lot: Block:

Site Address: N/A Tax Parcel Number(s): S1326141870 S1326142025

Please make sure to include **all** parcels & addresses included in your proposed use.

CURRENT PROPERTY OWNER:

Name: CCI Group LLC / Fred & Sharon Wheeler

Address: 4202 N. Marcliff Ave, Boise, ID 83704 City: State: Zip:
846 S. Ash Ave, Kuna, ID 83634

CONTACT PERSON (Mail recipient and person to call with questions):

Name: Penelope Constantikes Business (if applicable): Riley Planning Services LLC

Address: P.O. Box 405 City: Boise State: ID Zip: 83701

PROPOSED USE:

I request a neighborhood meeting list for the following proposed use of my property (check all that apply):

Application Type	*Brief Description*
Annexation	
Re-zone	Rezone to R-6
Subdivision (Sketch Plat and/or Prelim. Plat)	Sera Sole Subdivision - 78 residential, 1 commercial/office lot
Special Use	
Variance	
Expansion of Extension of a Nonconforming Use	
Zoning Ordinance Map Amendment	

APPLICANT:

Name: CCI Group / Mr, and Mrs. Wheeler c/o Penelope Constantikes, Riley Planning Services

Address: P.O. Box 405

City: Boise State: ID Zip: 83701

Telephone: 208.908.1609 Fax:

I certify that a neighborhood meeting was conducted at the time and location noted on this form and in accord with Section 5-1A-2 of the Kuna City Code

Signature: (Applicant) P. Constantikes Date 2/26/2020

RILEY PLANNING SERVICES

P.O. Box 405
Boise, ID 83701

January 21, 2020

Dear Neighbor:

Please join me for an informational meeting about a proposed subdivision on the west side Swan Falls Road generally at the intersection of Swan Falls Road and Stagecoach Way. The vicinity map below shows the location of the project site.

The preliminary plat for Sera Sole was approved by the City of Kuna in 2007. The proposed preliminary plat has changed very little compared to the previously approved plat with 78 residential lots. City of Kuna Applications includes Preliminary Plat and Planned Unit Development as well as other applications that may be required by the City of Kuna such as a Development Agreement Modification.

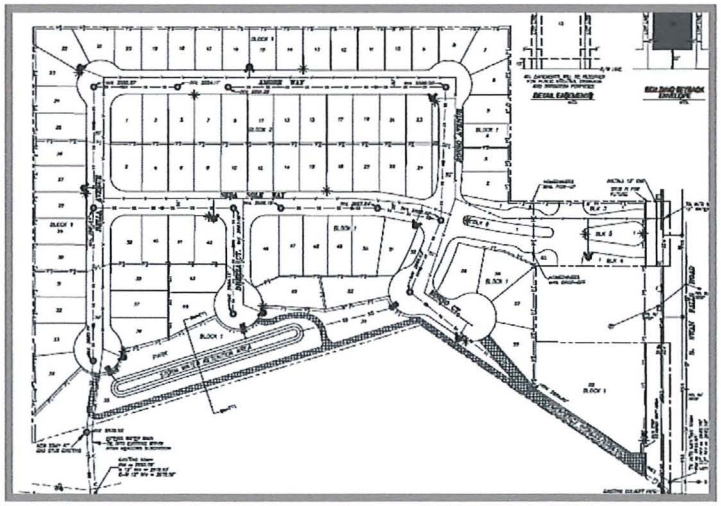
WHEN: **Saturday, February 1, 2020 – 11:30 to 12:00 Noon**

WHERE: **Kuna Library - 457 N. Locust Avenue**

The purpose of the neighborhood meeting is to provide information about the proposed development and to answer any questions you may have. This is not a public hearing and no public or elected officials will be present at the meeting.

Due to the large volume of notices being sent out, the meeting time has been divided into two periods. Please note your meeting bracket.





I can be reached at <penelope@rileyplanning.com> or at (208) 908-1609.

Thank you!

Penelope Constantikes

RILEY PLANNING SERVICES

P.O. Box 405
Boise, ID 83701

January 21, 2020

Dear Neighbor:

Please join me for an informational meeting about a proposed subdivision on the west side Swan Falls Road generally at the intersection of Swan Falls Road and Stagecoach Way. The vicinity map below shows the location of the project site.

The preliminary plat for Sera Sole was approved by the City of Kuna in 2007. The proposed preliminary plat has changed very little compared to the previously approved plat with 78 residential lots. City of Kuna Applications includes Preliminary Plat and Planned Unit Development as well as other applications that may be required by the City of Kuna such as a Development Agreement Modification.

WHEN: **Saturday, February 1, 2020 – 11:00 to 11:30 AM**

WHERE: **Kuna Library - 457 N. Locust Avenue**

The purpose of the neighborhood meeting is to provide information about the proposed development and to answer any questions you may have. This is not a public hearing and no public or elected officials will be present at the meeting.

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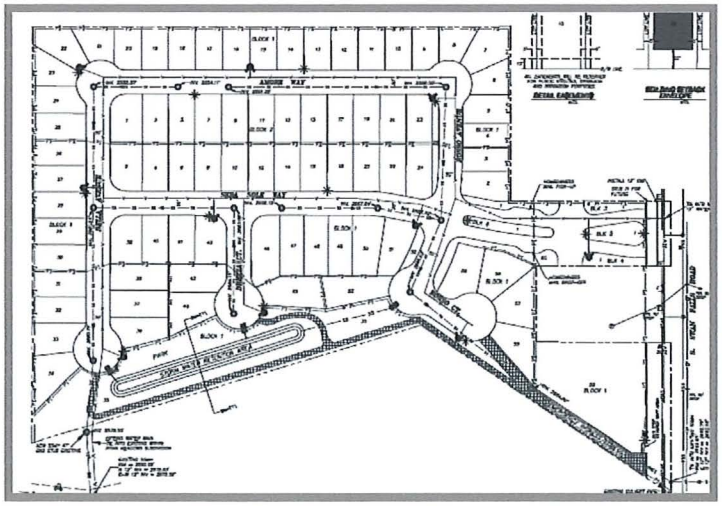

I can be reached at <penelope@rileyplanning.com> or at (208) 908-1609.

Thank you!

Penelope Constantikes

NEIGHBORHOOD MEETING SIGN-IN SHEET
5445 West Franklin Road - 11:00 to 12:00 Noon, February 1, 2020
Preliminary Plat and Planned Unit Development

REZONE TO R-4

NAME	ADDRESS	EMAIL
Floyd Hatch	605 Swan Falls Rd	
Jane Astle	725 Swan Falls Rd	
Blaine Astle	725 Swan Falls Rd.	
Shawna Shell	429 Swan Falls.	

RILEY PLANNING SERVICES

P.O. Box 405
Boise, ID 83701

SIGN IN SHEET

PROJECT NAME:_____

Date:_____

	Name	Address	Zip	Phone
1				
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NEIGHBORHOOD MEETING MINUTES

Meeting Date: Feb 1, 2020 Number of Attendees: 5 representing 4 households

Meeting Location: Kuna Public Library Conference Room

Description of Project Presented:

Sera Sole Subdivision - Preliminary Plat and Rezone

Attendee's comments:

Fencing, sidewalk along Swan Falls Road, traffic at intersection of Swan Falls and Avalon.

I hereby certify that the above information is complete and correct to the best of by knowledge.

Penelope Constantikes

Printed Name

P. Constantikes

Signature

2/26/2020

Date

David Couch

To: Ryan Carnie
Subject: RE: Subdivision Name Request

October 23, 2006

Ryan Carnie
Lochsa Engineering of Idaho

RE: Subdivision Name Reservation SERA SOLE SUBDIVISION

Dear Applicant,

At your request, I will reserve the name " SERA SOLE SUBDIVISION" for your project. I can honor this reservation only as long as your project is in the approval process. Final approval can only take place when the final plat is recorded.

Sincerely,
David J. Couch, PLS
Ada County Surveyor

For procedure on reserving subdivision names go to: http://www.adaweb.net/devserv/survey/Rsubname.htm
Check out the list of subdivision names at: http://www.adaweb.net/devserv/survey/subnames.htm

---

From: Ryan Carnie [mailto:ryan@lochsaidaho.com]
Sent: Monday, October 23, 2006 11:16 AM
To: David Couch
Cc: Michael Peña
Subject: Subdivision Name Request

David,

This is a request for a residential subdivision name proposed in Ada County.
This subdivision will be located in the southeast quarter of the northeast quarter of section 26, township 2 north, range 1 west, Boise Meridian. The address of the two parcels that make up the subdivision are:
South Swan Falls Road
Kuna, ID 83634
They are parcel numbers S1326141870 & S1326142025
This project has been annexed into the city of Kuna.

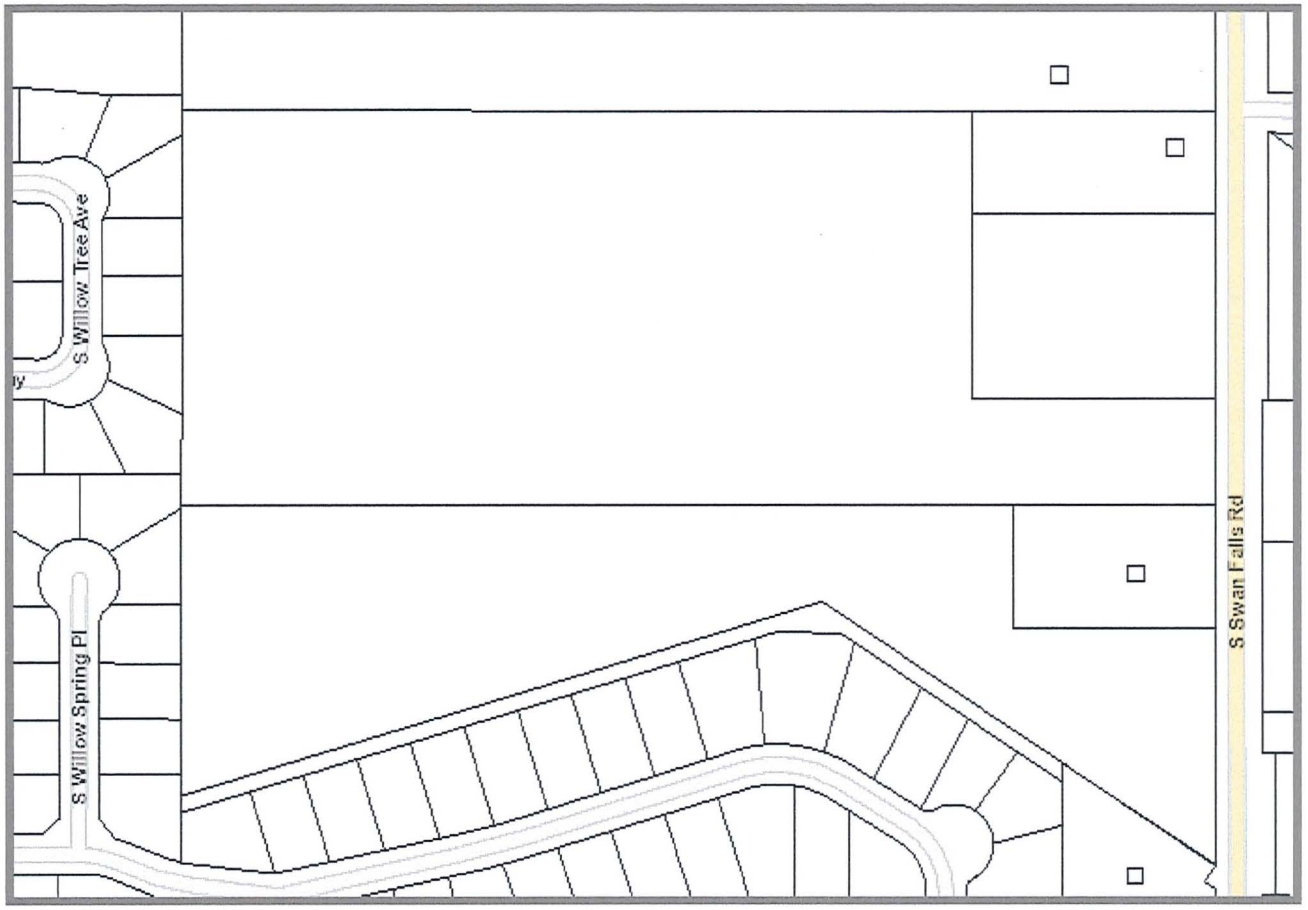
We would like to reserve the name "Sera Sole Subdivision". Sera Sole means "evening sun" in Italian.
Please let me know if this name is acceptable.

RYAN CARNIE, P.E.
CIVIL DEPARTMENT MANAGER
LOCHSA ENGINEERING OF IDAHO, PLLC
p.h. (208) 342-7168
f.x. (208) 342-3079

RILEY PLANNING SERVICES

P.O. Box 405
Boise, ID 83701

SERA SOLE SUBDIVISION – PHOTO KEY



PHOTOS 11 & 12

PHOTOS 7-10

PHOTOS 1-6



1. SE Corner 16 View to south



2. SE Corner 13-14 View to northwest



3. SE Corner 14 View to north



4. SE Corner 15 View to east



5. SE Corner 15-14 View to northeast



6. SE Corner View to southeast



7. SW Corner 7 View to north



8. SW Corner 7-8 View to northeast



9. 7 SW Corner View to north



10. 7-8 A SW Corner View to northeast



11. 21 - View of Primary Access Area



12. 21A - View of Primary Access Area

ELS *ENGEBRITSON LAND SURVEYS, PLLC.*

2251 S. Sumac Street, Boise, Idaho 83706 *Telephone (208) 859-6032 mike@elsurveys.com*

6 August 2019

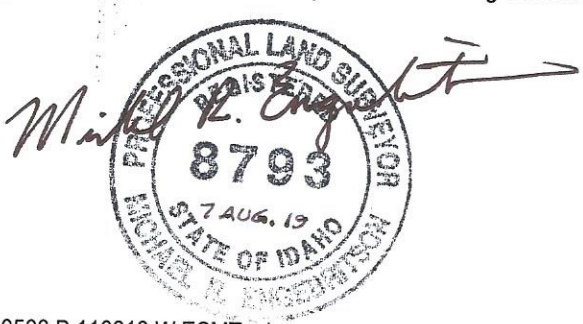
ELS Project No. 190802
Land Description
Sera Sole – PUD and Preliminary Plat applications
Contains 19.22 acres more or less

A tract of land within the SE ¼ of the NE ¼ of Section 26, T. 2 N., R. 1 W., B.M., Kuna, Ada County Idaho, described as follows:

Commencing at a found aluminum cap monumenting the NE corner of said Section 26 on the center line of South Swan Falls Road, thence southerly along said center line and the easterly line of said Section S 00°01'37" W a distance of 1819.88 feet to the POINT OF BEGINNING from which a found steel pin monumenting the East ¼ corner of said Section bears S 00°01'37" W a distance of 836.99 feet;

Thence leaving said lines N 89°57'43" W a distance of 278.45 feet (formerly N 89°57'46" W a distance of 278.62 feet) to a found steel pin;
Thence S 00°03'06" W a distance of 156.34 feet (formerly S 00°02'09" W a distance of 156.36 feet) to a found steel pin;
Thence S 89°57'01" E a distance of 278.52 feet (formerly S 89°57'46" E a distance of 278.62 feet) to a point of said center line and Section line;
Thence southerly along said lines, S 00°01'37" W a distance of 314.18 feet (formerly S 00°02'09" W a distance of 314.40 feet) to a point;
Thence leaving said lines, N 55°58'52" W a distance of 623.86 feet (formerly N 55°58'00" W a distance of 624.02 feet) to a found steel pin on the northerly boundary of Ryan Meadows Subdivision (a recorded Plat on file in Book 87 at Page 10012, records of Ada County, Idaho);
Thence continuing along said northerly boundary S 73°09'31" W a distance of 838.03 feet (formerly 838.14 feet) to a found steel pin monumenting the northwest corner of said subdivision and the southeast corner of Willow Glenn Subdivision Number 2 (a recorded Plat on file in Book 96 at Page 11820, records of Ada County, Idaho) on the westerly line of said SE ¼ of the NE ¼;
Thence northerly along said westerly line and subdivision boundary N 00°08'20" E a distance of 858.19 feet (formerly N 00°07'50" E a distance of 859.87 feet) to the NE 1/16th corner;
Thence leaving said lines S 89°57'11" E a distance of 987.65 feet (formerly S 89°57'54" E) to a found steel pin;
Thence S 00°04'32" E a distance of 127.71 feet (formerly S 00°00'16" E 127.89 feet) to a found steel pin;
Thence S 00°02'55" W a distance of 231.77 feet (formerly S 00°03'06" E) to a found steel pin;
Thence S 89°57'43" E a distance of 329.76 feet to a point on said center line and Section line;
Thence along said lines S 00°01'37" W a distance of 134.95 feet to the POINT OF BEGINNING.

The above-described tract of land contains 0.22 acres more or less subject to all existing easements and rights-of-way.



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BDRY Sera Sole - PUD

North: 663548.5600		East : 2445053.5287	
Line	Course: N 00-08-20 E	Length: 858.19	
North: 664406.7474		East : 2445055.6090	
Line	Course: N 89-57-11 E	Length: 987.65	
North: 664407.5567		East : 2446043.2587	
Line	Course: S 00-04-32 E	Length: 127.71	
North: 664279.8468		East : 2446043.4271	
Line	Course: S 00-02-55 W	Length: 231.77	
North: 664048.0769		East : 2446043.2305	
Line	Course: S 89-57-43 E	Length: 329.76	
North: 664047.8578		East : 2446372.9904	
Line	Course: S 00-01-37 W	Length: 134.95	
North: 663912.9078		East : 2446372.9269	
Line	Course: N 89-57-43 W	Length: 278.45	
North: 663913.0928		East : 2446094.4770	
Line	Course: S 00-03-06 W	Length: 156.34	
North: 663756.7529		East : 2446094.3360	
Line	Course: S 89-57-01 E	Length: 278.52	
North: 663756.5112		East : 2446372.8559	
Line	Course: S 00-01-37 W	Length: 314.18	
North: 663442.3312		East : 2446372.7082	
Line	Course: N 55-58-52 W	Length: 623.86	
North: 663791.3598		East : 2445855.6198	
Line	Course: S 73-09-31 W	Length: 838.03	
North: 663548.5630		East : 2445053.5325	

Perimeter: 5159.42 Area: 837,295 Sq Ft 19.22 Ac.

Mapcheck Closure - (Uses listed courses, radii, and deltas)

Error Closure: 0.0049	Course: N 51-47-31 E
Error North: 0.00301	East : 0.00382
Precision 1: 1,052,940.82	

FOR RECORDING INFORMATION

DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS

OF

PRELIMINARY ONLY

* * * * * *

THIS DECLARATION is made on the date hereinafter set forth by [redacted], an Idaho limited liability company, hereafter referred to as "Declarant".

WITNESSETH

WHEREAS, Declarant is the owner of certain real property in Ada County, State of Idaho, hereinafter referred to as the "Properties", more particularly described as follows:

[redacted], according to the official plat thereof, recorded as Instrument No. [redacted] on the __ day of ____, 20__ records of Ada County, Idaho; and

WHEREAS, Declarant desires to subject the above-described Properties to certain protective covenants, conditions, restrictions, reservations, easements, liens, and charges for the benefit of the Properties and their present and subsequent Owners as hereinafter specified, and will convey the Properties subject thereto;

NOW, THEREFORE, Declarant hereby declares that all of the Properties above described shall be held, sold and conveyed upon and subject to the easements, conditions, covenants, restrictions and reservations hereinafter set forth, all of which are for the purpose of enhancing and protecting the value, desirability and attractiveness of, and which shall run with the Properties and be binding on all parties now or hereafter having any right, title or interest therein or to any part hereof, and shall inure to the benefit of each owner thereof.

ARTICLE I: DEFINITIONS

The following terms shall have the following meanings:

Section 1. "ASSESSMENT" shall mean a payment required of Association members, including Initiation, Annual, Special and Limited Assessments as provided for in this Declaration.

Section 2. "ASSOCIATION" shall mean and refer to the [redacted] Association, Inc., a non-profit corporation organized under the laws of the State of Idaho, its successors and assigns.

Section 3. "COMMON AREA" shall mean all real property and improvements thereon owned by the Association for the common use and enjoyment of the Owners. The initial Common Area to be owned by the Association is described as [redacted], according to the official plat thereof.

Section 4. "DECLARANT" shall mean and refer to [redacted] an Idaho limited liability company, and subject to the provisions of Article XV, Section 4, its successors, heirs and assigns.

Section 5. "DECLARATION" shall mean and refer to this Declaration of Covenants, Conditions and Restrictions as the same may be amended from time to time.

Section 6. "DWELLING UNIT" shall mean that portion or part of any structure intended to be occupied by one family as a dwelling unit, together with the vehicular parking garage adjoining or adjacent thereto, and all projections therefrom.

Section 7. "IMPROVEMENT" shall mean any structure, facility or system, or other improvement or object, whether permanent or temporary, which is erected, constructed or placed upon, under or in any portion of the Properties, including but not limited to buildings, fences, streets, drives, driveways, sidewalks, bicycle paths, curbs, landscaping, signs, lights, mail boxes, electrical lines, pipes, pumps, ditches, waterways, recreational facilities, and fixtures of any kind whatsoever.

Section 8. "INSTITUTIONAL HOLDER" shall mean a Mortgagee which is a bank or savings and loan association or established mortgage company, or other entity chartered under federal or state laws, any corporation or insurance company, or any federal or state agency.

Section 9. "LOT" or "LOTS" shall mean and refer to any plot of land shown upon any recorded subdivision map of the Properties.

Section 10. "MORTGAGE" shall mean any mortgage, deed of trust or other security instrument by which a Lot or any part thereof is encumbered.

Section 11. "MORTGAGEE" shall mean any person or any successor to the interest of such person named as the mortgagee, trust beneficiary or creditor under any Mortgage.

Section 12. "OWNER" shall mean and refer to the record owner, whether one or more persons or entities, of the fee simple title to any Lot which is part of the Properties, including contract sellers, but excluding those having such interest merely as security for the performance of an obligation.

Section 13. "PLAT" shall mean a final subdivision plat covering any real property in Zen Gardens Subdivision, as recorded in the Office of the County Recorder, Ada County, Idaho, as the same may be amended by duly recorded amendments thereto. "Plat" shall also mean a final subdivision plat covering any additional real property which may be annexed into the subdivision project described herein pursuant to the provisions of Article XIV, below.

Section 14. "PROPERTIES" shall mean and refer to that certain real property hereinabove described.

Section 15. "SUBDIVISION" shall mean the [redacted] as shown on the final Plat recorded in the Office of the County Recorder, Ada County, Idaho. "Subdivision" shall also include any additional real property shown on a final plat which is annexed into the subdivision project pursuant to the provisions of Article XIV, below.

ARTICLE II: PROPERTY RIGHTS

Section 1. Enjoyment of Common Area: Each Owner shall have a right and easement of enjoyment in and to the Common Area, and such easement shall be appurtenant to and shall pass with the title to every Lot, subject, however, to the following provisions:

A. The right of the Association to levy reasonable assessments for the maintenance of the Common Area and any improvements or facilities located thereon.

B. The rights of the Association, in accordance with its Articles and Bylaws, to borrow money for the purpose of improving the Common Area; and, in aid thereof, to place a mortgage or trust deed thereon, which shall be a first and prior lien thereagainst; provided that the Common Area may not be mortgaged or conveyed without the consent of at least 66-2/3% of the Owners (excluding Declarant), and that any conveyance or mortgage of Common Area shall be subject to and subordinate to rights of ingress and egress of an Owner to his/her Lot.

C. The right of the Association to dedicate or transfer all or any part of the Common Area to any public agency, authority or utility for such purposes and subject to such conditions as may be agreed to by the members; provided, however, that except as to the Association's right to grant easements for utilities and similar or related purposes, no part of the Common Area and facilities may be alienated, released, transferred, hypothecated or otherwise encumbered without the written approval of all First Mortgagees and two-thirds (2/3) of the votes of each class of members who are voting in person or by proxy at a meeting duly held for this purpose.

D. The right of the Directors of the Association to promulgate reasonable rules and regulations governing the right of use of the Common Area by the members of the Association, from time to time, in the interest of securing maximum safe usage thereof, without unduly infringing upon the privacy or enjoyment of any Owner or occupant of a Lot, including without being limited thereto, reasonable regulations and restrictions regarding vehicle parking thereon.

Section 2. Delegation of Use: Any member may delegate, in accordance with the rules and regulations adopted from time to time by the directors, his right of enjoyment to the Common

Area and facilities to the members of his family, his tenants or contract purchasers, provided they reside on the property at the time of use.

Section 3. Rights Reserved by Declarant: Notwithstanding anything to the contrary contained in this Declaration, Declarant expressly reserves unto:

A. Itself, its employees, successors, assigns, agents, representatives, contractors and their subcontractors and employees, easements and rights-of-way on, over and across all or any part of the streets for vehicular and pedestrian ingress and egress to and from any part of the Properties, or any adjacent real property owned by Declarant, or its successors or assigns;

B. Itself, its employees, successors, assigns, agents, representatives, contractors and their subcontractors and employees (including any district, company, unit of local government, association or other entity providing water, sewer, gas, oil, electricity, telephone, cable television, or other similar services), easements, access and rights-of-way on, over, under and across all or part of the Common Area and utility easements on, over and under all Lots and Common Area as provided on any recorded Plat of the Property for installation, use, maintenance and repair of all lines, wires, pipes, pumps, water wells, facilities, and other things necessary for all such services, provided that any installation, maintenance or repair of such lines, wires or pipes shall be performed with reasonable care and that the surface of said easement area shall be restored to the level and condition that existed prior to the doing of work; and

C. Itself, its employees, successors, assigns, agents, representatives, contractors and their subcontractors and employees, the right to use the Common Area where applicable, to facilitate and complete the development of the Properties, and any annexed property, including without limitation the use of the Common Area where applicable, for:

1. Construction, excavation, grading, landscaping, parking and/or storage;

2. Maintenance and operation of a sales office and model units for sales purposes;

3. The showing to potential purchasers of any unsold Lot, unit or improvements within the Properties;

4. Display of signs and flags to aid in the sale of any unsold Lots and Dwelling Units, or all or part of the Properties;

5. Construction, operation and maintenance of all or any portion of any Common Area by Declarant, its successors or assigns;

D. Itself, all right, title and interest in and to any and all Water Rights appurtenant to the Properties, and accordingly, no Owner shall have any right, title, or interest in any of the Water Rights.

Section 4. Right to Amend Declaration: Declarant reserves the right to amend this Declaration in accordance with the provisions of Article XV, Section 3, below.

Section 5. Reservation of Development Rights: No provision of this Declaration shall be construed as to prevent or limit Declarant's right to complete development of the Properties and to construct improvements thereon, nor Declarant's right to maintain model homes, construction, sales or leasing offices or similar facilities on any portion of the properties, nor Declarant's right to post signs incidental to construction, sales or leasing. Any development plans or schemes for the Properties in existence prior to or following the effective date of this Declaration are subject to change at any time by Declarant, and impose no obligation on Declarant as to how the property is to be developed or improved.

ARTICLE III: HOMEOWNERS ASSOCIATION

Section 1. Management: The affairs of the Association shall be conducted by a Board of Directors and such officers as the Board may elect or appoint, in accordance with the Association's Articles of Incorporation and Bylaws, as the same may be amended from time to time.

Section 2. Membership: Every Owner of a Lot which is subject to this Declaration, excluding Common Area Lots, shall be a member of the Association. The foregoing is not intended to include persons or entities who hold an interest merely as security for the payment of an obligation. Membership shall be appurtenant to and may not be separated from ownership of any Lot. Such ownership shall be the sole qualification for membership and shall automatically commence upon a person becoming such Owner and shall automatically terminate and lapse when such ownership in said property shall terminate or be transferred.

Section 3. Voting Rights: The Association shall have two classes of voting membership:

Class A: Class A members shall be all Owners, with the exception of the Declarant, and shall be entitled to one vote for each Lot owned. When more than one person holds an interest in any Lot, all such persons shall be members. The vote for such Lot shall be exercised as they determine, but in no event shall more than one vote be cast with respect to any Lot. Fractional votes shall not be allowed. The vote applicable to any said Lot being sold under contract of purchase shall be exercised by the contract seller, unless the contract expressly provides otherwise.

Class B: Class B member(s) shall be the Declarant who shall be entitled to ten (10) votes for each Lot owned. Subject to the provisions of this Section set forth below, the Class B membership shall be converted to Class A membership on the happening of either of the following events, whichever occurs first:

A. When the total votes outstanding in the Class A membership equal the total votes outstanding in the Class B membership; or

B. On the expiration of ten (10) years from the date on which the first Lot is sold to an Owner.

The foregoing notwithstanding, in the event any additional real property owned by Declarant shall be annexed into the subdivision project described in this Declaration pursuant to the provisions of Article XIV, below, the Class B membership shall not be deemed to have converted to Class A membership above, and the Class B membership shall remain in existence (or be deemed reinstated if previously converted to Class A membership) as respects all Lots owned by Declarant.

Section 4. Assessments: Each Owner of any Lot, by acceptance of a deed therefore from Declarant (whether or not it shall be so expressed in such deed), is deemed to covenant and agree to pay to the Association an Initiation Assessment, Transfer Assessments, Annual Assessments, Special Assessments and Limited Assessments, such assessments to be fixed, established and collected from time to time as hereinafter provided:

A. Initiation and Transfer Assessments: Upon the initial conveyance of each Lot, the purchaser thereof shall pay an Initiation Assessment to the Association in the amount of $100.00. Upon each subsequent transfer of each Lot, the purchaser thereof shall pay a Transfer Assessment to the Association in the amount of $100.00.

B. Annual Assessments: The Annual Assessment levied by the Association shall be used for the purpose of promoting the recreation, health, safety and welfare of the Owners, for the operation, maintenance, repair and improvement of the Common Area and facilities located thereon, including, without limitation, the private road, for the reasonable expenses incurred in the operation of the affairs of the Association, for the expenses incurred by the Association in connection with any of its obligations contained in this Declaration or in the Bylaws of the Association, to fund and maintain reasonable reserves, and for any other purpose reasonably authorized by the Board of Directors of the Association. The Annual Assessments provided for herein shall initially be in the amount of $120.00 payable in full at the closing of the sale of each Lot. Thereafter, the Board of Directors shall fix the amount of the Annual Assessment against each Lot at least thirty (30) days in advance of each Annual Assessment period. Written notice of the Annual Assessment shall be sent to every Owner subject thereto. The due dates shall be established by the Board of Directors.

C. Special Assessments: In addition to the Initiation and Annual Assessments authorized above, the Board of Directors of the Association may levy, in any assessment year, a Special Assessment applicable to that year only for the purpose of defraying, in whole or in part, the cost of any construction, reconstruction, repair or replacement of an improvement upon the Common Area, or for any unanticipated expenses or obligations, provided that any such assessment intended to pay the cost of initial construction of any new facility or improvement shall have the assent of two-thirds (2/3) of the votes of each class of members who are voting in person or by proxy at a meeting duly called for this purpose. Written notice of any meeting called for the purpose of taking any action authorized under this paragraph above, shall be sent to all members not less than thirty (30) days nor more than sixty (60) days in advance of the meeting. At the first such meeting called, the presence of members or of proxies entitled to cast forty percent (40%) of all the votes of each class of membership shall constitute a quorum. If the required quorum is not present, another meeting may be called subject to the same notice requirement, and the required quorum at the

subsequent meeting shall be one-half (1/2) of the required quorum at the preceding meeting. No such subsequent meeting shall be held more than sixty (60) days following the preceding meeting. Any Special Assessment shall be payable over such a period as the Board of Directors shall determine.

D. Limited Assessments: The Association shall have the power to incur expenses for the maintenance and repair of any Lot or Improvement, for the repair of damage to the Common Area caused by the negligence or willful misconduct of an Owner or his family, guests, invitees, agents, employees, or contractors, or for the correction of any violation of this Declaration, if the responsible Owner has failed or refused to perform such maintenance or repair or to correct such violation after written notice of the necessity thereof has been delivered by the Board of Directors to the responsible Owner. The Board of Directors shall levy a Limited Assessment against the Owner to reimburse the Association for the cost of such maintenance, repair or corrective action, together with any other cost or expense, including attorney's fees, arising out of or incident to such maintenance, repair or corrective action or the collection of the assessment therefore. Any such Limited Assessment shall be due within fifteen (15) days of the date written notice thereof is delivered to the responsible Owner. The notices required in this paragraph shall be delivered personally to such Owner or sent by first class or certified mail to the last known address of such Owner as shown on the records of the Association.

E. Uniform Rate of Assessment: The Initiation, Transfer, Annual and Special Assessments (but not Limited Assessments) must be fixed at a uniform rate for non-exempt Lots.

F. Creation of Lien and Personal Obligation of Assessments: The Initiation, Annual, Special and Limited Assessments, together with interest, costs of collection and reasonable attorney's fees shall be a charge on the Lot and shall be a continuing lien upon the Lot against which such Assessment is made. Each such Assessment, together with interest, costs of collection and reasonable attorney's fees, shall also be the personal obligation of the Owner of such Lot at the time when the Assessment fell due. The obligation shall remain a lien on the Lot until paid or foreclosed, but shall not be a personal obligation of successors in title, unless expressly assumed.

G. Effect of Nonpayment of Assessments; Remedies of Association: Any Assessment not paid within thirty (30) days after the due date shall bear interest from the due date at the rate of eighteen percent (18%) per annum. The Association may bring an action at law against the Owner personally obligated to pay the same, or foreclose the lien against the property. No Owner may waive or otherwise escape liability for the Assessments provided for herein by non-use of the Common Area or abandonment of his Lot. The Board of Directors of the Association shall have the right to suspend the voting rights of an Owner for any period during which any assessment against his Lot remains unpaid.

H. Subordination of the Lien to Mortgages: The lien of the Assessments provided for herein shall be subordinate to the lien of any first Mortgage. Sale or transfer of any Lot shall not affect the Assessment lien. However, the sale or transfer of any Lot pursuant to Mortgage foreclosure or any proceeding in lieu thereof shall extinguish the lien of such Assessments as to payments which became due prior to such sale or transfer. No sale or transfer shall relieve such Lot from liability for any Assessments thereafter becoming due or from the lien thereof.

I. Certificate of Payment: The Association shall, upon demand, and for a reasonable charge, furnish a certificate signed by an officer of the Association setting forth whether the Assessments on a specified Lot have been paid. A properly executed certificate of the Association as to the status of Assessments on a Lot is binding upon the Association as of the date of its issuance.

J. Exempt Property: The following property, subject to this Declaration, shall be exempt from the Assessments created herein:

1. All Lots and other property expressly dedicated to and accepted by a local public authority;

2. All Lots and other property owned by the Association;

3. All Lots and other property owned by Declarant, until title is transferred to another, or until occupancy, whichever occurs first.

In lieu of paying Annual Assessments, Declarant will contribute, in a timely manner, non-refundable monies to the Association in order to support budgeted or previously agreed to operating costs (excluding any amount for reserves) in excess of current Association operating revenues, so long as Declarant owns any Lots; provided, however that Declarant's obligation hereunder shall, at Declarant's option, cease at such time as Declarant's Class B membership shall be converted to Class A membership as set forth in Section 3, above or Declarant elects, by written notice to the Association to pay Annual Assessments pursuant to the provisions of this Section 4.

Section 5. Powers of Association: The Association shall have all powers of a nonprofit corporation organized under the laws of the State of Idaho, subject only to such limitations as are expressly set forth in the Association's Articles of Incorporation and Bylaws or this Declaration. It shall have the power to do any and all lawful things which may be authorized, required or permitted to be done under the Association's Articles of Incorporation and Bylaws or this Declaration, and to do and perform any and all acts which may be necessary or proper for, or incident to, the proper management and operation of the Common Areas and the performance of other responsibilities set forth in this Declaration. Without intending to limit the foregoing, the Association shall have the following powers:

A. The power to levy and collect Assessments as set forth in this Declaration.

B. The power to enforce this Declaration on its own behalf, or on behalf of any Owners who consent thereto, and to maintain actions and suits to restrain and enjoin any breach or threated breach of the Association's Articles of Incorporation and Bylaws, this Declaration or any rules or regulations adopted by the Board.

C. The power to enforce penalties as more specifically provided in this Declaration.

D. The power to adopt, amend, and repeal such rules and regulations as the Board deems reasonable and necessary as more particularly set forth in this Declaration and to suspend the voting rights of an Owner for a period not to exceed sixty (60) days for any infraction thereof.

E. The power to employ such agents and independent contractors as the Board deems reasonable and necessary including, without limitation, attorneys, accountants and managers, on such terms and conditions as the Board may determine.

Section 6. Duties of Association: In addition to the duties delegated to it by the Association's Articles of Incorporation and Bylaws and this Declaration, without limiting the generality thereof, the Association or its authorized agents shall have the obligation to conduct all business affairs of the Association and to perform each of the following duties:

A. Perform, or provide for the performance of, the operation, maintenance and management of the Common Areas and improvements located thereon and any other operation, maintenance and repair obligations set forth in this Declaration.

B. To obtain and maintain for the Association the policies of insurance set forth in Article XI of this Declaration.

C. Maintenance of an adequate reserve fund for the performance of its obligations, including the maintenance, repairs and replacement of the Common Areas and Improvements located thereon and any other Improvements and facilities which the Association is obligated to operate, maintain and/or repair.

Section 7. Liability of Board Members and Officers: Neither any member of the Board nor any officers of the Association shall be personally liable to any Owner, or to any other party, for any damage, loss or prejudice suffered or claimed on account of any act or omission of the Association, the Board, its officers, a manager or any other representative or employee of the Association, provided that said Board member, officer, manager or other person has, upon the basis of such information as was available, acted in good faith without willful or intentional misconduct.

ARTICLE IV: EASEMENTS

Section 1. Drainage and Utility Easements: This Declaration shall be subject to all easements heretofore or hereafter granted by Declarant for the installation and maintenance of utilities and drainage facilities and easements that are set forth on the Plat, or as may be required for the development of the Properties. In addition, Declarant hereby reserves to itself and for the benefit of the Association the right to grant additional easements and rights-of-way over the Properties, as appropriate, to utility companies and public agencies as necessary or expedient for the proper development of the Properties until close of escrow for the sale of the last Lot in the Properties to a purchaser.

Section 2. Improvement of Drainage and Utility Easement Areas: The Owners of Lots are hereby restricted and enjoined from constructing any Improvements upon any drainage or utility

easement areas as shown on the Plat or otherwise designated in any recorded document which would interfere with or prevent the easement from being used for such purpose.

ARTICLE V: Reserved

ARTICLE VI: MAINTENANCE RESPONSIBILITY

Section 1. Association Responsibility: The Association shall provide maintenance to and be responsible for the Common Areas, including the Private Road an any related drainage facilities, landscaping and fencing located thereon and any other facilities and improvements described herein as being the Association's responsibility in a competent and attractive manner, including the watering, mowing, fertilizing and caring for shrubs and trees in perpetuity. In the event the need for maintenance or repair is caused through the willful or negligent act of an Owner, his family, guests, invitees, employees, agents or contractors the costs of such maintenance or repairs shall be assessed to such Owner as set forth in Article III, Section 4, Paragraph D, above. The Association reserves an easement for ingress, egress and maintenance as may be reasonably necessary to perform the maintenance duties of the Association.

Section 2. Owner's Responsibility: Each Owner shall be responsible for maintaining and keeping in good order and repair the exterior of his Dwelling Unit, outbuildings, and any private decks, fences, courtyards, landscaping and lawn contiguous to his Dwelling Unit. Each Owner shall further be responsible to cut or otherwise control the weeds and other noxious plants on his Lot so as to avoid any unsightly condition or hazard or nuisance to the neighborhood. In the event of damage or destruction of a Dwelling Unit by fire or other casualty, the owner must complete repair and/or replacement of the Dwelling Unit within one hundred eighty (180) days of the damage or destruction, subject to reasonable delays caused by inclement weather.

Section 3. Failure to Owner to Maintain: If the Owner fails to perform his maintenance responsibilities as set forth herein, the Association shall, upon fifteen (15) days prior written notice to the Owner, have the right to correct such condition, and to enter upon the Owner's Lot for the purpose of doing so, and seek reimbursement of the cost thereof in accordance with the provisions of Article III, Section 4, Paragraph D, above.

ARTICLE VIII: PROPERTY USE RESTRICTIONS

The following restrictions shall be applicable to the Properties and shall be for the benefit of and limitations upon all present and future Owners of said Properties, or of any interest therein:

A. Lot Use: No Lot, with the exception of the Common Area shall be used except for single-family residential purposes. No Lot or the Common Area shall be used for the conduct of any trade, business or professional activity. All Lots and improvements constructed thereon must comply with all applicable governmental rules, ordinances, laws, statutes and regulations.

B. Animals: No animals, livestock or poultry of any kind shall be raised, bred or kept on any part of said Properties, except that two dogs, cats or other household pets may be kept within a Dwelling Unit or within a fenced area as may be approved by the Architectural Control Committee. Any animals outside a Dwelling Unit or fenced area must be on leashes, and the Owner or custodian of the animal shall be responsible for the immediate cleanup of the animal's droppings. The term "fenced area" as used in this paragraph shall be interpreted to include any electronic pet containment system; provided, however, that the boundary of any such system shall be approved by the Architectural Control Committee and that in no event shall the said boundary extend beyond the front plane of the Dwelling Unit constructed on said Lot.

C. Garbage and Refuse Disposal: No part of said property shall be used or maintained as a dumping ground for rubbish, trash or other waste. No garbage, trash or other waste shall be kept or maintained on any part of said property except in a sanitary container. Any incinerators or other equipment for the storage or disposal of such material must not violate setback restrictions, must be enclosed with an aesthetic screen or fence, as may be approved by the Architectural Committee, shall be kept in a clean and sanitary condition, and must be used and maintained in accordance with all applicable laws, ordinances and regulations.

D. Nuisance: No noxious, offensive or unsightly conditions (including but not necessarily limited to sights and sounds) shall be permitted upon any part of said property, nor shall anything be done thereon which may be or become an annoyance or nuisance to the neighborhood. All exterior lighting shall be placed in such a manner to minimize glare and excessive light spillage onto neighboring Lots.

E. Residing in Outbuildings: No trailer, truck camper, tent, garage, barn, shack or other outbuilding shall at any time be used as a residence temporarily or permanently on any part of said Properties.

F. Antennas: Antennas, satellite dishes, or other devices for the transmission or reception of television, radio or electric signals or any other form of electromagnetic radiation shall not be erected on any Lot except as may be approved by the Architectural Committee.

G. Parking and Storage of Vehicles and Equipment: Parking of boats, trailers, motorcycles, trucks (except one ton in size or smaller), truck campers, motor homes, recreational vehicles, and like equipment, or commercial equipment or machinery, junk cars or other unsightly vehicles, shall not be allowed on any Lot nor on the Common Area, except in fully enclosed buildings or under such circumstances, if any, as may be prescribed in writing by, and in the sole discretion of the Board of Directors of the Association, which discretion may not be challenged for having been exercised unreasonably; provided, however, that boats, trailers, campers, motor homes and similar recreational vehicles may be parked on a Lot for a period not to exceed 48 hours while in immediate use by an Owner, being prepared for use, or being prepared for storage after use. All other parking or storage of any other equipment shall be prohibited, except as approved in writing by the Board of Directors of the Association. Any vehicle awaiting repair or being repaired shall be removed from the subdivision within 48 hours.

H. Leasing Restrictions: Any lease (as defined below) between an Owner and his tenant shall provide that the terms of the lease shall be subject in all respects to the provisions contained in this Declaration, the Association's Articles of Incorporation and its Bylaws, and any adopted rules and regulations, and that any failure by said tenant to comply with the terms of such documents shall be a default under such lease. For the purposes of this Declaration, a "lease" shall mean any agreement for the leasing or rental of a Dwelling Unit or any portion of a Lot (including a month-to-month rental agreement); and all such leases shall be in writing. Other than the foregoing, there is no restriction on the right of any Owner to lease his Dwelling Unit.

I. Fences: No fences shall be constructed on any Lot except as may be approved, in advance, by the Architectural Control Committee as to design, color, height, materials and location. No such fence shall extend beyond the front plane of the Dwelling Unit constructed or to be constructed on the Lot.

J. Drilling and Exploration: No oil or mining exploration or development of any kind or nature nor any structures in connection therewith shall be permitted to be erected, maintained or used on any Lot and no minerals shall be permitted to be extracted on any Lot.

K. Signs: No commercial billboard or advertising shall be displayed to the public view on or from any Lot. Owners may advertise a Dwelling Unit and Lot for sale by displaying a single, neat sign of not more than six (6) square feet on a Lot. Other temporary signs advertising the name of the builder or the name of the institution providing financing may be displayed on their Lot during construction of improvements only by written approval of Declarant.

L. Subdividing: No Lot may be further subdivided, nor may any easement or other interests therein less than the whole be conveyed by the Owner thereof; provided, however, that nothing herein shall be deemed to prohibit an Owner from transferring and selling a Lot to more than one person to be held by them as tenants in common, joint tenants, tenants by the entirety, or as community property. The provision of this section shall not apply to the division of any Lot between adjoining Lots.

M. Parking Rights: Subject to the provision of paragraph G above, any automobile or other vehicle used by any Owner shall be parked in the driveway or garage which is a part of his Dwelling Unit.

ARTICLE IX: BUILDING RESTRICTIONS

Section 2. Setbacks: All improvements must be constructed or maintained on a Lot within the minimum building setbacks as set forth on the Plat or as otherwise required by the applicable governmental agency having jurisdiction.

Section 3. Construction Requirements: Each Dwelling Unit shall be constructed in accordance with the plans approved by the Architectural Control Committee.

Section 4. Landscaping: Within thirty (30) days after completion or prior to occupancy of the Dwelling Unit located thereon, whichever is earlier, each Lot shall be fully landscaped in accordance with the plans approved by the Architectural Control Committee.

Section 5. Grading and Drainage: Each Owner shall be responsible to assure that the finished grade and elevation of his Lot is properly constructed so as to convey all water from sprinklers and storm runoff to the front of the Lot and into the street adjacent to the front yard (or in the case of a corner lot, the street adjacent to the side yard), and to prevent the migration or accumulation thereon of drainage waters from the Common Area or any other Lots within the Properties. The Declarant shall have no liability or responsibility for any damages which may be caused as a result of the failure of an Owner to comply with the provisions of this Section.

Section 6. Job Site Maintenance: Job sites are to be kept clean during construction. All dirt, nails, gravel and other building materials must be removed from the street and sidewalk daily. Work vehicles shall not be parked in front of occupied houses, nor shall they block streets. Power and water must not be used from existing dwellings without the prior permission of the Owner. Dumpsters and portable toilets are the responsibility of the Owner or his contractor and shall be kept orderly at all times and emptied on a timely basis. All contractors and subcontractors

shall be prohibited from keeping dogs at the job site. Each Owner shall be responsible to repair any damage to any road, mailbox, utility facility or other on-site or off-site improvement caused by the Owner or the Owner's agents or contractors during the construction of any improvements on the Owner's Lot. In the event an Owner or his contractor shall fail or refuse to comply with the job site maintenance requirements of this section, the Declarant or the Association may take such remedial action as it deems appropriate, including but not limited to the clean-up of the Properties, the costs of which may be added to and become a part of the assessment to which such Owner's Lot is subject.

ARTICLE X: ARCHITECTURAL CONTROL

Section 1. Architectural Control Committee: In order to protect the quality and value of the homes built on the Properties, and for the continued protection of the Owners thereof, an Architectural Control Committee is hereby established consisting of three or more members to be appointed by the Declarant for so long as it owns any Lot and thereafter by the Board of Directors of the Association.

Section 2. Approvals Required: No building, fence, wall, patio cover, window awning or other structure or landscaping improvements of any type shall be commenced, built, constructed, placed, or maintained upon any Lot, Common Area or other property, nor shall any exterior addition, change or alteration of existing improvements be made, until the plans and specifications showing the nature, kind, shape, configuration, height, materials, location and such other detail as the Architectural Control Committee may require, shall have been submitted to and approved in writing by the Architectural Control Committee as to harmony of external design and location in relation to surrounding structures and topography and as to conformity with requirements of this Declaration. In the event the Architectural Control Committee fails to approve, disapprove, or specify the deficiency in such plans, specifications and location within thirty (30) days after submission to the Architectural Control Committee in such form as they may require, it shall be deemed approved.

The Architectural Control Committee shall have the right to refuse to approve any design, plan or color for such improvements, construction or alterations which, in its opinion, are not suitable or desirable for any reason, aesthetic or otherwise. In so passing in such design, the Committee shall have the privilege in the exercise of its discretion to take into consideration the suitability of the proposed structure or alteration, the materials of which it is to be built, and the exterior color scheme in relation to the site upon which it is proposed to be erected. The Architectural Control Committee may also consider whether the design of the proposed structure or alteration is in harmony with the surroundings, the effect of the structure or alteration when viewed from adjacent or neighboring property, and any and all other facts which, in the Architectural Control Committee's opinion, shall affect the desirability of such proposed improvement, structure or alteration. Actual construction shall comply substantially with the plans and specifications approved.

Section 3. Submissions: Requests for approval of the Architectural Control Committee shall consist of such documents and other materials as may be reasonably requested by the Architectural Control Committee including, without limitation, the following:

A. Site Plan: A site plan showing the location of buildings and all other structures and improvements, including fences and walls on the Lot, Lot drainage and all setbacks and other pertinent information related to the improvements.

B. Building Plan: A building plan which shall consist of preliminary or final blueprints, elevation drawings of the north, south, east, and west sides, detailed exterior specifications for each building which shall indicate, by sample, if required by the Architectural Control Committee, all exterior colors, material and finishes, including roof, to be used. Garage, accessory and outbuildings to be located on a Lot shall be architecturally and visually compatible and harmonious with the principal building on the Lot as to style and exterior colors and shall not be higher than ten feet above the roof line of the principal building on the Lot.

C. Landscape Plan: A complete landscape plan for that portion of the Lot to be landscaped which shall show the location, type and size of trees, plants, ground cover, shrubs, berms and mounding, grading, drainage, sprinkler system, fences, free standing exterior lights, driveways, parking areas and walk ways.

Section 4. Rules and Regulations/Design Guidelines: The Architectural Control Committee is hereby authorized to adopt rules and regulations to govern its procedures and the requirements for making submissions and obtaining approval as the Committee deems appropriate and in keeping with the spirit of due process of law. The Architectural Control Committee is further hereby empowered to adopt such design guidelines as it shall deem appropriate, consistent with the provisions of this Declaration, pertaining to matters of design, materials, colors, and aesthetic interests. Any such rules and regulations and design guidelines may be amended from time to time, in the sole discretion of the Architectural Control Committee. The failure of the Architectural Control Committee to adopt any such rules and regulations or design guidelines shall not form the basis for an attack upon the exercise of Architectural Control Committee's discretion, it being the intent of this Declaration to provide the Architectural Control Committee with as broad discretion as is permissible under the law.

Section 5. Fees: The Architectural Control Committee may establish, by its adopted rules, a fee schedule for an architectural review fee to be paid by each owner submitting plans and specifications for approval. No submission for approval will be considered complete until such fee has been paid. Such fee shall not exceed such reasonable amount as may be required to reimburse the Architectural Control Committee for the costs of professional review of submittals and the services of a consultant to administer the matter to its completion, including inspections which may be required.

Section 6. Variances: The Architectural Control Committee may authorize variances from compliance with any of the architectural provisions of this Declaration, including restrictions upon height, size, floor area or placement of structures, or similar restrictions, when circumstances such as topography, natural obstructions, hardship, aesthetic or environmental considerations may require. Such variances must be evidenced in writing, must be signed by at least two (2) members of the Architectural Control Committee, and shall become effective upon recordation in the official records where this Declaration is recorded. If such variances are granted, no violation of the

covenants, conditions or restrictions contained in this Declaration shall be deemed to have occurred with respect to the matter for which the variance was granted. The granting of such a variance shall not operate to waive any of the terms and provisions of this Declaration for any purpose except as to the particular Lot and particular provision hereof covered by the variance, nor shall it effect in any way the Owner's obligation to comply with all governmental laws and regulations effecting such Owner's use of the Lot, including but not limited to zoning ordinances or requirements imposed by any governmental or municipal authority.

Section 7. Waiver: The approval of any plans, drawings or specifications for any structure, improvement, or alteration, or for any matter requiring the approval of the Architectural Control Committee, shall not be deemed a waiver of any right to withhold approval of any similar plan, drawing, specifications, or matters subsequently submitted for approval.

Section 8. Liability: Neither the Architectural Control Committee nor any member thereof shall be liable to the Homeowners Association, any Owner, or any other party, for any damage suffered or claimed on account of any act, action or lack thereof, or conduct of the Architectural Control Committee or any members thereof, so long as the Architectural Control Committee, or the respective members thereof, acted in good faith on the basis of information they then possessed.

Section 9. Certification by Secretary: The records of the Secretary of the Association shall be conclusive evidence as to all matters shown by such records and the issuance of a certificate of completion and compliance by the Secretary or Assistant Secretary of the Association showing that the plans and specifications for the improvement or other matters therein provided for have been approved and that said improvements have been made in accordance therewith, or a certificate as to any matters relating to and within the jurisdiction of the Association by the Secretary thereof, shall be conclusive evidence that shall fully justify and protect any title company certifying, guaranteeing or insuring title to said property, or any portion thereof or any lien thereon and/or any interest therein as to any matters referred to in said certificate, and shall fully protect any purchaser or encumbrancer from any action or suit under this Declaration. After the expiration of one (1) year following the issuance of a building permit therefore by municipal or other governmental authority, any structure, work, improvement or alteration shall, as to any purchaser or encumbrancer in good faith and for value and as to any title company which shall have insured the title thereof, be deemed to be in compliance with all the provisions hereof unless a notice of noncompliance executed by the Association shall have appeared of record in the Office of the County Recorder where this Declaration is recorded, or unless legal proceedings shall have been instituted to enforce completion or compliance.

Section 10. Construction and Sales Period Exception: During the course of construction of any permitted structures or improvements and during the initial sales period, the restrictions (including sign restrictions) contained in this Declaration or in any Supplemental Declaration shall be deemed waived to the extent necessary to permit such construction and the sale of all Dwelling Units; provided that, during the course of such construction and sales, nothing shall be done which will result in a violation of these restrictions upon completion of construction and sale. Further, Declarant shall have the right to select and use any individual Dwelling Units owned by it as

models for sales purposes and may, by written authorization, permit other builders to use Dwelling Units owned by them as such models.

Section 11. Exemption of Declarant: The Declarant and any entity affiliated with Declarant shall be exempt from the requirements of this Article X. For purposes of this Section, an entity affiliated with Declarant shall be deemed to include any entity owned by Declarant, any entity which owns Declarant, and any entity which shares any common ownership with Declarant.

ARTICLE XI: INSURANCE AND BOND

Section 1. Required Insurance: The Association shall obtain and keep in full force and effect at all times the following insurance coverage provided by companies duly authorized to do business in Idaho. The provisions of this Article shall not be construed to limit the power or authority of the Association to obtain and maintain insurance coverage in addition to any insurance coverage required hereunder in such amounts and in such forms as the Association may deem appropriate from time to time.

A. A multi-peril-type policy covering any Common Area improvements, providing as a minimum fire and extended coverage and all other coverage in the kinds and amounts commonly required by private institutional mortgage investors for projects similar in construction, location and use on a replacement cost basis in an amount not less than one hundred percent (100%) of the insurable value (based upon replacement cost).

B. A comprehensive policy of public liability insurance covering all of the common areas, commercial spaces and public ways in the properties. Such insurance policy shall contain a severability of interest endorsement which shall preclude the insurer from denying the claim of a Dwelling Unit Owner because of negligent acts of the Association or other Owners. The scope of coverage must include all other coverage in the kinds and amounts required by private institutional mortgage investors for projects similar in construction, location and use. If the properties contain more than one hundred (100) Units, coverage shall be for at least $1,000,000 per occurrence, for personal injury and/or property damage.

C. Workmen's compensation and employer's liability insurance and all other similar insurance with respect to employees of the Association in the amounts and in the forms now or hereafter required by law.

Section 2. Optional Insurance: The Association may obtain and keep in full force and effect at all times the following insurance coverage provided by companies duly authorized to do business in Idaho.

A. Liability insurance affording coverage for the acts, errors and omissions of its directors and officers, including members of the Architectural Control Committee and other committees as may be appointed from time to time by the Board of Directors of such association in such amount as may be reasonable in the premises.

B. The Association may obtain bonds and insurance against such other risks, of a similar or dissimilar nature, as it shall deem appropriate with respect to the protection of the properties, including any personal property of the Association located thereon, its directors, officers, agents, employees and association funds.

Section 3. Additional Provisions: The following additional provisions shall apply with respect to insurance:

A. Insurance secured and maintained by the Association shall not be brought into contribution with insurance held by the individual Owners or their mortgages.

B. Each policy of insurance obtained by the Association shall, if possible, provide: A waiver of the insurer's subrogation rights with respect to the Association, its officers, the Owners and their respective servants, agents and guests; that it cannot be canceled, suspended or invalidated due to the conduct of any agent, officer or employee of the Association without a prior written demand that the defect be cured; that any "no other insurance" clause therein shall not apply with respect to insurance held individually by the Owners.

C. All policies shall be written by a company licensed to write insurance in the state of Idaho.

D. Notwithstanding anything herein contained to the contrary, insurance coverage must be in such amounts and meet other requirements of the Federal Home Loan Mortgage Corporation.

ARTICLE XII: CONDEMNATION

Section 1. Consequences of Condemnation: If at any time or times, all or any part of the Common Area shall be taken or condemned by any public authority or sold or otherwise disposed of in lieu of or in avoidance thereof, the following provisions shall apply.

Section 2. Proceeds: All compensation, damages, or other proceeds therefrom, the sum of which is hereinafter called the "condemnation award," shall be payable to the Association owning the condemned Common Area.

Section 3. Apportionment: The condemnation award shall be apportioned among the Owners having an interest in the condemned Common Area equally on a per-Lot basis. The Association shall, as soon as practicable, determine the share of the condemnation award to which each Owner is entitled. Such shares shall be paid into separate accounts, one account for each Lot. Each such account shall remain in the name of the appropriate Association and shall be further identified by Lot number and the name of the Owner thereof. From each separate account, the Association, as attorney-in-fact, shall use and disburse the total amount of such accounts, without contribution from one account to the other, first to Mortgagees and other lienors in the order of priority of their Mortgages and other liens and the balance remaining to each respective Owner.

ARTICLE XIII: RESERVED

ARTICLE XIV: ANNEXATION

Section 1. Time for Annexation; Land Subject to Annexation: Declarant hereby reserves the right to annex any other real property into the subdivision project described herein by recording a Notice of Annexation or Supplemental Declaration particularly describing the real property to be annexed and added to the project created by this Declaration, pursuant to the provisions of this Article.

Upon the recording of a Notice of Annexation containing the provisions set forth in this Section (which Notice may be contained within a Supplemental Declaration affecting such property), except as may be provided for therein, the covenants, conditions and restrictions contained in this Declaration shall apply to the added land in the same manner as if it were originally covered by this Declaration and originally constituted a portion of the project; and thereafter, the rights, privileges, duties and liabilities of the Declarant with respect to the added land shall be the same as with respect to the original land, and the rights, privileges, duties and liabilities of the Owners, lessees and occupants of Lots within the added land shall be the same as in the case of the original land, including, without limitation, the exercise of such voting rights as are set forth in Article III, Section 3, above. Notwithstanding the foregoing, any Supplemental Declaration may provide a special procedure for amendment of any specified provision thereof, e.g., by a specified vote of only the owners of Lots within the area subject thereto. Any provision of a Supplemental Declaration for which no special amendment procedure is provided shall be subject to amendment in the manner provided in this Declaration.

Section 2. Procedure for Annexation: Any such real property may be annexed into the project by the recordation of a Notice of Annexation executed by Declarant and containing the following information:

A. A reference to this Declaration, which reference shall state the date of recordation hereof and the Recorder's instrument number or the book and page of the official records of the County where this Declaration is recorded;

B. An exact legal description of the added land;

C. A statement that the provisions of this Declaration shall apply to the added land, except as set forth therein; and

D. A statement of the use restrictions applicable to the annexed property, which restrictions may be the same or different from those set forth in this Declaration.

Section 3. De-Annexation: Declarant may delete all or a portion of the property described in this Declaration and any annexed property from the Properties and from coverage of this Declaration and the jurisdiction of the Association, so long as Declarant is the owner of all such property and provided that a notice of de-annexation is recorded in the official records of the

County where this Declaration is recorded in the same manner as a notice of annexation. Members other than Declarant as described above, shall not be entitled to de-annex all or any portion of the Properties except on the favorable vote of all Members of the Association and approval of Declarant so long as Declarant owns any Lot, part, parcel or portion of the Properties.

ARTICLE XV: GENERAL PROVISIONS

Section 1. Enforcement: The Association or any Owner (including Declarant) or the Owner of any recorded mortgage upon any part of said property, shall have the right to enforce, by any proceedings at law or in equity, all restrictions, conditions, covenants, reservations, liens and charges now or hereafter imposed by the provisions of this Declaration. In addition to the foregoing, the Association shall be entitled to impose a monetary penalty, not to exceed the sum of $100 per day, against an Owner who has caused or permitted a violation of any of the restrictions, conditions or covenants contained herein, provided that: (a) a majority vote by the Board shall be required prior to imposing any fine on an Owner for a violation of any of the restrictions, conditions or covenants contained in this Declaration; (b) written notice by personal service or certified mail of the meeting during which such vote is to be taken shall be made to the Owner at least thirty (30) days prior to the meeting; (c) in the event the Owner begins resolving the violation prior to the meeting, no monetary penalty shall be imposed so long as the Owner continues to address the violation in good faith until fully resolved; and (d) no portion of any monetary penalty may be used to increase the remuneration of any member of the Board or agent of the Board. Any Owner challenging the monetary penalty imposed as provided herein, including any claim alleging defective notice, must commence legal action within one (1) year after the date of the imposition of the said penalty. Any monetary penalty imposed as provided herein shall become a part of the assessment to which such Owner's Lot is subject. Failure by the Association, or by any Owner to enforce any covenant or restriction herein contained shall in no event be deemed a waiver of the right to do so thereafter. In the event the Association or an Owner is required to initiate any action to enforce the provisions of this Declaration, the prevailing party therein shall be entitled to recover from the Owner against whom enforcement is sought, all attorney fees and costs incurred as a consequence thereof, whether or not any lawsuit is actually filed, and if such enforcement action is initiated by the Association, any such attorney fees and costs so incurred shall be added to and become a part of the assessment to which such Owner's Lot is subject.

Section 2. Severability: Invalidation of any one of these covenants or restrictions by judgment or court order shall in no way affect any other provisions which shall remain in full force and effect.

Section 3. Amendment: The covenants and restrictions of this Declaration shall run with the land and shall inure to the benefit of and be enforceable by the Association or the legal Owner of any Lot subject to this Declaration, their respective legal representatives, heirs, successors and assigns, for a term of twenty-five (25) years from the date this Declaration is recorded, after which time said covenants shall be automatically extended for successive periods of ten (10) years; provided, however, that except as otherwise provided herein, any of the covenants and restrictions of this Declaration, except the easements herein granted, may, at any time, be amended or terminated by an instrument signed by members entitled to cast not less than sixty-six and

two-thirds percent (66-2/3%) of the votes of membership; and further provided that no amendment or modification of this Declaration shall be effective to amend, modify, replace, repeal or terminate any rights or easements reserved or granted to Declarant herein without the express written consent of Declarant; and further provided that Declarant, acting alone, may amend this Declaration at any time that Declarant owns any real property subject hereto. Any amendment must be recorded.

Section 4. Assignment by Declarant: Any or all rights, powers and reservations of Declarant herein contained may be assigned to the Association or to any other person, corporation or other entity which is now organized or which may hereafter be organized and which will assume the duties of Declarant hereunder pertaining to the particular rights, powers and reservations assigned, and upon any such person, corporation or other entity evidencing its intent in writing to accept such assignment, have the same rights and powers and be subject to the same obligations and duties as are given to and assumed by Declarant herein. All rights of Declarant hereunder reserved or created shall be held and exercised by Declarant alone, so long as it owns any interest in any portion of said property.

Section 5. Approval by : Unless the express written consent of the City of has been obtained: (i) no provision of this Declaration which has been required by the City of , or which confers upon the City of any right or power, or recognizes any right or power of the City of , may be amended or deleted, (ii) no provision may be added to this Declaration which in any way affects any right, power or requirement of the City of and (iii) this Declaration may not be terminated in its entirety.

IN WITNESS WHEREOF, Declarant has caused its name to be hereunto subscribed this day of , 20

DECLARANT:

VICINITY MAP

1" = 500'



City of Kuna
Planning & Zoning
Department
PO. Box 13
Kuna, ID 83634
208.922.5274
www.kunacity.id.gov

Preliminary Plat Checklist

Preliminary Plats require public hearings with both the Planning & Zoning Commission and City Council. Public hearing signs will be required to be posted by the applicant for both meetings. Sign posting regulations are available online.

Project Name: SENASOLE SUB P. PLAT **Applicant:** CCI GROUP / WHEELERS

All applications are required to contain on copy of the following:

Applicant (√)	Description	Staff (√)
☒	**Electronic copy of all required submittal items.**	☐
☒	**Completed and signed Commission & Council Review Application.**	☐
☒	**Vicinity map showing relationship of the proposed plat to the surrounding area with a 2-mile radius.**	☐
☒	**Homeowner's maintenance agreement for the care of landscaped common areas.**	☐
☒	**Legal description of the preliminary plat area: Include a metes & bounds description to the section line of all adjacent roadways stamped & signed by a registered professional land surveyor with a calculated closure sheet & a map showing the boundaries of the legal description.**	☐
☒	**Proof of ownership—A copy of your deed and Affidavit of Legal Interest (for all interested parties involved).**	☐
☒	**Letter of intent indicating reasons and details for preliminary plat.**	☐
☒	**Commitment of Property Posting form signed by the applicant/agent.**	☐
☐	**If preliminary plat includes 100 lots or more, please submit a traffic impact study.**	☐
☒	**A letter from Ada County Engineer with the Subdivision Name reservation. A name change needs to be submitted and approved by the Planning & Zoning Director and Ada County Engineer.**	☐
☐	**Phasing Plan**	☐
☒	**Landscape plan for subdivision entrances, buffers, common areas, etc.**	☐
☒	**Neighborhood meeting certification (certification & neighborhood meeting list forms shall accompany this application).**	☐
☒	**8 1/2 x 11 proposed preliminary plat.**	☐
☒	**Preliminary plat drawing on 24x36 quality paper drawn to scale of 1 to 100' or more. The following information shall be contained on the preliminary plat:** ◊ **Topography at two-foot (2') intervals** ◊ **Land uses (location, layout, types & dimensions): residential, commercial & industrial land uses.** ◊ **Street right-of-way: dimensions of right-of-way dedication for all roadways, street sections, improvements, etc.** ◊ **Easements/common space: utility easements, parks, community spaces** ◊ **Lots: layout and dimensions of lots** ◊ **Preliminary improvement drawing: show water, sewer, drainage, electricity, irrigation, telephone, natural gas, proposed street lighting, proposed street names, proposed subdivision name, fire hydrant placement, storm water disposal, underground utilities, and sidewalks.**	☐

*NOTE: One copy of the above items need to be submitted when applying for multiple applications. This application shall not be considered complete (nor will a public hearing be set) until staff has received **all required information**. Once the application is deemed complete, staff will notify the applicant of the scheduled hearing date, fees due, additional copies needed, etc.*

City of Kuna
P.O. Box 13
Kuna, Idaho 83634

Phone: (208) 922-5274
Fax: (208) 922-5989
Web: www.kunacity.id.gov

City of Kuna

AFFIDAVIT OF LEGAL INTEREST

State of Idaho)
) ss
County of Ada)

I, THOMAS M BEVAN 4202 N. MARCLIFFE ,
Name **Address**
BOISE ID 83704 ,
City **State** **Zip Code**

being first duly sworn upon oath, depose and say:

(If Applicant is also Owner of Record, skip to B)

A. That I am the record owner of the property described on the attached, and I grant my

Permission to Penelope Constantikes, Riley Planning Services P.O. Box 405, Boise, ID 83701
Name Address
to submit the accompanying application pertaining to that property.

B. I agree to indemnify, defend and hold City of Kuna and its employees harmless from any claim or liability resulting from any dispute as to the statements contained herein or as to the ownership of the property which is the subject of the application.

C. I hereby grant permission to the City of Kuna staff to enter the subject property for the purpose of site inspections related to processing said application(s).

Dated this 21 day of FEB, 20 20

Signature

Subscribed and sworn to before me the day and year first above written.

PENELOPE CONSTANTIKES
Notary Public for Idaho

Residing at: BOISE, ID

My commission expires: 3/15/25

PENELOPE L CONSTANTIKES NOTARY PUBLIC Comm. No. 40979 STATE OF IDAHO

City of Kuna
P.O. Box 13
Kuna, Idaho 83634

Phone: (208) 922-5274
Fax: (208) 922-5989
Web: www.kunacity.id.gov

City of Kuna

AFFIDAVIT OF LEGAL INTEREST

State of Idaho)
) ss
County of Ada)

I, Fred Wheeler Sharon Wheeler , _____
Name **Address**
846 S. ASH AVE
KUNA ID 8363 , _____
City **State** **Zip Code**

being first duly sworn upon oath, depose and say:

(If Applicant is also Owner of Record, skip to B)

A. That I am the record owner of the property described on the attached, and I grant my

Permission to Penelope Constantikes, Riley Planning Services LLC, P.O. Box 405, Boise, ID 83701
Name Address
to submit the accompanying application pertaining to that property.

B. I agree to indemnify, defend and hold City of Kuna and its employees harmless from any claim or liability resulting from any dispute as to the statements contained herein or as to the ownership of the property which is the subject of the application.

C. I hereby grant permission to the City of Kuna staff to enter the subject property for the purpose of site inspections related to processing said application(s).

Dated this ~~2/1~~ 2/1/2020 day of _____, 20____

Fred Wheeler Sharon Wheeler
Signature

Subscribed and sworn to before me the day and year first above written.
PENELOPE L. CONSTANTIKES
Notary Public for Idaho

Residing at: BOISE, ID

My commission expires: ~~2/20~~ 3/15/25

PENELOPE L CONSTANTIKES NOTARY PUBLIC Comm. No. 40979 STATE OF IDAHO

City of Kuna

Planning and Zoning Commission
Staff Report

P.O. Box 13
Phone: (208) 922-5274
Fax: (208) 922-5989
www.Kunacity.id.gov

To: Planning and Zoning Commission

Case Numbers: 19-08-AN (Annexation),
Black Rock Market Place

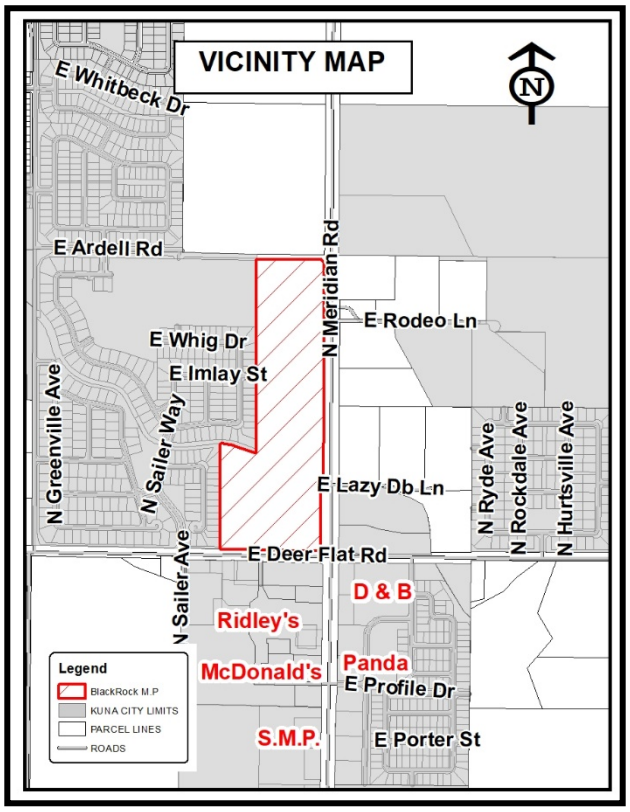
Site Location: 3001 West Ardell Road
Kuna, ID 83634

Planner: Troy Behunin, Planner III

Hearing Date: June 23, 2020
Tabled Until: August 11, 2020

Owner: Margaret M. Hill Ltd. Partnership
556 E. locust View Ln.
Meridian, ID 83642
208.631.1521

Applicant/Engineer : SH69 Holdings, LLC
David Gronbeck
1400 E, Kokanee LN.
Kuna, ID 83634
208.3861.6664
gronbeck@kggdev.com



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B. Applicants Request
C. Site History
D. General Project Facts
E. Staff Analysis
F. Applicable Standards
G. Proposed Comprehensive Plan Analysis
H. Proposed Kuna City Code Analysis
I. Commission's Recommendation

A. Process and Noticing:

1. Kuna City Code (KCC), Title 1, Chapter 14, Section 3, states that annexations are designated as public hearings, with the Planning and Zoning Commission as the recommending body and City Council as the decision-making body. These land use applications were given proper public notice and followed the requirements set forth in Idaho Code, Chapter 65, Local Planning Act.

a. Notifications

i.	Neighborhood Meeting	October 16, 2019 (2 people attended)
ii.	Agency Comment Request	April 10, 2020
iii.	400' Property Owners Notice	June 11, 2020 & July 31, 2020 (*Courtesy*)
iv.	Kuna Melba Newspaper	June 3, 2020 (*Tabled at the Hearing*)
v.	Site Posted	July 30, 2020

B. Applicant's Request:

SH69 Holdings, LLC requests approval to annex approximately (approx) 40.82 acres (ac) into Kuna City limits in order to develop the same lands utilizing two separate zones; the R-20, High Density Residential (HDR) & C-2 (Area

Commercial) zones. The R-20 HDR is proposed to be approx 13.22 ac in size, and the C-2 (Commercial) is proposed to be approx 27.45 ac. The applicant will propose multi-family housing units within the R-20 zone in the future, and Commercial uses will be proposed within the C-2 zone, in the future. The site is located at the hard northwest corner of Meridian and Deer Flat Roads in Kuna, ID 83634, Section 13, Township 2 North, Range 1 West; (APN: S1313449900).

C. Site History:

Currently the parcel is zoned Rural Urban Transition (RUT) within unincorporated Ada County. Historically this parcel has served as two residences with the majority of the land used for Agriculture (Ag) purposes.

D. General Projects Facts:

1. **Comprehensive Plan Map:** The Future Land Use Map (FLUM) is intended to serve as a *guide* for the decision-making body for the City. The FLUM indicates land use designations generally speaking, it is not the actual zone. The Future Land Use Map designates the approximately 40.82-ac site for Mixed-Uses.

2. **Recreation and Pathways Map:** The Recreation and Pathways Master Plan Map indicates a future pathway/trail through the subject site. Staff recommends the applicant be conditioned to connect to the pathway/trail within Winfield Springs/Sterling Heights to the west on the same side of the Kuna Canal to conform to the Recreation and Pathways Master Plan Map.

3. **Surrounding Land Uses:**

North	RR	Rural Residential – Ada County
South	C-1	Neighborhood Commercial – Kuna City
East	C-1 RUT	Neighborhood Commercial – Kuna City Rural Residential – Ada County
West	R-6	Medium Density Residential – Kuna City

4. **Parcel Sizes, Current Zoning, Parcel Numbers:**

Property Owner	Parcel Size:	Current Zone:	APN:
HILL, MARGARET M FAMILY LP	40.82	RUT (Rural Urban Transition)	S1313449902

5. **Services:**

Sanitary Sewer– City of Kuna
Potable Water – City of Kuna
Pressurized Irrigation – City of Kuna (KMIS)
Fire Protection – Kuna Rural Fire Dist. (KRFD)
Police Protection – Kuna Police (Ada County Sheriff's office)
Sanitation Services – J & M Sanitation

6. **Existing Structures, Vegetation and Natural Features:**

The proposed project sites contain two residences and a number of outbuildings to be removed at time of development on-site vegetation is consistent with that of Ag. fields. The sites have an estimated average slope of 1% to 1.4%. According to the USDA Soil Survey for Ada County, bedrock depth for the site is estimated to be greater than 60 inches across a majority of the proposed development area, however there are some areas where bedrock depth is between 20" and 40" along the northern boundaries.

7. **Transportation / Connectivity:**

The applicant proposes connections to a number of classified roadways in multiple locations; Deer Flat Rd., Ardell Road and Meridian Road, the Presentation Corridor. Additionally, the project proposes two connections

to Winfield Springs Subdivision, the first is with existing E. Imlay St and the second will be to the approved stub street phase 7.

8. **Environmental Issues:**
   Staff is not aware of any environmental issues, health or safety conflicts beyond the designation of being in the nitrate priority area. Idaho Department of Environmental Quality (DEQ) has provided recommendations for surface and groundwater protection practices and requirements for development of the site.

9. **Agency Responses:** The following responding agency comments are included as exhibits with this case file:
   - Kuna City Engineer .....Exhibit B-1
   - ACHD ..... Exhibit B-2
   - Boise Project Board of Control ..... Exhibit B-3
   - Community Planning Association of Southwest Idaho (COMPASS)..... Exhibit B-4
   - Kuna Rural Fire District ..... Exhibit B-5

E. Staff Analysis:

On September 26, 2019 Planning and Zoning staff held a pre-application meeting with the applicant, Public Works, the Parks Department, the Kuna School District, Kuna Rural Fire District and Kuna Police Department to discuss the project. The applicant held a neighborhood meeting with neighboring land owners within 400 ft of the proposed project area on October 16, 2019 where two persons attended. The meeting minutes as well as mailed materials have been included as a part of this application.

The applicant is proposing to annex the approximately 40.82-ac into Kuna City Limits. The parcel touches Kuna City Limits on the west, and south sides of the site; with the land owner consenting to the annexation, the land is eligible for a category "A" annexation. In accordance with the Mixed-Uses on the FLUM, the applicant proposes to incorporate a mixture of Multi-family housing and Commercial uses throughout the project. The applicant proposes to zone approx. 13.22 acres of the development to R-20 HDR. The remaining development area, approx. 27.45 ac is proposed to be zoned C-2 (Area Commercial).

This request is limited to the annexation of the land into Kuna City Limits, and assigning a zone to the property upon annexation. The applicant intends to follow Kuna City Code (KCC) and is requesting the R-20 zone to place a multi-family project onsite. If approved by Council, the R-20 zone will only require a Design Review application for the buildings, parking, landscaping and street lights for a Multi-family (MF) project. If the applicant intends to subdivide the land for each of the MF units, then the applicant will be required to submit a preliminary plat for approval by Council. Based on future Commercial uses, the applicant may need to apply for additional approvals which may include Special Use Permits and Design Review for all Commercial uses. The applicant will also be required to submit a preliminary plat in order to subdivide for Commercial uses which will be subject to Councils approval. Applicant is hereby notified that KCC 5-17 requires developments provide a certain percentage of useable open space for the residents along with a certain number of parking stalls, based entirely on the number of dwelling units. A dwelling unit is defined in KCC.

Staff notes the City Engineer states in his memo that Danskin Lift Station is nearing capacity, and staff recommends that the applicant be conditioned to/shall work with the City Engineer to ensure proper capacity.

With this proposed project, the applicant is proposing five (5) connections to classified roads. Two points on Ardell Road, an east-west major collector; one access on Deer Flat Road an east-west minor arterial; and three connections to Meridian Road a principal arterial also known as Kuna's Entry Corridor, and it is within the Overlay District. Additionally, the project proposes two connections to Winfield Springs Subdivision (See above for locations). The applicant is proposing two full ingress/egress and a RiRo (Right-in/Right-out) along their one-half mile of frontage. Staff notes that with future development the applicant shall be required to install sidewalks street lights, roadway-improvements and other items in accordance with KCC 5-17-13 and 6-4-2.

If approved, a Design Review application for all commercial buildings, parking lots, signage, common area landscaping and open space will be required with future applications. The developer, owner and/or applicant is hereby notified that this project is subject to Design Review inspection fees. Required inspections (post construction), are to verify landscaping compliance prior to signature on the final plat.

Kuna's Comprehensive Plan (Comp Plan) encourages a variety of all commercial types, housing types for all income levels, open space and pathways numerous times throughout the document. Pertinent sections of the Comp Plan that address the above listed items are included below in Section G of this staff report. Staff has reviewed the proposed annexation request and finds the annexation and zoning requests are in compliance with KCC Title 5 and Title 6 of the Kuna City Code; Idaho Statute § 67-6511; the Kuna Comprehensive Plan and FLUM. The applicant shall be required to work with Kuna's staff, Ada County Highway District (ACHD), the Kuna Rural Fire District (KRFD) and any other applicable agencies to ensure conformance to each agency's requirements. Staff recommends that if the Planning and Zoning Commission recommends approval of Case No. 19-08-AN (Annexation), the applicant shall be subject to the conditions of approval listed in section "I" of this report, as well as any additional conditions requested by the Planning and Zoning Commission.

F. Applicable Standards:

1. City of Kuna Zoning Ordinance Title 5.
2. City of Kuna Comprehensive Plan.
3. Kuna Future Land Use Map
4. Idaho Code, Title 67, Chapter 65- Local Land Use Planning Act.

G. Proposed Comprehensive Plan Analysis:

Kuna Planning and Zoning Commission may (accept or reject) the Comprehensive Plan components, and shall determine if the proposed annexation and preliminary plat requests for the site ***are/are not*** consistent with the following Comprehensive Plan components as described below:

Goal Area 1: Kuna will be economically diverse and vibrant.

Goal 1 A: Ensure Land use in Kuna will support Economic Development.
1 B: Support development of a skilled, talented and trained workforce.
1 C: Attract and encourage new and existing businesses.
1 D: Address and plan for economic expansion of the City and region.

Objectives:

1.A.2. Create commercial nodes and corridors that support development of economic opportunities that do not compete with downtown revitalization efforts.

Policies:

1A.2.d: Designate a sufficient quantity of land on the Future Land Use Map for commercial use.

Plan Implementation: (Pg. 18)

2. Develop true mixed-use areas and new commercial areas and employment centers.

Goal Area 2: Kuna will be a healthy, safe community.

- Goal 2.A: Maintain and expand an interconnected greenbelt, pathways and trail system.
  - Objective 2.A.2: Maintain and expand the pathway and trail network with a focus on building connectivity to key activity and population centers that serve all areas of Kuna.
    - Policy 2.A.2.d: Work with private developers and landowners to direct expansion of the trails and pathways system throughout Kuna, including:
      - Ensure appropriate polices and ordinances are in place to incentivize and require construction of new pathways and trails infrastructure as development and redevelopment occurs.

- Require all new neighborhood and subdivision developments to incorporate pathway connectivity within the neighborhood and tie into existing or anticipated pathways and trails.
- Clearly identify locations where trails and pathways infrastructure should be publicly accessible, and who will be responsible to provide regular maintenance for these areas.

- Goal 2.B: Maintain and expand parks and public gathering spaces.
  - Objective 2.B.1 Maintain and expand the parks system
    - Policy 2.B.1.b: Continue to require neighborhood park development through the subdivision development process.

Goal Area 3: Kuna's land uses will support a desirable, distinctive and well-designed community.

- Goal 3.D: Encourage development of housing options and strong neighborhoods.
  - Objective 3.D.1: Encourage development of housing options for all citizens.
    - Policy 3.D.1.a: Encourage preservation and development of housing that meets demand for household sizes, lifestyles and settings.
  - Objective 3.D.2: Create strong neighborhoods through preservation, new development, connectivity and programming.
    - Policy 3D.2.d: Work to ensure that all neighborhoods in Kuna benefit from good connectivity through sidewalk, pathway and trail, on-street and transit infrastructure.
- Goal 3.G: Respect and protect private property rights.
  - Objective 3.G.1: Ensure land use policies, restrictions, and fees do not violate private property rights.
    - Policy 3.G.1.b: Ensure City land use actions, decisions and regulations will not cause an unconstitutional regulatory taking of private property; and do not effectively eliminate all economic value of the subject property.
    - Policy 3.G.1.c: Ensure City land use actions, decisions and regulations do not prevent a private property owner from taking advantage of a fundamental property right. Ensure city actions do not impose a substantial and significant limitation on the use of the property.

Goal Area 4: Kuna will be a connected community through strong transportation and infrastructure systems.

- Goal 4.B: Increase sidewalk coverage and connectivity and invest in pedestrian facilities to increase walkability.
  - Objective 4.B.2: Maintain and expand sidewalks and pedestrian facilities within the community.
    - Policy 4.B.2b: Install detached sidewalks and/or protected pedestrian routes/facilities along high trafficked roads as development occurs.
    - Policy 4.B.2.c: Promote the installation of off-system pedestrian pathways to create neighborhood connections and reduce the length of non-motorized transportation routes.
    - Policy 4.B.2.g: Coordinate with developers to connect and/or enhance pedestrian facilities, including on and off-system pathways, footbridges (across canals, etc.), road bridges, sidewalks, pedestrian crossings and wayfinding signage.
- Goal 4.C: Increase pathway, trail and on-street bicycle facilities to create an expanded and connected bicycle network.
  - Objective 4.C.1: Maintain and enhance existing pathways, trails and on-street bicycle facilities.
    - Policy 4.C.1.a: Expand the bicycle network as identified in the Kuna Pathways Master Plan and ACHD Roadways to Bikeways Plans through land use developments and capital improvement projects.
    - Policy 4.C.1.e: Coordinate with developers to connect to and/or enhance bicycle facility connections, including pathways, non-motorized canal crossings, road bridges and wayfinding signage.
  - Objective 4.C.2: Ensure expansion of pathways, trails and on-street bicycle routes.
    - Policy 4.C.2.b: Promote the installation of off-system bicycle pathways to create neighborhood connections and reduce non-motorized transportation route lengths.

- Goal 4.D: Promote a connected street network that incorporates mid-mile collectors and crossing for improved neighborhood connectivity.
  - Objective 4.D.2: Ensure the continued expansion/development of mid-mile collector system throughout the community.
    - Policy 4.D.2.a: Extend and expand mid-mile roads as growth occurs.
    - Policy 4.D.1.b: Preserve adequate right-of-way along all mid-mile roads or other approved alternative locations to align roads.

H. Proposed Kuna City Code Analysis:

1. This request appears to be consistent and in compliance with all Kuna City Code (KCC).

   Comment: *The proposed applications **adhere/do not adhere** to the applicable requirements of Title 5 and Title 6 of KCC.*

2. The Planning and Zoning Commission feels the site ***is/is not*** physically suitable for the proposed development.

   Comment: *The approx 40.82-ac site **does/does not** appear to be suitable for the proposed development.*

3. The annexation a zoning request **is / is not** likely to cause substantial environmental damage or avoidable injury to wildlife or their habitat.

   Comment: *The land to be developed is not used as wildlife habitat. Roads, driveways, family units and open spaces are planned for construction according the City and ACHD requirements and best practices and will therefore not cause environmental damage or loss of habitat.*

4. These applications ***are/are not*** likely to cause adverse public health problems.

   Comment: *The project would connect to public sewer and potable water systems, therefore eliminating the occurrence of adverse public health problems.*

5. The application appears to avoid detriment to the present and potential surrounding uses; to the health, safety, and general welfare of the public taking into account the physical features of the site, public facilities and existing adjacent uses.

   Comment*: The annexation and zoning request considers the location of the property and adjacent uses. The adjacent uses range from C-1, Medium Density Residential (Kuna City) to Rural Residential (Ada County).*

6. The existing and proposed street and utility services in proximity to the site **are/are not** suitable *or* adequate for a High Density and a commercial development.

   Comment: *Correspondence from ACHD confirms that the streets are suitable and adequate for this project. Applicant shall work with the City Engineer to ensure lift station capacity in the Danskin lift station and shall work with the City Engineer for solutions if needed.*

I. Commission's Recommendation:

Note: These motions are for the approval, conditional approval or denial of the design review application and the recommendation of approval, conditional approval or denial of the annexation and preliminary plat applications to the City Council. However, if the planning and Zoning Commission wishes to approve or deny specific parts of these requests as detailed in the report, those changes must be specified.

Based on the facts outlined in staff's report and public testimony as presented, the Planning and Zoning Commission of Kuna, Idaho, hereby recommends ***approval/conditional approval/denial*** of Case No*. 19-08-AN*

(Annexation), a request from SH69 Holdings, LLC to annex approximately 40.82- acres into Kuna City Limits with R-20 HDR and C-2 Area Commercial zoning districts subject to the following conditions of approval:

1. The applicant and/or owner shall obtain written approval on letterhead or may be written/stamped on the approved plans of the construction plans from the agencies noted below. All submittals are required to include the lighting, landscaping, drainage, and development plans. All site improvements are prohibited prior to approval of the following agencies:
    a. The City Engineer shall approve the sewer connections.
    b. The City Engineer shall approve all civil plans. No construction, grading, filling, clearing or excavation of any kind shall be initiated until the applicant has received approval of the drainage plan.
    c. Central District Health Department recommends the plan be designed and constructed in conformance with standards contained in, "Catalog for Best Management Practices for Idaho Cities and Counties".
    d. The Kuna Fire District shall approve fire flow requirements and/or building plans. Installation of fire protection facilities as required by Kuna Fire District are required.
    e. The Kuna Municipal Irrigation System and Boise Project Board of Control shall approve any modifications to the existing irrigation system.
    f. Approval from Ada County Highway District (ACHD) shall be obtained and Impact Fees must be paid prior to *issuance* of any building permit(s).
    g. All public rights-of-way shall be dedicated and constructed to standards of the City and Ada County Highway District. No public street construction may commence without the approval and permit from Ada County Highway District.
2. Installation of service facilities shall comply with the requirements of the public utility or irrigation district providing the services. All utilities shall be installed underground, see **KCC 6-4-2-W**.
3. Compliance with Idaho Code, Section §31-3805 pertaining to irrigation waters is required. Irrigation/drainage waters shall not be impeded by any construction on site. Compliance with the requirements of the Boise Project Board of Control is required.
4. When required, submit a petition to the City (as necessary, confirmed with the City Engineer) consenting to the pooling of irrigation surface water rights for delivery purposes and request to annex the irrigation surface water rights appurtenant to the property over to the Kuna Municipal Pressure Irrigation System (KMIS) of the City.
5. Connection to City Services (Sewer, Water, Pressurized Irrigation) is required. The applicant shall conform all corresponding Master Plans.
6. Curb, gutter and sidewalk (attached and detached) shall be installed in accordance with Kuna City Code Title 5, Chapter 17 and Title 6, Chapter 4.
7. Street lights for the site shall be LED lighting and must comply with Kuna City Code and established Dark Sky practices.
8. Fencing within and around the site shall comply with Kuna City Code (Unless specifically approved otherwise and permitted).
9. All required landscaping shall be permanently maintained in healthy growing conditions. The property owner shall remove and replace unhealthy or dead plant material within 3 days or as the planting season permits and is required to meet the standards of these requirements. Maintenance and planting within public rights-of-way shall be with approval from the public entities owning the property.
10. Landscaping shall not be placed within ten (10) feet of any and all meter pits, pressurized irrigation valves and/or ACHD underground facilities and must honor all vision triangles.
11. *Applicant shall work with the City Engineer to ensure sewer lift station in the Danskin lift station and possibly work with the City Engineer for solutions if needed.*
12. All signage within/for the project shall comply with Kuna City Code, and shall be approved through the applicable sign approval process listed in KCC 5-10.
13. Applicant shall follow KCC 5-17 and provide the require percentage of useable open space for the residents which is based on the number of dwelling units.

14. Applicant shall follow KCC 5-17 and provide the require number of parking stalls, based on the number of dwelling units.
15. The land owner/applicant/developer, and any future assigns having an interest in the subject property, shall fully comply with all conditions of development as approved by the City Council, or seek amending them through public hearing processes.
16. Developer/owner/applicant shall follow staff, City Engineers and other agency requirements as applicable.
17. Developer/owner/applicant shall comply with all local, state and federal laws.

DATED this ____th day of _____, 2020.

P.O. Box 13
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Fax: (208) 922-5989
www.Kunacity.id.gov

Based upon the record contained in Case No. 19-08-AN, including the Comprehensive Plan, Kuna City Code, Staff's Memorandums, including the exhibits, and the testimony during the public hearing, the Kuna Commission hereby recommends ***approval/conditional approval/denial*** *of* the Findings of Fact and Conclusions of Law, and conditions of approval for Case No. 19-08-AN, a request from SH69 Holdings, LLC to annex approximately 40.82 acres into Kuna City Limits with R-20 HDR zoning district.

If the Planning and Zoning Commission wishes to approve, deny or modify specific parts of the Findings of Facts and Conclusions of Law as detailed below, those changes must be specified.

1. *Based on the evidence contained in Case No. 19-08-AN, this proposal does generally comply with the City Code.*

   Staff Finding: *The applicant has submitted a complete application, and following staff review for technical compliance the application appears to be in general compliance with the objectives and considerations listed in Kuna City Code Title 5 and Title 6.*

2. The public notice requirements have been met and the neighborhood meeting was conducted within the guidelines of applicable Idaho Code and City Ordinances.

   Staff Finding: *The applicant held a neighborhood meeting on October 16, 2019 and two residents attended. Neighborhood Notices were mailed out to residents within 400-FT of the proposed project site on June 11, 2020 with courtesy notices sent July 31, 2020, and a legal notice was published in the Kuna Melba Newspaper on June 3, 2020. The applicant posted sign a on the property on July 30, 2020.*

3. *Based on the evidence contained in Case No. 19-08-AN, this proposal does generally comply with the Comprehensive Plan.*

   Staff Finding: *The Comp Plan has listed numerous goals for providing a variety of housing densities and types to accommodate various lifestyles, ages and economic group in Kuna, as well as the installation of pathways and open space. The proposed zoning districts are R-20 (High Density Residential) and C-2 (Area Commercial). The Comp Plan Map designates the property as Mixed-Uses.*

4. The contents of the proposed annexation application ***does/does not*** contain all of the necessary requirements as listed in Kuna City Code.

   Staff Finding: *Review by staff of the proposed annexation confirms all technical requirements listed in KCC were provided.*

5. The availability of existing and proposed public services and streets *can* accommodate the proposed development.

   Staff Finding: *Correspondence from ACHD confirms that the streets are suitable and adequate for this project. Applicant shall work with the City Engineer to ensure Lift Station capacity in the Danskin lift station and possibly work with the City Engineer for solutions if needed.*

6. The proposed development *is* continuous with Master Utility Plans (Sewer/Water/Pressurized Irrigation).

   Staff Finding: *Correspondence from Kuna Public Works notes the Danskin Lift Station is nearing capacity, applicant shall work with the City Engineer to ensure Lift Station capacity.*

7. The public ***does/does not*** have the financial capability to provide supporting services to the proposed development.

   Staff Finding: *Throughout the development of the project and beyond, connection fees, impact fees (Fire, Police, Park and Ada County Highway District), and property taxes will be collected, therefore satisfying the financial capability to provide supporting services.*

8. The proposed project ***does/does not*** consider health and safety of the public and the surrounding area's environment**.**

   Staff Finding: *Connection to City services, as well as other public improvements such as streetlights, fire hydrants, sidewalks, bike lanes, etc. are required to be implemented as a part of this project. No major wildlife habitats will be impacted by the proposed development.*

9. All private landowners *have* consented to annexation.

   Staff Finding: *An affidavit of legal interest was signed by Heartland Townhomes Property Management, LLC and TJ and Elaine Johnson allowing Gem State Planning and Trilogy Development to act on their behalf of this project, therefore consenting to the annexation of the proposed project site.*

10. The proposed project lands *are* contiguous or adjacent to property within Kuna City Limits.

    Staff Finding: *The parcel is contiguous with City limits to the south and west.*

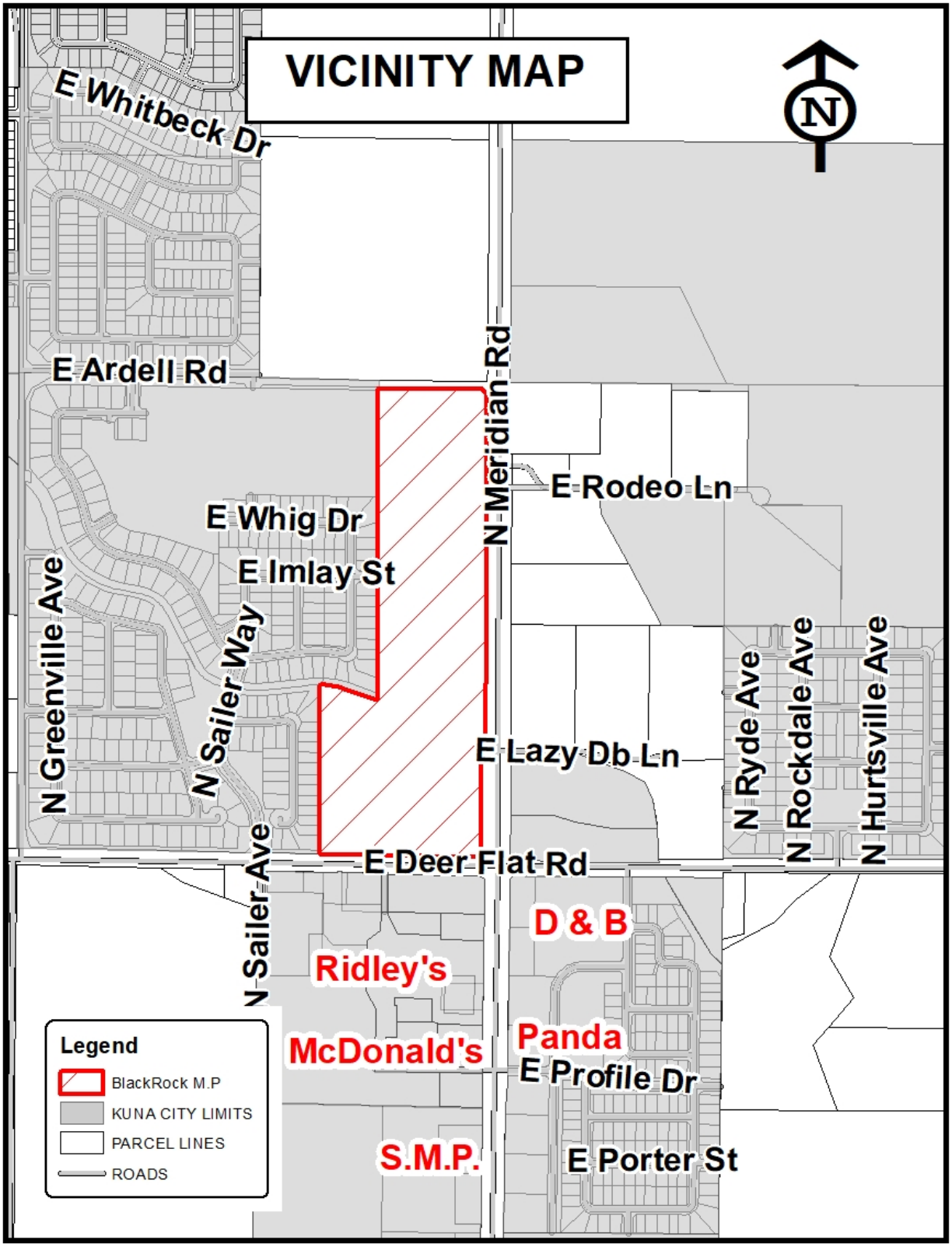
11. The future site landscaping *shall* minimize the impact on adjacent properties through the use of screening.

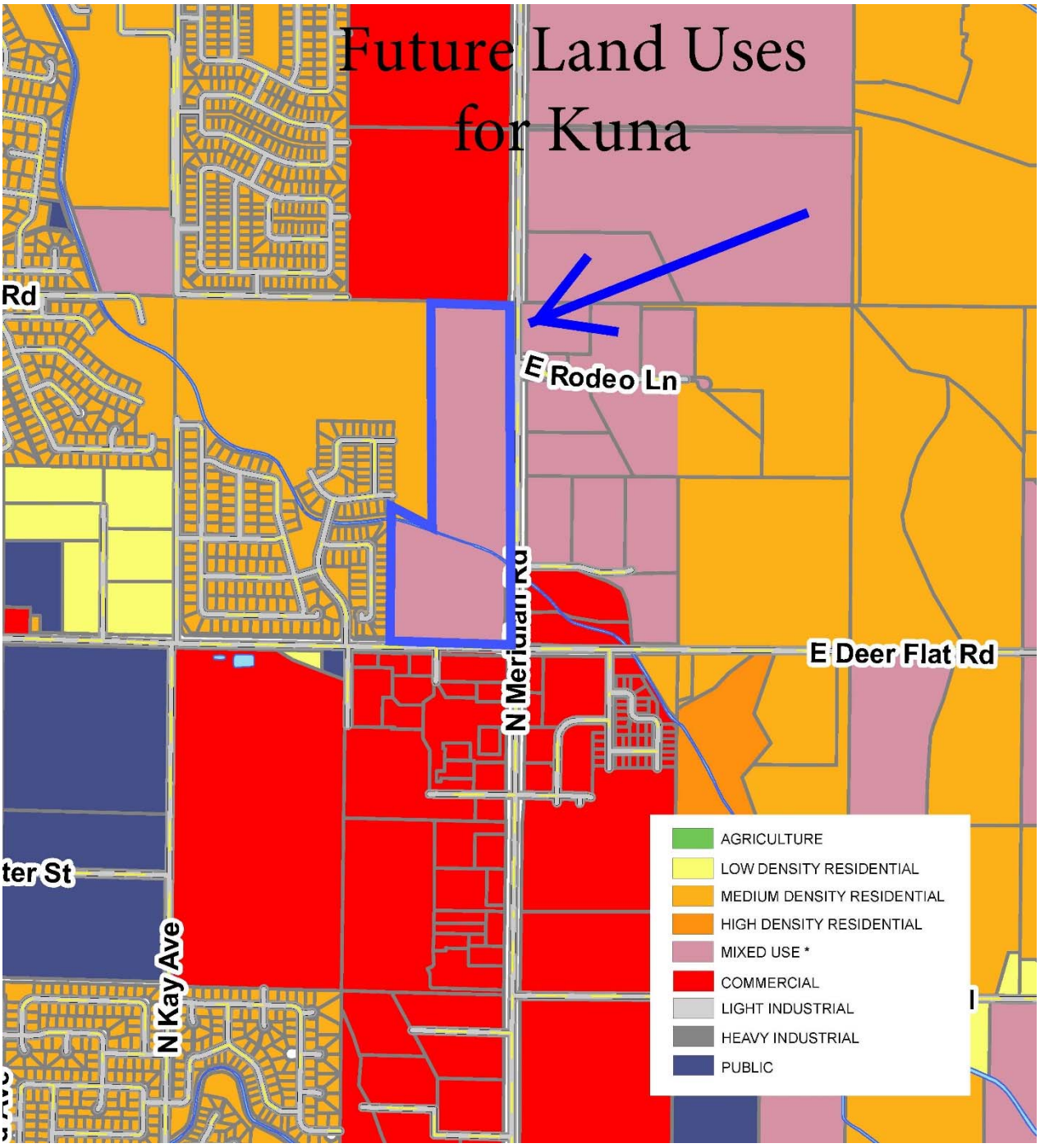
    Staff Finding: *The applicant shall submit a landscape plan with future applications for staff and the Design Review Committee's review.*

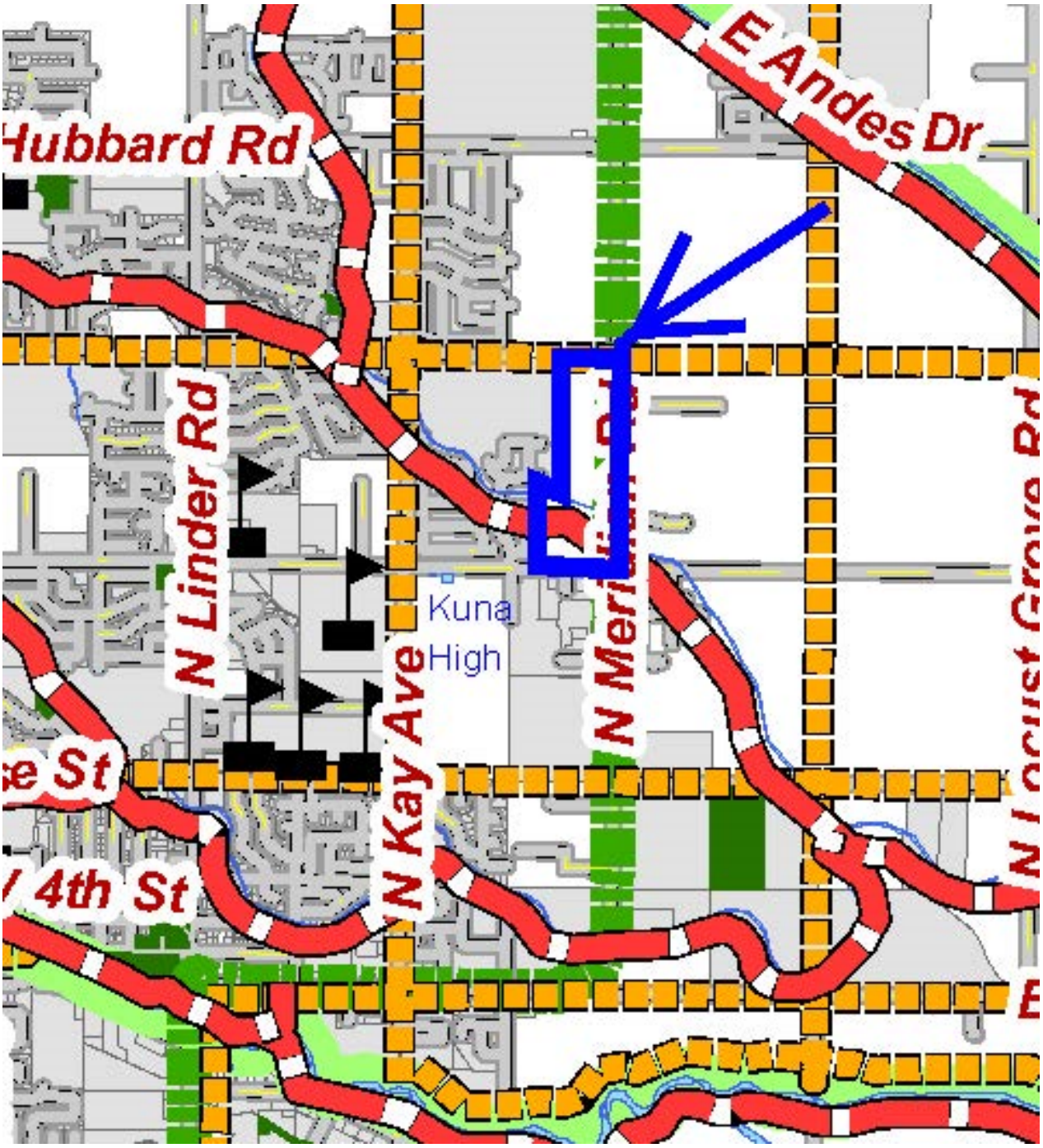
12. The applicant and/or owner of the property have the right to request a written regulatory taking analysis.

    Staff Finding: *Pursuant to Idaho Code 67-8003, the owner of private property that is subject of such action may submit a written request for a regulatory taking analysis with the City Clerk, not more than twenty-eight (28) days after the final decision concerning the matter at issue, the City shall prepare a written taking analysis concerning the action if requested.*

DATED this _____th day of _____, 2020.


VICINITY MAP
N
E Whitbeck Dr
E Ardell Rd
N Meridian Rd
E Rodeo Ln
E Whig Dr
E Imlay St
N Greenville Ave
N Sailer Way
E Lazy Db Ln
N Ryde Ave
N Rockdale Ave
N Hurtsville Ave
E Deer Flat Rd
N Sailer Ave
D & B
Ridley's
McDonald's
Panda
E Profile Dr
S.M.P.
E Porter St
Legend
BlackRock M.P
KUNA CITY LIMITS
PARCEL LINES
ROADS


Future Land Uses
for Kuna
Rd
E Rodeo Ln
N Meridian Rd
E Deer Flat Rd
ter St
N Kay Ave
AGRICULTURE
LOW DENSITY RESIDENTIAL
MEDIUM DENSITY RESIDENTIAL
HIGH DENSITY RESIDENTIAL
MIXED USE *
COMMERCIAL
LIGHT INDUSTRIAL
HEAVY INDUSTRIAL
PUBLIC


Hubbard Rd
E Andes Dr
N Linder Rd
N Kay Ave
Kuna
High
4th St

SH69 HOLDINGS, LLC

Thomas J. Angstman
199 N. Capitol Blvd., Ste. 200
Boise, ID 83702
Phone: 208-384-8588
E-Mail: tj@angstman.com

December 13, 2019

Via Hand-Delivery

Kuna City Council
Kuna City Hall
751 W. 4th Street
Kuna, ID 83634

RE: ANNEXATION APPLICATION
1925 N. Meridian Road, Kuna, ID 83634
NW corner of Deer Flat and SH69 (Meridian Rd.)

Dear City Council Members:

We are pleased to seek the annexation of the NW Corner of Deer Flat and SH69 (Meridian Rd.), north to Ardell. The purpose of the annexation is to allow for a mixed-use project containing both multi-family and commercial properties. Our plan is fully consistent to your recently adopted Comprehensive Plan.

Sincerely yours,

Thomas J. Angstman
Manager

TJA:lc

CityofKuna
Planning& Zoning
Department
P.O. Box 13
Kuna, Idaho 83634
208.922.5274
Fax: 208.922.5989
Website: www.kunacity.id.gov

Commission & Council Review Application

Note: Engineering fees shall be paid by the applicant if required.

*Please submit the appropriate checklist (s) with application

For Office Use Only	
File Number (s)	19-13-AN
Project name	Black Rock marketplace/Village
Date Received	12-13-19
Date Accepted/ Complete	
Cross Reference Files	
Commission Hearing Date	
City Council Hearing Date	

Type of Review (check all that apply):

- [X] Annexation
- [ ] Appeal
- [ ] Comprehensive Plan Amendment
- [ ] Design Review
- [X] Development Agreement
- [ ] Final Planned Unit Development
- [ ] Final Plat
- [ ] Lot Line Adjustment
- [ ] Lot Split
- [ ] Planned Unit Development
- [ ] Preliminary Plat
- [ ] Rezone
- [ ] Special Use
- [ ] Temporary Business
- [ ] Vacation
- [ ] Variance

Contact/Applicant Information

Owners of Record: Margaret M. Hill Family Limited Partnership	Phone Number: 208-631-1521 (Gus)
Address: 1556 E. Locust View Ln.	E-Mail:
City, State, Zip: Meridian, ID 83642	Fax #:
Applicant (Developer): SH69 Holdings, LLC	Phone Number: 208-861-6664
Address: 1400 E. Kokanee Ln., Attn: David Gronbeck	E-Mail: gronbeck@kggdev.com
City, State, Zip: Kuna, ID 83634	Fax #:
Engineer/Representative: Thomas J. Angstman	Phone Number: 208-384-8588
Address: 199 N. Capitol Blvd., Ste. 200	E-Mail: tj@angstman.com
City, State, Zip: Boise, ID 83702	Fax #: 208-629-2157

Business card included for the Developer's assistant, Lisa Caudill, who can also assist as needed.

Subject Property Information

Site Address: 1925 N. Meridian Road, Kuna, ID 83634

Site Location (Cross Streets): NW corner of Deer Flat and SH69 (Meridian Road)

Parcel Number (s): S1313449900

Section, Township, Range: Quarter: SE, Section: 13, Township: 2, Range: 1

Property size : 41.66 acres

Current land use: Agricultural — Proposed land use: Mixed Use

Current zoning district: RUT — Proposed zoning district: R20/C-2

Project Description

Project / subdivision name: BlackRock Marketplace/Village

General description of proposed project / request: Annexation with mixed-use property uses as designated in the Comprehensive Plan adopted this summer by the City of Kuna.

Type of use proposed (check all that apply):

- [X] Residential
- [X] Commercial
- [ ] Office
- [ ] Industrial
- [ ] Other

Amenities provided with this development (if applicable): To be determined.

Residential Project Summary (if applicable)

Are there existing buildings? [X] Yes [ ] No

Please describe the existing buildings: Two residences and outbuildings to be demolished.

Any existing buildings to remain? [ ] Yes [X] No

Number of residential units: 267 Number of building lots: To be determined.

Number of common and/or other lots: To be determined.

Type of dwellings proposed:

- [ ] Single-Family
- [ ] Townhouses
- [ ] Duplexes
- [X] Multi-Family
- [ ] Other

Minimum Square footage of structure (s): To be determined.

Gross density (DU/acre-total property): To be determined. Net density (DU/acre-excluding roads): To be determined.

Percentage of open space provided: To be determined. Acreage of open space: To be determined.

Type of open space provided (i.e. landscaping, public, common, etc.): To be determined.

Non-Residential Project Summary (if applicable)

Number of building lots: Not subdivided at this time. Other lots: Not subdivided at this time.

Gross floor area square footage: * Existing (if applicable): *

Hours of operation (days & hours): * Building height: *

Total number of employees: * Max. number of employees at one time: *

Number and ages of students/children: * Seating capacity: *

Fencing type, size & location (proposed or existing to remain): *

Proposed Parking:

a. Handicapped spaces: * Dimensions: *
b. Total Parking spaces: * Dimensions: *
c. Width of driveway aisle: *

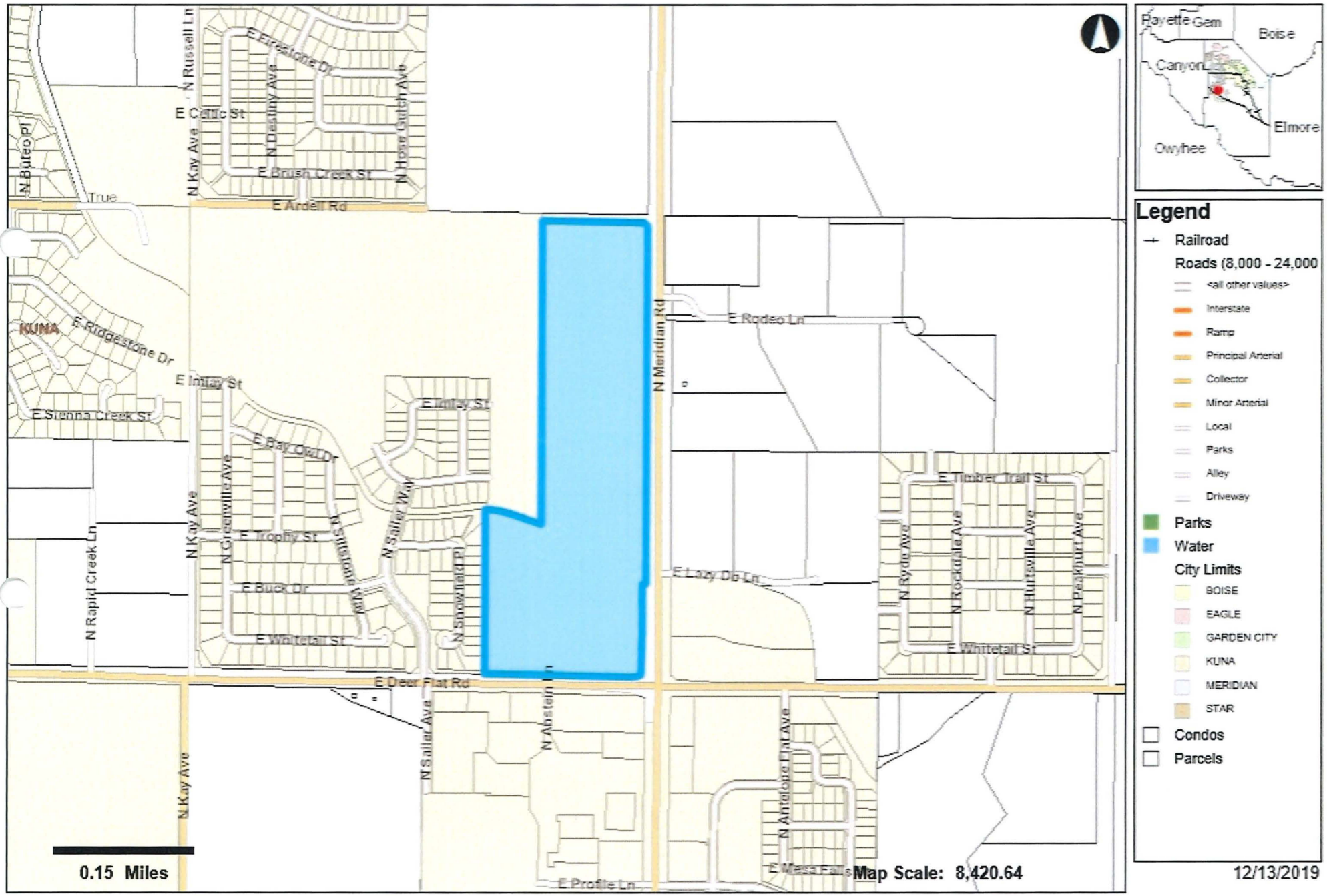
Proposed Lighting: Dark Sky

Proposed Landscaping (berms, buffers, entrances, parking areas, common areas, etc.):
Low water consumption xeriscaping in keeping with the "BlackRock" concept.

*** As per Ordinances in effect at the time of submission of the Application.**

Applicant's Signature: Date: **12-13-19**

Vicinity Map



DESCRIPTION FOR
APARTMENT PARCEL
KUNA MARKET PLACE

A parcel of land located in the E 1/2 of the SE 1/4 of Section 13, Township 2 North, Range 1 West, Boise Meridian, Ada County, Idaho being more particularly described as follows:

Commencing at the SE corner of said Section 13 from which the S 1/4 corner of said Section 13 bears North 88°45'38" West, 2,630.90 feet;

thence along the South boundary line of said Section 13 North 88°45'38" West, 973.49 feet;

thence leaving said South boundary line North 00°11'35" East, 48.01 feet to a point on the North right-of-way line of E. Deer Flat Road;

thence continuing North 00°11'35" East, 925.33 feet to a point on the centerline of the Kuna Canal;

thence along the centerline of the Kuna Canal the following 2 courses and distances:

thence 151.82 feet along the arc of a non-tangent curve to the right, said curve having a radius of 500.00 feet, a central angle of 17°23'51" and a long chord which bears South 79°28'45" East, 151.24 feet;

thence South 70°46'49" East, 174.05 feet;

thence leaving said centerline North 00°11'35" East, 398.47 feet;

thence South 89°28'42" East, 58.00 feet to the **REAL POINT OF BEGINNING;**

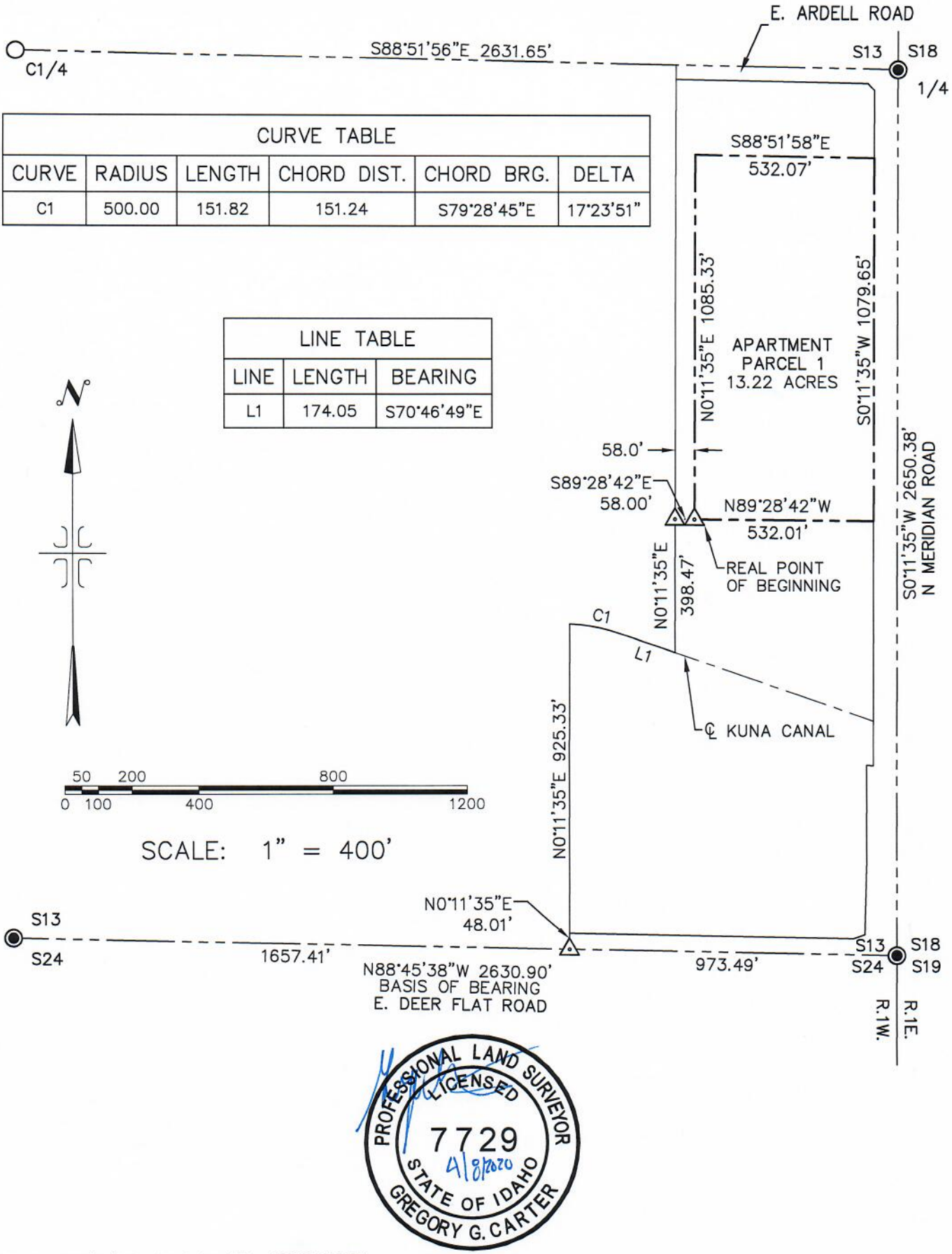
thence North 00°11'35" East, 1085.33 feet;

thence South 88°51'58" East, 532.07 feet to a point on the East right-of-way line of N. Meridian Road (SH 69);

thence along said East right-of-way line South 00°11'35" West, 1079.65 feet;

thence North 89°28'42" West, 532.01 feet to the **REAL POINT OF BEGINNING**. Containing 13.22 acres, more or less.





CURVE TABLE					
CURVE	RADIUS	LENGTH	CHORD DIST.	CHORD BRG.	DELTA
C1	500.00	151.82	151.24	S79°28'45"E	17°23'51"

LINE TABLE		
LINE	LENGTH	BEARING
L1	174.05	S70°46'49"E

PROFESSIONAL LAND SURVEYOR LICENSED 7729 4/8/2020 STATE OF IDAHO GREGORY G. CARTER

P:\Kuna Marketplace Topo 18-129\dwg\Apartment parcel desc exhibit.dwg 4/7/2020 2:49:28 PM

IDAHO SURVEY GROUP, LLC
9955 W. EMERALD ST.
BOISE, IDAHO 83704
(208) 846-8570

EXHIBIT DRAWING FOR
APARTMENT PARCEL
KUNA MARKET PLACE

LOCATED IN THE E 1/2 OF THE SE 1/4 OF SECTION 13
T.2N., R.1W., B.M., ADA COUNTY, IDAHO

JOB NO. 18-129
SHEET NO. 1
DWG. DATE 4/7/2020

DESCRIPTION FOR
COMMERCIAL PARCEL
KUNA MARKET PLACE

A parcel of land located in the E 1/2 of the SE 1/4 of Section 13, Township 2 North, Range 1 West, Boise Meridian, Ada County, Idaho being more particularly described as follows:

Commencing at the SE corner of said Section 13 from which the S 1/4 corner of said Section 13 bears North 88°45'38" West, 2,630.90 feet;

thence along the South boundary line of said Section 13 North 88°45'38" West, 973.49 feet;

thence leaving said South boundary line North 00°11'35" East, 48.01 feet to a point on the North right-of-way line of E. Deer Flat Road, said point also being the **REAL POINT OF BEGINNING;**

thence continuing North 00°11'35" East, 925.33 feet to a point on the centerline of the Kuna Canal;

thence along the centerline of the Kuna Canal the following 2 courses and distances:

thence 151.82 feet along the arc of a non-tangent curve to the right, said curve having a radius of 500.00 feet, a central angle of 17°23'51" and a long chord which bears South 79°28'45" East, 151.24 feet;

thence South 70°46'49" East, 523.12 feet;

thence leaving said centerline North 00°11'35" East, 1,818.83 feet to a point on the South right-of-way line of E. Ardell Road;

thence along said South right-of-way line the following 2 courses and distances:

thence South 88°51'58" East, 240.02 feet;

thence South 44°20'11" East, 28.54 feet to a point on the easterly right-of-way line of N. Meridian Road (SH 69);

thence along the easterly right-of-way line of N. Meridian Road (SH 69) the following 5 courses and distances:

thence South 00°11'35" West, 2,015.95 feet;

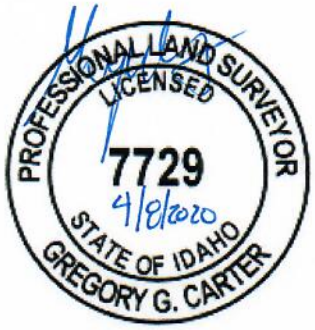
thence North 89°48'25" West, 20.00 feet;

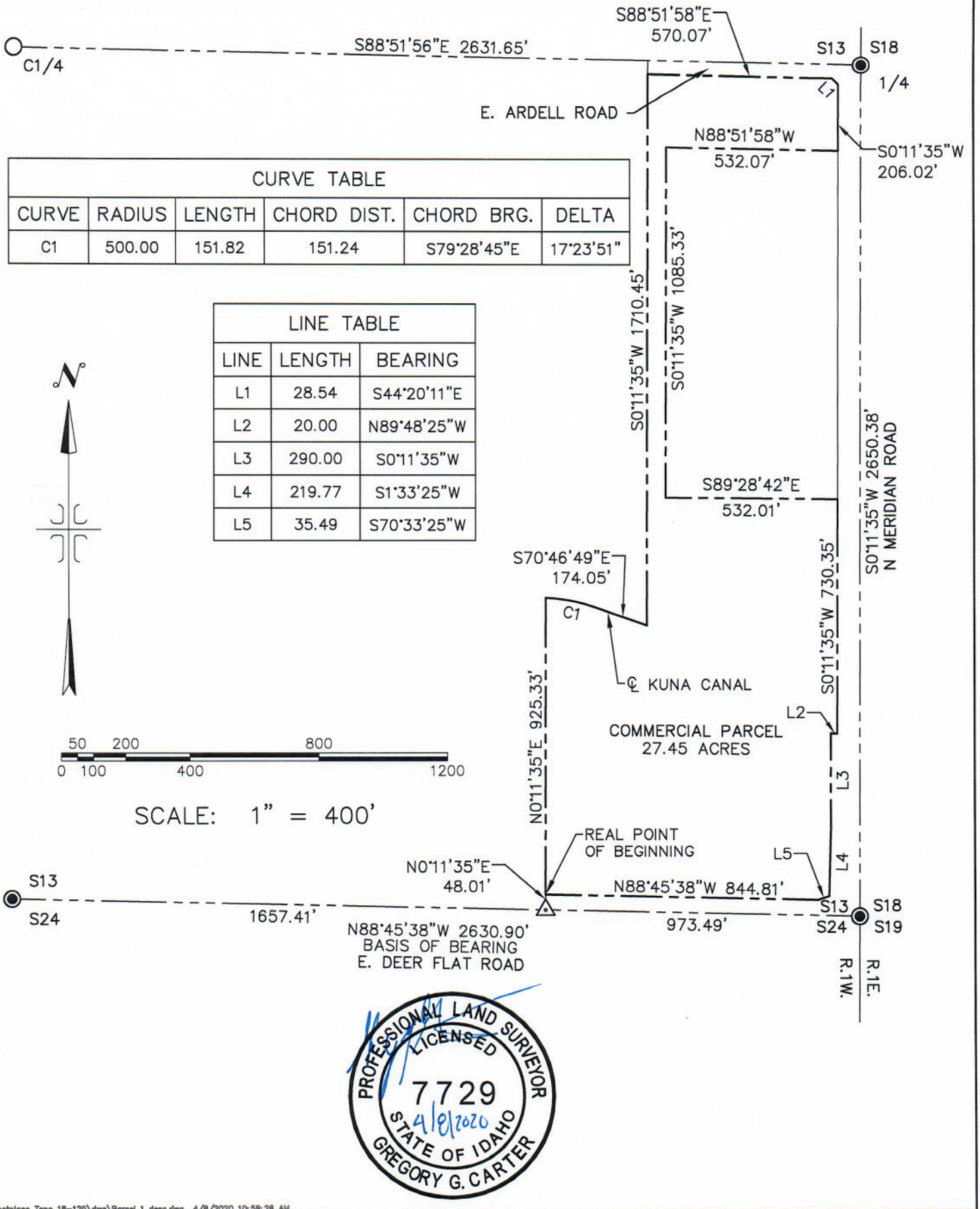
thence South 00°11'35" West, 290.00 feet;

thence South 01°33'25" West, 219.84 feet;

thence South 70°33'25" West, 35.49 feet to a point on the North right-of-way line of E. Deer Flat Road;

thence along said North right-of-way line North 88°45'38" West, 844.81 feet to the **REAL POINT OF BEGINNING**. Containing 27.45 acres, more or less.





CURVE TABLE					
CURVE	RADIUS	LENGTH	CHORD DIST.	CHORD BRG.	DELTA
C1	500.00	151.82	151.24	S79°28'45"E	17°23'51"

LINE TABLE		
LINE	LENGTH	BEARING
L1	28.54	S44°20'11"E
L2	20.00	N89°48'25"W
L3	290.00	S0°11'35"W
L4	219.77	S1°33'25"W
L5	35.49	S70°33'25"W

PROFESSIONAL LAND SURVEYOR
LICENSED
7729
4/8/2020
STATE OF IDAHO
GREGORY G. CARTER

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IDAHO SURVEY GROUP, LLC
9955 W. EMERALD ST.
BOISE, IDAHO 83704
(208) 846-8570

EXHIBIT DRAWING FOR
COMMERCIAL PARCEL
KUNA MARKET PLACE

LOCATED IN THE E 1/2 OF THE SE 1/4 OF SECTION 13
T.2N., R.1W., B.M., ADA COUNTY, IDAHO

JOB NO. 18-129
SHEET NO. 1
DWG. DATE 4/8/2020

Exhibit B-1

CITY OF KUNA
P.O. BOX 13
KUNA, ID 83634
www.kunacity.id.gov

Paul A. Stevens, P.E.
Kuna City Engineer

MEMORANDUM

Date: **29 June 2020**

From: **Paul A. Stevens, P.E.**

To: **Wendy Howell, Planning and Zoning Director**

RE: **Black Rock Marketplace 19-13-AN (Annexation)**

The Black Rock Marketplace 19-13-AN dated 10 December 2019 has been reviewed. The application provides a narrative explaining the developers vision for the subdivision, vicinity map, legal description with exhibit, affidavit of legal interest, neighborhood meeting packet, and assorted pictures. These comments apply to the annexation request and proposed zoning as they affect public works infrastructure. Landscaping, population density, parking requirements, emergency access, pedestrian and vehicular traffic in the proposed R 20 & C 20 zone and similar topics are evaluated by the Planning and Zoning Department. Review and evaluation of civil design drawings is accomplished separately, when received.

These comments may be expanded or refined based on future land-use actions. The following comments apply considering current, effective requirements:

1. **General**
   a. The Black Rock Marketplace site is approximately 40.8 acres and is currently zoned RUT (ADA County Zone, Rural Urban Transition).
   b. Rezone requests:
      a. The application cites R-20 and C-2 as the requested zoning.
   c. Equivalent Dwelling Units (EDU) are reckoned at approximately 3.18 people per household. The application shows 267 dwellings. 267*3.18 = a residential population of approximately 849 people. C-2 does not allow residential use however during business hours the population density will be even greater.
   d. The Black Rock Marketplace is in the Danskin sewer basin. The maximum number of sewer connections in this basin was projected at 3.5 EDU per acre. The proposed zoning density of R-20 or 20 dwellings per acre greatly exceeds the projected zoning density.
   e. Sewage produced from this subdivision will be conveyed to the Danskin Lift Station. Commitments to service subdivisions through the Danskin Lift Station presently equal approximately 88% of the rated capacity an additional 267 EDUs + Commercial use push the service ceiling to approximately 95% of the rated capacity. This 95% does not include additional subdivisions requesting service through Danskin Lift Station.
   f. A commensurate impact to traffic volumes and densities will follow.
   g. Access to Black Rock Marketplace is from Meridian Road and Deerflat Road.

h. Through roads are imperative to continued traffic flow in Kuna. It is important for Ardell Road to continue through this subdivision to Meridian Road.
i. Areas for outside activities shall be incorporated into the project. Connection to the City of Kuna pathways presents a long-term goal that should be continued.
j. A plan approval letter will be required if this project affects any local irrigation districts.
k. Verify that existing and proposed elevations match at property boundaries such that a slope burden is not imposed on adjacent properties.
l. State the vertical datum used for elevations on all drawings. Vertical Datum shall be NAVD 88.
m. Local coordinates are expressly not allowed. All coordinate geometry shall be state planes coordinates.
n. Provide engineering certification on all final engineering drawings.

2. Inspection Fees

a. An inspection fee will be levied for City inspection of water, sewer and irrigation facilities constructed in associated with this development. The current inspection fee is $1.00 per lineal foot of pressure irrigation, sewer, and water mainline pipe. Payment is due and payable prior to the City's approval of final construction plans. Site work shall not begin until all fees are paid.
b. The developer shall retain a qualified responsible, Idaho registered professional engineer to provide sufficient inspection to certify to DEQ that the project was completed in accordance with approved plans and specifications and to provide accurate record (as-built) drawings to the City. IDAPA 10.01.02 lists the professional engineer's project responsibilities.
c. The developer's engineer and the City's inspector are encouraged to coordinate inspections.

3. Right-of-Way

a. Black Rock Marketplace will impact travel on Meridian Road, Deer Flat Road and Ardell road.
a. All street construction must meet or exceed ACHD and City of Kuna development standards.
b. Sufficient right-of-way for existing and future classified streets shall be provided pursuant to City & ACHD standards.
c. Approaches onto classified streets must comply with ACHD and City of Kuna approach policies.
d. Sidewalk, curb and gutter, street widening and any related storm drainage facilities, consistent with city code and policies, shall be provided in connection with property development.
e. Easements shall be provided for all city mainlines crossing proposed lots, running along the back of lots and sides of lots, that allow the City of Kuna to access and maintain the utilities.
f. All mainlines owned by the development shall be placed in easements large enough to allow maintenance and repairs.

4. Sanitary Sewer & Potable Water

a. This application shall conform to the sewer and water master plans as applicable.
b. "To and through" master plan sewer & water mainlines are required for Black Rock Marketplace.
c. The applicant's property is not connected to City services and is subject to connection fees for the ultimate connected sewer load as provided in the City's Standard Tables.
    a. City Code (6-4-2) requires connection to the City sewer system for all sanitary sewer needs.
    b. City Code (6-4-2X) requires connection to City water services.
d. All sewer & water infrastructure improvements must meet or exceed City of Kuna requirements.
e. Sewer flows from this development are expected to meet or exceed the capacity of the receiving sewer lift station (Danskin Lift Station). It is expected that the development shall provide the additional lift station capacity and infrastructure/force main capacity needed to serve the property.

f. Sewer and water flow models will be required to verify adequate water supply, fire suppression and sewage removal.
g. Sewer and water connection fees apply to each lot containing a home or other facility.
h. Decommission existing sewage treatment facilities (septic tank and drain field) as needed in accordance with Idaho Department of Environmental Quality requirements. Provide decommissioning documentation to the City of Kuna.
i. Decommission wells as needed, in accordance with Idaho Department of Water Resources (IDWR) requirements. Provide decommissioning documentation to the City of Kuna.

5. Pressurized Irrigation

a. This application shall conform to the Pressurized Irrigation Master Plan.
b. The applicant's property is not connected to the City's pressurized irrigation system. The subdivision must connect to the Pressurized Irrigation system.
    a. Relying on drinking water for irrigation purposes conflicts with City Code (6-4-2).
c. "To and through" extension of pressurized irrigation applies to Black Rock Marketplace.
d. All pressurized irrigation infrastructure shall meet or exceed City of Kuna standards.
e. Irrigation of Black Rock Marketplace shall be an extension of the City of Kuna pressurized irrigation system.
f. Existing irrigation ditches (supply & drain) must be relocated as needed and as approved by the irrigation ditch company/users.
g. Pressurized irrigation flow model will be required to verify adequate pressurized irrigation supply.

6. Grading and Storm Drainage

a. Verify that existing and proposed elevations match at property boundaries such that a slope burden is not imposed on adjacent properties. Slopes shall not be steeper than 3:1 on lots adjacent to a street or common lot and no steeper than 4:1 for lots with common rear lot lines.
b. Provide a grading and drainage plan which supports and maintains all upstream drainage rights and all downstream irrigation delivery rights as they presently exist for this property.
c. The City of Kuna relies on the ACHD Stormwater Policy Manual to establish the requirements for design of private storm water disposal systems.
d. Provide a storm water disposal & treatment plan which accounts for increased storm water runoff volumes. Provide detailed drawings of drainage & treatment facilities with supporting calculations for review and approval.
e. Runoff from public right-of-way is regulated by ACHD. On site storm water retention (if any) shall be reviewed by the City Engineer in conjunction with the Civil Engineering construction improvements review.

7. As-Built Drawings

a. As-built drawings are required at the conclusion of any public facility construction project and are the responsibility of the developer's engineer. The city may help track changes but will not be responsible for the finished product. As-built drawings will be required before occupancy or final plat approval is granted.

8. Property Description

a. The applicant provided a legal description and representative figure of Black Rock Marketplace with the application.

Exhibit B-2

Development Services Department

Project/File: **Blackrock Market Annexation/ KUNA20-0005/ 19-13-AN**
This is an annexation and rezone application to annex 40.8 acres into Kuna City limits with R-20 and C-2 zoning.

Lead Agency: City of Kuna

Site address: 1925 N. Meridian Road

Staff Approval: May 1, 2020

Applicant: David Gronbeck
1400 E. Kokanee Lane
Kuna, ID 83634

Representative: Thomas J. Angstman
199 N. Capitol Blvd. Suite 200
Boise, ID 83702

Staff Contact: Paige Bankhead, E.I.
Phone: 387-6293
E-mail: pbankhead@achdidaho.org

Vicinity Map



A. Findings of Fact

1. **Description of Application:** The applicant is requesting approval of an annexation and rezone application to annex 40.8 acres into Kuna city limits with R-20 and C-2 zoning.

   The City of Kuna's Comprehensive Plan designates this area as mixed use.

2. **Description of Adjacent Surrounding Area:**

Direction	Land Use	Zoning
North	Rural Urban Transition (Ada County)	RUT
South	Neighborhood Business District	C-1
East	Rural Urban Transition (Ada County)/Neighborhood Business District	C-1
West	Medium Density Residential	R-6

3. **Site History:** ACHD has not previously reviewed this site for a development application.
4. **Transit:** Transit services are not available to serve this site.
5. **Adjacent Development:** The following developments are pending or underway in the vicinity of the site:

- Winfield Springs Subdivision, 348 single family lots and 35 common lots on 111.2 acres directly west of the site and is in various stages of development. Approved by ACHD on April 5, 2017.

6. **New Center Lane Miles:** The proposed development includes 0.0 centerline miles of new public road.

7. **Impact Fees:** There will be an impact fee that is assessed and due prior to issuance of any building permits. The assessed impact fee will be based on the impact fee ordinance that is in effect at that time. The impact fee assessment will not be released until the civil plans are approved by ACHD.

8. **Capital Improvements Plan (CIP)/ Integrated Five Year Work Plan (IFYWP):**
   - Deer Flat Road is listed in the CIP to be widened to 5-lanes from Linder Road to SH-69/Meridian Road between 2026 and 2030.
   - The intersection of Deer Flat Road and SH-69/Meridian Road is listed in the CIP to be widened to 5-lanes on the north leg, 5-lanes on the south, 6-lanes east, and 6-lanes on the west leg, and signalized between 2031 and 2035.
   - The intersection of Deer Flat Road and Linder Road is listed scheduled in the IFYWP to be widened to 5-lanes on the north leg, 4-lanes on the south leg, 5-lanes on the east leg and 5-lanes on the west leg, and signalized in 2020.

B. Traffic Findings for Consideration

1. **Trip Generation**: The following table includes trip generation rates for anticipated land uses, based on the Institute of Transportation Engineers Trip Generation Manual, 10th edition.

Land Use	Unit of Measurement	Average Daily Trips	PM Peak Hour Trip Generation
Multifamily Housing (1-2 stories)	Per Dwelling Unit	7.32	0.56
General Office	Per 1,000 square feet	9.74	1.15
Shopping Center	Per 1,000 square feet	37.75	3.81
High-Turnover (Sit-Down) Restaurant	Per 1,000 Square feet	112.18	9.77
Fast Casual Restaurant	Per 1,000 square feet	315.17	14.13
Daycare	Per 1,000 square feet	47.62	11.12

2. **Traffic Impact Study**

Policy:

District policy 7106.1 Traffic Impact Studies (TIS): Traffic Impact Studies are intended to determine the need for any improvements to the adjacent and nearby transportation system in order to maintain a satisfactory level of service, and acceptable level of safety and the appropriate access provisions for a proposed development. *ITE, Transportation Impact Analyses for Site Development.*

Traffic Impact Studies are generally required when:

- A proposed development or redevelopment of a site will generate 100 or more new peak hour trips; OR
- The added volume is equal to 1,000 vehicles per day; OR
- As required in Table 1 below. (The values in Table 1 are a general guide to determine if a TIS will be required.)

Table 1: Approximate TIS Trigger Values

Land Use Type	Land Use Code	Trigger Value
Residential	210, 220, 221, 270	100 Dwelling Units
Retail	815, 820, 850	35,000 square feet
Office	710, 750, 770	50,000 square feet
Industrial	110, 130, 140, 150	70,000 square feet
Lodging	310, 312, 320	100 rooms
School (K-12)		All

District policy 7106.1.1 Initial Meeting: It is recommended that the applicant of a proposed development that may require a TIS, review the project with District staff before submitting the development application to the lead land use agency. The initial meeting may need to include staff from the lead land use agency, COMPASS, and the Idaho Transportation Department, (if ITD roadways will be impacted), and other agencies as appropriate. The District will review the requirements for the TIS with the applicant and set the general parameters for the study. It is recommended that the applicant submit the TIS directly to the District prior to the submittal of a development application to the lead land use agency (Submitting the TIS before the development application will allow time for the TIS review which will help to expedite approval of the development.) If the assumptions in the TIS do not match the development application, the TIS may need to be revised. It will be determined at the Initial Meeting which agencies and/or parties shall continue to be involved in the review of the TIS.

Staff Comments: The site is designated as mixed use and the applicant has proposed commercial and multi-family uses that would trigger the requirement for a Traffic Impact Study per District policy. Consistent with District policy for Traffic Impact Studies, the applicant should schedule an initial meeting with ACHD to discuss the scope of the Traffic Impact Study and submit a TIS for staff review.

3. Condition of Area Roadways

Traffic Count is based on Vehicles per hour (VPH)

Roadway	Frontage	Functional Classification	PM Peak Hour Traffic Count	PM Peak Hour Level of Service
***SH-69	2,550-feet	Principal Arterial	1,142	N/A
Deer Flat Road	880-feet	Minor Arterial	673	Better than "D"

* Acceptable level of service for a three-lane minor arterial is "E" (720 VPH).

** ACHD does not set level of service thresholds for State Highways.

4. Average Daily Traffic Count (VDT)

Average daily traffic counts are based on ACHD's most current traffic counts.

- The average daily traffic count for SH-69 south of Hubbard Road was 20,758 on 10/24/2019.

- The average daily traffic count for Deer Flat Road west of SH-69 was 11,846 on 5/15/2019.

C. Findings for Consideration

This application is for an annexation and rezone only. Listed below are some findings for consideration that the District may identify when it reviews a future development application. The District may add additional findings for consideration when it reviews a specific redevelopment application.

1. State Highway SH-69 /Meridian Road

SH-69/Meridian Road is under the jurisdiction of the Idaho Transportation Department (ITD). The applicant, the City of Kuna, and ITD should work together to determine if additional right-of-way or improvements are necessary on SH-69/Meridian Road.

2. Deer Flat Road

a. Existing Conditions: Deer Flat Road is improved with 3-travel lanes, vertical curb, gutter, and no sidewalk abutting the site. There is 100 to 105-feet of right-of-way for Deer Flat Road abutting the site (45 to 55-feet from centerline).

b. Policy:

Arterial Roadway Policy: District Policy 7205.2.1 states that the developer is responsible for improving all street frontages adjacent to the site regardless of whether or not access is taken to all of the adjacent streets.

Master Street Map and Typology Policy: District Policy 7205.5 states that the design of improvements for arterials shall be in accordance with District standards, including the Master Street Map and Livable Streets Design Guide. The developer or engineer should contact the District before starting any design.

Street Section and Right-of-Way Width Policy: District Policies 7205.2.1 & 7205.5.2 state that the standard 5-lane street section shall be 72-feet (back-of-curb to back-of-curb) within 96-feet of right-of-way. This width typically accommodates two travel lanes in each direction, a continuous center left-turn lane, and bike lanes on a minor arterial and a safety shoulder on a principal arterial.

Right-of-Way Dedication: District Policy 7205.2 states that The District will provide compensation for additional right-of-way dedicated beyond the existing right-of-way along arterials listed as impact fee eligible in the adopted Capital Improvements Plan using available impact fee revenue in the Impact Fee Service Area.

No compensation will be provided for right-of-way on an arterial that is not listed as impact fee eligible in the Capital Improvements Plan.

The District may acquire additional right-of-way beyond the site-related needs to preserve a corridor for future capacity improvements, as provided in Section 7300.

Sidewalk Policy: District Policy 7205.5.7 requires a concrete sidewalk at least 5-feet wide to be constructed on both sides of all arterial streets. A parkway strip at least 6-feet wide between the back-of-curb and street edge of the sidewalk is required to provide increased safety and protection of pedestrians. Consult the District's planter width policy if trees are to be placed within the parkway strip. Sidewalks constructed next to the back-of-curb shall be a minimum of 7-feet wide.

Detached sidewalks are encouraged and should be parallel to the adjacent roadway. Meandering sidewalks are discouraged.

A permanent right-of-way easement shall be provided if public sidewalks are placed outside of the dedicated right-of-way. The easement shall encompass the entire area between the right-of-way line and 2-feet behind the back edge of the sidewalk. Sidewalks shall either be located wholly within the public right-of-way or wholly within an easement.

Frontage Improvements Policy: District Policy 7205.2.1 states that the developer shall widen the pavement to a minimum of 17-feet from centerline plus a 3-foot wide gravel shoulder adjacent to the entire site. Curb, gutter and additional pavement widening may be required (See Section 7205.5.5).

Minor Improvements Policy: District Policy 7203.3 states that minor improvements to existing streets adjacent to a proposed development may be required. These improvements are to correct deficiencies or replace deteriorated facilities. Included are sidewalk construction or replacement; curb and gutter construction or replacement; replacement of unused driveways with curb, gutter and sidewalk; installation or reconstruction of pedestrian ramps; pavement repairs; signs; traffic control devices; and other similar items.

ACHD Master Street Map: ACHD Policy Section 3111.1 requires the Master Street Map (MSM) guide the right-of-way acquisition, arterial street requirements, and specific roadway features required through development. This segment of Deer Flat Road is designated in the MSM as a Residential Arterial with 5-lanes and on-street bike lanes, a 72-foot street section within 96-feet of right-of-way.

c. **Staff Comments/Recommendations:** The SH-69/Deer Flat Road intersection is listed in the CIP for improvements between 2031 and 2036 with the west leg abutting the site widened to 6-lanes within 112-feet of right-of-way (56-feet from centerline). To accommodate the future intersection widening the applicant should be required to dedicate additional right-of-way to total 56-feet from the centerline of Deer Flat Road from SH-69 west 800-feet as part of the future development application. Consistent with District policy, the applicant will receive compensation for this right-of-way dedication as the intersection project is listed in the CIP.

There is 96-feet of right-of-way (55-feet from centerline) for the remaining portion of Deer Flat Road abutting the site, therefore, staff recommends no additional right-of-way dedication be required beyond the CIP intersection right-of-way dedication as part of the future development application.

As part of a future development application the applicant should be required to construct a 5-foot wide detached concrete sidewalk located a minimum of 49-feet from the centerline of Deer Flat Road abutting the site within the influence area of the intersection (800-feet west of SH-69) tapering to 41-feet from centerline for the remainder of the parcel. For detached sidewalk outside of the right-of-way, the applicant may provide a permanent right-of-way easement extending from the back of curb to 2-feet behind the back of sidewalk. There is already at least 17-feet of pavement from the centerline of Deer Flat Road abutting the site, therefore, staff recommends no additional pavement widening be required with the future development application.

Consistent with ACHD's Minor Improvement Policy, the applicant should be required to replace any broken to deteriorated portions of curb and/or gutter on Deer Flat Road abutting the site with the future development application.

3. MSM Collector Ardell Road

a. **Existing Conditions:** There is currently 40-feet of unopened right-of-way abutting the site's north property line.

b. **Policy:**

Collector Street Policy: District policy 7206.2.1 states that the developer is responsible for improving all collector frontages adjacent to the site or internal to the development as required below, regardless of whether access is taken to all of the adjacent streets.

Master Street Map and Typologies Policy: District policy 7206.5 states that if the collector street is designated with a typology on the Master Street Map, that typology shall be considered for the required street improvements. If there is no typology listed in the Master Street Map, then standard street sections shall serve as the default.

Street Section and Right-of-Way Policy: District policy 7206.5.2 states that the standard right-of-way width for collector streets shall typically be 50 to 70-feet, depending on the location and width of the sidewalk and the location and use of the roadway. The right-of-way width may be reduced, with District approval, if the sidewalk is located within an easement; in which case the District will require a minimum right-of-way width that extends 2-feet behind the back-of-curb on each side.

The standard street section shall be 46-feet (back-of-curb to back-of-curb). This width typically accommodates a single travel lane in each direction, a continuous center left-turn lane, and bike lanes.

Residential Collector Policy: District policy 7206.5.2 states that the standard street section for a collector in a residential area shall be 36-feet (back-of-curb to back-of-curb). The District will consider a 33-foot or 29-foot street section with written fire department approval and taking into consideration the needs of the adjacent land use, the projected volumes, the need for bicycle lanes, and on-street parking.

Sidewalk Policy: District policy 7206.5.6 requires a concrete sidewalk at least 5-feet wide to be constructed on both sides of all collector streets. A parkway strip at least 6-feet wide between the back-of-curb and street edge of the sidewalk is required to provide increased safety and protection of pedestrians. Consult the District's planter width policy if trees are to be placed within the parkway strip. Sidewalks constructed next to the back-of-curb shall be a minimum of 7-feet wide.

Detached sidewalks are encouraged and should be parallel to the adjacent roadway. Meandering sidewalks are discouraged.

A permanent right-of-way easement shall be provided if public sidewalks are placed outside of the dedicated right-of-way. The easement shall encompass the entire area between the right-of-way line and 2-feet behind the back edge of the sidewalk. Sidewalks shall either be located wholly within the public right-of-way or wholly within an easement.

Half Street Policy: District Policy 7206.2.2 required improvements shall consist of pavement widening to one-half the required width, including vertical curb, gutter and concrete sidewalk (minimum 5-feet), plus 12-feet of additional pavement widening beyond the centerline established for the street to provide an adequate roadway surface, with the pavement crowned at the ultimate centerline. A 3-foot wide gravel shoulder and a borrow ditch sized to accommodate the roadway storm runoff shall be constructed on the unimproved side.

ACHD Master Street Map: ACHD Policy Section 3111.1 requires the Master Street Map (MSM) guide the right-of-way acquisition, collector street requirements, and specific roadway features required through development. A new collector roadway was identified on the MSM with the street typology of Residential Collector. The new collector roadway should align with Ardell Road to the west and continue through the property to SH-69. The Residential Collector typology as depicted in the Livable Street Design Guide recommends a 2-lane roadway with bike lanes, and on street parking, a 36-foot street section within at least 50-feet of right-of-way.

c. **Staff Comments/Recommendations:** As part of the future development application, the applicant should be required to construct Ardell Road abutting the site as ½ of a 36-foot wide residential collector street section with vertical curb, gutter and 5-foot wide detached (7-foot attached) sidewalk plus an additional 12-feet of pavement widening beyond the centerline of the roadway to provide an adequate roadway surface and construct a 3-foot wide gravel shoulder and borrow ditch sized to accommodate roadway storm runoff constructed on the unimproved side within the existing unopened right-of-way. Detached sidewalk may be located outside of the right-of-way within a permanent right-of-way easement. Additional right-of-way dedication, beyond the existing 40-feet may be required to accommodate the construction of Ardell Road as a half street.

Given the anticipated land uses, the applicant should also be required to construct an eastbound left turn lane at the intersection of SH-69 and Ardell Road as part of the future development application. Additional right-of-way should be dedicated at the intersection to accommodate the turn lane.

4. Commercial Roadways

a. **Existing Conditions:** There is one local street, Imlay Street, that stubs to the site's west property line. There is one local street, Fort Erie Street, proposed to stub the site's west property line north of Imlay Street. This stub street is not constructed yet and was approved as part of ACHD's action on Winfield Springs Subdivision located directly north of the site.

b. **Policy:**

Commercial Roadway Policy: District Policy 7208.2.1 states that the developer is responsible for improving all commercial street frontages adjacent to the site regardless of whether or not access is taken to all of the adjacent streets.

Street Section and Right-of-Way Policy: District Policy 7208.5 states that right-of-way widths for new commercial streets shall typically be 50 and 70-feet wide and that the standard street section will vary depending on the need for a center turn lane, bike lanes, volumes, percentage of truck traffic, and/or on-street parking.

- A 36-foot street section (back-of-curb to back-of-curb) will typically accommodate two travel lanes and on-street parking.
- A 40-foot street section (back-of-curb to back-of-curb) will typically accommodate two travel lanes and a center turn lane.
- A 46-foot street section (back-of-curb to back-of-curb) will typically accommodate two travel lanes and a center turn lane and bike lanes.

Continuation of Streets Policy: District Policy 7208.2.4 states that an existing street, or a street in an approved preliminary plat, which ends at a boundary of a proposed development shall be extended in that development. The extension shall include provisions for continuation of storm drainage facilities. Benefits of connectivity include but are not limited to the following:

- Reduces vehicle miles traveled.
- Increases access for emergency services.
- Reduces need for additional access points to the arterial street system.
- Promotes the efficient delivery of services including trash, mail and deliveries, water and sewer.
- Promotes orderly development.

Sidewalk Policy: District Policy 7208.5.6 requires a concrete sidewalks at least 5-feet wide to be constructed on both sides of all commercial streets. If a separated sidewalk is proposed, a parkway strip at least 6-feet wide between the back-of-curb and street edge of the sidewalk is

required to provide increased safety and protection of pedestrians. Consult the District's planter width policy if trees are to be placed within the parkway strip.

A permanent right-of-way easement shall be provided if public sidewalks are placed outside of the dedicated right-of-way. The easement shall encompass the entire area between the right-of-way line and 2-feet behind the back edge of the sidewalk. Sidewalks shall either be located wholly within the public right-of-way or wholly within an easement.

Cul-de-sac Streets Policy: District policy 7208.5.7 states that the minimum radius permitted for a turnaround is 55-feet to back-of-curb.

Landscape Medians Policy: District policy 7208.5.15 states that landscape medians are permissible where adequate pavement width is provided on each side of the median to accommodate the travel lanes and where the following is provided:

- The median is platted as right-of-way owned by ACHD.
- The width of an island near an intersection is 12-feet maximum for a minimum distance of 150-feet. Beyond the 150-feet, the island may increase to a maximum width of 30-feet.
- At an intersection that is signalized or is to be signalized in the future, the median width shall be reduced to accommodate the necessary turn lane storage and tapers.
- The Developer or Homeowners Association shall apply for a license agreement if landscaping is to be placed within these medians.
- The license agreement shall contain the District's requirements of the developer including, but not limited to, a "hold harmless" clause; requirements for maintenance by the developer; liability insurance requirements; and restrictions.
- Vertical curbs are required around the perimeter of any raised median. Gutters shall slope away from the curb to prevent ponding.

c. Staff Comments/Recommendations: As part of the future development application, the applicant should be required to extend Imlay Street and Fort Erie Street into the site and construct all internal roads as 36-foot wide commercial street section. Or, terminate the public streets with the construction of cul-de-sac turnarounds complete with curb, gutter, and sidewalk. The turnarounds should be constructed to a minimum radius of 45-feet.

5. Roadway Offsets

a. Existing Conditions: There are no roadways within the site.

b. Policy:

Local Street Intersection Spacing on Minor Arterials: District policy 7205.4.3 states that new local streets should not typically intersect arterials. Local streets should typically intersect collectors. If it is necessary, as determined by ACHD, for a local street to intersect an arterial, the minimum allowable offset shall be 660-feet as measured from all other existing roadways as identified in Table 1a (7205.4.6).

Location Streets Intersecting a Collector: District policy 7206.4.5, states that the preferred spacing for a new local street intersecting a collector roadway to align or offset a minimum of 330-feet from any other street (measured centerline to centerline).

Commercial Streets Intersecting Local Streets: District policy 7208.4.2, requires commercial roadways intersecting other local streets (residential, industrial or commercial) to provide a minimum offset of 125-feet from any other roadway or intersection (measured centerline to centerline).

c. Staff Comments/Recommendations: The future development application will be subject to the above District policies.

6. Driveways

6.1 Deer Flat Road

a. Existing Conditions: There are no driveways from the site onto Deer Flat Road.

b. Policy:

Access Points Policy: District Policy 7205.4.1 states that all access points associated with development applications shall be determined in accordance with the policies in this section and Section 7202. Access points shall be reviewed only for a development application that is being considered by the lead land use agency. Approved access points may be relocated and/or restricted in the future if the land use intensifies, changes, or the property redevelops.

Access Policy: District policy 7205.4.6 states that direct access to minor arterials is typically prohibited. If a property has frontage on more than one street, access shall be taken from the street having the lesser functional classification. If it is necessary to take access to the higher classified street due to a lack of frontage, the minimum allowable spacing shall be based on Table 1a under District policy 7205.4.6, unless a waiver for the access point has been approved by the District Commission.

Driveway Location Policy: District policy 7205.4.5 requires driveways located on minor arterial roadways from a signalized intersection with a single left turn lane shall be located a minimum of 330-feet from the nearest intersection for a right-in/right-out only driveway and a minimum of 660-feet from the intersection for a full-movement driveway.

District policy 7205.4.5 requires driveways located on minor arterial roadways from a signalized intersection with a dual left turn lane shall be located a minimum of 330-feet from the nearest intersection for a right-in/right-out only driveway and a minimum of 710-feet from the intersection for a full-movement driveway.

Successive Driveways: District policy 7205.4.6 Table 1a, requires driveways located on minor arterial roadways with a speed limit of 45 MPH to align or offset a minimum of 380-feet from any existing or proposed driveway.

Driveway Width Policy: District policy 7205.4.8 restricts high-volume driveways (100 VTD or more) to a maximum width of 36-feet and low-volume driveways (less than 100 VTD) to a maximum width of 30-feet. Curb return type driveways with 30-foot radii will be required for high-volume driveways with 100 VTD or more. Curb return type driveways with 15-foot radii will be required for low-volume driveways with less than 100 VTD.

Driveway Paving Policy: Graveled driveways abutting public streets create maintenance problems due to gravel being tracked onto the roadway. In accordance with District policy, 7205.4.8, the applicant should be required to pave the driveway its full width and at least 30-feet into the site beyond the edge of pavement of the roadway and install pavement tapers in accordance with Table 2 under District Policy 7205.4.8.

Cross Access Easements/Shared Access Policy: District Policy 7202.4.1 states that cross access utilizes a single vehicular connection that serves two or more adjoining lots or parcels so that the driver does not need to re-enter the public street system.

c. Staff Comments/Recommendations: The future development application will be subject to the District policies listed above. Access for the future development should be taken from the street with the lesser functional classification.

6.2 Ardell Road

a. Existing Conditions: Ardell Road has not yet been constructed abutting the site.

b. Policy:

Access Policy: District Policy 7205.4.1 states that all access points associated with development applications shall be determined in accordance with the policies in this section and Section 7202. Access points shall be reviewed only for a development application that is being considered by the lead land use agency. Approved access points may be relocated and/or restricted in the future if the land use intensifies, changes, or the property redevelops.

District Policy 7206.1 states that the primary function of a collector is to intercept traffic from the local street system and carry that traffic to the nearest arterial. A secondary function is to service adjacent property. Access will be limited or controlled. Collectors may also be designated at bicycle and bus routes.

Driveway Location Policy (Stop Controlled Intersection): District policy 7206.4.4 requires driveways located on collector roadways near a STOP controlled intersection to be located outside of the area of influence; OR a minimum of 150-feet from the intersection, whichever is greater. Dimensions shall be measured from the centerline of the intersection to the centerline of the driveway.

Successive Driveways: District policy 7206.4.5 Table 1, requires driveways located on collector roadways with a speed limit of 25 MPH and daily traffic volumes greater than 100 VTD to align or offset a minimum of 245-feet from any existing or proposed driveway.

Driveway Width Policy: District policy 7206.4.6 restricts high-volume driveways (100 VTD or more) to a maximum width of 36-feet and low-volume driveways (less than 100 VTD) to a maximum width of 30-feet. Curb return type driveways with 30-foot radii will be required for high-volume driveways with 100 VTD or more. Curb return type driveways with 15-foot radii will be required for low-volume driveways with less than 100 VTD.

Driveway Paving Policy: Graveled driveways abutting public streets create maintenance problems due to gravel being tracked onto the roadway. In accordance with District policy, 7206.4.6, the applicant should be required to pave the driveway its full width and at least 30-feet into the site beyond the edge of pavement of the roadway and install pavement tapers in accordance with Table 2 under District Policy 7206.4.6.

c. **Staff Comments/Recommendations:** The future development application will be subject to the District policies listed above.

6.3 Local/Commercial Streets

a. Existing Conditions: There are no local or commercial streets within the site.

b. Policy:

Driveway Location Policy: District policy 7208.4.1 requires driveways near intersections to be located a minimum of 75-feet (measured centerline-to-centerline) from the nearest local street intersection, and 150-feet from the nearest collector/arterial or arterial street intersection.

Successive Driveways: District Policy 7208.4.1 states that successive driveways away from an intersection shall have no minimum spacing requirements for access points along a local street, but the District does encourage shared access points where appropriate.

Driveway Width Policy: District policy 7208.4.3 restricts commercial driveways to a maximum width of 40-feet. Most commercial driveways will be constructed as curb-cut type facilities.

Driveway Width Policy: District policy 7207.4.3 states that where vertical curbs are required, residential driveways shall be restricted to a maximum width of 20-feet and may be constructed as curb-cut type driveways.

Driveway Paving Policy: Graveled driveways abutting public streets create maintenance problems due to gravel being tracked onto the roadway. In accordance with District policy,

7208.4.3, the applicant should be required to pave the driveway its full width and at least 30-feet into the site beyond the edge of pavement of the roadway.

Driveway Design Requirements: District policy 7208.4.3 states if an access point is to be gated, the gate or keypad (whichever is closer) shall be located a minimum of 50-feet from the near edge of the intersection and a turnaround shall be provided.

c. **Staff Comments/Recommendations:** The future development application will be subject to the District policies listed above.

7. Private Roads

a. **Private Road Policy:** District policy 7212.1 states that the lead land use agencies in Ada County establish the requirements for private streets. The District retains authority and will review the proposed intersection of a private and public street for compliance with District intersection policies and standards. The private road should have the following requirements:

- Designed to discourage through traffic between two public streets,
- Graded to drain away from the public street intersection, and
- If a private road is gated, the gate or keypad (if applicable) shall be located a minimum of 50-feet from the near edge of the intersection and a turnaround shall be provided.

b. **Staff Comments/Recommendations:** For the future development application: If the City of Kuna approves a private road, the applicant shall be required to pave the private roadway its full width and at least 30-feet into the site beyond the edge of pavement of all public streets and install pavement tapers with 15-foot curb radii abutting the existing roadway edge. If private roads are not approved by the City of Kuna, the applicant will be required to revise and resubmit the preliminary plat to provide public standard local streets in these locations.

Street name and stop signs are required for the private road. The signs may be ordered through the District. Verification of the correct, approved name of the road is required.

ACHD does not make any assurances that the private road would be accepted as a public road if such a request is made in the future. Substantial redesign and reconstruction costs may be necessary in order to qualify this road for public ownership and maintenance.

The following requirements must be met if the applicant wishes to dedicate the roadway to ACHD:

- Dedicate a minimum of 50-feet of right-of-way for the road.
- Construct the roadway to the minimum ACHD requirements.
- Construct a stub street to the surrounding parcels.

8. Traffic Calming

a. **Speed Control and Traffic Calming Policy** (Commercial)**:** District policy 7208.3.7 states that the design of commercial street systems should discourage excessive speeds by using passive design elements. If the design or layout of a development is anticipated to necessitate future traffic calming implementation by the District, then the District will require changes to the layout and/or the addition of passive design elements such as horizontal curves, bulb-outs, chokers, etc. The District will also consider texture changes to the roadway surface (i.e. stamped concrete) as a passive design element. These alternative methods may require a maintenance and/or license agreement.

b. **Staff Comments/Recommendations:** The future development application will be subject to the District policy listed above.

9. Tree Planters

Tree Planter Policy: Tree Planter Policy: The District's Tree Planter Policy prohibits all trees in planters less than 8-feet in width without the installation of root barriers. Class II trees may be allowed in planters with a minimum width of 8-feet, and Class I and Class III trees may be allowed in planters with a minimum width of 10-feet.

10. Landscaping

Landscaping Policy: A license agreement is required for all landscaping proposed within ACHD right-of-way or easement areas. Trees shall be located no closer than 10-feet from all public storm drain facilities. Landscaping should be designed to eliminate site obstructions in the vision triangle at intersections. District Policy 5104.3.1 requires a 40-foot vision triangle and a 3-foot height restriction on all landscaping located at an uncontrolled intersection and a 50-foot offset from stop signs. Landscape plans are required with the submittal of civil plans and must meet all District requirements prior to signature of the final plat and/or approval of the civil plans.

11. Other Access

Deer Flat Road is classified as a minor arterial roadway and Ardell Road is classified as a collector roadway. Other than the access specifically approved with this application, direct lot access is prohibited to these roadways.

D. Site Specific Conditions of Approval

This application is for an annexation only. Site specific conditions of approval will be established as part of the future development application.

1. Payment of impact fees is due prior to issuance of a building permit.

2. Comply with all Standard Conditions of Approval.

E. Standard Conditions of Approval

1. All proposed irrigation facilities shall be located outside of the ACHD right-of-way (including all easements). Any existing irrigation facilities shall be relocated outside of the ACHD right-of-way (including all easements).

2. Private Utilities including sewer or water systems are prohibited from being located within the ACHD right-of-way.

3. In accordance with District policy, 7203.3, the applicant may be required to update any existing non-compliant pedestrian improvements abutting the site to meet current Americans with Disabilities Act (ADA) requirements. The applicant's engineer should provide documentation of ADA compliance to District Development Review staff for review.

4. Replace any existing damaged curb, gutter and sidewalk and any that may be damaged during the construction of the proposed development. Contact Construction Services at 387-6280 (with file number) for details.

5. A license agreement and compliance with the District's Tree Planter policy is required for all landscaping proposed within ACHD right-of-way or easement areas.

6. All utility relocation costs associated with improving street frontages abutting the site shall be borne by the developer.

7. It is the responsibility of the applicant to verify all existing utilities within the right-of-way. The applicant at no cost to ACHD shall repair existing utilities damaged by the applicant. The applicant shall be required to call DIGLINE (1-811-342-1585) at least two full business days prior to breaking ground within ACHD right-of-way. The applicant shall contact ACHD Traffic Operations 387-6190 in the event any ACHD conduits (spare or filled) are compromised during any phase of construction.

8. Utility street cuts in pavement less than five years old are not allowed unless approved in writing by the District. Contact the District's Utility Coordinator at 387-6258 (with file numbers) for details.

9. All design and construction shall be in accordance with the ACHD Policy Manual, ISPWC Standards and approved supplements, Construction Services procedures and all applicable ACHD Standards unless specifically waived herein. An engineer registered in the State of Idaho shall prepare and certify all improvement plans.

10. Construction, use and property development shall be in conformance with all applicable requirements of ACHD prior to District approval for occupancy.

11. No change in the terms and conditions of this approval shall be valid unless they are in writing and signed by the applicant or the applicant's authorized representative and an authorized representative of ACHD. The burden shall be upon the applicant to obtain written confirmation of any change from ACHD.

12. If the site plan or use should change in the future, ACHD Planning Review will review the site plan and may require additional improvements to the transportation system at that time. Any change in the planned use of the property which is the subject of this application, shall require the applicant to comply with ACHD Policy and Standard Conditions of Approval in place at that time unless a waiver/variance of the requirements or other legal relief is granted by the ACHD Commission.

F. Conclusions of Law

1. The proposed site plan is approved, if all of the Site Specific and Standard Conditions of Approval are satisfied.

2. ACHD requirements are intended to assure that the proposed use/development will not place an undue burden on the existing vehicular transportation system within the vicinity impacted by the proposed development.

G. Attachments

1. Vicinity Map
2. Site Plan
3. Utility Coordinating Council
4. Development Process Checklist
5. Request for Reconsideration Guidelines **OR** Appeal Guidelines

VICINITY MAP

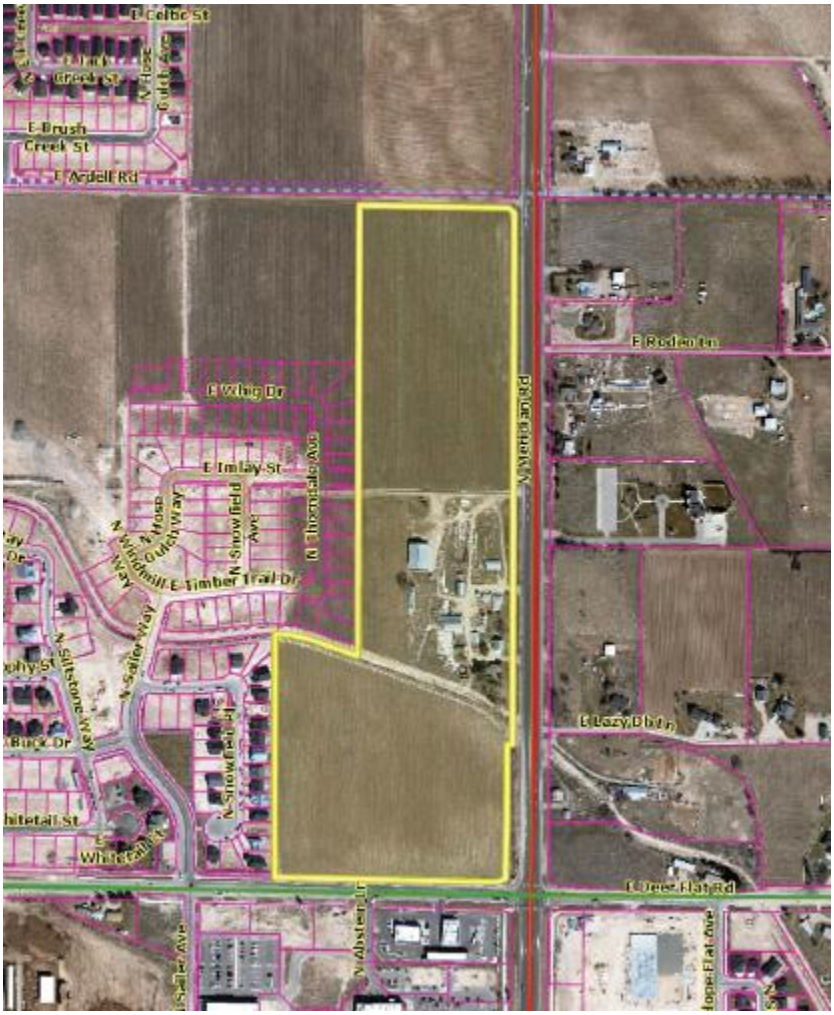


Exhibit B-2

Ada County Utility Coordinating Council

Developer/Local Improvement District
Right of Way Improvements Guideline Request

Purpose: To develop the necessary avenue for proper notification to utilities of local highway and road improvements, to help the utilities in budgeting and to clarify the already existing process.

1) **Notification:** Within five (5) working days upon notification of required right of way improvements by Highway entities, developers shall provide written notification to the affected utility owners and the Ada County Utility Coordinating Council (UCC). Notification shall include but not be limited to, project limits, scope of roadway improvements/project, anticipated construction dates, and any portions critical to the right of way improvements and coordination of utilities.

2) **Plan Review:** The developer shall provide the highway entities and all utility owners with preliminary project plans and schedule a plan review conference. Depending on the scale of utility improvements, a plan review conference may not be necessary, as determined by the utility owners. Conference notification shall also be sent to the UCC. During the review meeting the developer shall notify utilities of the status of right of way/easement acquisition necessary for their project. At the plan review conference each company shall have the right to appeal, adjust and/or negotiate with the developer on its own behalf. Each utility shall provide the developer with a letter of review indicating the costs and time required for relocation of its facilities. Said letter of review is to be provided within thirty calendar days after the date of the plan review conference.

3) **Revisions:** The developer is responsible to provide utilities with any revisions to preliminary plans. Utilities may request an updated plan review meeting if revisions are made in the preliminary plans which affect the utility relocation requirements. Utilities shall have thirty days after receiving the revisions to review and comment thereon.

4) **Final Notification:** The developer will provide highway entities, utility owners and the UCC with final notification of its intent to proceed with right of way improvements and include the anticipated date work will commence. This notification shall indicate that the work to be performed shall be pursuant to final approved plans by the highway entity. The developer shall schedule a preconstruction meeting prior to right of way improvements. Utility relocation activity shall be completed within the times established during the preconstruction meeting, unless otherwise agreed upon.

Notification to the Ada County UCC can be sent to: 50 S. Cole Rd. Boise 83707, or Visit iducc.com for e-mail notification information.

Development Process Checklist

Items Completed to Date:

☒Submit a development application to a City or to Ada County

☒The City or the County will transmit the development application to ACHD

☒The ACHD **Planning Review Section** will receive the development application to review

☒The **Planning Review Section** will do one of the following:

☐Send a **"No Review"** letter to the applicant stating that there are no site specific conditions of approval at this time.

☒Write a **Staff Level** report analyzing the impacts of the development on the transportation system and evaluating the proposal for its conformance to District Policy.

☐Write a **Commission Level** report analyzing the impacts of the development on the transportation system and evaluating the proposal for its conformance to District Policy.

Items to be completed by Applicant:

☐For **ALL** development applications, including those receiving a **"No Review"** letter:

- The applicant should submit one set of engineered plans directly to ACHD for review by the **Development Review Section** for plan review and assessment of impact fees. (Note: if there are no site improvements required by ACHD, then architectural plans may be submitted for purposes of impact fee assessment.)
- The applicant is required to get a permit from Construction Services (ACHD) for ANY work in the right-of-way, including, but not limited to, driveway approaches, street improvements and utility cuts.

☐Pay Impact Fees prior to issuance of building permit. Impact fees cannot be paid prior to plan review approval.

DID YOU REMEMBER:
Construction (Non-Subdivisions)

☐ **Driveway or Property Approach(s)**

- Submit a "Driveway Approach Request" form to ACHD Construction (for approval by Development Services & Traffic Services). There is a one week turnaround for this approval.

☐ **Working in the ACHD Right-of-Way**

- Four business days prior to starting work have a bonded contractor submit a "Temporary Highway Use Permit Application" to ACHD Construction – Permits along with:
  a) Traffic Control Plan
  b) An Erosion & Sediment Control Narrative & Plat, done by a Certified Plan Designer, if trench is >50' or you are placing >600 sf of concrete or asphalt.

Construction (Subdivisions)

☐ **Sediment & Erosion Submittal**

- At least one week prior to setting up a Pre-Construction Meeting an Erosion & Sediment Control Narrative & Plan, done by a Certified Plan Designer, must be turned into ACHD Construction to be reviewed and approved by the ACHD Stormwater Section.

☐ **Idaho Power Company**

- Vic Steelman at Idaho Power must have his IPCO approved set of subdivision utility plans prior to Pre-Con being scheduled.

☐ **Final Approval from Development Services is required** prior to scheduling a Pre-Con.

Exhibit B-2

Request for Appeal of Staff Decision

1. **Appeal of Staff Decision:** The Commission shall hear and decide appeals by an applicant of the final decision made by the Development Services Manager when it is alleged that the Development Services Manager did not properly apply this section 7101.6, did not consider all of the relevant facts presented, made an error of fact or law, abused discretion or acted arbitrarily and capriciously in the interpretation or enforcement of the ACHD Policy Manual.

    a. Filing Fee: The Commission may, from time to time, set reasonable fees to be charged the applicant for the processing of appeals, to cover administrative costs.

    b. Initiation: An appeal is initiated by the filing of a written notice of appeal with the Secretary and Clerk of the District, which must be filed within ten (10) working days from the date of the decision that is the subject of the appeal. The notice of appeal shall refer to the decision being appealed, identify the appellant by name, address and telephone number and state the grounds for the appeal. The grounds shall include a written summary of the provisions of the policy relevant to the appeal and/or the facts and law relied upon and shall include a written argument in support of the appeal. The Commission shall not consider a notice of appeal that does not comply with the provisions of this subsection.

    c. Time to Reply: The Development Services Manager shall have ten (10) working days from the date of the filing of the notice of appeal to reply to the notice of the appeal, and may during such time meet with the appellant to discuss the matter, and may also consider and/or modify the decision that is being appealed. A copy of the reply and any modifications to the decision being appealed will be provided to the appellant prior to the Commission hearing on the appeal.

    d. Notice of Hearing: Unless otherwise agreed to by the appellant, the hearing of the appeal will be noticed and scheduled on the Commission agenda at a regular meeting to be held within thirty (30) days following the delivery to the appellant of the Development Services Manager's reply to the notice of appeal. A copy of the decision being appealed, the notice of appeal and the reply shall be delivered to the Commission at least one (1) week prior to the hearing.

    e. Action by Commission: Following the hearing, the Commission shall either affirm or reverse, in whole or part, or otherwise modify, amend or supplement the decision being appealed, as such action is adequately supported by the law and evidence presented at the hearing.

Request for Reconsideration of Commission Action

1. **Request for Reconsideration of Commission Action:** A Commissioner, a member of ACHD staff or any other person objecting to any final action taken by the Commission may request reconsideration of that action, provided the request is not for a reconsideration of an action previously requested to be reconsidered, an action whose provisions have been partly and materially carried out, or an action that has created a contractual relationship with third parties.

    a. Only a Commission member who voted with the prevailing side can move for reconsideration, but the motion may be seconded by any Commissioner and is voted on by all Commissioners present.

        If a motion to reconsider is made and seconded it is subject to a motion to postpone to a certain time.

    b. The request must be in writing and delivered to the Secretary of the Highway District no later than 11:00 a.m. 2 days prior to the Commission's next scheduled regular meeting following the meeting at which the action to be reconsidered was taken. Upon receipt of the request, the Secretary shall cause the same to be placed on the agenda for that next scheduled regular Commission meeting.

    c. The request for reconsideration must be supported by written documentation setting forth new facts and information not presented at the earlier meeting, or a changed situation that has developed since the taking of the earlier vote, or information establishing an error of fact or law in the earlier action. The request may also be supported by oral testimony at the meeting.

    d. If a motion to reconsider passes, the effect is the original matter is in the exact position it occupied the moment before it was voted on originally. It will normally be returned to ACHD staff for further review. The Commission may set the date of the meeting at which the matter is to be returned. The Commission shall only take action on the original matter at a meeting where the agenda notice so provides.

    e. At the meeting where the original matter is again on the agenda for Commission action, interested persons and ACHD staff may present such written and oral testimony as the President of the Commission determines to be appropriate, and the Commission may take any action the majority of the Commission deems advisable.

    f. If a motion to reconsider passes, the applicant may be charged a reasonable fee, to cover administrative costs, as established by the Commission.

Exhibit B-3

RON PLATT
CHAIRMAN OF THE BOARD

BRIAN MCDEVITT
VICE CHAIRMAN OF THE BOARD

ROBERT D. CARTER
PROJECT MANAGER

THOMAS RITTHALER
ASSISTANT PROJECT MANAGER

APRYL GARDNER
SECRETARY-TREASURER

MARY SUE CHASE
ASSISTANT SECRETARY-TREASURER

BOISE PROJECT BOARD OF CONTROL

(FORMERLY BOISE U.S. RECLAMATION PROJECT)

2465 OVERLAND ROAD
BOISE, IDAHO 83705-3155

OPERATING AGENCY FOR 167,000 ACRES FOR THE FOLLOWING IRRIGATION DISTRICTS

NAMPA-MERIDIAN DISTRICT
BOISE-KUNA DISTRICT
WILDER DISTRICT
NEW YORK DISTRICT
BIG BEND DISTRICT

TEL: (208) 344-1141
FAX: (208) 344-1437

13 April 2020

City of Kuna
751 W. 4th street
Kuna, Idaho 83634

RE: Black Rock Marketplace-Village **19-13-AN**
1925 N Meridian Rd. Kuna, ID
Boise-Kuna Irrigation District BK-1231A
Kuna Canal 136+90, 137+40
Sec. 13, T2N, R1E, BM.

Troy Behunin:

The United States' Kuna Canal lies within the boundary of the above-mentioned location. The easement for this lateral is held in the name of the United States through the Bureau of Reclamation under the authority of the Act of August 30, 1890. (26 Stat. 391; 43 U.S.C. 945)

The Boise Project Board of Control is contracted to operate and maintain this lateral. We assert the federal easement 38 feet northeasterly and 35 feet southwesterly of the lateral's centerline. Whereas this area is for the operation and maintenance of our facility, no activity should hinder our ability to do so.

The Boise Project does not approve landscaping (other than grass or gravel) or pathways within its easements, as this will certainly increase our cost of maintenance. Easements must remain a flat drivable surface.

Fencing (as may be required) must be constructed just off the canal easement, to ensure public safety and prevent encroachments.

Please note the appropriate easements on all future preliminary/final plats.

Wording on the preliminary and final recorded plat needs to state that any proposed and/or future usage of the Boise Project Board of Control facilities are subject to Idaho Statues, Title 42-1209.

Exhibit B-3

Project facilities and/or easements that parallel, and are within and/or intended to be within road right-of-ways due to any development of this property must be relocated outside of road right-of-ways. The easements of Boise Project facilities will remain the same unless agreed upon and/or approved with written permission from Boise Project Board of Control.

The construction of any roadway crossings must be conducted only during the non-irrigation season when the lateral is dewatered. In any case no work shall take place within the easement before the proper crossing agreements have been secured through the Bureau of Reclamation and the Boise Project Board of Control.

Utilities planning to cross any project facility must do so in accordance with the master policies now held between the Bureau of Reclamation and most of the utilities. In any case, no work shall take place within the easement before proper crossing agreements have been secured through both the Bureau of Reclamation and the Boise Project Board of Control.

Parking lots, curbing, light poles, signs, etc. and the placing of asphalt and/or cement over Project facility easements must be approved by Boise Project Board of Control prior to construction.

Boise Project Board of Control must approve any requests and/or relocation of delivery points prior to construction.

Storm Drainage and/or Street Runoff must be retained on site.

NO DISCHARGE into any live irrigation system is permitted.

Local irrigation/drainage ditches that cross this property, in order to serve neighboring properties, must remain unobstructed and protected by an appropriate easement.

This development is subject to Idaho Code 31-3805, in accordance, this office is requesting a copy of the irrigation and drainage plans.

Whereas this property lies within the Boise-Kuna Irrigation District it is important that representatives of this development contact the BKID office as soon as possible to discuss the pressure system prior to any costly design work. If applicable, the irrigation system will have to be built to specific specifications as set by the District / Project.

Boise Project Board of Control must receive a written response from the Boise-Kuna Irrigation District as to who will own and operate the pressure irrigation system prior to review and approval of an irrigation plan by Boise Project Board of Control.

Whereas this development is in its preliminary stages, Boise Project Board of Control reserves the right to review plans and require changes when our easements and/or facilities are affected by unknown factors.

Exhibit B-3

Prior to any construction being done next to or within the easements listed previously the contractor and/or developer must contact our Division 2 watermaster at 208-342-5086.

If you have any further questions or comments regarding this matter, please do not hesitate to contact me at (208) 344-1141.

Sincerely,

Thomas Ritthaler
Assistant Project Manager, BPBC

tbr/tr

cc:	Clint McCormick	Watermaster, Div; 2 BPBC
	Lauren Boehlke	Secretary – Treasurer, BKID
	File	

EXHIBIT B-4

Communities in Motion 2040 2.0 Development Review

The Community Planning Association of Southwest Idaho (COMPASS) is the metropolitan planning organization (MPO) for Ada and Canyon Counties. COMPASS has developed this review as a tool for local governments to evaluate whether land developments are consistent with the goals of *Communities in Motion 2040 2.0* (CIM 2040), the regional long-range transportation plan for Ada and Canyon Counties. This checklist is not intended to be prescriptive, but rather a guidance document based on CIM 2040 2.0 goals.

Development Name: Black Rock Marketplace **Agency: Kuna**

CIM Vision Category: Future Neighborhood

New households: 267 **New jobs: TBD** **Exceeds CIM forecast: No**

CIM Corridor: **Highway 69** Pedestrian level of stress: **R** Bicycle level of stress: **R**	Level of Stress considers facility type, number of vehicle lanes, and speed. Roads with **G or PG** ratings better support bicyclists and pedestrians of all ages and comfort levels.
Housing within 1 mile: **1,370** Jobs within 1 mile: **830** Jobs/Housing Ratio: **0.6**	A good jobs/housing balance – a ratio between **1 and 1.5** – reduces traffic congestion. Higher numbers indicate the need for more housing and lower numbers indicate an employment need.
Nearest police station: **2.3 miles** Nearest fire station: **1.5 miles**	Developments within **1.5 miles** of police and fire stations ensure that emergency services are more efficient and reduce the cost of these important public services.
Farmland consumed: **Yes** Farmland within 1 mile: **1,119 acres**	Farmland contributes to the local economy, creates additional jobs, and provides food security to the region. Development in farm areas decreases the productivity and sustainability of farmland.
Nearest bus stop: **>4 miles** Nearest public school: **0.9 miles** Nearest public park: **1.1 miles** Nearest grocery store: **0.3 miles**	Residents who live or work less than **½ mile** from critical services have more transportation choices. Walking and biking reduces congestion by taking cars off the road, while supporting a healthy and active lifestyle.

Recommendations

The proposal is on the fringe of urban development in a largely farmland area and more than four miles from public transportation. ValleyConnect 2.0 proposes bus service along Deer Flat Road from downtown Kuna to west Boise, via downtown Meridian. The closest bus stop would be less than ½ mile in distance when that route is operational. Work with Valley Regional Transit on design that would accommodate future service. The proposal is a mix of residential and retail, which can mitigate new traffic by decreasing the amount of single occupancy vehicle trips generated on the transportation network and encourage non-motorized travel. A site plan was not provided with this annexation request. Consider limiting access locations on to Highway 69 and creating internal shared access to reduce egress onto a state highway. Additional access locations can reduce efficiency on the corridor. Also, consider an improved pathway along the Kuna Canal per the Kuna Regional Pathway Map 2016.

More information about COMPASS and *Communities in Motion 2040 2.0*:
Web: www.compassidaho.org
Email info@compassidaho.org
More information about the development review process:
http://www.compassidaho.org/dashboard/devreview.htm

COMPASS
COMMUNITY PLANNING ASSOCIATION
of Southwest Idaho

EXHIBIT B-5

Troy Behunin

To: Troy Behunin
Subject: Black Rock Market Place

From: Phil Roberts <proberts@kunafire.com>
Sent: Friday, June 12, 2020 11:55 AM
To: Troy Behunin <tbehunin@kunaid.gov>
Subject: RE: Black Rock Market Place

Troy, It is the opinion of the fire department to oppose high density residential in these high traffic areas close or off of Meridian Road. As growth continues it seems that locations for these type of occupancies should be outside of high traffic areas. Blending the two (Residential/Commercial) is not prudent. My preference is to keep at least the first ¼ mile off of Meridian on either side be set aside for light business and commercial occupancies.

Thank you.

Phil Roberts
Fire Chief
Kuna Rural Fire District
208-922-1144 Ext 101
208-922-1982 Fax
208-870-3057 Cell

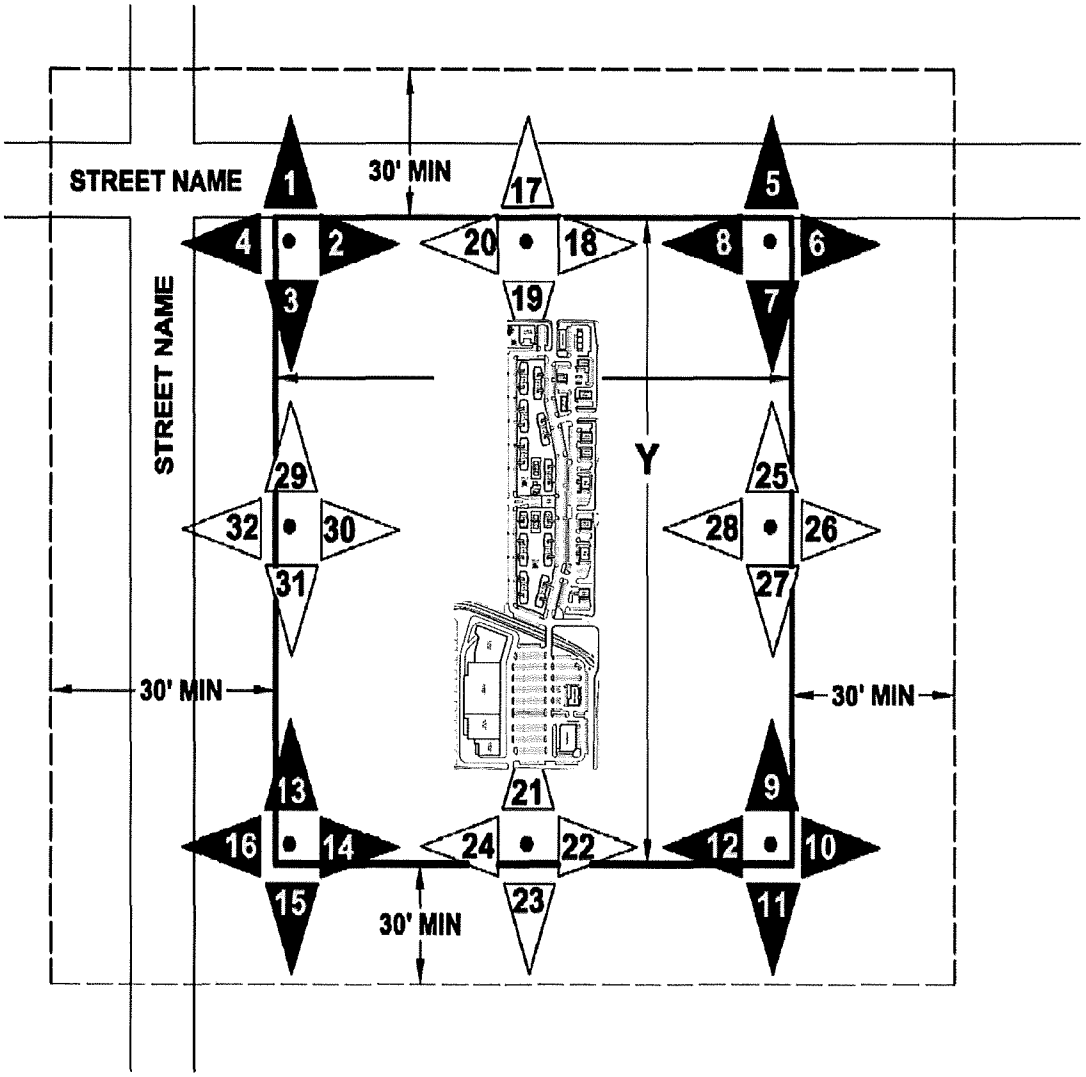
From: Troy Behunin
Sent: Tuesday, June 9, 2020 1:03 PM
To: Chief Roberts <proberts@kunafire.com>
Cc: Reggie Edwards <redwards@kunafire.com>; Krystal Hinkle KRFD <khinkle@kunafire.com>
Subject: Spring Rock Subdivision

Chief,
Here are the projects that I said I would send you at the meeting this morning. This is the first of three emails.

Troy Behunin
Planner III
City of Kuna
751 W. 4th Street
Kuna, ID 83634
TBehunin@KunaId.Gov

KUNA
Planning & Zoning

CONFIDENTIALITY NOTICE
This e-mail and any attachments may contain confidential or privileged information. If you are not the intended recipient, you are not authorized to use or



Project Information:

Name: SH69 Holdings LLC
Project: BlackRock Village
Gross Acre: 41.66

NOTE:

Provide Site Plan on an 8 1/2" x 11" paper—indicating placement of photo orientation.

All applicants are expected to provide COLOR photographs at a 1-16 minimum.

If Distance 'X' is GREATER than 500-feet, also take photos 17-24.

If Distance 'Y' is GREATER than 500-feet, also take photos 17-24.

#1—N



#2—E



#3 —S



#4—W



#5—N



#6—E



#7—S



#8—W



#9—N



#10—E




#11—S

#12—W



#13—N



#14—E



#15—S



#16—W



#17—N



#18—E



#19—S



#20—W



#21—N



#22—E



#23—S



#24—W



#25—N



#26—E



#27—S



#28—W



#29—N



#30—E



#31—S



#32—W



Neighborhood Meeting Certification

CITY OF KUNA PLANNING & ZONING * 763 W. Avalon, Kuna, Idaho, 83634 * www.kunacity.id.gov * (208) 922-5274 * Fax: (208) 922-5989

GENERAL INFORMATION:

You must conduct a neighborhood meeting prior to application for variance, conditional use, zoning ordinance map amendment, expansion or extension of a nonconforming use, and/or a subdivision. Please see Section 5-1A-2 of the Kuna City Code or ask one of our planners for more information on neighborhood meetings.

The meeting must be held either on a weekend between 10 a.m. and 7 p.m., or a weekday between 6 p.m. and 8 p.m. Meetings cannot be conducted on holidays, holiday weekends, or the day before or after a holiday or holiday weekend. The meeting must be held at one of the following locations:

- The Subject Property;
- The nearest available public meeting place (Examples include fire stations, libraries and community centers);
- An office space within a 1-mile radius of the subject property.

The meeting cannot take place more than 2 months prior to acceptance of the application and the application will not be accepted before the neighborhood meeting is conducted. You are required to send written notification of your meeting, allowing a reasonable amount of time before your meeting for property owners to plan to attend. Contacting and/or meeting individually with residents will not fulfill Neighborhood Meeting requirements.

You may request a list of the people you need to invite to the neighborhood meeting from our department. This list includes property owners within 300 feet of the subject property. Once you have held your neighborhood meeting, please complete this certification form and include it with your application.

Please Note: The neighborhood meeting must be conducted in one location for attendance by all neighboring residents. Contacting and/or meeting individually with residents does not comply with the neighborhood meeting requirements.

Please include a copy of the sign-in sheet for your neighborhood meeting, so we have written record of who attended your meeting and the letter of intent sent to each recipient. In addition, provide any concerns that may have been addressed by individuals that attended the meeting.

Description of proposed project: 41.66 acres, NW corner of Deer Flat Rd. and SH69 (Meridian Rd.)

Date and time of neighborhood meeting: October 16, 2019 at 6:00 p.m.

Location of neighborhood meeting: Kuna Fire Department, 160 W. Boise St., Kuna, ID 83634

SITE INFORMATION:

Location: Quarter: SE Section: 13 Township: 2 Range: 1 Total Acres: 41.66

Subdivision Name: BlackRock Marketplace/Village Lot: Block:

Site Address: 1925 N. Meridian Rd., Kuna, ID 83634 Tax Parcel Number(s): S1313449900

Please make sure to include **all** parcels & addresses included in your proposed use.

CURRENT PROPERTY OWNER:

Name: Margaret M. Hill Family Limited Partnership

Address: 1556 E. Locust View Ln. Meridian ID Zip: 83642

CONTACT PERSON (Mail recipient and person to call with questions):

Name: Thomas J. Angstman Business (if applicable): SH69 Holdings, LLC

Address: 199 N. Capitol Blvd., Ste. 200 City: Boise State: Idaho Zip: 83702

PROPOSED USE:

I request a neighborhood meeting list for the following proposed use of my property (check all that apply):

Application Type	*Brief Description*
Annexation	Annexation with mixed use property uses as designated in the Comprehensive Plan adopted this summer by the City of Kuna.
Re-zone	
Subdivision (Sketch Plat and/or Prelim. Plat)	
Special Use	
Variance	
Expansion of Extension of a Nonconforming Use	
Zoning Ordinance Map Amendment	

APPLICANT:

Name: SH69 Holdings, LLC

Address: 1400 E. Kokanee Ln., Attn: David Gronbeck

City: Kuna State: ID Zip: 83634

Telephone: 208-861-6664 Fax:

I certify that a neighborhood meeting was conducted at the time and location noted on this form and in accord with Section 5-1A-2 of the Kuna City Code

Signature: (Applicant) Date 12-13-19

Thomas J. Angstman, Manager

City of Kuna
P.O. Box 13
Kuna, Idaho 83634

Phone: (208) 922-5274
Fax: (208) 922-5989
Web: www.cityofkuna.com

City of Kuna

COMMITMENT TO PROPERTY POSTING

Per City Code 5-1A-8, the applicant for all applications requiring a public hearing shall post the subject property not less than ten (10) days prior to the hearing. The applicant shall post a copy of the public hearing notice or the application (s) on the property under consideration.

The applicant shall submit proof of property posting in the form of a notarized statement and a photograph of the posting to the City no later than seven (7) days prior to the public hearing attesting to where and when the sign (s) were posted. Unless such Certificate is received by the required date, the hearing will be continued.

The sign (s) shall be removed no later than three (3) days after the end of the public hearing for which the sign (s) had been posted.

I am aware of the above requirements and will comply with the posting requirements as stated in Kuna City Code 5-1A-8

Applicant/agent signature

12-13-19
Date

SIGN IN SHEET

PROJECT NAME: Approx. 42 acres on NW corner of Deer Flat & SH 69 (Meridian Rd.)

Date: 10-16-19

	Name	Address	Zip	Phone
1	Ryan Speth	1780 N. Snowfield	83634	904-517-6523
2	Richard Hersey	2202 N. Meridian Rd.	83634	208-697-6772
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SH69 HOLDINGS, LLC
199 N. Capitol Boulevard, Suite 200
Boise, ID 83702

October 8, 2019

Dear Neighbor:

A neighborhood meeting has been scheduled for Wednesday, October 16, 2019 at 6:00 p.m. in the conference room of the Kuna Fire Department, 160 W. Boise Street, Kuna, Idaho 83634. The purpose of the meeting is to discuss the developer's plan to annex the approximately 42-acre property located on the NW corner of Deer Flat and SH69 (Meridian Road). The developer is seeking annexation with mixed-use property uses as designated in the Comprehensive Plan adopted this summer by the City of Kuna.

Sincerely yours,

Thomas J. Angstman
Developer

PROVIDED NEIGHBORS WITHIN 300 FT. LIST USED

	A	B	C	D
1	PRIMOWNER	SECOWNER	ADDCONCAT	STATCONCAT
2	ADA COUNTY HIGHWAY DISTRICT		3775 N ADAMS ST	GARDEN CITY, ID 83714-6447
3	BAILEY TINA L		1264 E TROPHY ST	KUNA, ID 83634-0000
4	BUTTRAM JEREMIAH	BUTTRAM KRISTI	1217 E TROPHY ST	KUNA, ID 83634-0000
5	CAPITAL EDUCATORS FEDERAL CREDIT UNION		PO BOX 570	MERIDIAN, ID 83680-0570
6	CHARLES STEVEN MICHAEL		1834 N SNOWFIELD PL	KUNA, ID 83634-0000
7	CJM LIMITED LIABILITY LIMITED PARTNERSHIP		621 WASHINGTON ST S	TWIN FALLS, ID 83301-0000
8	CONRAD & BISCHOFF INC		PO BOX 50106	IDAHO FALLS, ID 83405-0000
9	DAY ROBERT S & DOROTHY E TRUST	DAY ROBERT S TRUSTEE	2096 N MERIDIAN RD	KUNA, ID 83634-0000
10	DBRE LLC		3303 E LINDEN ST	CALDWELL, ID 83605-0000
11	DEINEMA DANNY R	DEINEMA LORA D	1636 N SNOWFIELD PL	KUNA, ID 83634-0000
12	DERRY RAE		1235 E TROPHY ST	KUNA, ID 83634-0000
13	FUSSELMAN JESSE D	FUSSELMAN MCKENNA A	1708 N SNOWFIELD PL	KUNA, ID 83634-0000
14	GO FOR IT LLC		16130 N ELDER ST	NAMPA, ID 83687-0000
15	HARDIN ZANE B	HARDIN KAYLEE	1762 N SNOWFIELD PL	KUNA, ID 83634-0000
16	HEATON JOSEPH D		1781 N SNOWFIELD PL	KUNA, ID 83634-0000
17	HERSEY RICHARD S	HERSEY LOUISE E	2202 N MERIDIAN RD	KUNA, ID 83634-0000
18	HILL MARGARET M FAMILY LP		1556 E LOCUST VIEW LN	MERIDIAN, ID 83642-0000
19	JAPHETH LLC		715 W BLUE SPRUCE RD	ALPINE, UT 84004-0000
20	JONES THOMAS	JONES TONI	PO BOX 231	KUNA, ID 83634-0231
21	LAUFENBERG TAMRA	LAUFENBERG JAMES	2791 S TEN MILE RD	MERIDIAN, ID 83642-0000
22	LEDUC KENNETH P	LEDUC DEBRA G	1727 N SNOWFIELD PL	KUNA, ID 83634-0000
23	LEE JACK & RITA FAMILY TRUST 4/22/98	LEE MONROE M TRUSTEE	4357 S TINKER AVE	BOISE, ID 83709-0000
24	LEUNG MAN SIN	GONZALEZ MATTHEW J	1600 N SNOWFIELD PL	KUNA, ID 83634-0000
25	LEWIS LINDA	LEWIS MARK	3500 CHINIAK BAY DR	ANCHORAGE, AK 99515-0000
26	MILLER CHERYL		1763 N SNOWFIELD PL	KUNA, ID 83634-0000
27	MILLER RYAN M	MILLER BRITTNEY M	1709 N SNOWFIELD PL	KUNA, ID 83634-0000
28	MILLS KIM RENEE		1698 E LAZY DB LN	KUNA, ID 83634-0000
29	MOYLE JANET		1726 N SNOWFIELD PL	KUNA, ID 83634-0000
30	POWERS RYAN E	POWERS TRACY L	1744 N SNOWFIELD PL	KUNA, ID 83634-0000
31	SANDSTONE FARMS LLC		3440 W DAVIS LN	MERIDIAN, ID 83642-0000
32	SMITH RAYMOND	SMITH MARCIA	2284 N MERIDIAN RD	KUNA, ID 83634-0000
33	SPATH RYAN	SPATH GABRIELLE	1780 N SNOWFIELD PL	KUNA, ID 83634-0000
34	STEFFENSEN STACEY L	STEFFENSEN MARISA V	1816 N SNOWFIELD PL	KUNA, ID 83634-0000
35	STERLING RANCH HOMEOWNERS ASSOCIATION INC		3103 W SHERYL DR STE 100	MERIDIAN, ID 83642-0000
36	TOLL ID I LLC		250 GIBRALTAR RD	HORSHAM, PA 19044-0000
37	WALLACE CORY L	WALLACE LORA L	1654 N SNOWFIELD PL	KUNA, ID 83634-0000
38	WILLAVERDE IGNACIO	WILLAVERDE RUTH ANN	1200 E TROPHY ST	KUNA, ID 83634-0000

SH69 HOLDINGS, LLC
MINUTES OF NEIGHBORHOOD MEETING

OCTOBER 16, 2019 AT 6:00 P.M.

SH69 Holdings, LLC, an Idaho limited liability company ("Developer"), conducted a neighborhood meeting on October 16, 2019 at 6:00 p.m. at the Kuna Fire Department, 160 W. Boise Street, Kuna, Idaho 83634. Present were Developer's representatives and two neighbors.

The purpose of the meeting was to discuss Developer's plan to annex the approximately 42-acre property located on the NW corner of Deer Flat and State Highway 69 (Meridian Road) ("Property").

Ryan Spath is a homeowner in the neighborhood adjacent to the Property (1780 N. Snowfield Place, Kuna, ID 83634). Mr. Spath stated he was satisfied that his home was adjacent to a parcel that is intended for commercial zoning. He stated he will eventually move out of his home and keep it as a rental property.

Richard Hersey owns a home across State Highway 69 from the Property (2202 N. Meridian Road, Kuna, ID 83634). Mr. Hersey was not in opposition to Developer's project on the Property, but wanted to know details and to discuss the situation with his own property.

The meeting concluded after approximately two hours of cordial discussion.

SH69 HOLDINGS, LLC,
an Idaho limited liability company

By: LRI, LLC,
an Idaho limited liability company
Its: Manager

By:_____
Thomas J. Angstman, Manager

City of Kuna
AFFIDAVIT OF LEGAL INTEREST

City of Kuna
P.O. Box 13
Kuna, Idaho 83634
Phone: (208) 922-5274
Fax: (208) 922-5989
Web: www.Kunacity.id.gov

State of Idaho)
) ss.
County of Ada)

I, Angus Hill, Treasurer - Margaret M. Hill Family LP , 1925 N. Meridian Rd.
Name **Address**

Kuna , Idaho 83634
City **State** **Zip Code**

being first duly sworn upon oath, depose and say:

(If Applicant is also Owner of Record, skip to B)

A. That I am the record owner of the property described on the attached, and I grant my permission to KG Global Development Company, LLC, or assigns; 1400 E. Kokanee Ln, Kuna, ID 83634
Name Address

to submit the accompanying application pertaining to that property.

B. I agree to indemnify, defend and hold City of Kuna and its employees harmless from any claim or liability resulting from any dispute as to the statements contained herein or as to the ownership of the property which is the subject of the application.

C. I hereby grant permission to the City of Kuna staff to enter the subject property for the purpose of site inspections related to processing said application(s),

Dated this 16th day of October, 20 19

Angus Hill TREASURER - Margaret M. Hill Family L.P
Signature

Subscribed and sworn to before me the day and year first above written.

Kara Medrano
Notary Public for Idaho

Residing at: Kuna, ID

My commission expires: 9-3-21

KARA MEDRANO NOTARY PUBLIC STATE OF IDAHO

ASSIGNMENT AND ASSUMPTION OF CONTRACT

This Assignment and Assumption of Contract ("Assignment"), dated effective as of November 22, 2019, by and between KG Global Development, LLC, an Idaho limited liability company ("Assignor"), and SH69 Holdings, LLC, an Idaho limited liability company ("Assignee"), is made with reference to the following facts:

RECITALS:

WHEREAS, Assignor, acting as the buyer, entered into a Purchase and Sale Agreement dated effective February 21, 2018, together with any and all amendments and supplements thereto (collectively, the "Contract"), attached hereto as **Exhibit 1** and made a part hereof, for the purchase and sale of certain real property located in Ada County, Idaho as legally described in Exhibit A of Contract (the "Property"); and all capitalized terms used herein without being defined herein shall have the meanings ascribed to them in the Contract; and

WHEREAS, Assignor desires to assign its right, title and interest in and to the Contract to Assignee, and Assignee desires to accept and assume the assignment.

NOW THEREFORE, in consideration of the mutual covenants and agreements hereinafter set forth, and for good and valuable consideration received, the parties hereto agree as follows:

1. Assignment and Assumption.

Effective immediately upon execution of this Assignment by all of the parties hereto, (A) Assignor sells, transfers, assigns, conveys, grants and sets over to Assignee, and its successors and assigns, forever all of Assignor's rights, title and interest as of such date in and to all and any of Assignor's rights and obligations under, pursuant to and arising out of the Contract, as fully and entirely as the same would have been held and enjoyed by Assignor as if this Assignment had not been made; and (B) Assignee assumes, takes over and succeeds to all of Assignor's rights, title and interest as of such date in and to all and any of Assignor's rights and obligations under, pursuant to and arising out of the Contract, and Assignee covenants and agrees to discharge, perform and comply with, and to be bound by, all the terms, conditions, provisions, obligations, covenants and duties of Assignor in connection with all and any of Assignor's rights and obligations under, pursuant to and arising out of the Contract, as the same may be amended from time to time, (in each case, whether or not any of it relates to the period before or after the date hereof), as if Assignee was the only party thereto.

2. Further Assurances.

Assignor covenants and agrees with Assignee that it will, from time to time and at all times hereafter, at the request of Assignee, execute such further assurances and do all further acts as may be reasonably required for the purpose of vesting in Assignee all of the interest of Assignor in and under the Contract.

3. Incorporation of Recitals.

The Recitals set forth above are hereby incorporated into and made a part of this Assignment to the same extent and with the same force and effect as if fully set forth herein.

4. Entire Assignment.

This Assignment and its accompanying **Exhibit 1** constitute the entire agreement between the parties hereto pertaining to the subject matter hereof, and the final, complete and exclusive expression of the terms and conditions of their agreement. Any and all prior agreements, representations, negotiations and understandings made by the parties, oral and written, express or implied, are hereby superseded and merged herein. This Assignment is intended by all parties to be a fully integrated agreement, and that no evidence, written or oral, may be admitted or considered outside of this Assignment in order to determine the intent of the parties hereto or the meaning of any terms contained in this Assignment.

5. Successors.

This Assignment shall be fully binding upon and enforceable with respect to the parties, and their respective representatives, successors, and assigns.

6. Execution in Counterparts.

This Assignment may be executed in one or more counterparts, all of which taken together shall constitute one agreement.

7. Severability.

The provisions of this Assignment are severable, and if any part of it is found to be unenforceable, the other paragraphs shall remain fully valid and enforceable. This Assignment shall survive the termination of any arrangements contained herein.

8. Governing Law.

This Assignment is entered into and shall be governed, construed, and interpreted in accordance with the laws of the State of Idaho, without respect to any choice of law provisions or statutes.

[end of text – signatures on following page]

IN WITNESS WHEREOF, the undersigned have executed this Assignment as the date first set forth above.

ASSIGNOR:

KG Global Development, LLC,
an Idaho limited liability company

By: _____
David Gronbeck, Managing Member

ASSIGNEE:

SH69 Holdings, LLC
an Idaho limited liability company

By: _____
Thomas J. Angstman, Manager

Attachment(s): Exhibit 1

EXHIBIT 1

SEE ATTACHED HERETO AND MADE A PART HEREOF.

EXHIBIT 1

PURCHASE AND SALE AGREEMENT

Approximately 41.66 acres; Parcel ID #S1313449900

PLANT

This real estate purchase and sale agreement (this "Agreement") is entered into effective the 21st day of February, 2018 (the "Effective Date"), by and between KG Global Development Company, LLC, an Idaho limited liability company, and/or its assigns ("Buyer") and Margaret M Hill Family LP, an Idaho limited partnership ("Seller").

RECITALS

A. Seller is the owner of that real estate parcel legally described on the attached Exhibit "A", which is made a part hereof (the "Property"); and

B. Seller shall have the right to exclude from the Property up to 0.24 acres located at its southeast corner that is at the intersection of Deer Flat Road and North Meridian Road so as to accommodate the Idaho Transportation Department's request for additional road right of way. Any payment made for the right of way shall be retained by Seller and shall not reduce the Purchase Price. If that transfer of title should occur, then the word "Property" shall comprise that described in Exhibit A less the parcel transferred to the Idaho Transportation Department; and

C. Buyer desires to purchase the Property; and

D. Seller desires to sell, transfer and convey the Property according to the provisions hereinafter set forth.

NOW, THEREFORE, in consideration of the mutual covenants set forth herein, Seller and Buyer represent, covenant, undertake and agree as follows:

1. AGREEMENT OF PURCHASE AND SALE.

Seller agrees to sell, transfer and convey, and Buyer agrees to purchase, the Property, together with any and all prorated rents, leases, appurtenances, easements, rights-of-way and privileges appertaining to or otherwise benefitting the Property, improvements, entitlements, governmental approvals development rights, reimbursement agreements or any rights thereto, latecomer agreements or any rights thereto, engineering, plans, specifications, drawings, maps, surveys, licenses, applications, permits, certificates, reports, studies, guaranties, warranties, causes of action and similar claims and rights reservations of name and water rights

thereto to the extent owned by Seller and not otherwise, upon each of the terms and conditions hereinafter set forth.

2. PURCHASE PRICE AND PAYMENT TERMS.

The total purchase price to be paid to Seller by Buyer for the Property shall b[illegible] Thousand Eight Hundred Fifty and 00/100 Dollars, [illegible]), ("Purchase Price").

The Purchase Price shall be paid as follows:

a) $5,000 in cash as non-refundable Earnest Money to be deposited into escrow at Fidelity National Title Company of Idaho located at 950 W Bannock St. Suite 420, Boise, ID 83702, within 3 business days following mutual execution of this Agreement. The Earnest Money Deposit shall be non-refundable and released to Seller upon demand and shall apply towards the Purchase Price as hereinafter defined.

b) The entire remainder of the Purchase Price shall be paid by Buyer at the Closing in immediately available US funds.

3. BROKERAGE FEES.

Buyer and Seller each represent and warrant that no broker, agent, or finder has been engaged by either party in connection with this transaction. Buyer and Seller each hereby agree to indemnify and defend the other against any and all commissions, finder's fees or other fee or any claim therefore by any broker in connection with this transaction claiming through the indemnifying party.

4. DUE DILIGENCE.

a) Buyer shall have until January 31, 2019 to complete their Due Diligence ("Due Diligence Period"). Buyer may, in its sole and absolute discretion, terminate this Agreement, at any time during the Due Diligence Period. Subject to the Due Diligence Period, Buyer shall purchase the Property "as-is".

Within five (5) business days from the Effective Date hereof, Seller shall provide copies to Buyer, to the extent they are in Seller's or Seller's agents' possession, of all written documents related to the Property, including but not limited to surveys, leases, applications, title reports, approvals, environmental reports, and other similar documents. Seller makes no representations as to the accuracy or completeness of the documents.

Buyer shall have the right to extend the Due Diligence Period for six months upon payment to Seller of the sum of $5,000.00, which shall be non-refundable and shall not apply to the purchase price. Also, Buyer shall have the right to extend the Due Diligence period a second time following the first extended Due Diligence Period upon payment to Seller of the sum of $5,000.00, which shall be non-refundable and shall not apply to the purchase price. The $5,000.00 sums paid to extend the Due Diligence Period shall be paid to Fidelity National Title Company of Idaho not less than ten business days prior to the expiration of what is then the Due Diligence Period and shall be released to Seller upon demand.

b) Right to Inspect. Buyer will have until 5:00 p.m., local time, MST, on what is then the current Due Diligence Deadline to inspect, evaluate and determine the adequacy of the Property for Buyer's purposes, including, but not limited to, environmental, structural, mechanical and other systems, economic viability, and all zoning, permit and governmental approval matters, environmental investigations, and to undertake, at Buyer's expense, such tests and surveys and other activities as it shall determine in connection therewith.

c) Right to Survey. During what is then the current Due Diligence Period, Buyer may obtain, at Buyer's expense, an ALTA/ACSM land and improvements survey prepared by a surveyor licensed in the State of Idaho containing the description of the Land and location of all Improvements and encroachments thereon, including but not limited to any improvements, fence locations and easements, rights of way and roadways adjacent to the Land, in a form sufficient to enable the Title Company to issue an extended coverage Title Policy, certified to Buyer, Seller, and the Title Company (the "Survey").

d) Termination for Disapproval. In the event Buyer is dissatisfied with the Property or the Survey for any reason, in Buyer's sole and absolute discretion, then Buyer may terminate this Agreement by delivering written notice of termination to Seller ("Termination Notice") on or before the expiration of the then current Due Diligence Period and neither of the Parties shall have any further rights or obligations under this Agreement, except those which have matured. In the event Buyer fails to deliver its Termination Notice on or before the expiration of what is then the current Due Diligence Period, this Agreement shall remain in full force and effect. In the event Buyer exercises its right under this Section and terminates this Agreement, Buyer shall provide copies of all reports, tests, and other results of its inspection to Seller.

e) License to Inspect and Survey. Seller grants to Buyer a license which allows Buyer and Buyer's employees, agents, and representative's ("Buyer's Representative's") to enter the Property during what is then the current Due Diligence Period at reasonable times to conduct the Survey and such inspections, tests, and investigations of the Property as Buyer may elect.

f) Inspection Requirements. In conducting the Survey and any inspection of the Property or otherwise accessing the Property, Buyer and Buyer's Representatives shall at all times comply with all laws and regulations of all applicable governmental authorities.

g) Access. Buyer shall schedule and coordinate all inspections of the Property or other access thereto with Seller, and Seller agrees to reasonably cooperate with Buyer in connection with such scheduling and coordination of such inspections and access. Seller shall be entitled to have a representative present at all times during each such inspection or other access. All inspection fees, appraisal fees, engineering fees and other costs and expenses of any kind incurred by Buyer or Buyer's Representatives relating to such inspection and its other access shall be at the sole expense of Buyer.

h) Waiver, Hold Harmless & Indemnity. Buyer, on behalf of itself, the Buyer's Representatives, and their heirs, administrators, executors, personal representatives, successors and assigns, and on behalf of their past, present and future members, officers, directors, employees, shareholders, agents, legal representatives, and attorneys, affiliates, subsidiaries, partners, insurers and all other persons and entities which have, do or may in the future claim any right or interest through or on behalf of them agrees to waive, release, remise, discharge, acquit, indemnify and hold harmless Seller and Seller's past, present and future members, officers, directors, employees, shareholders, agents, legal representatives and attorneys, affiliates, subsidiaries, partners, insurers and all other persons and entities which have, do or may in the future claim any right or interest through or on behalf of them, of and from any and all, in all manner of, actions, causes of action, claims, suits, debts, sums of money, covenants, contracts, controversies, agreements, compromises, variances, rights, damages, losses, costs, legal or other expenses, attorneys' fees, judgments, executions, obligations, claims and demands of any kind whatsoever, whether vested or contingent, in law or in equity, foreseen or unforeseen, known or unknown, now asserted or not asserted (collectively, "Claims"), arising out of Buyer and Buyer's Representative's exercise of the license granted herein, unless

caused by the intentional or negligent act or omission of Seller, its agents, contractors or employees. Notwithstanding anything to the contrary stated above, Buyer shall not be liable for any Claims or diminution in the value of the Real Property arising or resulting from (i) Buyer's discovery of any pre-existing condition in, on, under or about the Real Property, or (ii) any exacerbation of a pre-existing condition in, on, under or about the Real Property, except to the extent, if any, said exacerbation results from the intentional or negligent act or omission of Buyer, its agents, contractors or employees. Buyer's covenant to repair and indemnification in this Section 4(h) shall survive the Closing or termination of this Agreement.

i) Public Liability Insurance. Buyer shall procure and maintain throughout the Due Diligence Period a policy or policies of insurance, at its sole costs and expense, insuring both Seller and Buyer against all claims, demands or actions arising out of or in connection with Buyer's access to the Property, the limits of such policy or policies shall be in an amount not less than $1,000,000.00 in respect of injuries to or death of any one person and in amount not less than $1,000,000.00 in respect of property damaged or destroyed and to be written by insurance companies satisfactory to Seller. Buyer shall obtain a written obligation on the part of each insurance company to notify Seller at least 30 days prior to cancellation of such insurance. Such policies or duly executed certificates of insurance shall be promptly delivered to Seller and renewals thereof as required shall be delivered to Seller at least 30 days prior to the expiration of the respective policy terms. If Buyer should fail to comply with the foregoing requirements related to insurance, Seller may obtain such insurance and Buyer shall pay to Seller on demand the premium cost thereof plus interest at the rate of 10% per annum from the date of payment by Seller until repaid by Buyer.

j) Damage to Property. Buyer shall not commit or permit any waste or destruction of the Property and shall repair any disturbance to the soil and improvements caused by Buyer or Buyer's Representatives.

k) Liens. Buyer shall not suffer or do anything to encumber title to the Property, with any lien or encumbrance, nor allow any liens for materials furnished and labor performed for the Buyer in performing its Due Diligence.

l) Buyer's Election to Investigate or Inspect. It is Buyer's election and request that Buyer be permitted to investigate and inspect the Property and its improvements. Seller is not requiring Buyer to perform such.

Also, if Buyer desires to perform surveys to determine the boundaries or location of the Property or any improvements thereon or any of the activities listed above, the work is being done at Buyer's election and not at Seller's request.

5. TITLE MATTERS.

a) Documents Evidencing Title. Within seven (7) business days from the Effective Date hereof, Seller shall deliver, or cause to be delivered, to Buyer, a commitment for an ALTA standard owners title insurance policy and all underlying documents of record (the "Title Commitment") issued by Fidelity National Title Company Of Idaho (Nanci Boslau), located at 950 W Bannock St. Suite 420, Boise, ID 83702 ("Escrow Agent"), in an amount equal to the purchase price, showing title to the Property to be vested in Seller subject to the lien of real estate taxes for the current calendar year not yet due and payable and all other liens, easements, restrictions and encumbrances of record.

b) Title Defects. If the Title Commitment delivered by Seller discloses liens or other matters objectionable to Buyer ("Unpermitted Exceptions") and Buyer objects in writing to Seller within twenty (20) days of Buyer's receipt of the Title Commitment (the "Objection Period"), Seller may, within ten (10) days of Seller's receipt of Buyer's written objections, have the Unpermitted Exceptions removed from the Title Commitment, provide Buyer written assurances that the objected to matters shall be resolved or discharged by the Closing Date or have the Escrow Agent commit to insure against loss or damage that may be occasioned by such Unpermitted Exceptions. If Seller does not or is unwilling to have the Unpermitted Exceptions removed in its sole and unfettered discretion or corrected or if Seller does not provide acceptable assurances to Buyer that the Unpermitted Exceptions will be resolved or discharged by the Closing Date or does not cause the Escrow Agent to insure over any such Unpermitted Exceptions within such ten (10) day time period, Buyer may terminate this Agreement within ten (10) days following the expiration of the Objection Period and Buyer shall have no further rights or remedies hereunder. If Buyer elects to take the Property subject to any Unpermitted Exceptions or fails to terminate this Agreement within ten (10) days following the expiration of the Objection Period, this Agreement shall remain in full force and effect and any objection to the Unpermitted Exceptions shall be deemed waived. Any and all taxes, liens, easements, encumbrances and other matters of title not objected to, or waived, by Buyer shall be referred to herein as "Permitted Exceptions." Liens, mortgages or other matters

shall be discharged by Seller and may be paid out of the Purchase Price received by Seller on the Closing Date. Those exceptions in the Title Commitment not objected to by Buyer and those that the Seller causes the Escrow Agent to insure over within the time period above are referred to below as the "Permitted Exceptions." Notwithstanding anything herein to the contrary, or failure by Buyer to provide subsequent written notice of objection, the following shall be deemed Unpermitted Exceptions: (a) any property taxes other than those for the current calendar year not yet due and payable, and (b) any outstanding or unpaid homeowner's assessments, obligations, irrigation assessments, mortgages and liens.

c) Title Insurance. As soon as it is available after the Closing Date, Seller will provide to Buyer a standard coverage policy of title insurance pursuant to the Title Commitment, dated as of the Closing Date and insuring Buyer in the amount of the Purchase Price subject only to the general exceptions appearing in the policy form and the Permitted Exceptions ("Title Policy"). The premium for Title Insurance shall be paid by Seller at closing. Buyer shall have the right to upgrade the Title Policy to an extended coverage policy as long as Buyer pays the additional premium.

d) Conveyance of Title. Seller's title to the Property is to be conveyed to Buyer by special warranty deed ("Special Warranty Deed") in a form approved by Buyer, subject only to non-delinquent property taxes, the Permitted Exceptions and other matters that may be approved in writing by Buyer.

6. REPRESENTATIONS AND WARRANTIES OF SELLER. In addition to any other representations by Seller expressly set forth herein, Seller represents and warrants to Buyer as of the date hereof, and as of the Closing Date, that:

a) Authority. The execution, delivery and performance of this Agreement and all other agreements contemplated hereby have been duly and validly authorized by all necessary action of Seller and the Agreement and all other agreements contemplated hereby are valid and binding obligations of Seller, enforceable against Seller in accordance with their respective terms.

b) No Conflict. To the Seller's actual knowledge the execution, delivery and performance by Seller of its obligations under the Agreement and all other agreements contemplated hereby will not conflict with any contract, lease, statute, law, rule or regulation, or any judgment, order

or decree of any governmental authority or court having jurisdiction over the Seller and/or the Property, and Seller has no knowledge that any consent, approval, authorization or order of or qualification with any person, entity or governmental authority is required for the performance by the Seller of its obligations under this Agreement or any other agreement contemplated hereby.

c) Title: Transfer: Liens. On the Closing Date, Seller will transfer to Buyer the Property free and clear of all security interests, mortgages, pledges, liens, encumbrances, taxes, claims and equities created by Seller other than the Permitted Exceptions.

e) Environmental Condition of Property. Seller has no actual knowledge of any hazardous materials being present on, under, in or about the Property.

f) Condemnation. Seller has no actual knowledge of any proposed or threatened condemnation or private purchase in lieu of such proceedings affecting the Property.

g) Non-Foreign Person. Seller is not a "foreign person" as such term is defined in Section 1445(f) of the Internal Revenue Code of 1986, as amended, and is not subject to withholding under the laws of the State of Idaho.

h) No Other Warranties or Representations.

7. REPRESENTATIONS AND WARRANTIES OF BUYER. In addition to other representations herein, Buyer represents and warrants to Seller as of the date hereof, and as of the Closing Date, that:

a) Authority. The execution, delivery and performance of this Agreement and all other agreements contemplated hereby have been duly and validly authorized by all necessary action of Buyer and the Agreement and all other agreements contemplated hereby are valid and binding obligations of Buyer, enforceable against Buyer in accordance with their respective terms.

b) No Conflict. Buyer has no knowledge that the execution, delivery and performance by Buyer of its obligations under the Agreement and all other agreements contemplated hereby will conflict with any contract, lease, statute, law, rule or regulation, or any judgment, order or decree of any governmental authority or court having jurisdiction over the Buyer, and Buyer has no knowledge that any consent, approval,

authorization or order of or qualification with any person, entity or governmental authority is required for the performance by the Buyer of its obligations under this Agreement or any other agreement contemplated hereby.

c) Real Estate Licensee. David Gronbeck holds an active real estate license in the State of Idaho (License# 24474).

d) No Other Warranties or Representations. Except as otherwise expressly set forth herein, Buyer makes no other warranties or representations to Seller whatsoever.

8. LEAD PAINT DISCLOSURE. The Property is defined as "Target Housing" regarding lead paint or lead paint hazards because the homes were built before 1978. Buyer acknowledges having received from Seller the written disclosure and the pamphlet published by the EPA entitled "Protect Your Family From Lead in Your Home."

9. PROPERTY DISCLOSURE FORM. Buyer acknowledges having received from Seller "Seller's Property Disclosure Form" as required by Idaho Code, § 55-2501, *et seq*.

10. CLOSING AND RELATED MATTERS.

a) Closing Dates. The closing of this transaction (the "Closing) shall occur on or before a date which is 30 days after expiration of the Due Diligence Period. Closing shall take place at the office of Fidelity National Title Company of Idaho, located at 950 W Bannock St. Suite 420, Boise, ID 83702. For purposes of this Agreement, "Closing" shall be deemed to have occurred when the Special Warranty Deed has been properly recorded in the official records of Ada County, Idaho. Failure to close by the scheduled Closing Date, unless extended in writing by seller and buyer, shall be considered a default under the terms and remedies of this agreement.

b) Closing Deposits, Fees and Proration's. On or before Closing, Buyer and Seller shall deposit in escrow with the Escrow agent all instruments, documents and monies necessary to complete the sale in accordance with this Agreement. The cost of the Escrow Agent's closing fees shall be equally divided between Seller and Buyer. All other expenses not specifically referenced in this Agreement and incurred by Seller with respect to this transaction shall be the responsibility of Seller. All other expenses not specifically referenced in this Agreement and incurred by

Buyer shall be the responsibility of the Buyer. Real property and similar taxes, rents, utility charges, homeowner's assessments and other customary expenses if not due shall be pro-rated as of the date of Closing.

c) Possession. Possession shall be delivered to Buyer upon Closing.

d) Risk of Loss, Condemnation. Risk of loss or damage to the Property shall be borne by Seller until the date of Closing. If the Property is or becomes the subject of any condemnation proceeding prior to Closing, Buyer may, at its option, terminate this Agreement by giving notice of such termination to Seller on or before Closing and this Agreement shall be of no further force or effect; provided, however, that Buyer may elect to purchase the Property subject to the condemnation claim. Seller agrees to notify Buyer of any condemnation proceedings within five (5) days after seller learns thereof.

11. DEFAULT AND REMEDIES. Should Seller fail or neglect to perform in accordance with the terms of this Agreement, Buyer shall be entitled to the return of the Earnest Money and all other rights and remedies as are available at law or in equity including the termination of this Agreement. Should Buyer fail to timely close the purchase of the Property through no fault of Seller, Seller shall only be entitled to the Earnest Money and any money paid to extend the Due Diligence Period.

12. MISCELLANEOUS.

a) This Agreement shall be binding upon and shall inure to the benefit of the parties hereto, and their respective heirs, personal representatives, successors and assigns. Buyer shall have the right to assign its rights and interests under this Agreement.

b) This Agreement, embodies the entire agreement between the parties hereto with respect to the subject matter hereof. No extension, change, modification, amendment or waiver to, or of, this Agreement of any kind whatsoever shall be made or claimed by Seller or Buyer, and no notice of any extension, change, modification, amendment or waiver made or claimed by Seller or Buyer shall have any force or effect whatsoever unless the same shall be endorsed in writing by both parties.

c) This Agreement shall be governed by the laws of the State of Idaho.

d) In the event it shall become necessary for either party to this Agreement to retain legal counsel to enforce any term, provision, condition, or covenant of this Agreement or to bring an action for damages, the prevailing party shall be entitled to recover their reasonable attorneys' fees and costs of suit, including any bankruptcy and/or other appeal proceedings.

e) Time is of the essence of this Agreement.

f) Seller and Buyer shall execute, acknowledge and deliver to the other such other documents and instruments, and take such other actions, as either shall reasonably request, or as may be reasonably necessary, to consummate the transaction contemplated in this Agreement.

g) The representations and warranties made by the parties under this Agreement shall survive the Closing of the transaction contemplated herein.

h) All notices or other communications given with respect to the subject matter of this Agreement shall be in writing, and shall be served on the parties addressed as follows:

If to Buyer:
KG Global Development Company, LLC
Attn: David Gronbeck
1400 E. Kokanee Ln
Kuna, Idaho 83616
with copy to: gronbeck@kggdev.com

If To Seller:
Margaret M Hill Family LP
Attn: Gus Hill
1556 E. Locust View Ln.
Meridian, Idaho 83642
with copy to: 4skihill@gmail.com
lindsaylhill98@icloud.com
jchill76@bellsouth.net

Any such notices shall be either (a) sent by certified mail, return receipt requested, in which case notice shall be deemed delivered three (3) business days after deposit, postage prepaid in the U.S. Mail, (b) sent by overnight delivery using a nationally recognized overnight courier, in which case it shall be deemed delivered one (1) business day after deposit with such courier or (c) sent by personal delivery, in which case

notice shall be deemed delivered upon delivery. The above addresses may be changed by written notice to other party; provided, however, that no notice of a change of address shall be effective until actual receipt of such notice.

i) Each individual executing this Agreement on behalf of any entity, hereby represents and warrants that his entity has duly and properly authorized the execution of this Agreement by such individual and that this Agreement is enforceable against his entity in accordance with its terms.

j) Both parties hereto have either (i) been represented by separate legal counsel, or (ii) have had the opportunity to be so represented. Thus, in all cases, the language herein shall be construed simply and in accordance with its fair meaning and not strictly for or against a party, regardless of which party prepared or caused the preparation of this Agreement.

IN WITNESS WHEREOF, the undersigned have duly executed this Agreement as of the date first above written.

BUYER:

KG Global Development Company, LLC

By: _____

Name: David Gronbeck

Its: Managing Member

SELLER:

Margaret M Hill Family, LP

By: _____

Name: Margaret M. Hill

Its: General Partner

Exhibit A

Kuna Hill
Commercial Parcel
Boundary Description
Project Number 10-15-125 August 25, 2016

A parcel of land situated in the southeast quarter of Section 13, Township 2 North, Range 1 West, Boise Meridian, Ada County, Idaho, and being more particularly described as follows:

Commencing at the southeast corner of the southeast quarter of Section 13, Township 2 North, Range 1 West, Boise Meridian (the section corner common to Sections 13 & 24, Range 1 West, and 18 & 19, Range 1 East);
Thence N88°45'41"W, 973.49 feet along the south line of the southeast quarter;
Thence N00°11'35"E, 48.01 feet parallel with and 973.33 feet from the east line of the southeast quarter to the north right-of-way line of E. Deer Flat Road, the POINT OF BEGINNING;

Thence N00°11'35"E, 925.34 feet parallel with and 973.33 feet from the east line of the southeast quarter to the center line of the Kuna Canal;

Thence 151.82 feet on a non-tangent curve to the right, concave southerly, having a radius of 500.00 feet, a central angle of 17°23'50", a chord bearing of S79°28'44"E, and a chord length of 151.24 feet, along the center line of the Kuna Canal;

Thence S70°46'49"E, 174.05 feet along the center line of the Kuna Canal;

Thence N00°11'35"E, 1753.96 feet parallel with and 660.00 feet from the east line of the southeast quarter to the north line of the southeast quarter;

Thence S88°51'58"E, 590.08 feet along the north line of the southeast quarter to the west right-of-way line of N. Meridian Road (Hwy 69);

Thence S00°11'35"W, 2580.24 feet along the west right-of-way line of N. Meridian Road (Hwy 69);

Thence S70°33'25"W, 62.28 feet along the right-of-way lines of N. Meridian Road (Hwy 69) and E. Deer Flat Road;

Thence N88°45'41"W, 864.81 feet along the north right-of-way line of E. Deer Flat Road to the POINT OF BEGINNING;

The above described parcel contains 41.66 acres, more or less



Page 1 of 1

BUYER:

KG Global Development Company, LLC

By: _____

Name: David Gronbeck

Its: Managing Member

3-7-18

SELLER:

Margaret M Hill Family, LP

By: _____

Name: Margaret M. Hill

Its: General Partner

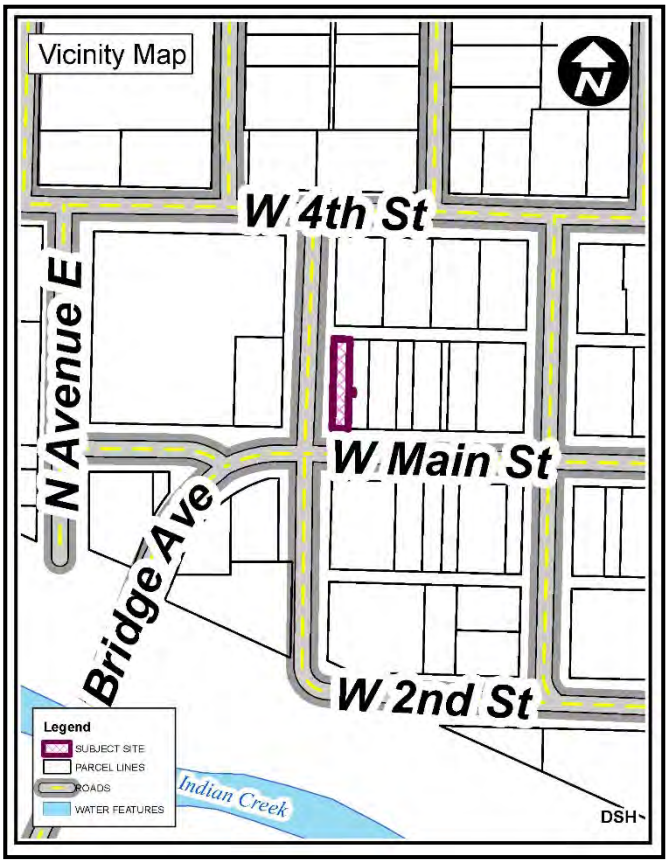
3/7/18

City of Kuna

Planning and Zoning Commission
Findings of Fact and Conclusions of Law

P.O. Box 13
Phone: (208) 922-5274
Fax: (208) 922-5989
www.Kunacity.id.gov

To:	**Planning and Zoning Commission**
File Numbers:	**20-01-V** (Variance)
Location:	330 N. Avenue D Kuna, Idaho 83634
Planner:	Doug Hanson, Planner I
Hearing date:	August 11, 2020
Findings:	**August 11, 2020**
Applicant:	**James Hallingshead** 443 S. Wagontown Avenue Kuna, ID 83634 208.861.3454 bobby@3bmtax.com
Owner:	**Harry Knox** 3420 N. Knox Drive 208-599-0773 King Hill, ID 83633



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A. Course Proceedings
B. Applicants Request
C. History
D. General Project Facts
E. Staff Analysis
F. Applicable Standards
G. Comprehensive Plan Analysis
H. Kuna City Code Analysis
I. Order of Decision by Council

A. Course of Proceedings:

1. Kuna City Code (KCC), Title 5, Chapter 11, Section 4, states that Variance Requests are designated as public hearings, with the Planning and Zoning Commission as the decision-making body. These land use applications were given proper public notice and followed the requirements set forth in Idaho Code, Chapter 65 Local Planning Act.

a. Notifications

i.	Neighborhood Meeting	July 13, 2020 (No Attendees)
ii.	Agencies	July 15, 2020
iii.	300' Notice to Property Owners	July 22, 2020
iv.	Kuna Melba Newspaper	July 22, 2020
v.	Site Posted	July 29, 2020

B. Applicants Request:

The applicant is seeking approval of this Variance request, in order to create parcels smaller than the minimum lot size permitted within the Central Business District through the Lot Split Process for Ada County Assessor's Parcel No. R5070001086.

C. History: This property has historically been used for commercial businesses.

D. General Project Facts:

1. **Surrounding Land Uses:**

North	CBD	Commercial Business District – Kuna City
South	CBD	Commercial Business District – Kuna City
East	CBD	Commercial Business District – Kuna City
West	CBD	Commercial Business District – Kuna City

2. **Parcel Sizes, Current Zoning, Parcel Numbers:**

- Parcel Size: Approximately 0.08 acres.
- Zoning: CBD (Commercial Business District)
- Parcel #: R5070001086

3. **Services:**

Sanitary Sewer– City of Kuna
Potable Water – City of Kuna
Pressurized Irrigation – Kuna Municipal Irrigation District
Fire Protection – Kuna Rural Fire District
Police Protection – Kuna Police (Ada County Sheriff)
Sanitation Services – J & M Sanitation

4. **Existing Structures, Vegetation and Natural Features:**

The site currently has two buildings, approximately 600 square feet and 2,500 square feet. Vegetation on site is consistent with a downtown commercial business.

5. **Transportation / Connectivity:**

The subject site's frontage is adjacent to N. Avenue D, which is accessed via W. 4th Street to the north and W. Main Street to the south. Attached sidewalks provide pedestrian connectivity.

6. **Environmental Issues:**

Staff is not aware of any environmental issues, health or safety conflicts beyond the designation of being in the nitrate priority area.

7. **Comprehensive Future Land Use Map:** The Future Land Use Map (FLUM) identifies this site as Commercial Business District. Staff views this proposed Variance request to be consistent with the approved Comprehensive Plan Future Land Use Map.

8. **Agency Responses:**

The following agencies returned comments which are included as exhibits with this case file:

- Kuna Economic Development Director.....Exhibit B-1

E. Staff Analysis:

KCC 5-3-3 establishes a minimum lost size of 1,000 square feet within the Commercial Business District (CBD), the applicant requests a Variance in order to create parcels smaller than the minimum lot size permitted through the Lot Split process.

KCC 5-3-3 establishes official height and area standards in order to create compatibility and uniformity throughout the City of Kuna. Staff has no concern with a variance request to reduce the minimum lot size within the CBD for the subject site. The established structures have been in place for many years, under singular ownership. The splitting of the parcel would facilitate new business ownership and improvements to the downtown area.

If approved by the Commission this Variance would grant the ability for the applicant to submit a Lot Split Application as a public meeting item to the City Council.

Staff has determined that this application complies with Title 5 of KCC, Idaho Code, the Comprehensives Plan and the FLUM. Staff recommends that if the Planning and Zoning Commission approves Case No. 20-01-V that the applicant be subject to the recommended conditions of approval listed in section "I" of this report.

F. Applicable Standards:

1. Kuna City Code, Title 5, Zoning Regulations
2. City of Kuna Comprehensive Plan
3. Idaho Code, Title 67, Chapter 65, Local Land Use Planning Act

G. Comprehensive Plan Analysis:

The Kuna Planning and Zoning Commission *accepts* the Comprehensive Plan components, and has determined the requested Special Use Permit for the site *is* consistent with the following Comprehensive Plan components as described below:

1. The proposed Variance application for the site is consistent with the following comprehensive plan components:

Goal Area 1: Kuna will be Economically Diverse and Vibrant.

- Goal 1.A: Ensure land use in Kuna will support economic development.
  - Objective 1.A.1: Continue to focus on developing Downtown Kuna as a commerce center.

- Goal 1.C: Attract and encourage new and existing businesses.
  - Objective 1.C.2: Create an environment that is friendly to business creation, expansion and relocation.

Goal Area 3: Kuna's Land uses will support a desirable, distinctive and well-designed community.

- Goal 3.G: Respect and protect private property rights.
  - Objective 3.G.1: Ensure land use policies, restrictions, and fees do not violate private property rights.
    - Policy 3.G.1.c: Ensure City land use actions, decisions and regulations do not prevent a private property owner from taking advantage of a fundamental property right. Ensure city actions do not impose a substantial and significant limitation on the use of the property.

H. Proposed Kuna City Code Analysis:

1. This request appears to be *consistent* and *in compliance* with Kuna City Code (KCC).

Comment: *The proposed application adheres to the applicable requirements of Title 5 of the KCC.*

2. The site *is/ is not* physically suitable for the proposed application.

   Comment: *The 0.08-acre project proposes no changes to the footprint of the buildings.*

3. The special use permit *is not likely* to cause substantial environmental damage or avoidable injury to wildlife or their habitat.

   Comment: *Roads and structures already exist and will therefore not cause environmental damage or loss of habitat.*

4. The Variance *is not likely* to cause adverse public health problems.

   Comment: *The proposed subject site is connected to Kuna public sewer and water therefore eliminating the occurrence of adverse public health problems.*

5. The application appears to avoid detriment to the present and potential surrounding uses; to the health, safety, and general welfare of the public taking into account the physical features of the site, public facilities and existing adjacent uses.

   Comment: *The Variance request considers the location of the property and adjacent uses. The adjacent uses are commercial – as referenced in the Kuna Comprehensive Plan Future Land Use Map.*

6. The existing utility services in proximity to the site are suitable and adequate for the proposed use.

   Comment: *Utility services are already available and connected to the existing subject site.*

I. Proposed Decision by the Commission:

Based on the facts outlined in staff's report and public testimony as presented, the Planning and Zoning Commission of Kuna, Idaho, hereby approves Case No. 20-01-V, a Variance request by James Hollingshead with the following conditions of approval:

1. In the event the uses or the buildings on these parcels are enlarged, expanded, changed or altered in anyway (even for temporary purposes), the owner/applicant/developer, and any future assigns having interest in the subject property, shall seek an amendment to the approvals of this Variance through the public hearing process.
2. Applicant shall make/improve connections to city services and utilities, and pay any differences that may arise with the expansion of the buildings, for sewer, potable water and/or pressure Irrigation connection fees.
3. This Variance will remain valid as long as the conditions of approval are adhered to continuously. In the event the conditions are not continuously followed; the Variance approval may be revoked by the Planning and Zoning Commission.
4. This Variance is *not* transferable to another property.
5. The owner/applicant/developer shall follow all staff and agency recommendations.
6. The owner/applicant/developer shall comply with all local, state and federal laws.

DATED: this 11th day of August, 2020

City of Kuna
P.O. Box 13
Phone: (208) 922-5274
Fax: (208) 922-5989
www.Kunacity.id.gov

Kuna Planning and Zoning Commission
Findings of Fact and Conclusions of Law

Based upon the record contained in Case No. 20-01-V including the Comprehensive Plan, Kuna City Code, Staff's Memorandums, the exhibits, and the testimony during the public hearing, the Kuna Planning and Zoning Commission hereby approves Case No. 20-01-V, a request from James Hollingshead to create parcels smaller than the minimum lot size permitted within the Central Business District through the Lot Split Process for Ada County Assessor's Parcel No. R5070001086.

If the Planning and Zoning Commission wishes to approve, deny or modify specific parts of the Findings of Facts and Conclusions of Law as detailed below, those changes must be specified.

1. Based on the evidence contained in Case Nos. 20-01-V, this proposal ***does/does not*** generally comply with Kuna City Code.

   Staff Finding: *The applicants have submitted a complete application, and following staff review for technical compliance the application appears to be in general compliance with the variance standards, supplementary conditions and safeguards in Kuna City Code Title 5.*

2. Based on the evidence contained in Case No. 20-01-V, this proposal ***does/does not*** generally comply with the Comprehensive Plan.

   Staff Finding: *The current zoning district is CBD (Commercial Business District). The Comp Plan Map designates this property as Commercial Business District.*

3. The public notice requirements were met and the public hearing was conducted within the guidelines of applicable Idaho Code and City Ordinances.

   Staff Finding: *As noted in the process and noticing sections, notice requirements were met to hold a public hearing on August 11th, 2020.*

DATED this 11th day of August, 2020.

_____
Lee Young, Chairman
Planning and Zoning Commission

ATTEST:

_____
Doug Hanson, Planner I
Kuna Planning and Zoning Department