



**Kaysville City Planning Commission
Meeting Notice and Agenda**

The Kaysville City Planning Commission will hold a regular meeting on August 10, 2023, at 7:00 PM in the Council Chambers of the Kaysville City Municipal Building located at 23 East Center Street.. The public is encouraged to attend in person or may view the meeting online via www.Kaysvillelive.com.

1. Opening
2. Approval of the minutes from the July 13, 2023 Planning Commission Meeting
3. Consideration of a rezone application from Phil Holland for 521 West 350 North from General Commercial to Mixed Use Zoning District Overlay (Continued from the July 13, 2023 meeting)
4. Call to the Public
5. Other matters that properly come before the Planning Commission
 - a. Reports
 - b. Correspondence
 - c. Calendar
6. Adjournment

On a Notice of Meeting was posted in accordance with Utah State Code Section 52-4-202 (3).

Mindi Edstrom
Community Development Department



**Kaysville City Planning Commission Meeting Minutes
July 13, 2023**

The Planning Commission meeting was held on Thursday, July 13, 2023 at 7:00 pm in the Kaysville City Hall located at 23 East Center Street.

Planning Commission Members in Attendance: Temporary Chair Steve Lyon, Commissioners Paul Allred, Wilf Sommerkorn, Erin Young and Mike Packer

Staff Present: Melinda Greenwood and Mindi Edstrom

Public Attendees Who Signed In: Val Starkey, Laurene Starkey, Cameron Talbot, Britton Cottrell, and Jill Dredge

1-OPENING AND ELECTION OF A TEMPORARY CHAIR

Acting Chair, Steve Lyon opened the meeting by welcoming all in attendance to the July 13, 2023 Planning Commission meeting.

2- APPROVAL OF THE MINUTES FROM THE JUNE 22, 2023 PLANNING COMMISSION MEETING

Commissioner Paul Allred made a motion to approve the June 22, 2023 minutes. The motion was seconded by Commissioner Packer and the vote was unanimous (5-0) in favor of the motion.

3- ELECTION OF A CHAIR AND VICE CHAIR

Commissioner Allred nominated Steve Lyon and Commissioner Sommerkorn seconded the nomination. The vote was unanimous (5-0) in favor of Commissioner Lyon to be the Chair of the Planning Commission for July 2023- June 2024.

Commissioner Sommerkorn nominated Commissioner Allred to be the Vice-Chair. Commissioner Allred declined the nomination and nominated Commissioner Keetch to continue to be the Vice-Chair. Commissioner Sommerkorn seconded the nomination. The vote was unanimous in favor of the nomination (5-0).

4-CONDITIONAL USE PERMIT FOR SMALL EARTHWORKS CONSTRUCTION, A MAJOR B HOME OCCUPATION, LOCATED AT 822 WEST BRANDON DRIVE FOR BRIAN CARLSON

This item was introduced by Mindi Edstrom.

Ms. Edstrom said that Brian Carlson is part owner of the home and is soon to be full owner in the next couple of weeks. He has applied for a home occupation business license to operate a small excavation company from his home. Mr. Carlson will have a truck, a dump trailer, and a mini excavator that will be stored at his home. Mr. Carlson will have an RV pad poured once he moves in to store his equipment on so that it is not stored on the road. Mr. Carlson is also working with DOPL to get recertified so he will be a licensed contractor.

Staff received one call and one email from residents inquiring about the city notification sign placed in his yard. The residents were concerned the home business would be a large construction company. Staff informed the residents that the business will be a small business.

Staff recommended approval based on the findings for Earthworks Construction with any conditions Planning Commission feel are necessary.

Commissioner Allred said that he is in favor of the home occupation and asked Mr. Carlson where the RV pad will be placed at his home.

Mr. Carlson said that it will be placed on the east side of his home and that he will not have employees or customers coming to the home.

Commissioner Allred made a motion to approve the Conditional Use Permit at 822 West Brandon Drive and Commissioner Young seconded the motion.

After the motion was made Commissioner Allred said that he doesn't see anything questionable with the amount of equipment and the layout and the size of the property is enough for equipment storage. He expressed his recommendation for approval based on the findings in the staff report and suggested a couple of conditions such as no parking in the streets or overhanging the right of way and felt that adding a gate is not necessary.

Findings for a recommendation of approval include:

1. The proposed use is consistent with the [KCC 17026-4 Major Home Occupation B](#) regulations for Contractors that have equipment such as a trailer stored at the home.
2. The applicant has been made aware of Major B Home Occupation regulations and has agreed to comply.
3. Application has been reviewed by staff and this business is compliant with City Zoning, Department of Commerce, and Department of Public Licensing.
4. The business will not have an adverse effect on the use, enjoyment, or valuation of property in the proposed neighborhood.

The vote was unanimous (5-0) in favor of the motion with conditions placed.

5-PUBLIC HEARING FOR A TEXT AMENDMENT TO TITLE 17 CHAPTER 19 GENERAL COMMERCIAL DISTRICT AND TITLE 17 CHAPTER 20 CENTRAL COMMERCIAL DISTRICT

This item was introduced by Melinda Greenwood.

Ms. Greenwood shared that this item had come before Planning Commission back in March 2023 and the Commissioners asked staff to make improvements to the draft ordinance based on feedback and what residents outlined in the 2022 General Plan.

Ms. Greenwood continued by sharing that when making land use decisions, the City should refer to the five guiding principles identified in the 2022 General Plan. She gave examples how those principals support the proposed text amendment in Title 17.

She explained the proposed text amendment would create a new section in both the General Commercial and the Central Commercial zone that would prohibit services which are singularly focused on vehicles. She gave business examples that would be exempt such as auto detailing, towing services, auto rentals, lube and oil services, and car wash without any retail services associated with them.

Findings for a recommendation of approval to support this text change are:

- a. The proposed text amendments supports the 2022 General Plan guiding principal of “Enriching our city center and downtown.”
- b. The proposed text amendments are consistent with and supported by the goals, objectives and implementation measures identified in the 2022 General Plan.
- c. The proposed text amendments will support the City Center concept defined in Map 2.4 of the 2022 General Plan.

Ms. Greenwood shared that there has been some input from the community by way of email from the property owner of the Good Spray located on Main Street. Ms. Greenwood said their comments as well as minutes from previous meetings were included in the packet.

Ms. Greenwood recommended that this agenda item be sent to City Council with a recommendation of approval.

Commissioner Sommerkorn summarized and said that we are modifying our code so the city is more in line with the 2022 General Plan, because it calls for a more walkable, pedestrian-orientated Main Street and 200 North.

Commissioner Lyon asked if active transportation was included in any of the text language.

Ms. Greenwood said that there are some proposed streetscapes and cross sections for bicycles and walkability.

Commissioner Young expressed her support for Kaysville City’s General Plan and she believes in it and that it should be followed and worth the effort.

Commissioner Lyon opened up the Public Hearing.

Russell M. Nelson with Lone Star Builders in Springville Utah approached the Commissioners. He has read the General Plan and the new ordinance and thinks that they are a step in the right direction for Kaysville. He reiterated that he works for Quick Quack and wants to redevelop the Good Spray into a new tunnel car wash. But by doing so many of the businesses will become non-conforming uses which prevents them from doing the redevelopment. Mr. Nelson gave some proposed language to add to the ordinance saying, "Notwithstanding the above, current car washes shall be allowed to upgrade, enhance, expand, enlarge, replat and redevelop their car wash if water recycling is included, subject to site plan approval by the City of Kaysville."

Commissioner Lyon closed the Public Hearing after seeing no other commenters.

Commissioner Allred emphasized the importance of Commissioner Young's comments regarding the following the 2022 General Plan. He also asked about the prohibited use language in the zoning ordinances saying that if it is not listed then it is not permitted. Commissioner Allred said he read the letter from the business owner several times and is concerned about whether or not this provision puts the city in a negative position with a landowner. He said the business owner expressed interest in expanding their business and haven't been able to do, however, Commissioner Allred feels strongly that a tunnel carwash is not a great use at that location because of the General Plan.

Commissioner Sommerkorn said that any time you change a zone, you always wind up affecting somebody and it's hard to make everyone happy. Commissioner Sommerkorn also mentioned Kaysville City Code Section 17-29-4:

17-29-4 Substitution, Extension, Etc.

A non-conforming use shall not be enlarged, extended, or changed unless the use is changed to a use permitted in the district in which it is located, and a non-complying structure shall not be reconstructed or structurally altered unless such alteration shall result in removing those conditions of the building which render it non-conforming, except as follows:

1. When authorized by the Planning Commission in accordance with this title, a nonconforming use which is determined to be a more desirable nature may be substituted for another non-conforming use.

Commissioner Sommerkorn said they are proposing to change one car wash for another and asked if the new car wash would be more desirable than the one that is there, and wondered if the Planning Commission would find that given the language in the ordinance.

Commissioner Allred said that the ordinance states to change a substitute use, however by allowing a tunnel car wash at the Good Spray location would actually be expanding the use.

Commissioner Young asked the Commissioners about what would be more desirable, a more water efficient car wash or following the guidelines from the General Plan. She also asked about water efficiency outweighing traffic impacts.

Commissioner Allred asked staff if the city has an RDA that would cover this area.

Ms. Greenwood replied saying that the city is actively working on a community reinvestment area that would incorporate the city center area. She said the city has also done all the background work for the project area as well as a feasibility study. The next steps for staff would be to take it to the school board and the county for approvals.

Commissioner Allred said he asked the previous question to see if there is a tool the city has available to assist the property owner and make them feel whole as a business owner.

Commissioner Allred then made a motion to recommend approval of the code change with the following recommendations:

- a. Support staff's findings and add an item E, which would be that the proposal works to recognize and correct recent land use patterns that are not consistent with the 2022 General Plan.
- b. Adding item F, the Planning Commission recommends funding of small area plan to assist implementing the proposed change.
- c. Adding item G, the Planning Commission recommends to the City Council the possibility of the creation of the CRA and or an RDA to speed up the proposed land use change and the possibility of using that instrument to assist property owners in the area to be able to comply.

Commissioner Sommerkorn seconded the motion.

Commissioner Young asked what the benefit to having car washes that are accompanying a convenience store or dining area.

Ms. Greenwood responded saying that a mixed-use project endeavors to limit the use of vehicles with the understanding that we can't eliminate vehicle use. She said with a convenience store residents in the area would have an opportunity for people living in the area to walk over and get a snack or soda or would have a retail location or a dining area. This would make it a multi-purpose use not for vehicle, but an additional to the people in the area.

Commissioner Lyon started the vote for the motion which was unanimous (5-0) in favor of the motion.

6- PUBLIC HEARING FOR A REZONE APPLICATION FROM PHIL HOLLAND FOR 521 WEST 350 NORTH FROM GENERAL COMMERCIAL TO MIXED USE ZONING DISTRICT OVERLAY

This item was introduced by Melinda Greenwood.

Ms. Greenwood started out by saying that Mr. Holland closely followed the General Plan process and his property is one of area in the 2022 General Plan future land use map that indicates mixed-use zoning. Mr. Holland is proposing a mixed use project with a hotel, retail office and 132 residential units.

Ms. Greenwood shared two guiding principles from the 2022 General Plan which support the proposed rezone application, which are enriching the city center and downtown and provide diverse housing options. Ms. Greenwood said that there are three chapters in the 2022 General Plan that provide further support, including Chapter 1: Land Use and Placemaking Plan, Chapter 3: Housing and Neighborhoods, and Chapter 5: Economic Development and Prosperity.

Ms. Greenwood continued with project specific details including a four-story hotel with 114 rooms, a 15,000 square foot office building with two or three stories, one-story retail space, and two apartment buildings with a proposed mix of units of studios, one-bedroom and two-bedroom units. The Mixed Use overlay requires at least 30% of a project to be commercial space and this project is at 42%.

Ms. Greenwood shared the site plan and renderings for the project and indicated that about 40 public hearing notices were sent out to effected entities and those within a 500 square foot radius of the property. She said the city did not receive any public comments regarding the project.

She said that staff recommends the Planning Commission send a recommendation of approval to the City Council for the development agreement and the rezone of 521 West 350 North from GC General Commercial to General Commercial Mixed Use Overlay.

Commissioner Allred asked who drafts the development agreement.

Ms. Greenwood said that she drafted the agreement and was open for any changes the Commissioners would like to make. Commissioner Allred felt that the building height is too restrictive for a project that is located on the freeway. Commissioner Allred asked if whether or not the parapet was included in the roof height and suggested we allow for more flexibility on the height for both the residential and commercial buildings. Commissioner Allred inquired if a pole sign was being proposed for the property on 350 West or the freeway. Ms. Greenwood said that it has not been discussed. She also answered Commissioner Allred's question regarding the parapet height and she said that it is not considered in the overall height.

Commissioner Allred asked if the project has a unified lighting plan for parking lot lights and suggested staying away from over-lighting the project while still having enough light so it is safe. He said he read the whole traffic study and even though the project received an F, he

explained that it just means that residents will just need to wait a bit longer and said he feels that there should never be a traffic signal at 350 West.

Commissioner Allred made a comment about the landscape plan and said that it should mostly be xeriscape with an emphasis on perennial trees with big shade potential.

Commissioner Young commented on the usage for the hotel, apartment, and walking trail but wondered how much control or input could the Planning Commissioners have on architectural and landscape design.

Ms. Greenwood responded that the Commissioners can do what they would like in the development agreement, however the development agreement calls for substantial conformance to what is included with the attachments in the packet and needs to be presented at this point in the process.

Commissioner Sommerkorn suggested perhaps having less pavement and more trees in the landscape plan. Commissioner Sommerkorn also wondered about allowing for more height with the building and in return the developer could add in more landscaping.

Commissioner Allred discussed the suggested architecture of the proposed project and said that the over time it will look outdated and not timeless. He suggested having more emphasis on movement and shadows on the building.

Commissioner Packer inquired about the trail on the north side of the project and how much of the landscaping that is shown is actually over the property line and wondered who owns the drainage and if this plan is realistic.

Commissioner Lyon said that Davis County is over the drainage and Holmes Creek.

Commissioner Lyon opened the public hearing.

Val Starkey shared his concerns which include:

- 1- What are the projected rents for the apartments?
- 2- Concerns about infrastructure regarding parking.
- 3- What are the power requirements? He would like to make sure the project has the ability or what it will take to get power.
- 4- What are the water requirements for the project and said that hotels can use anywhere from 100-400 gallons of water per room per day on average?

Laurene Starkey said that 350 West is a busy street and many residents avoid that street. She stated that many residents of Kaysville City have chosen to live here and made sacrifices to have a more tranquil city and feels that many would not support the mixed-use project.

Phil Holland, the applicant, said he began working with the project over five years ago and loves the direction the new General Plan is going for Kaysville. He said that the project that he is proposing will be a \$50M project and has the potential of being the most valuable development in Kaysville. He wants this project to be something that everyone will be proud of in 60 years.

Mr. Holland said that this project is incredibly overparked and said that the parking study said that if every thing was occupied from 11:00 pm-4:00 am he would need 302 stalls. Mr. Holland said that his project has 301 stalls but that does meet requirements for City's parking ordinance. He relayed that most of the landscaping along Holmes Creek will not be new plantings but are existing 100-year-old trees and will have a natural trail.

Commissioner Lyon closed the public hearing.

Commissioner Allred shared his support for the project. He added that he believes the project is completely over parked but loves that it will bring in some needed density to the community and feels it is a great location. His concern about this project is if it will help the city comply with lower rents for the moderate-income housing crisis.

Commissioner Sommerkorn asked Phil Holland if he was willing to go higher with the project and suggested having additional discussions with staff about parking versus additional height and landscaping.

Commissioner Allred asked if the motion should be to recommend approval of the development agreement as proposed in addition to the rezone or if they should recommend on the rezone and make advisory recommendations on the development agreement?

Ms. Greenwood responded that you can't have one without the other so there would need to be a recommendation made for both.

Commissioner Allred made a motion to approve a rezone proposal from the current zoning GC General Commercial to the requested zoning of General Commercial Mixed-Use Overlay per the following findings and recommendations.

- a. The Mixed-Use Zoning District Overlay is compliant with Map 2.2 Future Land Use Map approved with the 2022 General Plan.
- b. The project is in keeping with the following Guiding Principles of the 2022 General Plan:

- i. Enrich our city center and downtown - We will enhance our city center with commercial and mixed-use development and investing in streetscape and parking.
 - ii. Provide diverse housing options - We will work to preserve our existing neighborhoods while accommodating a full range of housing opportunities to meet the economic, lifestyle and life-cycle needs of our residents.
 - iii. Preserve our open space, trails and natural resources - We will encourage the preservation of open space through clustered development and the protection of foothills, natural drainages and remaining agricultural areas.
- c. Chapters 1, 3 and 5 of the 2022 General Plan contain adequate goals, policy objectives and implementation measures which support approval of the rezone request.
- d. With the addition of 132 housing units in the city, the rezone approval would allow the city to account for positive progress to the State for the 2023 Moderate Income Housing reporting.
- e. The hotel and the residential buildings be allowed some additional flexibility for average height of the building to allow for architectural variation
- f. The addition of more density on this site as it follows the 2022 General Plan and adds to the overall moderate-income housing based on the mix of dwelling sizes proposed.
- g. A detailed lighting plan must be submitted and reviewed by staff to make sure that the lighting works from a security perspective, down lighting and minimizing urban lighting.
- h. A monument sign on 350 West and are they are okay with a pole sign on I-15.
- i. A parking reduction be allowed to specifically reduce parking per the Planning Commission and parking analysis.
- j. The Developer and staff work together to add dwelling units by reducing the number of parking stalls or landscaping, with a preference to add dwellings over landscaping.
- k. The landscaping specifically address a reduction in turf and an addition in xeriscaping to comply with the City ordinance recently passed for water wise landscaping, as well as the addition of perennial trees in parking areas to break up the urban asphalt heat island problem.

Planning Commissioner Young said that she is in favor of this general idea, but would prefer to have more time to review the project based on the amount of changes and wants to see an updated project come back to the Planning Commission.

Ms. Greenwood asked if that was a substitute motion or an amendment.

Commissioner Sommerkorn said that it would be a substitute motion. So rather than approve the motion we would continue the discussion.

Ms. Greenwood said that if there is going to be a substitute motion then there needs to be second on the substitute motion because there wasn't one on Commissioner Allred's motion.

Commissioner Sommerkorn seconded the substitute motion with Commissioner Allred's amendments and to bring the project back as soon as possible.

The vote was:

Commissioner Allred - No

Commissioner Young - Yes

Commissioner Sommerkorn - Yes

Commissioner Lyon - Yes

Commissioner Packer - Yes

The motion passed 4-1.

7- PUBLIC HEARING FOR A TEXT AMENDMENT TO TITLE 17 CHAPTER 31 PROVISIONS APPLYING TO PARTICULAR USES SECTION 14 FIREWORK STANDS, CHRISTMAS TREE STANDS, AND TEMPORARY OR SEASONAL RETAIL SALES

This item was introduced by Melinda Greenwood.

Cameron Talbot submitted a Title 17 Planning and Zoning/Land Use Code Text Amendment application to allow the sale of fireworks on non-commercially zoned areas along Main Street or 200 North Street. The draft ordinance would authorize the sale of fireworks at Davis High School without creating a nuisance in residential areas of the city.

She said that last year the City mistakenly issued a business license at the high school for TNT Fireworks which were sold from the parking lot which is zoned R-1-8. The City did not receive any complaints as a result of the sales.

The applicant submitted Clearfield city's ordinance as a model for the text amendment and staff has modified that ordinance to better fit Kaysville city. The text amendment would open up opportunities for locations like a church parking lot or the high school and would be a permitted use.

Staff recommended approval based on these findings:

- a. Staff analysis finds the sale of fireworks and other seasonal items in approved locations along minor arterials and collector streets would provide retail services to the community.
- b. After General Plan review we found nothing that was contradictive to the proposed text amendments.

Commissioner Lyon opened up the Public Hearing.

Cameron Talbot, the applicant from TNT Fireworks, said he has been providing a fundraiser for non-

profit groups and added that TNT has many firework stand locations in Davis County on school properties.

Commissioner Lyon closed the Public Hearing.

Ms. Greenwood said she spoke with Mr. Talbot earlier that day and that he felt the requirement of a minimum of 10 parking stalls was too high and he proposed 5 stalls as an alternative. Ms. Greenwood added she feels a five stall requirement would be adequate.

Commissioner Allred said that putting a set number of parking stalls in the ordinance would be a mistake. He feels said that other cities usually provide one parking stall per employee per shift and off-street parking for customers. Commissioner Allred is suggesting that the city do that as well.

Mr. Talbot said they typically have one to two employees working and the location at Davis High School has adequate parking.

Commissioner Sommerkorn made a motion to recommend approval of the ordinance amendment for Firework Stands, Christmas Tree Stands, and Temporary or Seasonal Retail Sales with the change noted by staff to require adequate parking and not a set number of stalls.

Commissioner Packer seconded the motion and the vote was unanimous (5-0) in favor of the motion.

8- PUBLIC HEARING FOR A TEXT AMENDMENT TO TITLE 17 CHAPTER 31 PROVISIONS APPLYING TO PARTICULAR USES SECTION 4 BEEKEEPING

This item was introduced by Commissioner Steve Lyon, who is the applicant and due to a conflict didn't want to chair the item. Commissioner Allred was selected as the acting Chair for the agenda item.

Mr. Lyon submitted a Title 17 Planning and Zoning/Land Use Code Text Amendment application to allow for the keeping of bees. The ordinance is intended to authorize the keeping of domesticated bees within the Kaysville City limits while encouraging domestic pollination and urban farming. If adopted, the ordinance would require getting an appropriate license and registration from State of Utah. It provides for the management of the number of colonies allowed so they are not overpopulated so they can thrive. It also provides for proper and safe placement of hives, construction with proper features, equipment, and conduct to promote happy healthy colonies without creating a nuisance.

Mr. Lyon said the state's required conditions are:

- Registration and inspections by the State
- Placement in rear yards away from contact with humans and domestic animals
- 5' setback from property lines
- Hives must have removable section frames, be 6" above ground, and be weather resistant

Commissioner Sommerkorn asked if the ordinance distinguishes between an individual beekeeping for their own use and commercial uses.

Mr. Lyon said yes, that on a half-acre residential property you can effectively keep up to eight hives and commercial beekeepers can keep much more than that.

Commissioner Sommerkorn asked if a commercial hive would have to be in an agricultural zone and Mr. Lyon said yes it would have to be.

Commissioner Young asked if Mr. Lyon as a hobby beekeeper would be able to sell some of those products.

Mr. Lyon said that he would need a business license, but would be permitted to sell the products.

Commissioner Allred opened up the Public Hearing.

There were no comments made and Commissioner Allred closed the Public Hearing.

Commissioner Sommerkorn made a motion to recommend approval to the City Council of text amendment to 17-31 of the City's Land Use Code, applying particular uses for beekeeping and Commissioner Young seconded the motion. The vote was unanimous in favor of the motion (4-0), with Commissioner Lyon abstaining as he was the applicant.

Commissioner Allred turned the role of Acting Chair back to Commissioner Allred.

9- CALL TO THE PUBLIC

There was no public to make a comment.

10- OTHER MATTERS THAT PROPERLY COME BEFORE THE PLANNING COMMISSION

Ms. Greenwood told the Commissioners about the upcoming APA training at the end of September and committed to sending out information for registration.

11- ADJOURNMENT

Commissioner Allred motioned to adjourn the meeting at 9:43 pm.

PLANNING COMMISSION STAFF REPORT

To: Kaysville City Planning Commission
From: Melinda Greenwood, Community Development Director
Date: August 3, 2023

Agenda Item #6: Consideration of a rezone application from Phil Holland for 521 West 350 North from General Commercial to Mixed Use Zoning District Overlay

Meeting Date	August 10, 2023 (Continued from July 13, 2023)
Application Type	Rezone
Applicant Owner	Phil Holland H Group Ventures LLC
Address Parcel ID Number	521 West 350 North 11-879-0002 and 11-879-0007
Lot Size	6.26 acres 272,685 ft ²
Current Use	Undeveloped
Current Zoning	GC General Commercial
Density Entitlement	NA
Requested Zoning	GC Mixed Use Overlay
Density Entitlement	Density Approved Through Development Agreement (160 units proposed; 25.6 units/acre)

1. BACKGROUND

This rezone application was before the Planning Commission on July 13, 2023. The Commission held a public hearing at that meeting, discussed the item and made a motion to bring requested changes on the project back to the Commission at a future meeting date.

A quick review of the Planning Commission's requested changes include:

- Height flexibility for architectural variation.
- Increasing residential density.
- Solidifying architectural details.
- Requiring a lighting plan.
- The request for a monument sign on 350 West and pole signage per code on the I-15 side of the property.



- A parking reduction allowance.
- The addition of dwelling units by reducing the number of parking stalls or landscaping.
- The reduction in turf and the addition of perennial trees in parking.

The project site totals 6.26 acres and the applicant requested a rezone from GC General Commercial District to GC Mixed Use Zoning District Overlay (GC MU). The updated project still includes five buildings, three of which are commercial and consist of a hotel, office and a retail building. The two apartment buildings are now proposed to be four-stories, with 80 units each for a total of 160 residential units.

For information regarding the surrounding land use and 2022 General Plan information, please refer to the attached July 13, 2023 staff report for this item.

2. PROJECT SPECIFICS AND DEVELOPMENT AGREEMENT DETAILS

This mixed-use project would include a hotel, office space, a retail area and two apartment buildings with 160 residential units and 302 parking stalls. The apartments include amenities such as a pool or pickle ball court, clubhouse, walking path, dog park area and walking trail.

The hotelier brand is a national chain, but confidentiality agreements prohibit the disclosure of the exact hotel. This is a common restriction in development negotiations, and until projects are entitled, non-disclosures will remain in place.

The applicant recently submitted an economic analysis of the project, which is included as an attachment. According to the study, over the course of 25 years, the project could produce as much as \$91.4M in economic impacts to the City. The project is estimated to be \$62.4M in value and the details on the five proposed buildings follow.

Building Use	Square Footage	Additional Details
Hotel	57,971	Four stories 114 rooms
Office	15,000	Either two or three stories
Retail	3,000	Single story
Apartment Building 1	67,600	Four stories 80 unit mix: 8 studio, 48 one-bedroom, 24 two-bedroom
Apartment Building 2	67,600	Four stories 80 unit mix: 8 studio, 48 one-bedroom, 24 two-bedroom

Updated plans and submittals are attached to this staff report. The Planning Commission's requested changes to the project have been made and are included in the revised development agreement. For convenience staff has attached a redlined and a clean copy of the development agreement. The requested changes are also addressed by topic, noted in the matrix that follows.

Requested Change	Proposed Updates
Height Flexibility	Section 2.A.iv <u>Building Height.</u> Developer shall construct the buildings in compliance with the following: a. The four-story hotel shall not exceed fifty feet (50') in height except to allow for flexibility in overall average height for architectural details and variations. b. The four-story apartment buildings shall not exceed 45 feet (45') in height except to allow for flexibility in overall average height for architectural details and variations. c. All other buildings in the project shall not exceed thirty-five feet (35') as defined by Kaysville City Ordinances except to allow for flexibility in overall average height for architectural details and variations.
Increasing residential density	160 units proposed; 25.6 units per acre (Previously 132 units; 21 units per acre)
Architectural Details	A color and materials board has been submitted. Section 2.A.ii <u>Architecture.</u> Developer shall construct the Project in substantial compliance and conformance with the architectural style, renderings and color and materials board shown in Exhibit D.
Lighting Plan	Section 2.A.vii <u>Lighting.</u> Developer agrees to provide a detailed photometric plan to the City which shall include efficient lighting materials and shall also include shielded lighting, down lighting and parking lot lighting for security. Lighting shall not penetrate beyond the property in such a manner as to annoy or interfere with the use of adjacent properties.
Signage	Section 2.A.viii <u>Signage.</u> A monument sign is to be provided on 350 North. A pole sign up to 45 feet in height is permitted within 300 feet of I-15 as allowed by KCC 17-33 Sign Regulations.
Parking	An updated parking analysis is attached.

	Section 2.A.vi.b <u>Parking Reduction.</u> Developer submitted a parking study included as Exhibit E along with a request to reduce parking by 24%. City agrees to reduce required parking by 24%, reducing the 396 required stalls by 94 and requiring a minimum of 302 parking stalls.
Landscaping	An updated landscaping plan is attached. Section 2.A.xiii <u>Landscaping.</u> - Developer agrees to use turf only in active recreation areas for the Project as defined in Kaysville City Code 17-5 Water Efficient Landscape Standards. - Developer shall not install turf or grass in park strip or parking lot areas but will use water wise vegetation and materials. - Developer agrees to use water wise vegetation and materials in other landscaping areas where reasonable. - Developer agrees to plant perennial trees throughout the parking lot as indicated in the landscape plan.

Parking. With the 28 additional residential units, city code requires 396 parking stalls, though the project is only supplying 302. The MU code allows for up to a 10 percent in reduction for shared parking facilities, but the requested parking reduction of 94 stalls is a 24 percent reduction. The previous reduction request was 12 percent and 43 stalls. It is worth noting the project is within .5 mile of the 200 North Park and Ride and there is bus service on Main Street. However the pedestrian route to the Park and Ride involves crossing underneath the I-15 and while sidewalk exists on the south side of 200 North, there is not adequate sidewalk on the north side. A

breakdown of parking requirements and the study can be found on the table to the left.

The updated parking analysis concludes the same number of parking stalls are needed for the project, even with the added units. Jason Watson, PTOE, PE, with Focus Engineering conducted the parking study and stated “If all four of these land uses need all their required parking stalls, at the same time, it would need 339 parking stalls. However, we used the

Parking				
Residential				
Units	Number units	# Spaces/Unit	KCC	ITE Study
Studio	16	1	16	-
1-bedroom	96	1.5	144	-
2-bedroom	48	2	96	-
Residential Total	160		256	210
Commercial				
Units	S.F./Units	# Spaces/S.F.	KCC	ITE Study
Office	15,000	3.5/1,000 S.F.	53	36
Retail	3,000	3.5/1,000 S.F.	11	8
Hotel Units	114	1/1.5 units	76	85
Commercial Total			140	129
Total (Residential & Commercial)			396	339
10% Allowed Reduction			40	
Total w/ Parking Reduction			356	
Parking Provided			302	
Parking Deficiency			54	
Parking Reduction Request			94	
Parking Reduction %			24%	

Parking Demand Percentages, which looks at different times of the day that the parking stalls would be used, and the maximum is only 292 parking stalls needed. With the 302 parking stalls that the site plan shows, there should be enough parking stalls taking into account the time of day percentages.”

Parking is a difficult topic to address, especially when residential units are present. The provision of a parking study is helpful to determine the proper balance needed for adequate parking. The practicality of human nature is to place convenience at the forefront of parking. With a site that is over six acres, and a substantial reduction request, some thought should be given to the potential of parking overflowing onto neighboring properties and the public streets because those options would be in closer proximity.

Traffic. At the time this memo was written, an updated traffic impact analysis has not been submitted. The previous traffic analysis was reviewed by both the Public Works Director and City Engineer, and while there are significant impacts to traffic in the area, specifically at 200 North, no mitigation measures are being proposed at this time. In the next few months, UDOT will be restriping the 200 North interchange area to add a second left-hand turn lane, which will help with some traffic congestion. Additional traffic improvements are already needed at 200 North and 400 West, and those modifications may need to be accelerated. Staff expects the roadway impact fees will be significant (nearly \$400k) and can be used to mitigate some of the impacts at the intersection of Main Street and 400 West.

Staff has completed a review of the proposed project in relation to the zoning regulations and believes the project, proposed site plan and development agreement are in compliance with the zoning code and are reasonable based on the odd shape of the project site.

3. PUBLIC NOTICE AND PUBLIC COMMENT

At the June 13, 2023 Planning Commission meeting, a public hearing was conducted, and no comments were received.

4. RECOMMENDATION

Based on the findings outlined in this staff report, staff recommends the Planning Commission forward a recommendation of approval to the City Council for the development agreement and the rezone of 521 West 350 North from GC General Commercial to General Commercial Mixed Use Overlay.

Findings for a recommendation of approval include:

- a. The Mixed Use Zoning District Overlay is compliant with Map 2.2 Future Land Use Map approved with the 2022 General Plan.
- b. The project is in keeping with the following Guiding Principles of the 2022 General Plan:
 - i. Enrich our city center and downtown - We will enhance our city center with commercial and mixed-use development and investing in streetscape and parking.

- ii. Provide diverse housing options - We will work to preserve our existing neighborhoods while accommodating a full range of housing opportunities to meet the economic, lifestyle and life-cycle needs of our residents.
 - iii. Preserve our open space, trails and natural resources - We will encourage the preservation of open space through clustered development and the protection of foothills, natural drainages and remaining agricultural areas.
- c. Chapters 1, 3 and 5 of the 2022 General Plan contain adequate goals, policy objectives and implementation measures which support approval of the rezone request.
- d. Concerns from the July 13, 2023 Planning Commission meeting have been addressed through the development agreement and project revisions.
- e. With the addition of 160 housing units, the rezone approval would allow the city to account for positive progress to the State for the 2024 Moderate Income Housing reporting.
- f. The implementation of a parking reduction will allow the City to communicate measureable progress to the State for the 2024 Moderate Income Housing report.
- g. The approval of the rezone for higher density and for mixed use in an existing commercial center will allow for the City communicate measureable progress to the State for the 2024 Moderate Income Housing report.
- h. The design of the project as outlined in the site plan and development agreement would not negatively impact the existing character of the area.
- i. The project would diversify the housing product available in Kaysville and provide opportunities for a live-work environment.
- j. The project would diversify and strengthen the City's economic and commercial base, adding new office, retail and an opportunity to collect Transient Room Tax with the hotel.
- k. Staff review has found the project to be compliant with 17-27 Mixed Use Zoning Overlay purpose statement and code requirements.

ATTACHMENTS:

- 1. Project Location Map 521 West 350 North
- 2. Draft Development Agreement for 521 West 350 North Clean Copy (updated)
- 3. Draft Development Agreement for 521 West 350 North Redlined Copy (updated)
- 4. Creekside Commons Site Plan (updated)
- 5. Project Renderings
- 6. Project Materials & Color Board (new submittal)
- 7. Landscape Plan (updated)
- 8. Applicant Statement of Compliance
- 9. Kaysville Mixed-Use Development Parking Analysis (July 21, 2023)
- 10. Kaysville Creekside Commons Fiscal and Economic Impact Memorandum (July 28, 2023)
- 11. July 13, 2023 Planning Commission Staff Report: Public Hearing for Rezone Application Phil Holland for 521 West 350 North from General Commercial to Mixed Use Zoning District Overlay
- 12. Kaysville Mixed-Use Development Traffic Impact Study (February 21, 2023)
- 13. Economic Impact of Hotel Development by: Alan Suzuki



**DEVELOPMENT AGREEMENT
FOR 521 WEST 350 NORTH**

THIS AGREEMENT is made and entered into this ____ day of _____, 2023 by and between Kaysville City, a municipal corporation organized and existing under the laws of the State of Utah (hereinafter the "City") and H Group Ventures LLC (hereinafter the "Developer").

RECITALS

WHEREAS, Developer is desirous of developing a mixed-use project consisting of residential apartments and commercial facilities (the "Project") on certain real property located at 521 West 350 North, in the City of Kaysville, County of Davis, State of Utah and more particularly described as parcel number 11-879-0007 which is .619 acres in size and parcel number 11-879-0002 which is 5.64 acres for a combined total of 6.259 acres; and

WHEREAS, the Property Location Map is attached hereto as Exhibit A and the legal description is attached as Exhibit B; and

WHEREAS, the purpose of this Agreement is to define development standards, conditions and improvements for the Project as well as other terms and conditions pursuant to which the Project proposed by Developer shall be developed within the City; and

WHEREAS the City is willing to grant the Mixed Use Zoning District Overlay (MU) rezone of the property and authorize the development of the Project proposed by Developer in conformance with this Agreement, City Ordinances, and applicable Utah law;

NOW, THEREFORE, in consideration of the mutual covenants and conditions set forth herein, and other good and valuable consideration, the sufficiency of which is hereby acknowledged, the parties agree as follows:

AGREEMENT

1. GENERAL DESCRIPTION.

- A. Area Description. The property upon which the Project shall be developed (the "Property") is located as shown on the Property Location Map, a copy of which is attached as Exhibit A hereto and incorporated by reference herein. The property is further described in Exhibit B as parcel ID 11-879-0007 which is .619 acres in size and parcel number 11-879-0002 which is 5.64 addressed as 521 West 350 North.
- B. Project Description. The Project proposed is a horizontal mixed-use development as shown in Exhibit C (the "Site Plan") and shall include commercial, retail and residential buildings and shall be constructed in substantial conformance to the attached concept Site Plan.

- a. Commercial Space. The Project includes a total of approximately 75,971 square feet of commercial building space, which is 36% of the total square footage of the Project. The commercial buildings shall include:
 - i. Hotel. One four-story hotel, which shall not exceed 50 feet in height and will have approximately:
 - 1. 57,971 square feet of space; and
 - 2. 114 rooms.
 - ii. Office. An office building with approximately 15,000 square feet of space.
 - iii. Retail. One single-story retail building with approximately 3,000 square feet of space and possible drive-thru.
- b. Residential Space. Two four-story apartment buildings totaling approximately 135,200 square feet with each building consisting of:
 - 1. Approximately 67,600 square feet of space per building.
 - 2. Subject to final design, no more than 160 residential units shall be constructed.
- c. Substantial Conformance. Substantial Conformance noted in section 1.B shall mean and include minimal fluctuations in overall project square footage, which is subject to final design.
 - i. A reduction in the number of residential units or residential building square footage may be approved by Community Development staff.
 - ii. An increase in the total commercial square footage shall be acceptable and approved by Community Development staff subject to the provision of adequate parking.
 - iii. Reductions in the total commercial square footage provided may not fall below 30% without an amendment to this agreement, which shall be approved by the City Council.

2. DEVELOPMENT STANDARDS AND GUIDELINES

- A. Adoption of Development Standards. As allowed by Kaysville City Code 17-27-7, the City hereby adopts, as the development standards, regulations and guidelines for the Project (the "Development Standards"), the following standards in addition to all other applicable City Ordinances, standards and guidelines:
 - i. Compliance with Approved Plans. Developer shall develop the site in general conformance with the concept site plan outlined in section 1B and attached to this Agreement as Exhibit C.
 - ii. Architecture. Developer shall construct the Project in substantial compliance and conformance with the architectural style, renderings and color and materials board shown in Exhibit D.

- iii. Building Materials. Developer shall construct all buildings in substantial compliance with materials shown in the concept renderings depicted in Exhibit D, which show rock and/or brick, wood, steel, and glass.
- iv. Building Height. Developer shall construct the buildings in compliance with the following:
 - a. The four-story hotel shall not exceed fifty feet (50') in height except to allow for flexibility in overall average height for architectural details and variations.
 - b. The four-story apartment buildings shall not exceed 45 feet (45') in height except to allow for flexibility in overall average height for architectural details and variations.
 - c. All other buildings in the project shall not exceed thirty-five feet (35') as defined by Kaysville City Ordinances except to allow for flexibility in overall average height for architectural details and variations.
- v. Amenities Plan. Developer agrees to providing the following amenities for residents living in the apartments in the development:
 - a. Walking path around the property.
 - i. Developer will attempt to make walking path connections into properties which are adjacent to the Project.
 - b. Dog park.
 - c. Pickleball courts or a swimming pool.
 - d. Clubhouse.
 - e. Pavilion, picnic and barbeque area.
- vi. Parking.
 - a. Required Parking. Calculations of required parking based on the adopted Kaysville City Code 17-27 Mixed Use Zoning and 17-32 Off-Street Parking and Loading. Required parking of 396 total stalls is demonstrated in the breakdown noted below.
 - i. Apartment Building – 256 parking stalls required
 - ii. Office – 53 parking spaces required
 - iii. Hotel – 76 spaces required
 - iv. Retail – 11 units required
 - b. Parking Reduction. Developer submitted a parking study included as Exhibit E along with a request to reduce parking by 24%. City agrees to reduce required parking by 24%, reducing the 396 required stalls by 94 and requiring a minimum of 302 parking stalls.
 - c. For parcels that will be owned outside of H Ventures Group, LLC, cross-parking agreements shall be created between property owners and recorded against the property.

- vii. Lighting. Developer agrees to provide a detailed photometric plan to the City which shall include efficient lighting materials and shall also include shielded lighting, down lighting and parking lot lighting for security. Lighting shall not penetrate beyond the property in such a manner as to annoy or interfere with the use of adjacent properties.
- viii. Signage. A monument sign is to be provided on 350 North. A pole sign up to 45 feet in height is permitted within 300 feet of I-15 as allowed by KCC 17-33 Sign Regulations.
- ix. Access.
- a. The Project has access to their site from 350 North. Developer will provide cross-access agreements to be recorded against the properties for any parcels that will not have street frontage.
 - b. If a subdivision occurs, Developer shall provide cross-access agreements between all properties created by the subdivision.
 - c. Developer will attempt to get access agreements for pedestrian and vehicle traffic through neighboring properties to the east.
- x. Density. Developer may construct up to 160 residential dwelling units within Project. The overall residential unit count shall not exceed 160 units. Any increase in the count of residential dwelling units shall be approved by the City Council through an amendment to this agreement.
- xi. Commercial Uses. Developer agrees to provide a four-story hotel consisting of 114 rooms, a 15,000 square foot office, and 3,000 of retail space. Removal of the hotel from the Project or any substantial changes to the hotel plans shall be approved by the City Council through an amendment to this agreement. Any changes to the commercial spacing for the office and retail space resulting in a substantial reduction of square footage shall only be approved by the City Council through an amendment to this agreement.
- xii. Traffic Mitigation. Developer agrees to construct any road improvements or traffic mitigation measures on 350 North as necessitated by the Project. Any such improvements shall be built to adopted City standards.
- xiii. Landscaping.
- a. Developer agrees to use turf only in active recreation areas for the Project as defined in Kaysville City Code 17-5 Water Efficient Landscape Standards.
 - b. Developer shall not install turf or grass in park strip or parking lot areas but will use water wise vegetation and materials.
 - c. Developer agrees to use water wise vegetation and materials in other landscaping areas where reasonable.

- d. Developer agrees to plant perennial trees throughout the parking lot as indicated in the landscape plan.
- xiv. Subdivision for Mixed-Use Overlay. Development of the Project may require a subdivision of the Property into two or more individual parcels.
 - a. Developer shall apply for a subdivision of the Property and shall follow all process and code requirements for the subdivision, including payment of fees, and submission of all outlined documents required for a subdivision.
 - b. This development agreement shall be subject to the entirety of the two parcels outlined in section 1A and will continue to run with the land regardless of subdivisions or how many lots are created in the future.
 - c. This agreement shall be recorded along with any subdivision plat and the plat shall have language placed on it to maintain the integrity of this agreement and Project.
- B. Phasing of Project.

Phasing of the Project and issuance of building permits shall be completed as outlined in either i or ii below.

 - i. The hotel shall be permitted prior to the residential apartment buildings or simultaneously with the residential apartment buildings.
 - ii. The office building and the retail building shall be permitted prior to or simultaneously with the residential apartment buildings.
- C. Holmes Creek. Developer will coordinate with Davis County and follow all regulatory requirements for protection of Holmes Creek during construction and after occupancy.
- D. Findings of Compatibility. In adopting the Development Standards identified in Section 2, the City hereby expressly finds that the development of the Project, in conformance with the Development Standards and this Agreement, promotes the creation of a desirable mixed-use Project in an appropriate location and is in harmony with the 2022 General Plan. The City further finds that the development of the Project, in conformance with the Development Standards and this Agreement, will not violate the general purpose, goals and objectives of the City Ordinances and any plans adopted by the Planning Commission and City Council.

Subject to the Developer's performance and compliance with the terms of this Agreement and City Ordinances in effect on the date of this Agreement, Developer's rights to develop the Project in accordance with the approved site plan, construction drawings and building plans are vested.

3. MAINTENANCE AND CARE OF THE PROJECT AND PROPERTY

Developer agrees to keep property, grounds and buildings in good condition, maintaining, repairing, replacing, etc. all commonly owned ground, property, and amenities, including the trail, playground area, pool, dog park, landscaped areas, parking areas, driveways, sidewalks,

park strips, lighting, benches, etc. Developer agrees to remain in compliance with Kaysville City code.

4. APPLICABILITY AND AMENDMENTS

This agreement runs with the land and shall be considered a master plan for all properties outlined in Section 1A and is applicable and enforceable in perpetuity. Any substantial or significant changes to the Project outside of those defined in this agreement shall be approved by the City Council in an amendment to this agreement.

5. ON-SITE PROJECT IMPROVEMENTS

Developer shall construct and install all site improvements, including utilities, required for the Project, at Developer's sole cost and expense, in compliance with approvals, and all applicable ordinances, regulations, standards as approved by the City, the secondary water provider, Central Davis Sewer District, other providers and the State of Utah.

6. OFF-SITE PROJECT IMPROVEMENTS

In accordance with applicable standards and subject to the design approval of the City Engineer, Developer shall construct and install street improvements, sidewalks, utilities, and drainage improvements, on 521 West 350 North with the construction of the on-site improvements.

7. REPRESENTATIONS OF DEVELOPER

- A. Authority. Developer hereby represents that Developer has authority to proceed with the Project.
- B. Ability. Developer represents that it has the ability to timely proceed with the development and construction of the Project. Developer agrees to begin construction of the Project as soon as practicable and complete occupancy approval with at least on commercial building by December 31, 2026.

8. ASSIGNMENT

Developer may assign this Agreement to any other third party provided that the City consents to such assignment, which consent shall not be unreasonably withheld, upon a showing to the satisfaction of the City that such third party has the financial ability to perform Developer's obligations hereunder.

9. BINDING EFFECT

This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns.

10. ATTORNEY'S FEES

In the event that this Agreement or any provision hereof shall be enforced by an attorney retained by a party hereto, whether by suit or otherwise, the fees and costs of such attorney shall be paid by the party who breaches or defaults hereunder, including fees and costs

incurred upon appeal or in bankruptcy court.

11. SEVERABILITY

If any term or provision of this Agreement shall, to any extent, be determined by a court of competent jurisdiction to be void, voidable, or unenforceable, such void, voidable or unenforceable term or provision shall not affect the enforceability of any other term or provision of this Agreement.

12. CAPTIONS

The section and paragraph headings contained in this Agreement are for the purposes of reference only and shall not limit, expand or otherwise affect the construction of any provisions hereof.

13. GOVERNING LAW

This Agreement and all matters relating hereto, shall be governed by, construed and interpreted in accordance with the laws of the State of Utah.

14. ENTIRE AGREEMENT

This Agreement, together with the exhibits attached hereto, constitutes the entire understanding and agreement by and among the parties hereto, and supersedes all prior agreements, representations or understandings by and among them, whether written or oral, pertaining to the subject matter hereof.

15. AUTHORIZATION OF EXECUTION

A. City. The execution of this Agreement by the City has been authorized by the City Council of Kaysville City at a regularly scheduled meeting of that body, pursuant to the notice.

B. Developer. The execution of this Agreement has been duly authorized by the Developer.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the day and year first above written.

H Group Ventures, LLC

By: _____

Title

Attest:

Kaysville City

By: _____

Annemarie Plaizier
City Recorder

Tamara Tran
Mayor

On the ____ day of _____, 2023, personally appeared before me TAMARA TRAN, and ANNEMARIE PLAIZIER, who being by me duly sworn did say, each for himself and herself that he, the said TAMARA TRAN, is the Mayor of Kaysville City, Davis County, State of Utah and that she, the said ANNEMARIE PLAIZIER, is the City Recorder of Kaysville City, and that the within and foregoing instrument was signed on behalf of the said Kaysville City by authority of the City Council of Kaysville City and said TAMARA TRAN and ANNEMARIE PLAIZIER, each duly acknowledged to me that the said Kaysville City executed the same and that the seal affixed is the seal of the said Kaysville City.

NOTARY PUBLIC

(SEAL)

STATE OF UTAH)
: ss.
COUNTY OF DAVIS)

On the ____ day of _____, 2023, personally appeared before me, _____, the signer of the foregoing Development Agreement for Phil Holland, who duly acknowledged to me that he executed the same for and on behalf of H Group Ventures LLC.

NOTARY PUBLIC

(SEAL)

STATE OF UTAH

)

: ss.

COUNTY OF DAVIS

)

- Exhibit A – Property Location Map
- Exhibit B – Legal Description of the Project property
- Exhibit C – Site Plans
- Exhibit D – Architectural Renderings
- Exhibit E – Traffic Impact Study
- Exhibit F – Parking study
- Exhibit G – Application materials – Statement of Compliance

DRAFT

**DEVELOPMENT AGREEMENT
FOR 521 WEST 350 NORTH**

THIS AGREEMENT is made and entered into this ____ day of _____, 2023 by and between Kaysville City, a municipal corporation organized and existing under the laws of the State of Utah (hereinafter the “City”) and H Group Ventures LLC (hereinafter the “Developer”).

RECITALS

WHEREAS, Developer is desirous of developing a mixed-use project consisting of residential apartments and commercial facilities (the “Project”) on certain real property located at 521 West 350 North, in the City of Kaysville, County of Davis, State of Utah and more particularly described as parcel number 11-879-0007 which is .619 acres in size and parcel number 11-879-0002 which is 5.64 acres for a combined total of 6.259 acres; and

WHEREAS, the Property Location Map is attached hereto as Exhibit A and the legal description is attached as Exhibit B; and

WHEREAS, the purpose of this Agreement is to define development standards, conditions and improvements for the Project as well as other terms and conditions pursuant to which the Project proposed by Developer shall be developed within the City; and

WHEREAS the City is willing to grant the Mixed Use Zoning District Overlay (MU) rezone of the property and authorize the development of the Project proposed by Developer in conformance with this Agreement, City Ordinances, and applicable Utah law;

NOW, THEREFORE, in consideration of the mutual covenants and conditions set forth herein, and other good and valuable consideration, the sufficiency of which is hereby acknowledged, the parties agree as follows:

AGREEMENT

1. GENERAL DESCRIPTION.

- A. Area Description. The property upon which the Project shall be developed (the “Property”) is located as shown on the Property Location Map, a copy of which is attached as Exhibit A hereto and incorporated by reference herein. The property is further described in Exhibit B as parcel ID 11-879-0007 which is .619 acres in size and parcel number 11-879-0002 which is 5.64 addressed as 521 West 350 North.
- B. Project Description. The Project proposed is a horizontal mixed-use development as shown in Exhibit C (the “Site Plan”) and shall include commercial, retail and residential buildings and shall be constructed in substantial conformance to the attached concept Site Plan.

- a. Commercial Space. The Project includes a total of approximately 75,971 square feet of commercial building space, which is ~~4236~~% of the total square footage of the Project. The commercial buildings shall include:
 - i. Hotel. One four-story hotel, which shall not exceed 50 feet in height and will have approximately:
 - 1. 57,971 square feet of space; and
 - 2. 114 rooms.
 - ii. Office. An office building with approximately 15,000 square feet of space.
 - iii. Retail. One single-story retail building with approximately 3,000 square feet of space and possible drive-thru.
- b. Residential Space. Two ~~three~~four-story apartment buildings totaling approximately ~~106,740~~135,200 square feet with each building consisting of:
 - 1. Approximately ~~53,370~~67,600 square feet of space per building, ~~for a total of approximately 106,740 square feet of space.~~
 - 2. Subject to final design, no more than ~~132~~160 residential units shall be constructed.
- c. Substantial Conformance. Substantial Conformance noted in section 1.B shall mean and include minimal fluctuations in overall project square footage, which is subject to final design.
 - i. A reduction in the number of residential units or residential building square footage may be approved by Community Development staff.
 - ii. An increase in the total commercial square footage shall be acceptable and approved by Community Development staff subject to the provision of adequate parking.
 - iii. Reductions in the total commercial square footage provided may not fall below ~~40~~30% without an amendment to this agreement, which shall be approved by the City Council.

2. DEVELOPMENT STANDARDS AND GUIDELINES

- A. Adoption of Development Standards. As allowed by Kaysville City Code 17-27-7, the City hereby adopts, as the development standards, regulations and guidelines for the Project (the "Development Standards"), the following standards in addition to all other applicable City Ordinances, standards and guidelines:
 - i. Compliance with Approved Plans. Developer shall develop the site in general conformance with the concept site plan outlined in section 1B and attached to this Agreement as Exhibit C.
 - ii. Architecture. Developer shall construct the Project in substantial compliance and conformance with the architectural style, ~~and~~ renderings and color and materials board shown in Exhibit D.

- iii. Building Materials. Developer shall construct all buildings in substantial compliance with materials shown in the concept renderings depicted in Exhibit D, which show rock and/or brick, wood, steel, and glass.
- iv. Building Height. Developer shall construct the buildings in compliance with the following:
- a. The four-story hotel shall not exceed fifty feet (50') in height except to allow for flexibility in overall average height for architectural details and variations.
 - ~~a-b.~~ The four-story apartment buildings shall not exceed 45 feet (45') in height except to allow for flexibility in overall average height for architectural details and variations.
 - ~~b-c.~~ All other buildings in the project shall not exceed thirty-five feet (35') as defined by Kaysville City Ordinances except to allow for flexibility in overall average height for architectural details and variations.-
- v. Amenities Plan. Developer agrees to providing the following amenities for residents living in the apartments in the development:
- a. Walking path around the property.
 - i. Developer will attempt to make walking path connections into properties which are adjacent to the Project.
 - b. Dog park.
 - c. Pickleball courts or a swimming pool.
 - d. Clubhouse.
 - e. Pavilion, picnic and barbeque area.
- vi. Parking.
- a. Required Parking. Calculations of required parking based on the adopted Kaysville City Code 17-27 Mixed Use Zoning and 17-32 Off-Street Parking and Loading. Required parking of 344 396 total stalls is demonstrated in the breakdown noted below.
 - i. Apartment Building – 204 256 parking stalls required
 - ii. Office – 53 parking spaces required
 - iii. Hotel – 76 spaces required
 - iv. Retail – 11 units required
 - b. Parking Reduction. Developer submitted a parking study included as Exhibit E along with a request to reduce parking by 12-32 24%. City agrees to reduce required parking by 12.32 24%, reducing the 344 396 required stalls by 43 94 and requiring a minimum of 301 302 parking stalls.
 - c. For parcels that will be owned outside of H Ventures Group, LLC, cross-parking agreements shall be created between property owners and recorded against the property.

vii. Lighting. Developer agrees to provide a detailed photometric plan to the City which shall include efficient lighting materials and shall also include shielded lighting, down lighting and parking lot lighting for security. Lighting shall not penetrate beyond the property in such a manner as to annoy or interfere with the use of adjacent properties.

viii. Signage. A monument sign is to be provided on 350 North. A pole sign up to 45 feet in height is permitted within 300 feet of I-15 as allowed by KCC 17-33 Sign Regulations.

vii-ix. Access.

- a. The Project has access to their site from 350 North. Developer will provide cross-access agreements to be recorded against the properties for any parcels that will not have street frontage.
- b. If a subdivision occurs, Developer shall provide cross-access agreements between all properties created by the subdivision.
- c. Developer will attempt to get access agreements for pedestrian and vehicle traffic through neighboring properties to the east.

viii-x. Density. Developer may construct up to ~~132~~ 160 residential dwelling units within Project. The overall residential unit count shall not exceed ~~132~~ 160 units. Any increase in the count of residential dwelling units shall be approved by the City Council through an amendment to this agreement.

ix-xi. Commercial Uses. Developer agrees to provide a four-story hotel consisting of 114 rooms, a 15,000 square foot office, and 3,000 of retail space. Removal of the hotel from the Project or any substantial changes to the hotel plans shall be approved by the City Council through an amendment to this agreement. Any changes to the commercial spacing for the office and retail space resulting in a substantial reduction of square footage shall only be approved by the City Council through an amendment to this agreement.

*xii. Traffic Mitigation. Developer agrees to construct any road improvements or traffic mitigation measures on 350 North as necessitated by the Project. Any such improvements shall be built to adopted City standards.

*i-xiii. Landscaping.

- a. Developer agrees to use turf only in active recreation areas for the Project as defined in Kaysville City Code 17-5 Water Efficient Landscape Standards.
- b. Developer shall not install turf or grass in park strip or parking lot areas but will use water wise vegetation and materials.
- c. Developer agrees to use water wise vegetation and materials in other landscaping areas where reasonable.

d. Developer agrees to plant perennial trees throughout the parking lot as indicated in the landscape plan.

- ii.xiv. Subdivision for Mixed-Use Overlay. Development of the Project may require a subdivision of the Property into two or more individual parcels.
- a. Developer shall apply for a subdivision of the Property and shall follow all process and code requirements for the subdivision, including payment of fees, and submission of all outlined documents required for a subdivision.
 - b. This development agreement shall be subject to the entirety of the two parcels outlined in section 1A and will continue to run with the land regardless of subdivisions or how many lots are created in the future.
 - c. This agreement shall be recorded along with any subdivision plat and the plat shall have language placed on it to maintain the integrity of this agreement and Project.
- B. Phasing of Project.
Phasing of the Project and issuance of building permits shall be completed as outlined in either i or ii below.
- i. The hotel shall be permitted prior to the residential apartment buildings or simultaneously with the residential apartment buildings.
 - ii. The office building and the retail building shall be permitted prior to or simultaneously with the residential apartment buildings.
- C. Holmes Creek. Developer will coordinate with Davis County and follow all regulatory requirements for protection of Holmes Creek during construction and after occupancy.
- D. Findings of Compatibility. In adopting the Development Standards identified in Section 2, the City hereby expressly finds that the development of the Project, in conformance with the Development Standards and this Agreement, promotes the creation of a desirable mixed-use Project in an appropriate location and is in harmony with the 2022 General Plan. The City further finds that the development of the Project, in conformance with the Development Standards and this Agreement, will not violate the general purpose, goals and objectives of the City Ordinances and any plans adopted by the Planning Commission and City Council.

Subject to the Developer's performance and compliance with the terms of this Agreement and City Ordinances in effect on the date of this Agreement, Developer's rights to develop the Project in accordance with the approved site plan, construction drawings and building plans are vested.

3. MAINTENANCE AND CARE OF THE PROJECT AND PROPERTY

Developer agrees to keep property, grounds and buildings in good condition, maintaining, repairing, replacing, etc. all commonly owned ground, property, and amenities, including the trail, playground area, pool, dog park, landscaped areas, parking areas, driveways, sidewalks,

park strips, lighting, benches, etc. Developer agrees to remain in compliance with Kaysville City code.

4. APPLICABILITY AND AMENDMENTS

This agreement runs with the land and shall be considered a master plan for all properties outlined in Section 1A and is applicable and enforceable in perpetuity. Any substantial or significant changes to the Project outside of those defined in this agreement shall be approved by the City Council in an amendment to this agreement.

5. ON-SITE PROJECT IMPROVEMENTS

Developer shall construct and install all site improvements, including utilities, required for the Project, at Developer's sole cost and expense, in compliance with approvals, and all applicable ordinances, regulations, standards as approved by the City, the secondary water provider, Central Davis Sewer District, other providers and the State of Utah.

6. OFF-SITE PROJECT IMPROVEMENTS

In accordance with applicable standards and subject to the design approval of the City Engineer, Developer shall construct and install street improvements, sidewalks, utilities, and drainage improvements, on 521 West 350 North with the construction of the on-site improvements.

7. REPRESENTATIONS OF DEVELOPER

- A. Authority. Developer hereby represents that Developer has authority to proceed with the Project.
- B. Ability. Developer represents that it has the ability to timely proceed with the development and construction of the Project. Developer agrees to begin construction of the Project as soon as practicable and complete occupancy approval with at least on commercial building by December 31, 2026.

8. ASSIGNMENT

Developer may assign this Agreement to any other third party provided that the City consents to such assignment, which consent shall not be unreasonably withheld, upon a showing to the satisfaction of the City that such third party has the financial ability to perform Developer's obligations hereunder.

9. BINDING EFFECT

This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns.

10. ATTORNEY'S FEES

In the event that this Agreement or any provision hereof shall be enforced by an attorney retained by a party hereto, whether by suit or otherwise, the fees and costs of such attorney shall be paid by the party who breaches or defaults hereunder, including fees and costs

incurred upon appeal or in bankruptcy court.

11. SEVERABILITY

If any term or provision of this Agreement shall, to any extent, be determined by a court of competent jurisdiction to be void, voidable, or unenforceable, such void, voidable or unenforceable term or provision shall not affect the enforceability of any other term or provision of this Agreement.

12. CAPTIONS

The section and paragraph headings contained in this Agreement are for the purposes of reference only and shall not limit, expand or otherwise affect the construction of any provisions hereof.

13. GOVERNING LAW

This Agreement and all matters relating hereto, shall be governed by, construed and interpreted in accordance with the laws of the State of Utah.

14. ENTIRE AGREEMENT

This Agreement, together with the exhibits attached hereto, constitutes the entire understanding and agreement by and among the parties hereto, and supersedes all prior agreements, representations or understandings by and among them, whether written or oral, pertaining to the subject matter hereof.

15. AUTHORIZATION OF EXECUTION

A. City. The execution of this Agreement by the City has been authorized by the City Council of Kaysville City at a regularly scheduled meeting of that body, pursuant to the notice.

B. Developer. The execution of this Agreement has been duly authorized by the Developer.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the day and year first above written.

H Group Ventures, LLC

By: _____

Title

Attest:

Kaysville City

By: _____

Annemarie Plaizier
City Recorder

Tamara Tran
Mayor

On the ____ day of _____, 2023, personally appeared before me TAMARA TRAN, and ANNEMARIE PLAIZIER, who being by me duly sworn did say, each for himself and herself that he, the said TAMARA TRAN, is the Mayor of Kaysville City, Davis County, State of Utah and that she, the said ANNEMARIE PLAIZIER, is the City Recorder of Kaysville City, and that the within and foregoing instrument was signed on behalf of the said Kaysville City by authority of the City Council of Kaysville City and said TAMARA TRAN and ANNEMARIE PLAIZIER, each duly acknowledged to me that the said Kaysville City executed the same and that the seal affixed is the seal of the said Kaysville City.

NOTARY PUBLIC

(SEAL)

STATE OF UTAH)
: ss.
COUNTY OF DAVIS)

On the ____ day of _____, 2023, personally appeared before me, _____, the signer of the foregoing Development Agreement for Phil Holland, who duly acknowledged to me that he executed the same for and on behalf of H Group Ventures LLC.

NOTARY PUBLIC

(SEAL)

STATE OF UTAH

)

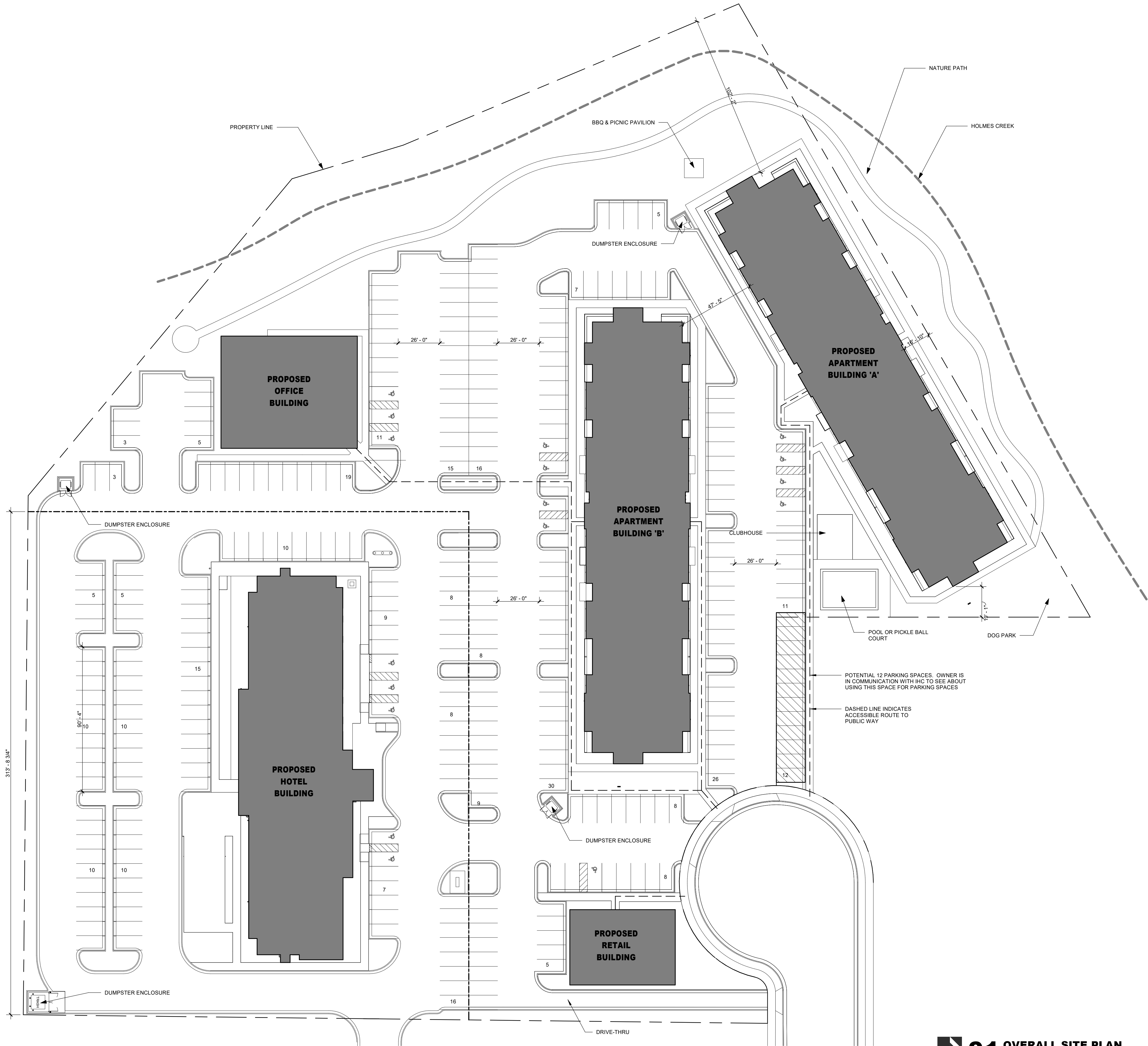
: ss.

COUNTY OF DAVIS

)

Exhibit A – Property Location Map
Exhibit B – Legal Description of the Project property
Exhibit C – Site Plans
Exhibit D – Architectural Renderings
Exhibit E – Traffic Impact Study
Exhibit F – Parking study
Exhibit G – Application materials – Statement of Compliance

DRAFT



SITE PLAN CALCULATIONS

APARTMENT DATA

BUILDING 'A' FOOTPRINT	16,900 SQ. FT.
BUILDING 'A' SQ. FT.	= 67,600 SQ. FT.
BUILDING 'B' FOOTPRINT	16,900 SQ. FT.
BUILDING 'A' SQ. FT.	= 67,600 SQ. FT.
BUILDING HEIGHT	= 4 STORIES
UNIT COUNT	
BUILDING 'A'	
STUDIO	= 8
1 BED	= 48
2 BED	= 24
TOTAL	= 80
BUILDING 'B'	
STUDIO	= 8
1 BED	= 48
2 BED	= 24
TOTAL	= 80
TOTAL APARTMENTS	= 160 UNITS

HOTEL DATA

BUILDING SQUARE FOOTAGE	= 67,971 S. FT.
BUILDING HEIGHT	= 4 STORIES
UNIT COUNT	= 114

OFFICE DATA

BUILDING SQUARE FOOTAGE	= 15,000 SF
BUILDING HEIGHT	= 3 STORIES

RETAIL DATA

BUILDING SQUARE FOOTAGE	= 3,000 SF
BUILDING HEIGHT	= 1 STORY

PARKING

REQUIRED	
APARTMENTS	256 STALLS
OFFICE	63 STALLS
RETAIL	11 STALLS
HOTEL	76 STALLS
STALLS REQ'D	386 STALLS
10% REDUCTION	386 X 10% = 39.6
TOTAL REQ'D	356 STALLS
TOTAL PROVIDED	302 STALLS

AMENITIES

POOL OR PICKLE BALL COURT	
DOG PARK	
NATURE PATH	
BBQ & PICNIC PAVILION	
CLUBHOUSE	

01 OVERALL SITE PLAN
1" = 30'-0"

STAMP

REVISION NO.	DESCRIPTION	DATE

DATE
07/26/2023
ISSUE

SHEET TITLE
SITE PLAN

SHEET NO.

A1.01



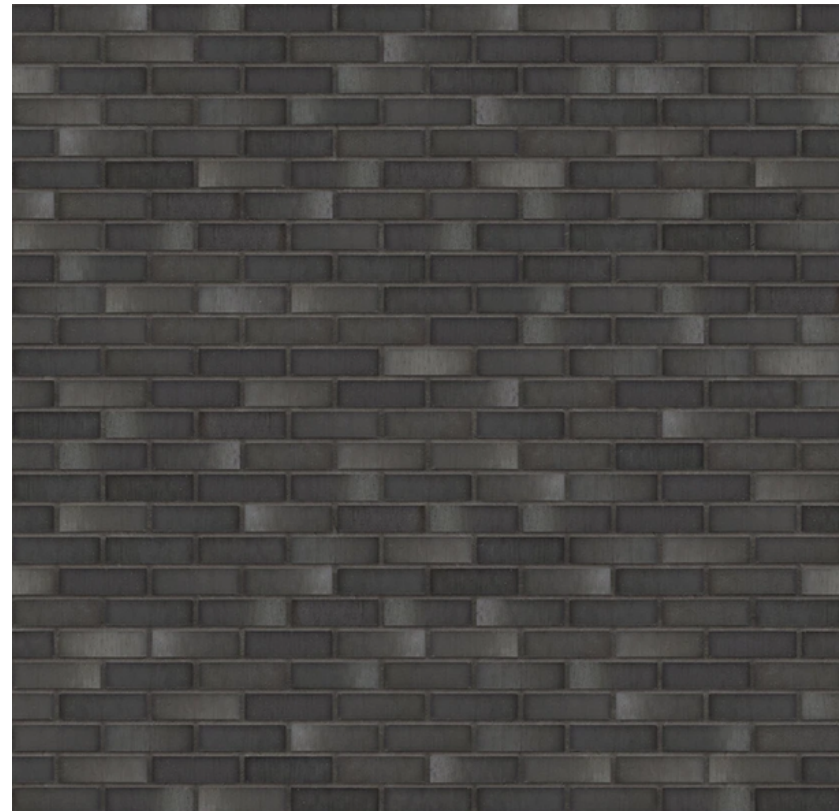




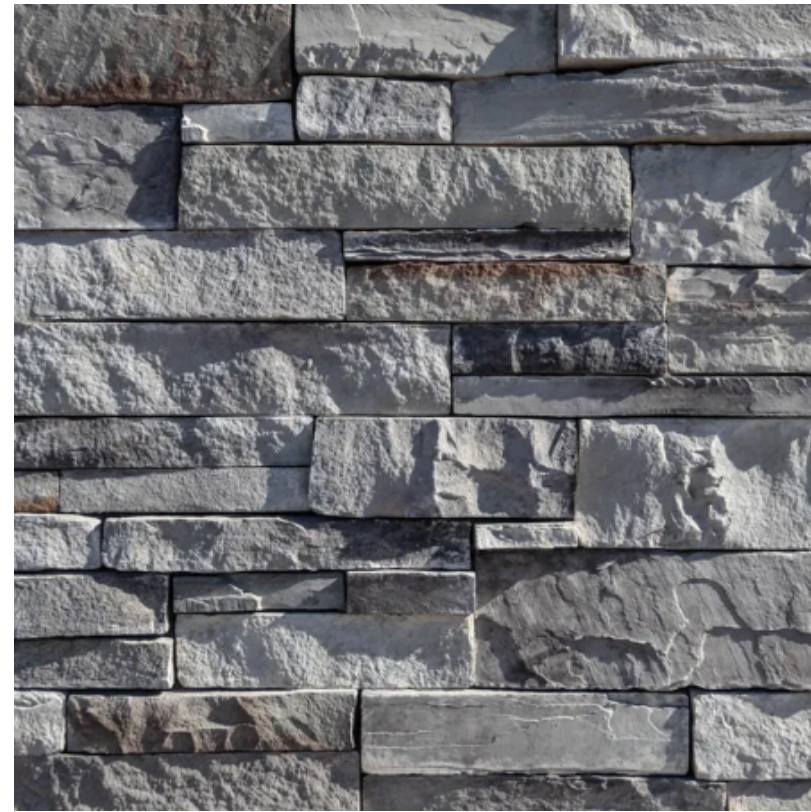








WHITE NIGHT - THIN BRICK
KING KLINKER - KING SIZE



HIGHLAND - DRYSTONE
HARRISTONE - WHITE MORTAR



ASPEN RIDGE - LAP
WOODTONE

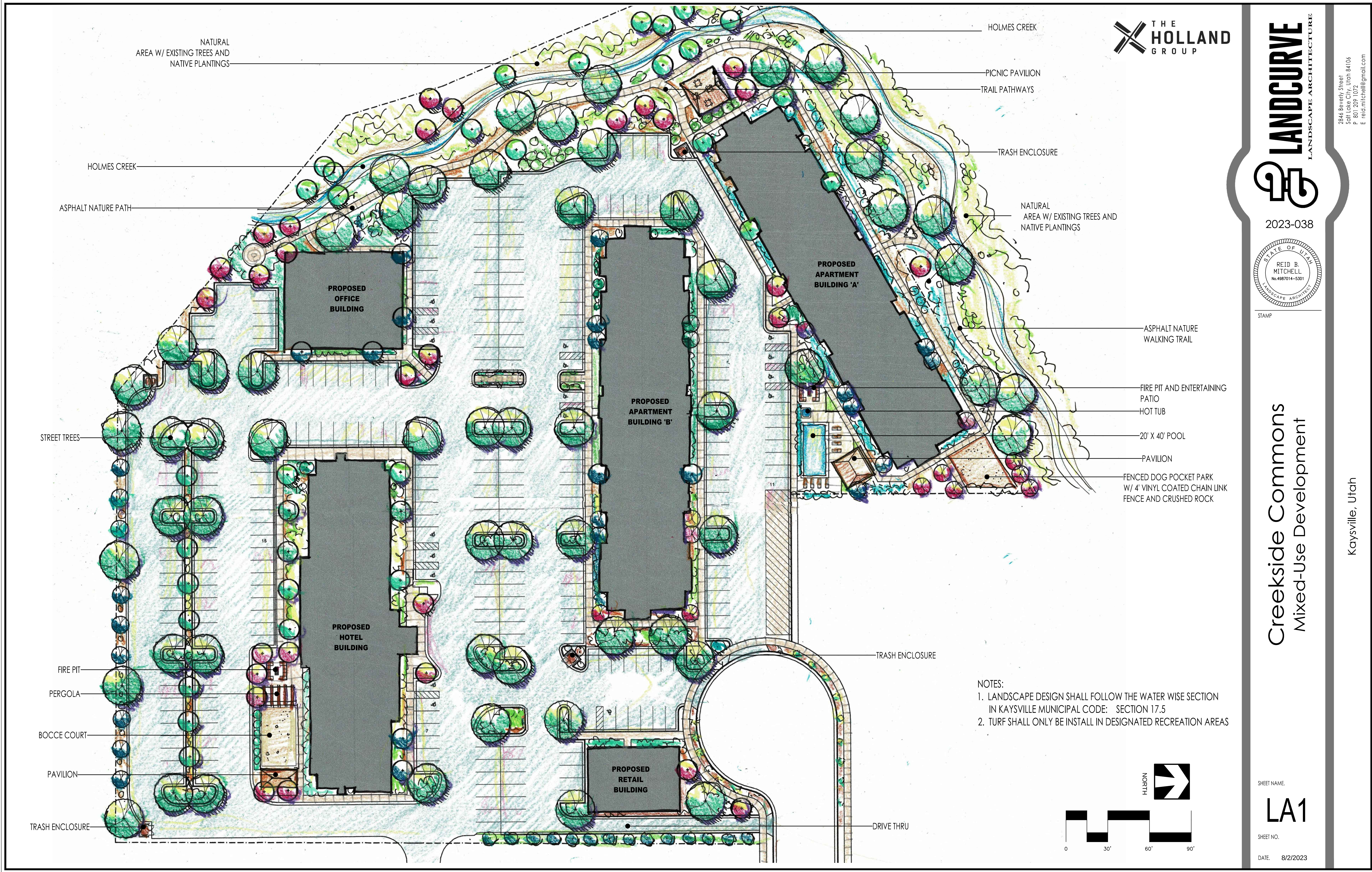


SOFT WHITE - STUCCO

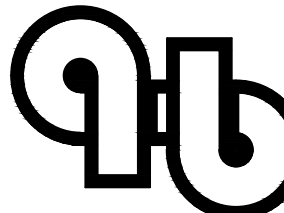
CREEKSIDE | MULTI-FAMILY

EXTERIOR FINISHES

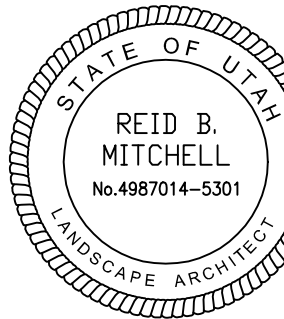




LANDCURVE
LANDSCAPE ARCHITECTURE



2023-038



STAMP

Creekside Commons
Mixed-Use Development

Kaysville, Utah

2844 Beverly Street
Salt Lake City, Utah 84106
P 801 209 1072
E reid.mitchell@gmail.com

HOLMES CREEK

PICNIC PAVILION

TRAIL PATHWAYS

TRASH ENCLOSURE

NATURAL
AREA W/ EXISTING TREES AND
NATIVE PLANTINGS

ASPHALT NATURE
WALKING TRAIL

FIRE PIT AND ENTERTAINING
PATIO
HOT TUB

20' X 40' POOL

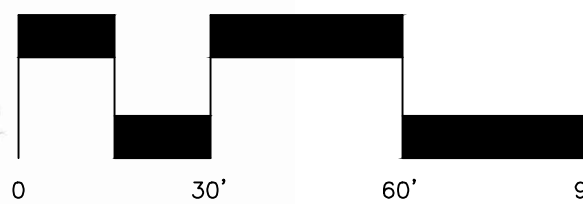
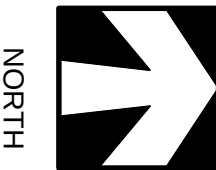
PAVILION

FENCED DOG POCKET PARK
W/ 4' VINYL COATED CHAIN LINK
FENCE AND CRUSHED ROCK

TRASH ENCLOSURE

- NOTES:
1. LANDSCAPE DESIGN SHALL FOLLOW THE WATER WISE SECTION
IN KAYSVILLE MUNICIPAL CODE: SECTION 17.5
 2. TURF SHALL ONLY BE INSTALL IN DESIGNATED RECREATION AREAS

DRIVE THRU



SHEET NAME:

LA1

SHEET NO.

DATE: 8/2/2023

Creekside Commons



Our Vision

We appreciate the opportunity to introduce Creekside Commons to Kaysville City. The project aims to foster growth, boost economic activity, and integrate within the existing community. Our development, in its form and function, supports the city's long-term vision.



Project Compatability

Overview

Creekside Commons is a mixed-use development containing Office, Retail, Apartments, and Hotel uses. The development's location, near downtown and transportation corridors, lends itself well to these use types. Additionally, the development keeps consistent with Kaysville's General Plan.

General Plan

1. Land Use

Creekside Commons is located next to I-15 and Kaysville's main commercial area. Placing these types of developments near transportation hubs allows Kaysville, over time, to maintain the "small town" atmosphere in other parts of the City, while still providing much-needed commercial and residential uses. Creekside will also promote and benefit all adjacent commercial and future projects in the area.

Building a hotel, the land's highest and best use, will encourage commercial opportunities and serve residents and existing commercial uses within Kaysville.



2. Transportation & Connectivity

The site has been laid out with connectivity in mind. The Development will benefit from two main accesses. We will also have main pedestrian connectivities throughout the development. Creekside Commons will have low impact to the traffic of Kaysville's general roadways, as shown in the traffic study done on our



3. Housing and Neighborhoods

As shown in the city's General Plan Table 3.8, the future demands of the renter population are greatly needed and increasing. Implementing apartments in this development provides the city's great long-term need. Also, developing housing close to I-15 and the commercial corridors keeps higher densities away from less dense areas in Kaysville. The proposed apartment community will also be rich in amenities, which until now have been scarce for Kaysville's multifamily.

Table 3.8 - Renter Population Projection

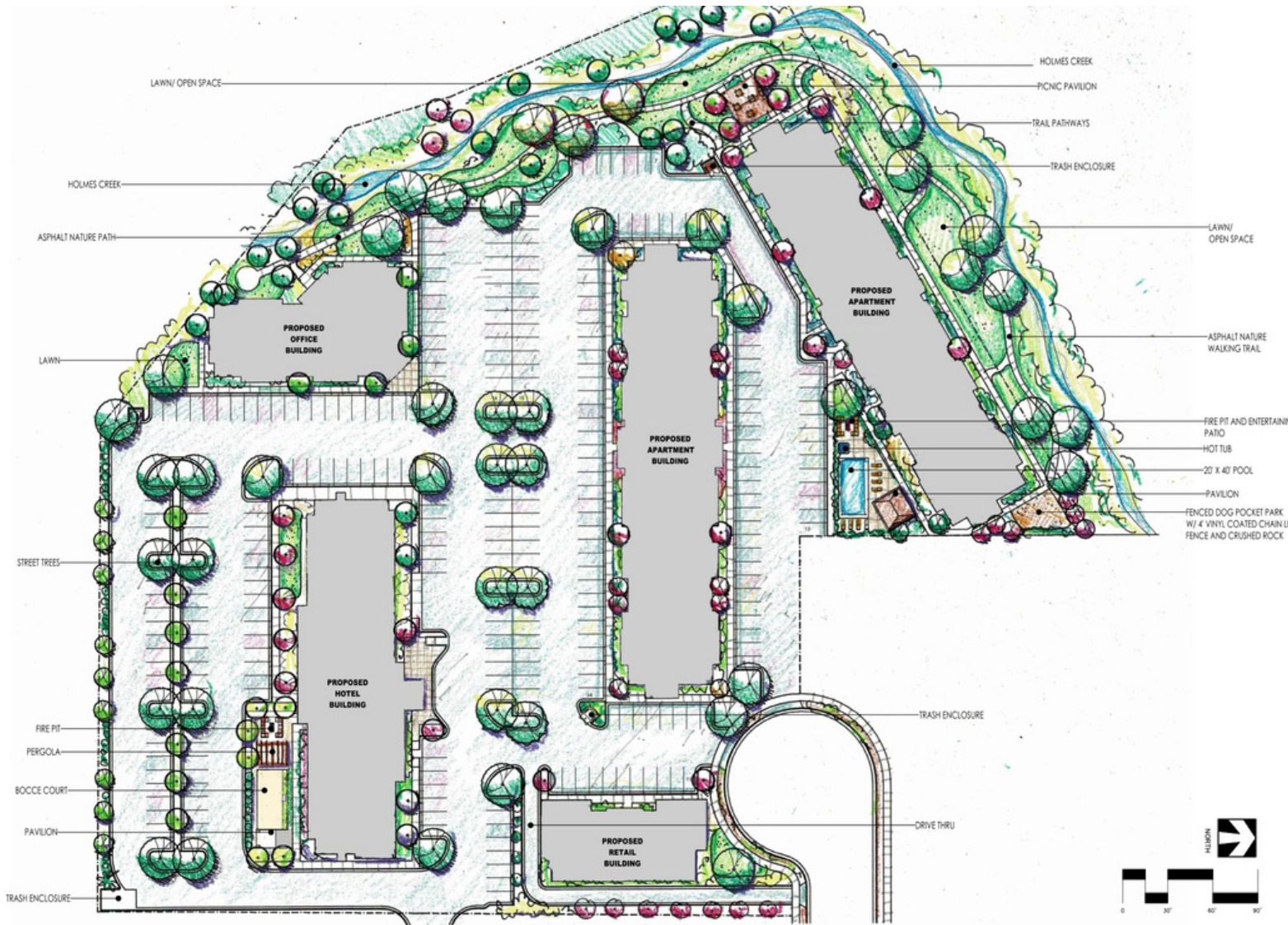
	5 YEAR PROJECTION	10 YEAR PROJECTION
≤ 80% HAMFI	3,982	4,621
≤ 50% HAMFI	3,755	5,441
≤ 30% HAMFI	1,157	1,358

Table 3.9 - Projected Affordable Housing Needs

	AFFORDABLE RENTAL UNITS	GROWTH RATE	5 YEAR UNIT DEMAND	10 YEAR UNIT DEMAND
≤ 80% HAMFI	940	3.02%	1,091	1,266
≤ 50% HAMFI	710	7.70%	1,029	1,491
≤ 30% HAMFI	270	3.26%	317	372

4. Open Space Trails and Natural Resources

We will maintain trees along historic Holmes Creek to provide a buffer between our projects and the adjacent land uses. The Landscape plan demonstrates the natural beauty of this project as we balance the fine line of efficient land use with the nature of Kaysville. A walking path is outlined within our project to create safe travel for pedestrians and interconnectivity.



5. Economic Development & Prosperity

Creating a mixed-use project with 3 commercial uses and with the residential use will strengthen the adjacent commercial hub. Kaysville will boost local businesses' ability to operate and thrive with the supported office and hotel patrons closer to them. The 6.2-acre site will be developed to its highest and best use. The development is estimated to be worth over \$50 million upon completion. This would put this 6-acre property as the top value in Kaysville. The property tax to the city as well as the hotel's transient room tax will be a great long-term benefit for Kaysville City and its residents.



Kaysville Zoning Ordinances

We have created our vision based upon, and consistent with, the newly created Mixed Use zone outlined in Kaysville City's zoning ordinance.



Purpose of MU Zone

As indicated in the ordinance, the intent is to integrate a diverse and compatible option for individuals wishing to be in different family unit types. This achieves the objective by providing a broader range of residential and commercial options not currently found in Kaysville.



Surrounding land Uses

The adjacent land uses to the subject property are all General Commercial. Creekside Commons enhances and benefits all adjacent uses due to the increased office and residential presence coupled with Hotel patrons. It will increase all business in the area, promoting a flourishing commercial hub for Kaysville.



MEMORANDUM

To: Kaysville City

From: Jason Watson, PE, PTOE

FOCUS Engineering & Surveying, LLC

File: Kaysville Mixed-Use Development

Date: July 31, 2023

Reference: Kaysville Mixed-Use Development Parking Analysis - REVISED

INTRODUCTION

FOCUS Engineering and Surveying, LLC (FOCUS) has been retained to complete a Parking Analysis for the addition of a new mixed-use development located along 400 West between Main Street and 200 North in Kaysville, Utah. The purpose of this Parking Analysis is to project the number of parking stalls that will be needed on the proposed site with the planned land uses. This memorandum will also compare the parking demand percentages between the different land uses proposed for this site. This will help determine the peak time periods for parking onsite and how the parking stalls can be shared between the different land uses. The proposed development will access onto 400 West. The site is currently undeveloped land that surrounds commercial and industrial buildings. Exhibit 1 illustrates the vicinity map of the proposed project site.

Exhibit 1 – Project Vicinity Map



Reference: Kaysville Mixed-Use Development Parking Analysis - REVISED

EXISTING CONDITIONS

Surrounding Land Uses and Roadways

This mixed-use development is bordered to the south by a commercial development, to the north by a medical facility, I-15 to the west and 400 West to the east. The proposed site for the new mixed-use development is currently vacant land and in a heavily commercialized area of Kaysville.

To the north is Main Street and to the south is 200 North, which are major roadways that provide access to Interstate 15 both north and south of the proposed development. There are existing roadways that the proposed development will use to access onto 400 West. One road is located just south of the Intermountain Kaysville Creekside Clinic and is currently a cul-de-sac. The second road is an existing access to the property, located roughly 280 feet south of the cul-de-sac.

Roadways

Main Street: Main Street currently consists of two lanes in each direction with bike lanes, curb, and gutter. Currently Main Street consists of a 12-foot two-way left turn lane for vehicles to access the many developments along this roadway. Main Street provides access to Layton Parkway to the north and 200 West to the south. The posted speed limit is 30 mph.

200 North: 200 North currently consists of two lanes in each direction with a center two-way left turn lane. 200 North runs east and west and provides access to I-15 to the west and US 89 to the east. 200 North is located on the south of the proposed development and the posted speed limit is 35 mph.

400 West: 400 West is a north/south roadway that provides access to the proposed development. 400 West is a local roadway owned by the Kaysville City and is currently not striped, but consists of one lane in each direction. The pavement is wide enough that vehicles making a left turn leave enough room for a vehicle to pass, basically functioning as a two-way left turn lane. The posted speed limit is 30 mph.

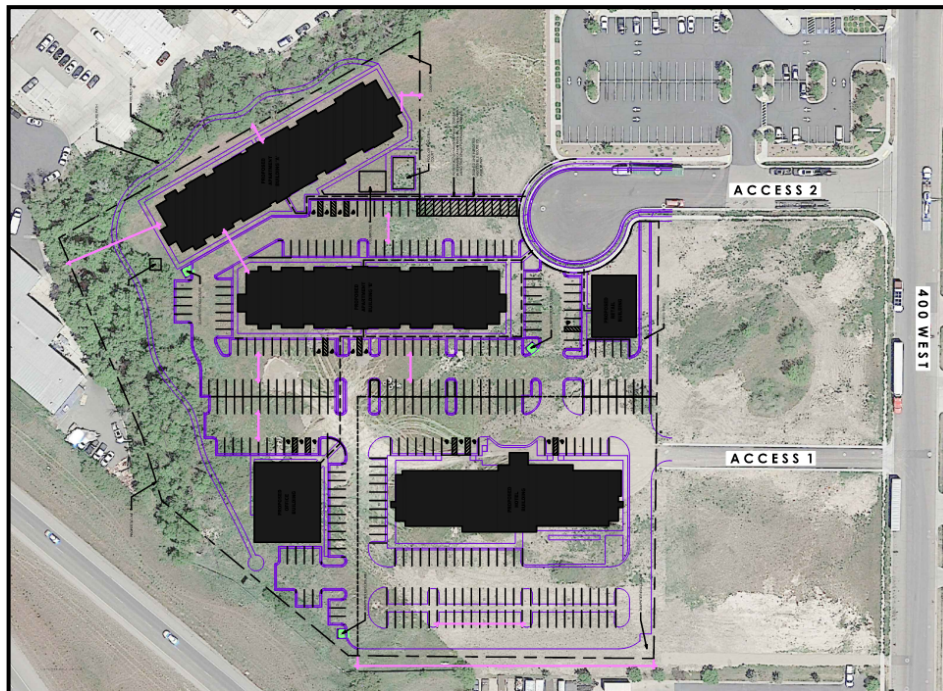
PROPOSED SITE CONDITIONS

The proposed mixed-use development located along 400 West will consist of a 15,000 SF general office building, a 3,000 SF small office space/retail, 160 apartment units, and a 114-room hotel. All traffic exiting and entering the proposed site will access to and from 400 West. The proposed site plan has been designed to provide a total of 302 parking stalls.

Reference: Kaysville Mixed-Use Development Parking Analysis - REVISED

Refer to Exhibit 2 for the proposed site plan of this mixed-use development. As illustrated in the proposed site plan some of the parking spaces within this area can be shared. With the types of uses planned for this site, there will be many times in an average day where the peak parking times will not overlap between land uses and therefore the parking stalls can be shared.

Exhibit 2 – Kaysville Mixed-Use Development Site Plan



PARKING GENERATION

Using the *Institute of Transportation Engineer's (ITE) Parking Generation Manual 5th Edition*, the proposed number of parking stalls needed for this mixed-use development were generated. Land Use Code 221 – Multifamily (Mid-Rise), Land Use Code 710 – General Office Building, Land Use Code 712 – Small Office Building, Land Use Code 310 – Hotel were all used to generate the number of parking stalls. The description of Land Use Code 221 – Multifamily (Mid-Rise) states "multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three or more dwelling units and between three and ten levels(floors) of residence." In this proposed Mixed-Use Development, there will be 160 residential units in three levels. The description of Land Use Code 710 – General Office Building states, "A general office building is a location

Reference: Kaysville Mixed-Use Development Parking Analysis - REVISED

where affairs of businesses, commercial or industrial organizations, or professional person or firms are conducted." The description of Land Use Code 712 – Small Office Building states, "A small office building typically houses a single tenant and is less than or equal to 3,000 gross square feet in size." The description of Land Use Code 310 – Hotel states, "A place of lodging that provides sleeping accommodation and supporting facilities such as a full-service restaurant, cocktail lounge, meeting rooms, banquet room, and convention facilities."

It is proposed that this new development will include four different land uses in order to meet the needs of the community. Within the land uses in the *Parking Generation Manual*, there are also different settings/locations depending on where the development is located. There are urban/suburban settings to dense multi-use urban settings. Depending if the development is located near rail transit or not, there are also different calculations. For purposes of this mixed-use development, and according to the location of these land uses, the general urban/suburban settings were used to represent the proposed land uses in the area. Refer to the appendix of this statement for the full description and parking generation research from the *ITE Parking Generation Manual*. Table 1 illustrates the number of parking stalls needed for this development using the average rates from the manual.

Table 1 – Parking Generation for Mixed-Use Development

Table 1 - Parking Generation for Mixed-Use Development

ITE Land Use Code	Land Use Description	Size	Weekday Ave. Rate	Parking Stalls	Saturday Ave. Rate	Parking Stalls	Sunday Ave. Rate	Parking Stalls
221	Multifamily Units	160 DU	1.31	210	1.22	196	2.05	328
710	General Office Building	15,000 SF	2.39	36	0.28	5	-	-
712	Small Office Building	3,000 SF	2.56	8	-	-	-	-
310	Hotel	114 ROOMS	0.74	85	1.15	132	-	-
Total				339		333		328

Reference: Kaysville Mixed-Use Development Parking Analysis - REVISED

As can be seen in Table 1, the number of parking stalls needed for this mixed-use development varies from a typical weekday (Monday – Friday) to a typical Saturday and Sunday. The proposed mixed-use development will need 339 parking stalls during a typical weekday, 333 stalls on a typical Saturday and 328 stalls on a typical Sunday. These calculations are assuming full occupancy of all four different land uses for the proposed development. This also assumes all four land uses need their full amount of parking at the same time of day, which in this case will not occur. Office Space will need their maximum number of parking stalls during the middle of a typical week day, where an apartment or hotel will need their maximum number of stalls throughout the night time. Therefore, the majority of the parking can be shared between the different land uses within this proposed development.

The proposed layout of the site plan shows that there is a total of 302 parking stalls planned for this development. This is 37 parking stalls shy of the calculated number of stalls per the *ITE Parking Generation Manual* under the worst-case scenario, which would be on a typical weekday with 339 parking stalls. However, this scenario is unlikely to ever happen due to the difference in operating hours between the four land uses.

The *ITE Parking Generation Manual* also provides the “Percent of Weekday Peak Parking Demand” tables. These tables provide an average percentage of the number of stalls that are used throughout the day based on that land use. These tables present a time-of-day distribution of parking demand and can be found in the appendix of this analysis.

The peak demand for parking for Small Office land use is typically between the 10:00am to 11:00am hours. The peak demand for parking for General Office land use is typically between the 10:00am to 11:00am hours. The peak demand for parking for the Hotel land use is typically between the 9:00am to 10:00am hours. Unlike the other three land uses, Multi-family Housing (Mid-Rise) has a peak parking demand between 12:00am and 4:00am. This shows that many of the parking stalls within the proposed development can be shared between the four different land uses. Tables 2 thru 5 illustrate the parking demand percentages and number of stalls needed at different times of the day based on the parking generation numbers from the *ITE Parking Generation Manual for the four different land uses*. Table 6 illustrates the combined parking demand with all four land uses.

Reference: Kaysville Mixed-Use Development Parking Analysis - REVISED

Table 2 – Land Use 221 Multifamily (Mid-Rise) Weekday Parking Demand Percentages

Hour Beginning	ITE Land use: 221: (%)	Parking Stalls
12:00-4:00 a.m.	100%	210
5:00 a.m.	94%	197
6:00 a.m.	83%	174
7:00 a.m.	71%	149
8:00 a.m.	61%	128
9:00 a.m.	55%	116
10:00 a.m.	54%	113
11:00 a.m.	53%	111
12:00 p.m.	50%	105
1:00 p.m.	49%	103
2:00 p.m.	49%	103
3:00 p.m.	50%	105
4:00 p.m.	58%	122
5:00 p.m.	64%	134
6:00 p.m.	67%	141
7:00 p.m.	70%	147
8:00 p.m.	76%	160
9:00 p.m.	83%	174
10:00 p.m.	90%	189
11:00 p.m.	93%	195

Reference: Kaysville Mixed-Use Development Parking Analysis - REVISED

Table 3 – Land Use 710 General Office Building Weekday Parking Demand Percentages

Hour Beginning	ITE Land Use 710: (%)	Parking Stalls
12:00-4:00 a.m.	0%	0
5:00 a.m.	0%	0
6:00 a.m.	0%	0
7:00 a.m.	13%	5
8:00 a.m.	48%	17
9:00 a.m.	88%	32
10:00 a.m.	100%	36
11:00 a.m.	100%	36
12:00 p.m.	85%	31
1:00 p.m.	84%	30
2:00 p.m.	93%	33
3:00 p.m.	94%	34
4:00 p.m.	85%	31
5:00 p.m.	56%	20
6:00 p.m.	20%	7
7:00 p.m.	11%	4
8:00 p.m.	0%	0
9:00 p.m.	0%	0
10:00 p.m.	0%	0
11:00 p.m.	0%	0

Reference: Kaysville Mixed-Use Development Parking Analysis - REVISED

Table 4 – Land Use 712 Small Office building Weekday Parking Demand Percentages

Hour Beginning	ITE Land Use 712: (%)	Parking Stalls
12:00-4:00 a.m.	0%	0
5:00 a.m.	0%	0
6:00 a.m.	0%	0
7:00 a.m.	0%	0
8:00 a.m.	27%	2
9:00 a.m.	69%	6
10:00 a.m.	88%	7
11:00 a.m.	100%	8
12:00 p.m.	81%	6
1:00 p.m.	81%	6
2:00 p.m.	84%	7
3:00 p.m.	86%	7
4:00 p.m.	92%	7
5:00 p.m.	85%	7
6:00 p.m.	4%	0
7:00 p.m.	0%	0
8:00 p.m.	0%	0
9:00 p.m.	0%	0
10:00 p.m.	0%	0
11:00 p.m.	0%	0

Reference: Kaysville Mixed-Use Development Parking Analysis - REVISED

Table 5 – Land Use 310 Hotel Weekday Parking Demand Percentages

Hour Beginning	ITE Land use: 310: (%)	Parking Stalls
12:00-4:00 a.m.	96%	82
5:00 a.m.	0%	0
6:00 a.m.	91%	77
7:00 a.m.	89%	76
8:00 a.m.	90%	77
9:00 a.m.	100%	85
10:00 a.m.	98%	83
11:00 a.m.	89%	76
12:00 p.m.	85%	72
1:00 p.m.	75%	64
2:00 p.m.	81%	69
3:00 p.m.	70%	60
4:00 p.m.	74%	63
5:00 p.m.	65%	55
6:00 p.m.	73%	62
7:00 p.m.	78%	66
8:00 p.m.	93%	79
9:00 p.m.	96%	82
10:00 p.m.	95%	81
11:00 p.m.	95%	81

Reference: Kaysville Mixed-Use Development Parking Analysis - REVISED

Table 6 – Total Parking Stalls with all Four Land Uses

Hour Beginning	Parking Stalls Land Use (221)	Parking Stalls Land Use (710)	Parking Stalls Land Use (310)	Parking Stalls Land Use (712)	Total Parking Stalls
12:00-4:00 a.m.	210	0	82	0	292
5:00 a.m.	197	0	0	0	197
6:00 a.m.	174	0	77	0	251
7:00 a.m.	149	5	76	0	230
8:00 a.m.	128	17	77	2	224
9:00 a.m.	116	32	85	6	239
10:00 a.m.	113	36	83	7	239
11:00 a.m.	111	36	76	8	231
12:00 p.m.	105	31	72	6	214
1:00 p.m.	103	30	64	6	203
2:00 p.m.	103	33	69	7	212
3:00 p.m.	105	34	60	7	206
4:00 p.m.	122	31	63	7	223
5:00 p.m.	134	20	55	7	216
6:00 p.m.	141	7	62	0	210
7:00 p.m.	147	4	66	0	217
8:00 p.m.	160	0	79	0	239
9:00 p.m.	174	0	82	0	256
10:00 p.m.	189	0	81	0	270
11:00 p.m.	195	0	81	0	276

As illustrated in Table 6, taking all four land uses into account, the maximum number of parking stalls that would be needed is 292 which would be between 12:00am and 4:00am.

CONCLUSION

Based on the provided site plan, the Kaysville Mixed-Use Development consists of two apartment buildings with 160 residential units, a 3,000 square foot small office space/retail, a 15,000 square foot general office space, and a 114-room hotel. The proposed layout of the development will provide a total of 302 parking stalls on site. Using the *ITE Parking Generation Manual*, the calculated number of parking stalls for these land uses will range from 339 parking stalls during a typical weekday, to 333 stalls on a typical

Reference: Kaysville Mixed-Use Development Parking Analysis - REVISED

Saturday, to 328 stalls on a typical Sunday. This is taking the worst-case scenario where all four land uses, Multifamily (Mid-Rise), Hotel, General Office Building and Small Office Building, are using their maximum number of parking stalls at the same time. This will most likely never occur, therefore we also looked at the "Peak Time of Day Percentages" for each land use.

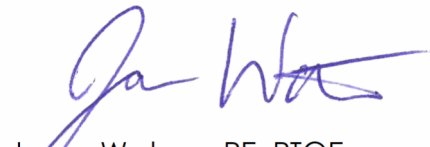
Using the percentage of peak parking demand for each land use, and as illustrated in Table 6, the highest number of parking stalls needed is 292, which would occur between 12:00am and 4:00am. It has been observed that the peak parking demand for a multifamily residential land use occurs between the hours of 12:00am and 4:00am, while the peak demand for parking for the other three land uses occurs during the hours of 9:00am to 11:00am. In this instance, the total number of parking stalls indicates that there was a high demand for parking between 12:00am and 4:00am, however the general office and small office space do not require parking during these hours. With a total of 302 parking stalls provided on site with the proposed layout, this will provide enough parking stalls at any particular hour during the week.

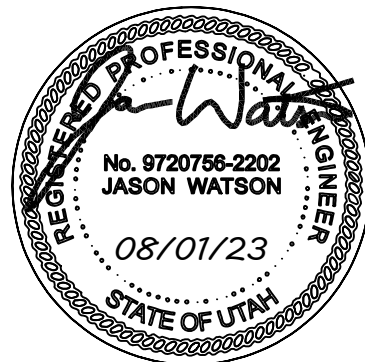
Therefore, it is concluded that the proposed site plan for the Kaysville Mixed-Use Development will provide adequate number of parking stalls, compared to the number of parking stalls calculated per the *ITE Parking Generation Manual*, and the number of parking stalls using the peak parking demand percentages.

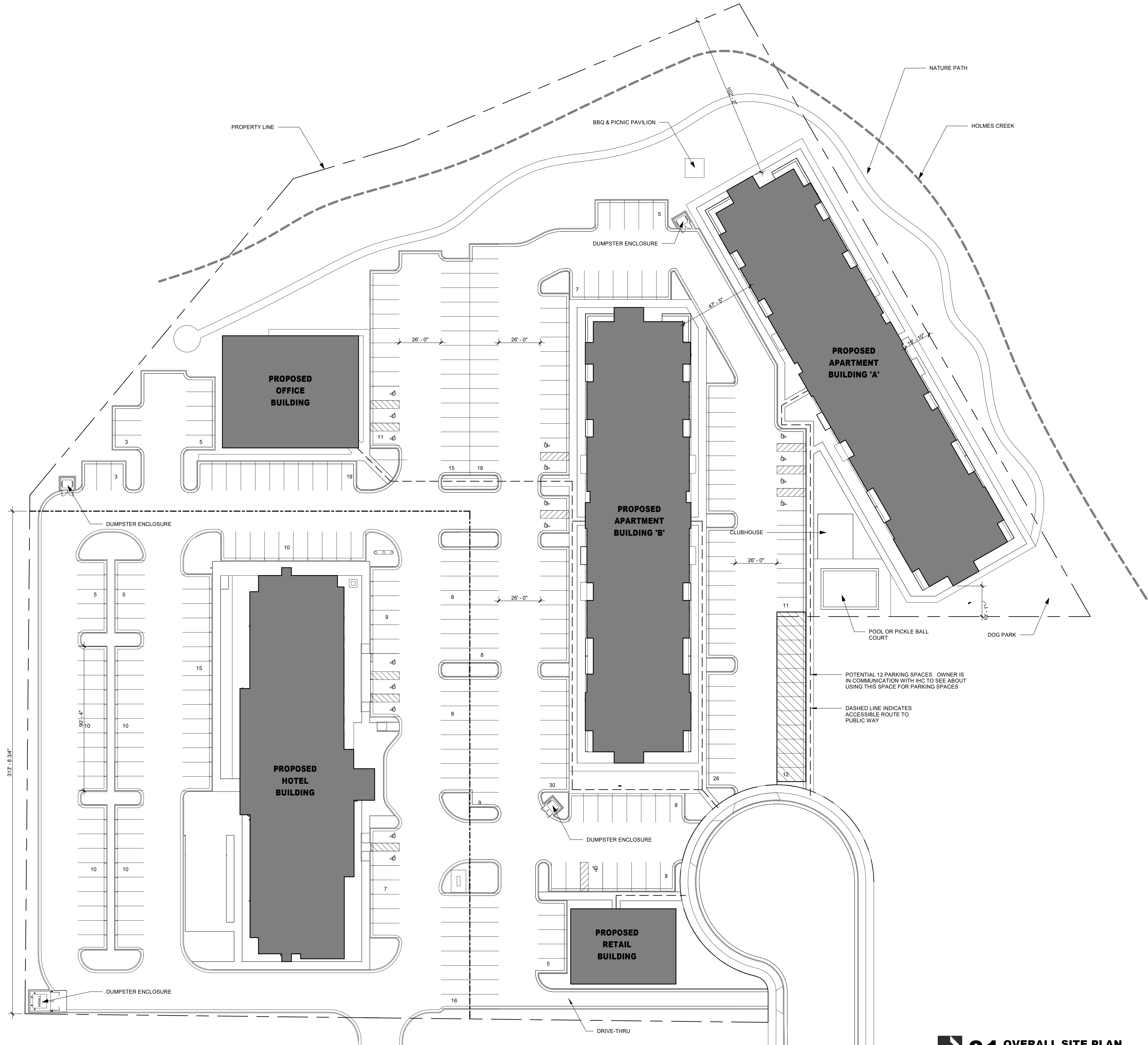
Please feel free to contact me with any questions or comments.

Sincerely,

FOCUS ENGINEERING & SURVEYING, LLC


Jason Watson, PE, PTOE
Transportation Department Manager
801.352.0075
jwatson@focusutah.com





SITE PLAN CALCULATIONS

APARTMENT DATA

BUILDING 'A' FOOTPRINT	16,900 SQ. FT.
BUILDING 'A' SQ. FT.	= 67,600 SQ. FT.
BUILDING 'B' FOOTPRINT	16,900 SQ. FT.
BUILDING 'A' SQ. FT.	= 67,600 SQ. FT.
BUILDING HEIGHT	= 4 STORIES
UNIT COUNT	
BUILDING 'A'	
STUDIO	= 8
1 BED	= 48
2 BED	= 24
TOTAL	= 80
BUILDING 'B'	
STUDIO	= 8
1 BED	= 48
2 BED	= 24
TOTAL	= 80
TOTAL APARTMENTS	= 160 UNITS

HOTEL DATA

BUILDING SQUARE FOOTAGE	= 67,971 S. FT.
BUILDING HEIGHT	= 4 STORIES
UNIT COUNT	= 114

OFFICE DATA

BUILDING SQUARE FOOTAGE	= 15,000 SF
BUILDING HEIGHT	= 3 STORIES

RETAIL DATA

BUILDING SQUARE FOOTAGE	= 3,000 SF
BUILDING HEIGHT	= 1 STORY

PARKING

REQUIRED		
APARTMENTS	256 STALLS	
OFFICE	63 STALLS	
RETAIL	11 STALLS	
HOTEL	76 STALLS	
STALLS REQ'D	386 STALLS	
10% REDUCTION	386 X 10% = 39.6	
TOTAL REQ'D	356 STALLS	
TOTAL PROVIDED	302 STALLS	

AMENITIES

POOL OR PICKLE BALL COURT	
DOG PARK	
NATURE PATH	
BBQ & PICNIC PAVILION	
CLUBHOUSE	

REVISION NO.	DESCRIPTION	DATE

MEMORANDUM

To: Phil Holland, The Holland Group
 From: Rob Sant, Urban & Main Consulting
 Date: July 28, 2023
 RE: Kaysville Creekside Commons Fiscal and Economic Impact

INTRODUCTION

The Creekside Commons is a proposed mixed-use development on 5.64 acres of land within Kaysville, Utah (the “City”) east of I-15, west of 400 West, and north of 200 North. The Holland Group (the “Developer”) has requested Urban & Main conduct an objective, third-party analysis of the economic and fiscal impacts of the proposed Development within the City. Specifically, the analysis aims to understand better the Development’s total economic and fiscal impact on the City over 25 years.

Urban & Main has significant experience in economic development and feasibility of development projects. With over a decade of economic development financial services, Urban & Main fully understands what is needed to provide an independent analysis to determine the costs and benefits of development projects.

KAYSVILLE CREEKSIDE COMMONS

The Development is anticipated to begin infrastructure improvements in 2023, with a completion date of 2026. The Development will include the following:

- 114-room boutique hotel
- 160 studio, 1-bedroom, and 2-bedroom apartment units,
- 15,000 square feet of office space, and
- 3,000 square feet of retail.

If all aspects outlined above are constructed, the Development could produce **\$64.24 million** of new taxable assessed value.

TABLE 1 ABSORPTION SCHEDULE

Residential Type	Total Units/Sq. Ft.	Start Date	End Date	Taxable Value
Boutique Hotel	114 Rooms	2024	2026	\$13,661,801
Apartments	160 Units	2024	2026	\$41,492,219
Office Space	15,000 Sq. Ft.	2024	2026	\$5,516,118
Retail	3,000 Sq. Ft.	2024	2026	\$1,150,852
Land	245,678 Sq. Ft.	-	-	\$2,420,185
Total				\$64,241,175

FISCAL BENEFITS

The proposed Development will generate a **\$5.22 million** fiscal benefit for the City over the 25-year analysis period (2026-2050). The Development will have a positive impact on the following revenues:

- Property tax
- Sales tax
- Botanical & Zoo Sales Tax
- Transient room tax
- Franchise tax

Property Tax Revenue

Assessed values of the proposed real and personal property investments were obtained by collecting current, comparable development values in the City and Davis County (the "County") and data provided by the Developer. Assuming a two and a half percent annual growth rate in property value, the proposed Development will generate **\$1.57 million** of property tax revenue during the 25-year period.

TABLE 2 PROPERTY TAX REVENUES

Taxing Entity	Total – 25 Years
Assessed Value	\$36,599,487
Annual Growth	2.50%
Kaysville City 2023 Certified Tax Rate	0.001281
Average Annual Property Tax	\$62,922
Total Property Tax Revenue	\$1,573,059

After the analysis period, the proposed Development will generate **\$82,293** of annual City property tax revenue. This substantially benefits the City more than the \$2,113 of property tax revenue received from the currently vacant land.

Sales Tax Revenue

The proposed Development will generate sales tax on the 3,000 square feet of retail space, 114-room hotel, and online purchases made by the new full-time residents. The proposed Development will produce **\$1.41 million** in sales tax revenue during the 25-year analysis period.

TABLE 3 SALES TAX REVENUE

Assumptions	Amount
Retail Square Feet	3,000 Sq. Ft.
Average Sales/Sq. Ft.	\$350.00
Hotel Rooms	114
Average Daily Rate (ADR)	\$175.00
Online Taxable Sales per Resident	\$4,500
New Residents	320
Average Gross Taxable Sales	\$9,371,592
City Sales Tax Rate	0.50%
City Botanical & Zoo Sales Tax Rate	0.10%
Annual Growth	2.50%
Average Annual Sales Tax Revenue	\$46,858
Average Annual Botanical & Zoo Sales Tax	\$9,372
Total Sales Tax Revenue	\$1,171,449
Total Botanical & Zoo Sales Tax	\$234,290
Total Sales Tax Revenue	\$1,405,739

The City will likely receive additional sales tax revenues through residents, employees, and hotel occupants shopping and dining within the City. As this is not a direct fiscal benefit of the Development itself, the potential sales tax revenue and overall economic impact are discussed in greater detail in the Tourism and New Residents Per Capita Spending Economic Impact sections.

Transient Tax Revenue¹

The City will receive tourism tax revenue from the transient room tax generated by the hotel. The proposed Development will generate **\$1.49 million** in transient room tax revenue during the 25-year analysis period.

TABLE 4 TRANSIENT ROOM TAX REVENUE

Assumptions	Amount
Number of Hotel Rooms	114
Occupancy Rate	60%
Average Daily Rate	\$175.00
Annual Growth	2.50%
City TRT Rate	1.00%
Average Annual Transient Room Tax Revenue	\$59,695
Total Tourism Tax Revenue	\$1,492,370

Municipal Energy Tax Revenue

The City currently imposes a six percent municipal energy (“Franchise”) tax on all taxable portions of electric and natural gas sales. Rocky Mountain Power and Dominion Energy provided estimates of average usage per year. The proposed Development will produce **\$737,216** in municipal energy tax revenue during the 25-year analysis period.

TABLE 5 MUNICIPAL ENERGY TAX REVENUE

Assumptions	Amount
Residential Electric Usage per Unit per Year	\$1,134.06
Non-Residential Electric Usage per Square Foot per Year	\$1.36
Annual Inflation	2.50%
Electricity Franchise Tax Rate	6.00%
Average Electric Tax Revenue	\$22,982
25-Year Electric Tax Revenue	\$574,557
Residential Natural Gas Usage per Unit per Year	\$430.57
Non-Residential Natural Gas Usage per Square Feet per Year	\$0.16
Annual Inflation	2.50%
Natural Gas Franchise Tax Rate	6.00%
Average Natural Gas Tax Revenue	\$6,506
25-Year Natural Gas Tax Revenue	\$162,659
Total Municipal Energy Tax Revenue	\$737,216

Total Fiscal Benefit

The Development will produce **\$5.22 million** in fiscal benefits over the 25-year analysis period.

TABLE 6 FISCAL BENEFIT

Fiscal Benefits	Average Annual Benefit	Total – 25 Years
Property Tax	\$62,922	\$1,573,059
Sales Tax	\$46,858	\$1,171,449

¹ Kaysville City does not currently impose the 1.00% municipal transient room tax. The analysis assumes the City will elect to impose the tax upon approval of the Development and construction of the hotel.

Fiscal Benefits	Average Annual Benefit	Total – 25 Years
Botanical & Zoo Sales Tax	\$9,372	\$234,290
Transient Room Tax	\$59,695	\$1,492,370
Franchise Tax	\$29,764	\$744,091
Total Fiscal Benefits	\$208,610	\$5,215,259

FISCAL EXPENSES

The proposed Development will also impact the City's fiscal expenses. In evaluating the benefits of development, it is crucial to ensure that costs do not outweigh the benefits. Using the projected new assessed value of the Development, this analysis assumes that the City will see an increase of **\$1.55 million** in expenses over the 25-year analysis period. The proposed Development will create an impact on the following expenses:

- General Government
- Public Safety
- Public Works

These expenses are anticipated to increase proportionally as development occurs. Incremental expenses were calculated by dividing the City's 2022 annual expenditure for each expense category by the City's total 2022 assessed value. This calculation shows how much money the City spends per dollar of assessed value on each expense category.

This figure is then multiplied by the projected assessed value of each planned use in the Development to calculate the Development's incremental expenditure for each expense category.

TABLE 7 FISCAL EXPENSES

Fiscal Expenses	Total – 25 Years
General Government	\$304,687
Public Safety	\$828,378
Public Works	\$420,008
Total Fiscal Expenses	\$1,553,073

COST/BENEFIT ANALYSIS

Based on the development assumptions utilized in the analysis, the Development produces a **\$3.66 million** cumulative net benefit to the City projected over 25 years. The absorption and timing of the Development may impact the current projections. The Development will also likely create additional benefits for the City through new resident and hotel occupant purchases, which are not included in the cost-benefit table below.

TABLE 8 CREEKSIDE COMMONS COST/BENEFIT

Revenue	Year 1	Year 5	Year 10	Year 15	Year 20	Year 25	Total
Property Tax	\$46,884	\$51,429	\$57,780	\$64,965	\$73,095	\$82,293	\$1,573,059
Sales Tax	\$34,295	\$37,856	\$42,830	\$48,458	\$54,826	\$62,031	\$1,171,449
Botanical & Zoo Sales Tax	\$6,859	\$7,571	\$8,566	\$9,692	\$10,965	\$12,406	\$234,290
Transient Room Tax	\$43,691	\$48,226	\$54,563	\$61,734	\$69,846	\$79,024	\$1,429,370
Franchise Tax	\$21,784	\$24,045	\$27,205	\$30,780	\$34,825	\$39,401	\$744,091
Total Revenues	\$153,513	\$169,127	\$190,945	\$215,629	\$243,557	\$275,155	\$5,215,259
Expense							
General Government	(\$6,329)	(\$7,711)	(\$9,871)	(\$12,636)	(\$16,175)	(\$20,706)	(\$304,687)
Public Safety	(\$17,208)	(\$20,966)	(\$26,838)	(\$34,355)	(\$43,977)	(\$56,294)	(\$828,378)
Public Works	(\$8,725)	(\$10,630)	(\$13,607)	(\$17,419)	(\$22,297)	(\$28,543)	(\$420,008)
Total Expenses	(\$32,261)	(\$39,307)	(\$50,317)	(\$64,410)	(\$82,450)	(\$105,543)	(\$1,553,073)
Net Benefit/(Cost)	\$121,251	\$129,820	\$140,628	\$151,220	\$161,107	\$169,613	\$3,662,186

ECONOMIC BENEFITS

The economic benefits of the Development include 1) construction wages and supplies, 2) new job wages, 3) local purchases by tourists, and 4) local purchases by new residents. The proposed Development will create a **\$914.40 million** economic impact on the local economy over 25 years.

The actual economic benefit of the Development is likely much higher due to additional indirect and induced benefits. Positive economic impacts will be felt through business, construction, and leisure supplies purchased by the Developers, new residents, businesses, and hotel occupants. Additional demand for goods and services will also be attracted to the area. This benefit is commonly called the “multiplier effect,” in which only certain elements were considered in this study.

Construction Economic Benefit

The construction of the Development will necessitate construction jobs and wages. Infrastructure construction is anticipated to begin in 2023, with a final build-out date of 2026. This 3-year build-out period will have approximately 750,000 hours of construction labor, generating **\$21.53 million** in construction wages. These wages will be reinvested into the local economy, creating additional induced benefits.

TABLE 9 CONSTRUCTION WAGES

Assumptions	Amount
Average Annual Construction Hours	250,000
Average Hourly Wage	\$28.00
Annual Salary Increase	2.50%
Total Construction Hours	750,000
Average Annual Construction Wages	\$7,176,458
Total Construction Wages	\$21,529,375

Another economic benefit to the construction of the Development will be one-time purchases of construction supplies. Assuming that a portion of the hard-cost construction investment is for supplies purchased within the region and state, approximately **\$25.00 million** will be invested into the regional and state economy.

New Job Wages

It is anticipated that several jobs will be created by the Development. Future employee estimates have been made based on an employee per square foot average collected from CoreNet Global and comparable regional development. This analysis assumes that the development will create 481 jobs.

TABLE 10 NEW JOBS

Assumptions	Amount
Office Jobs per Square Foot	1 per 200 Square Feet
Office Square Feet	15,000
Office Jobs	75
Commercial Jobs per Square Foot	1 per 150 Square Feet
Commercial Square Feet	60,971
Commercial Jobs	406
Total New Jobs	481

The 481 new jobs will produce **\$356.42 million** in cumulative net wages during the 25-year analysis period. This figure was derived from taking average salaries of various office and commercial jobs on the U.S. Bureau of Labor Statistics and local job postings and applying an annual salary increase of two and a half percent. The salaries were then multiplied by the total number of jobs.

TABLE 11 NEW JOB WAGES

Assumptions	Amount
Office Average Salary	\$65,000
Office Jobs	75
Commercial Average Salary	\$27,500
Commercial Jobs	406
Annual Salary Increase	2.50%
Personal Adjusted Income Ratio	65.00%
Average Annual Wages	\$14,256,714
Total Wages	\$356,417,850

At the end of the 25-year analysis period, the Development will generate over **\$30 million** in annual wages. This number will continue to increase on an annual basis.

Tourist Spending Per Travel Party²

The hotel occupants will spend some of their trip expenditures on restaurants and stores within the City. Using a 60% occupancy rate and an average trip length of two days, the 114-room hotel will result in 12,483 annual trips. On average, the total trip expenditure per party is \$836. Excluding the 63% of travel expenses for transportation and lodging equates to the average party spending \$309 on other local expenses.

TABLE 12 HOTEL ASSUMPTIONS

Assumptions	Amount
Hotel Rooms	114
Occupancy Rate	60%
Number of Nightly Annual Stays	24,966
Average Trip Length	2 Days
Number of Annual Trips	12,483
Average Party Size	3
Number of Annual Visitors	37,449
Average Total Trip Expenditure Per Party	\$836
Non-Lodging/Transportation Trip Expenditure %	37%
Total Non-Lodging/Transportation Expenditure Per Person Per Day	\$309

Using the assumptions outlined in Table 12, the Development's hotel occupants will expend **\$131.81 million** in the local economy during the 25-year analysis period. This equates to an average of \$5.27 million annually.

TABLE 13 HOTEL OCCUPANT SPENDING

Assumptions	Amount
Number of Annual Trips	12,483
Total Non-Lodging/Transportation Trip Expenditure	\$309
Annual Growth Rate	2.5%
Average Annual Nightly Rental Occupant Spending	\$5,272,500
Total Nightly Rental Occupant Spending	\$131,812,495

A percentage of the hotel occupant spending will be spent in the City, which will create additional sales tax revenue for the City. The following table shows the potential sales tax revenue impacts on the City if different percentages of total nightly rental occupant spending occur within the City.

² Tourism data was estimated using the State of Utah's 2021 Utah Visitor Profile & Insights Report.

TABLE 14 HOTEL OCCUPANT SPENDING – POTENTIAL SALES TAX REVENUE

Percent Purchased	Average Annual City Sales Tax Revenue	25-Year Total
10%	\$3,164	\$79,087
25%	\$7,909	\$197,719
50%	\$15,818	\$395,437
75%	\$23,726	\$593,156

New Resident Per Household Spending

The approach to estimating per household spending of new residents is based on a potential “typical household” that would likely occupy the various multi-family units in the Development. The U.S. Bureau of Labor Statistics publishes consumer expenditure data for various household types. Three households were used to estimate per household spending of potential residents of the new Development. Using these assumptions, the Development will generate **\$379.64 million** of new resident per household spending during the 25-year analysis period.

TABLE 15 NEW RESIDENT PER HOUSEHOLD SPENDING

Assumptions	Amount
Studio Units	16
Average Annual Studio Per Household Spending	\$893,217
25-Year Total Studio Per Household Spending	\$22,330,433
1-Bedroom Units	96
Average Annual 1-Bedroom Per Household Spending	\$9,100,546
25-Year Total 1-Bedroom Per Household Spending	\$227,513,662
2-Bedroom Units	48
Average Annual 2-Bedroom Per Household Spending	\$5,191,740
25-Year Total 2-Bedroom Per Household Spending	\$129,793,491
Average Annual Per Household Spending	\$15,185,503
Total New Resident Per Household Spending	\$379,637,586

A percentage of the new resident per household spending will be spent in the City. This spending will create additional sales tax revenue for the City. The following table shows the potential sales tax revenue impacts on the City if different percentages of new resident per household spending occur within the City.

TABLE 16 NEW RESIDENT PER HOUSEHOLD SPENDING – SALES TAX REVENUE

Percent Purchased	Average Annual City Sales Tax Revenue	25-Year Total
10%	\$9,111	\$227,783
25%	\$22,778	\$569,456
50%	\$45,557	\$1,138,913
75%	\$68,335	\$1,708,369

Total Economic Impact

The Development will produce **\$914.40 million** in economic benefits over the 25-year analysis period.

TABLE 17 ECONOMIC BENEFIT

Economic Benefit	Total – 25 Years
Construction Wages	\$21,529,375
Construction Supplies	\$25,000,000
Wages	\$356,417,850
Tourist Spending Per Travel Party	\$131,812,495
New Resident Per Household Spending	\$379,637,586
Total Economic Benefit	\$941,397,306

PLANNING COMMISSION STAFF REPORT

To: Kaysville City Planning Commission
From: Melinda Greenwood, Community Development Director
Date: July 7, 2023

Agenda Item #6: Public Hearing for a rezone application from Phil Holland for 521 West 350 North from General Commercial to Mixed Use Zoning District Overlay

Meeting Date	July 13, 2023
Application Type	Rezone
Applicant Owner	Phil Holland H Group Ventures LLC
Address Parcel ID Number	521 West 350 North 11-879-0002 and 11-879-0007
Lot Size	6.26 acres 272,685 ft ²
Current Use	Undeveloped
Current Zoning	GC General Commercial
Density Entitlement	NA
Requested Zoning	GC Mixed Use Overlay
Density Entitlement	Density Approved Through Development Agreement (132 units proposed)

1. BACKGROUND

The two subject properties combine to create a 6.26 acre (272,685 ft²) area bordered by I-15 to the west, Holmes Creek to the north and the new Taco Bell and upcoming Charlie's Car Wash to the east. The applicant has requested a rezone from GC General Commercial District to GC Mixed Use Zoning District Overlay (GC MU).

A mixed-use overlay is technically a rezone which adds in a residential use to the General Commercial (GC) zone. All MU projects require a development agreement upfront, which will solidify



details of the intended project, phasing and other details.

The proposed GC MU project includes a five total buildings, three of which will be commercial and consist of a hotel, office and a retail building. The other two buildings are 3-story apartments with 66 units each for a total of 132 residential units.

2. SURROUNDING LAND USE

When considering a zone change, a review and analysis of the existing character of the area is appropriate. The project parcels are located at 521 West 350 North and are found at the end of an existing cul-de-sac. The area currently includes a variety of businesses including healthcare, restaurants, fueling stations and other commercial services. The existing zoning and surrounding area characteristics are discussed in more detail in the bulleted list which follows.

- **Adjacent** – Directly adjacent to the subject property is I-15, Holmes Creek, Taco Bell, Charlie's Car Wash (which is under construction), Les Schwab Tire Center and an IHC clinic.
- **North** – Properties to the north are General Commercial.
- **South** – Directly south of the parcel is Les Schwab Tire Center, which is zoned General Commercial.
- **East** – Properties to the east are all zoned General Commercial.
- **West** – The property is bordered by Holmes Creek and I-15.

The rezone approval would not detrimentally impact the surround neighborhoods. Alternatively, based on the highly commercial nature of the area, the addition of residential apartments and hotel visitors would bring new customers and provide regular patrons which would augment existing and planned retail and commercial services.

3. 2022 GENERAL PLAN

The 2022 General Plan Future Land Use Map indicates the property is to be used as a mixed use development, so the proposed zone change is supported by 2022 General Plan.

Diving deeper into the 2022 General Plan, we see the rezone application and proposed project is supported by three of the guiding principles, including:

Enrich our city center and downtown - We will enhance our city center with commercial and mixed-use development and investing in streetscape and parking.

The project is located in the city center area, is a mixed use project and will provide opportunities for added commercial services.

Provide diverse housing options - We will work to preserve our existing neighborhoods while accommodating a full range of housing opportunities to meet the economic, lifestyle and life-cycle needs of our residents.

The project includes two apartment buildings with each building having 66 dwelling units. Kaysville's rental units and apartment style housing only accounts for 2 percent of our housing. The location of this project is ideal as there is no single family housing in the area. Often times the public is averse to having any kind of density near their homes. Due to the distance from single family housing, the project will not negatively impact established residential neighborhoods.

Preserve our open space, trails and natural resources - We will encourage the preservation of open space through clustered development and the protection of foothills, natural drainages and remaining agricultural areas.

The applicant plans to preserve existing trees near Holmes Creek and provide a walking path amenity and barbeque area near the creek, maximizing opportunities the existing natural area provides.

Each chapter of the 2022 General Plan concludes with goals, objectives and implementation measures. When considering a rezone application, we look to these goals to see if the project and rezone can be supported by the guidance set forward in the General Plan.

Chapter 1 Land Use & Placemaking Plan outlines specific goals and implementation measures which further support the mixed use rezone application and proposed project.

Chapter 1 Goal 2 is listed as: **Make Kaysville City Center Distinct and Identifiable from Adjacent Neighborhoods and Surrounding Cities** with specific ***Objective 2.2: Create a distinct city center and expand the "heart of the community" to include areas beyond the historic core.*** Development of vacant and undeveloped property to include missing services, add additional housing and create additional revenues for the City will allow for a natural extension of the core commercial area.

Chapter 1, Goal 8 continues with **"Provide a range of housing options and price points that help ensure Kaysville is an affordable place to live."** With only 2 percent of housing consisting of apartments with 10 or more units, Kaysville is limited in its existing housing options and affordability. The provision of 132 new residential units in varying sizes would diversify housing options and cost levels, fulfilling this goal.

Chapter 1 Goal 9 asks City leaders to: **Encourage Diverse Commercial Uses to Meet the Needs of the Community and Visitors** and ***Objective 9.1*** continues to say: ***Focus primary commercial uses in the City Center and secondary uses in smaller existing/future nodes.*** The attached *Implementation Measure* adds additional information to support the project: *Encourage mixed use and flex development in the City Center.* As the subject property is located in the middle of the City Center concept and the project would diversify the services presently delivered in our community, the project supports positive outcomes for this goal. Specifically, the addition of a hotel would be a new service which is not currently provided within City boundaries.

Chapter 3: Housing and Neighborhoods was amended in November of 2022 to account for state requirements for moderate income housing elements in the general plans. The chapter reports that 92% of housing in Kaysville is single family housing. This project would provide needed housing

which is outside the customary housing product offered in the city. The goals and objectives in this chapter offer ample support for this rezone and project.

Chapter 3, Goal 1 states Kaysville should aim to “Provide a full range of housing opportunities to meet economic, lifestyle, and lifecycle needs and expectations for residents.” Objectives prescribed for this goal include:

Objective 1.1: Allow for higher density and mixed use within the City Center to diversify housing stock.

Objective 1.2: (H) Amend land use regulations to eliminate or reduce parking requirements for residential development where a resident is less likely to rely on the resident's own vehicle, such as residential development near major transit investment corridors or senior living facilities.

Objective 1.3: Rezone for densities necessary to facilitate the production of moderate income housing.

Objective 1.4: (F) Zone or rezone for higher density or moderate income residential development in commercial or mixed-use zones near major transit investment corridors, commercial centers, or employment centers.

The GC MU rezone and the proposed project creates an avenue to meet these objectives and approval would allow the City to report encouraging progress back to the State in subsequent Moderate Income Housing reports. The requested parking reduction, supported by a parking analysis is a reasonable reduction given the nature of the shared uses on the project site.

Lastly, **Chapter 5 Economic Development & Prosperity** contains three goals and several objectives that support the proposed project, including:

- Goal 1: Promote Kaysville City Center redevelopment to strengthen commercial areas.**
- Goal 2: Utilize a wide variety of tools and incentives available to help achieve economic development goals.**
- Goal 3: Allow for mixed use development in identified areas to generate more rooftops and prevent Sales leakage.**

Kaysville City does not currently collect Transient Room Tax (TRT), which is a tax imposed on hotels, motels and other

Goals & Objectives

GOAL 1: PROMOTE KAYSVILLE CITY CENTER REDEVELOPMENT TO STRENGTHEN COMMERCIAL AREAS

- Objective 1.1: Allow for greater densities in Kaysville City Center to generate an increase in buying power and capture rates.
- Objective 1.2: Focus on small scale and local services to meet public requests and provide local growth.

GOAL 2: UTILIZE THE WIDE VARIETY OF TOOLS AND INCENTIVES AVAILABLE TO HELP ACHIEVE ECONOMIC DEVELOPMENT GOALS

- Objective 2.1: Establish redevelopment areas to fund infrastructure and future developments.

GOAL 3: ALLOW FOR MIXED USE DEVELOPMENT IN IDENTIFIED AREAS TO GENERATE MORE ROOFTOPS AND PREVENT SALES LEAKAGE

short-term rentals. Bringing a 114-room hotel to the City would add an additional tax revenue source and diversify our tax base. The applicant submitted a white paper study (attached) which gives insight to impacts a hotel has on spending in a community. Not only would the City receive TRT, visitors to our community would be spending money to dine, fuel vehicles, and patron other retail services in Kaysville.

The 2022 General Plan contains substantial principals, goals, objectives and specific implementation measures to support the requested GC MU rezone and the mixed use project proposed by H Group Ventures LLC.

4. MIXED USE ZONING DISTRICT OVERLAY

[KCC 17-27-2 Project Evaluation/Review Process](#) requires a number of documents and details to be submitted with the application. H Group Ventures LLC has submitted all the required items and those are attached to this staff report.

The [Mixed Use Zoning District Overlay](#) also requires a development agreement (DA) to be accompanied with the zone change application, and that agreement is attached to this memo. The [purpose statement of the MU overlay zoning code](#) says the district is designed:

“...to facilitate the integration of diverse but compatible uses into a single development, with the goal of creating a community with more diverse development types providing a broader range in residential and commercial choice.”

The purpose statement continues with:

“The flexibility in use provided by this zone should help promote "live, work, and play" opportunities within the city while creating an appropriate transition from surrounding development.”

The MU zone provides for both vertical and horizontal mixed use projects. The proposed project is the latter, and mixes uses across the entirety of the property instead of the more traditionally thought of vertical fashion. The MU overlay zone allows offices, retail services and sales, arcades, hotels and entertainment facilities. The proposed project is a mix of office, hotel, retail and residential uses. As proposed, the project uses are in compliance with the zoning code.

[Section 27-3-2\(b\)ii](#) requires a minimum of 30 percent of the combined square footage of the project be commercial building space. This project exceeds that requirement by 12 percent, offering a total of 42 percent of the project as commercial uses (see chart to the right).

[KCC 17-27-7 Development Standards](#) creates a base for project standards, but realizing the unique characteristics that each mixed use project has, the code allows for some

Building	Square Footage
Apartment Building 1	53,370
Apartment Building 2	53,370
Residential Total	106,740
Hotel	57,971
Office	15,000
Retail	3,000
Commercial Total	75,971
Total Square Footage	182,711
% Commercial	42%
% Residential	58%

variations through the DA. One such variation requested with this project is due to the unique shape, nature and location of the parcels. Requirements such as no more than 30 percent of the lot frontage being drive access or parking are not practicable at the end of a cul-de-sac. The applicant has been through many site plan iterations and offers the proposed layout as the best possible.

Staff believes the rezone request and proposed project meet the stated purpose of the Mixed Use Zoning District Overlay.

5. PROJECT SPECIFICS AND DEVELOPMENT AGREEMENT DETAILS

The full site plan, concept and building renderings are attached as well as the development agreement, parking analysis and the traffic impact study. The project would bring an additional 132 rooftops to Kaysville and position them in an area where access to I-15 for commuting, the park and ride, retail services and employment opportunities are in close proximity. The project is estimated to be \$50M in value and proposes a total of five buildings with use and square footage broken out below.

Building Use	Square Footage	Additional Details
Hotel	57,971	Four stories, not to exceed 50' in height 114 rooms
Office	15,000	May be 2 or 3 stories, not to exceed 35' in height
Retail	3,000	Single story
Apartment Building 1	53,370	Three stories, not to exceed 35' in height Proposed 66 unit mix: 12 studio, 36 one-bedroom, 18 two-bedroom
Apartment Building 2	53,370	Three stories, not to exceed 35' in height Proposed 66 unit mix: 12 studio, 36 one-bedroom, 18 two-bedroom

Large projects such as this can have some fluid aspects which may need to be adjusted as financing, market research and timing comes into play. For this reason, the DA allows for some flexibility in minor adjustments. As noted in the table, the office building may be two or three stories, but must be a total of 15,000 ft². Similarly, the applicant would like the flexibility to determine at a later date if a residential amenity would be a pool or pickle ball court, but promises to provide a walking path, dog park and walking trail. Staff has drafted the DA to accommodate reasonable adjustments, but major changes must be approved by the City Council in an amendment to the DA.

The hotelier brand is a national chain, but confidentiality agreements prohibit the disclosure of the exact company. This is a common restriction in development negotiations and until projects are entitled, non-disclosures will remain in place.

Per code requirements in the MU zone and the City's parking code, a total of 344 parking stalls are required. A parking analysis has been provided and the site plan states 301 parking stalls will be provided for the project. The MU code allows for up to a 10 percent in reduction for shared parking facilities. A 10 percent reduction would allow for a decrease of 34.4 stalls. The applicant is

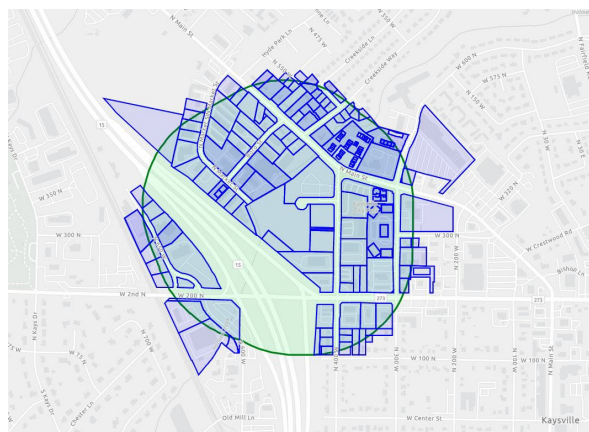
requesting a slightly higher reduction of 12.3 percent and 43 stalls. Given the study provided and the nature of the shared uses, this reduction is a reasonable amount.

The traffic study has been reviewed by both the Public Works Director and City Engineer and while there are significant impacts to traffic in the area, no mitigation measures are being proposed at this time. The City Engineer has initiated discussions with UDOT regarding the intersection at 400 West and 200 North to determine timing of their improvements to the intersection and the interchange. Traffic improvements are already needed in the area but may need to be accelerated. Staff expects the roadway impact fees will be significant and can be used to mitigate impacts at the intersection of Main Street and 400 West.

Staff has completed a review of the proposed project in relation to the zoning regulations and believes the project, proposed site plan and development agreement are in compliance with the zoning code and are reasonable based on the odd shape of the project site.

6. PUBLIC NOTICE AND PUBLIC COMMENT

On Friday, June 30, 2023, public notices were mailed to property owners within 500' of the subject property as shown in the map. As of the date of this report, no comments have been received.



7. RECOMMENDATION

Based on the findings outlined in this staff report, staff recommends the Planning Commission forward a recommendation of approval to the City Council for the development agreement and the rezone of 521 West 350 North from GC General Commercial to General Commercial Mixed Use Overlay.

Findings for a recommendation of approval include:

- a. The Mixed Use Zoning District Overlay is compliant with Map 2.2 Future Land Use Map approved with the 2022 General Plan.
- b. The project is in keeping with the following Guiding Principles of the 2022 General Plan:
 - i. Enrich our city center and downtown - We will enhance our city center with commercial and mixed-use development and investing in streetscape and parking.
 - ii. Provide diverse housing options - We will work to preserve our existing neighborhoods while accommodating a full range of housing opportunities to meet the economic, lifestyle and life-cycle needs of our residents.
 - iii. Preserve our open space, trails and natural resources - We will encourage the preservation of open space through clustered development and the protection of foothills, natural drainages and remaining agricultural areas.
- c. Chapters 1, 3 and 5 of the 2022 General Plan contain adequate goals, policy objectives and implementation measures which support approval of the rezone request.
- d. With the addition of 132 housing units, the rezone approval would allow the city to account for positive progress to the State for the 2023 Moderate Income Housing reporting.

- e. The design of the project as outlined in the site plan and development agreement would not negatively impact the character of the area.
- f. The project would diversify the housing product available in Kaysville and provide opportunities for a live-work environment.
- g. The project would diversify and strengthen the City's economic and commercial base, adding new office, retail and an opportunity to collect Transient Room Tax with the hotel.
- h. Staff review has found the project to be compliant with 17-27 Mixed Use Zoning Overlay purpose statement and code requirements.

ATTACHMENTS:

- 1. Project Location Map 521 West 350 North
- 2. Applicant Statement of Compliance
- 3. Draft Development Agreement for 521 West 350 North
- 4. Proposed Mixed Use Site Plan
- 5. Proposed Project Renderings
- 6. Proposed Landscape Plan
- 7. Kaysville Mixed-Use Development Traffic Impact Study (February 21, 2023)
- 8. Kaysville Mixed-Use Development Parking Analysis (March 3, 2023)
- 9. Economic Impact of Hotel Development by: Alan Suzuki

KAYSVILLE MIXED-USE DEVELOPMENT

TRAFFIC IMPACT STUDY

KAYSVILLE, UT



February 21, 2023

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1.0 Executive Summary

1.1 DESCRIPTION OF PROJECT

This report presents the results of a traffic impact analysis for the Kaysville Mixed Use Development, located east of I-15, north of 200 North, south of Main Street and west of 400 West in Kaysville, Utah. The Kaysville Mixed Use Development is planned for both residential and commercial usage with two accesses onto 400 West. The two accesses will use existing roadways that connect to 400 West. The proposed parcel of land for the Kaysville Mixed Use development is currently undeveloped land that surrounds existing commercial and industrial buildings. Figure 1 illustrates the vicinity map and the location of this development in relation to the adjacent roadway network.

The Kaysville Mixed Use Development will consist of 132 apartments, a 15,000 SF general office building, a 5,000 SF small office building/retail space, and a 115-room hotel. For purposes of this study, and following UDOT's guidelines for a Level II traffic impact study, the analysis will consist of the following intersections:

- Main Street & 400 West
- 200 North & 400 West
- Access #1 & 400 West
- Access #2 & 400 West

The proposed development is planned to be built out by the end of 2025. Refer to Figure 2 for the overall site plan of the Kaysville Mixed Use Development and the proposed access locations.

The traffic associated with this development is generated using the Trip Generation Manuals published by the *Institute of Transportation Engineers (ITE)*. On an average weekday, the 132 residential apartment units are expected to generate 49 AM peak hour trips and 51 PM peak hour trips, with 599 trips generated on an average day. The general office building will generate 23 AM peak hour trips and 22 PM peak hour trips with an ADT of 163 trips. The small office space will generate 8 AM peak hour trips and 11 PM peak hour trips on an average day, with an ADT of 72 trips. The hotel will generate 53 AM peak hour trips and 68 PM peak hour trips, with an ADT of 919 trips generated on an average day.

1.2 FINDINGS

Based on the analysis performed in this traffic impact study, the following tables present the findings under the study scenarios for the 2023 Existing, 2025 Opening and 2030 Future Year scenarios and illustrates the Level of Service (LOS) and delay time at each intersection.

Table E1 – Existing, Opening & Future Year Level of Service

INTERSECTION	EXISTING, OPENING & FUTURE LEVEL OF SERVICE					
	2023 EXISTING YEAR		2025 OPENING YEAR		2030 FUTURE YEAR	
	AM	PM	AM	PM	AM	PM
400 West & 200 North	f(375.2)	f(380.4)	f(566.4)	f(976.5)	f(2086.9)	f(**)
400 West & Access #1	a(0.0)	a(0.0)	a(0.0)	a(0.0)	a(0.0)	a(0.0)
400 West & Access #2	b(10.0)	b(10.0)	b(10.1)	b(10.0)	b(10.3)	b(10.1)
400 West & Main Street	d(27.0)	c(17.6)	d(30.6)	c(18.6)	e(40.8)	c(22.0)
Values represent the overall LOS for all signalized intersections (uppercase letters) and the worst movement for all unsignalized intersections (lowercase letters) ** value is not provided in Synchro as the delay exceeds capacity						

Table E2 – Opening & Future Year with Project Level of Service

INTERSECTION	OPENING & FUTURE YEAR W/ PROJECT LEVEL OF SERVICE			
	2025 OPENING w/ PROJ		2030 FUTURE w/ PROJ	
	AM	PM	AM	PM
400 West & 200 North	f(1339.9)	f(**)	f(**)	f(**)
400 West & Access #1	b(10.4)	a(9.9)	b(10.6)	b(10.0)
400 West & Access #2	b(10.6)	b(10.2)	b(10.8)	b(10.4)
400 West & Main Street	d(34.9)	c(20.6)	e(48.8)	d(25.4)
Values represent the overall LOS for all signalized intersections (uppercase letters) and the worst movement for all unsignalized intersections (lowercase letters) ** value is not provided in Synchro as the delay exceeds capacity				

As seen in Table E1 and Table E2, the level of service for the southbound approach at 400 West & 200 North currently fails. The northbound approach at 400 West & Main Street also currently fails. With the growth in this area being minimal as open space is not as available, these approaches will continue to fail in the Opening and Future Years. With heavy traffic volumes along Main Street and 200 North, it is typical for side streets to fail

and have heavy delay to access the major streets as is the case here. With traffic signal located within close proximity to these intersections, the signals will provide gaps in traffic that allow vehicles to make the turning movements on and off of the major streets, which is not necessarily analyzed by Synchro. This was observed while collecting the traffic data.

With the addition of the traffic generated by the Kaysville Mixed Use Development at full build-out, the 400 West & Main Street intersection will continue to experience heavy delay in the northbound direction under the 2030 Future Year scenario. The 400 West & 200 North intersections will also continue to experience heavy delays in the southbound direction under the 2025 Opening Year scenarios.

In order to look at mitigations to improve the flow of traffic at these two intersections, a Peak Hour Traffic Signal Warrant Analysis was performed under the 2025 Opening Year scenario for the 200 North and 400 West intersection. Since the level of service for the northbound approach of the Main Street and 400 West intersection does not fall below acceptable levels of service until 2030 Future Year, the signal warrant analysis for this intersection was performed under the 2030 Future Year scenario. The 200 North and 400 West intersections does meet the warrant for a traffic signal analyzing the Peak Hour traffic volumes under the 2025 Opening Year scenario. Similarly, the Main Street and 400 West intersection will meet traffic signal warrants for peak hour volumes under the 2030 Future Year scenario.

Using the existing and projected traffic volumes at each of the study area intersections, both with and without the Kaysville Mixed Use development traffic, the following are the recommendations to improve the flow of traffic.

400 West and 200 North

2025 Opening Year Scenario

With the projected 2% growth in traffic to the 2025 Opening Year of the Kaysville Mixed Use Development, the northbound and southbound approaches will continue to experience excessive delay and failing levels of service. A traffic signal warrant analysis was performed under this scenario, and the projected traffic volumes do meet the warrant for a traffic signal. Although signalizing this intersection will improve the LOS, the close proximity of this intersection to the northbound on and off ramps to I-15 may increase delay with traffic flow along 200 North. It is recommended this intersection continue to be monitored. Another possible recommendation is to construct a raised median to control access along 200 North as a right-in/right-out. These are all mitigations that will be needed without the proposed Kaysville Mixed Use Development.

2025 Opening Year with Project Scenario

With the full build-out of the Kaysville Mixed-Use Development by 2025, 400 West and 200 North intersection will continue to function with similar levels of service as under the 2025 Opening Year scenario (without the development). No additional mitigations at this intersection are needed.

2030 Future Year Scenario

Similar to the 2025 Opening Year scenario, the northbound and southbound traffic movements will continue to fail. Similar mitigations will be necessary.

2030 Future Year with Project Scenario

With the previously mentioned mitigations of either a signal or right-in/right-out intersection, the traffic movements will function with acceptable levels under the 2030 Future Year with Project scenario.

400 West and Main Street

2025 Opening Year Scenario

All traffic movements will continue to function with acceptable levels of service under the 2025 Opening Year scenario and no mitigations are needed.

2025 Opening Year with Project Scenario

All traffic movements will continue to function with acceptable levels of service with the addition of the traffic from the Kaysville Mixed Use Development. No additional mitigations are needed.

2030 Future Year Scenario

By 2030, the northbound approach at the 400 West and Main Street intersection will fall to a LOS E in the AM Peak Hour. A traffic signal warrant analysis was also performed for this intersection under the 2030 Future Year scenario. The projected traffic volumes do meet the warrant under the Peak Hour analysis. It is recommended this intersection be monitored for when future traffic volumes may meet the warrant.

2030 Future Year with Project Scenario

With the addition of the Kaysville Mixed Use Development traffic, 400 West and Main Street will continue to function with similar unacceptable levels of service as under the 2030 Future Year scenario without the development. If a traffic signal is warranted and constructed to improve this intersection in the future year, this intersection will function acceptably with the addition of the proposed development.

Access 1 and 400 West

Access 1 currently functions with a single receiving lane and one exiting lane onto 400 West. With the addition of the Kaysville Mixed Use Development, it is recommended this intersection continue to function with the existing lane configuration. This intersection will function with acceptable levels of service and very minimal delays along 400 West.

Access 2 and 400 West

Access 2 currently functions with acceptable levels of service. With the addition of the Kaysville Mixed Use Development, this access will continue to function with acceptable levels of service. This intersection currently functions with one receiving lane and one exiting lane and it is recommended this intersection continue to function with this lane configuration. Access to the existing Intermountain Kaysville Creekside Clinic will be maintained.

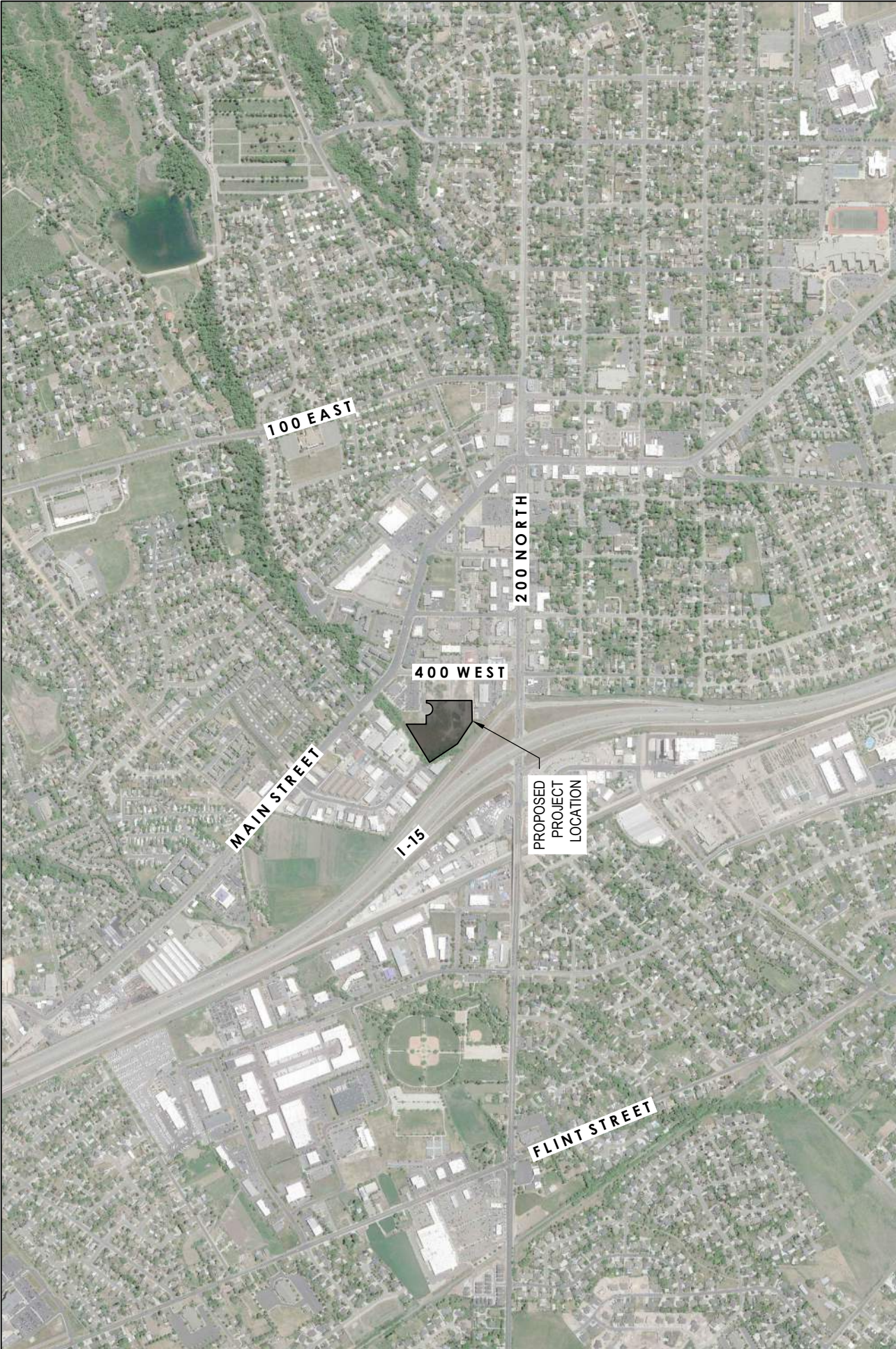
2.0 Introduction

2.1 DEVELOPMENT DESCRIPTION

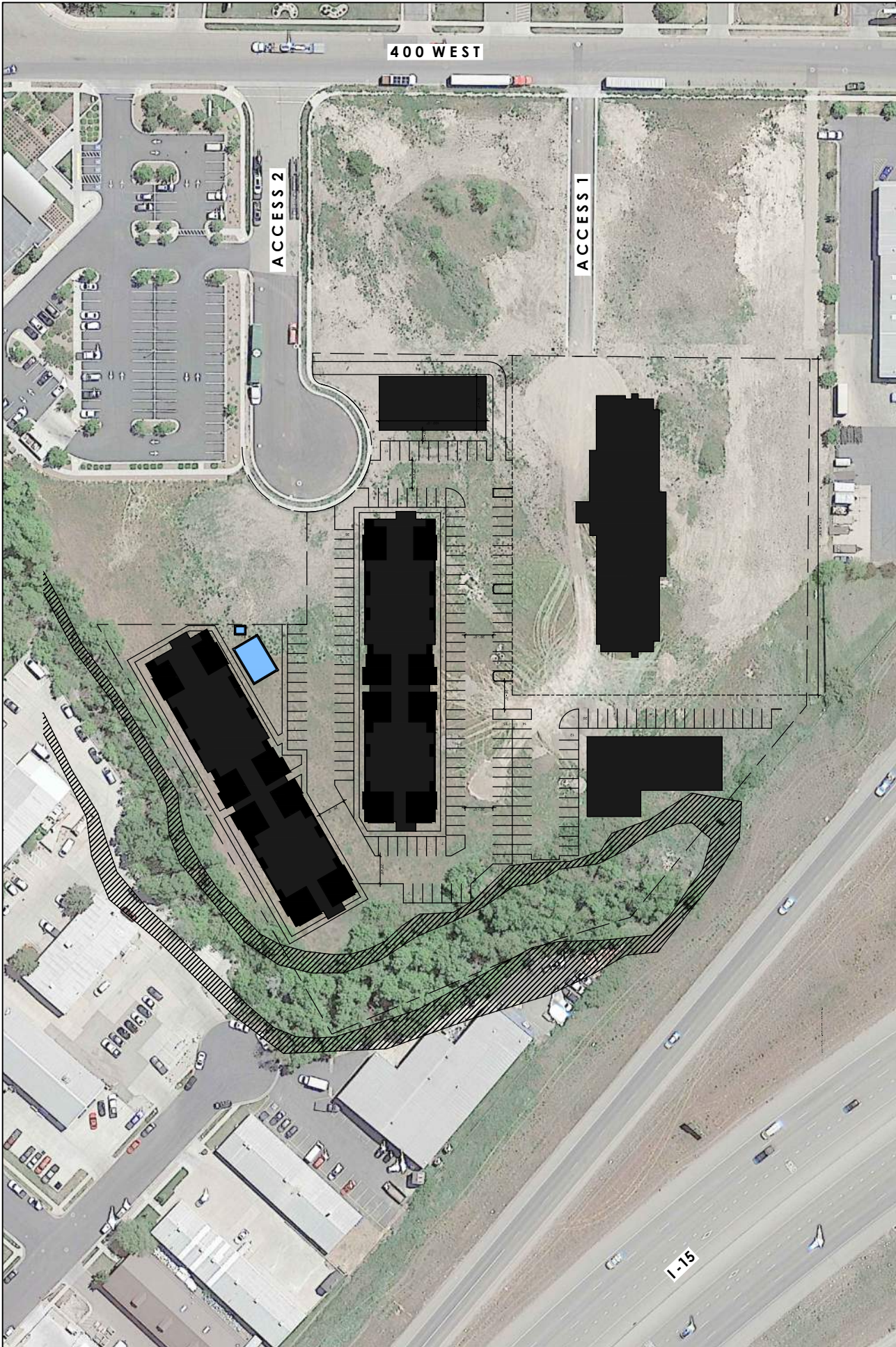
The proposed development is situated on roughly 6 acres of land located east of I-15, south of Main Street, west of 400 West and north of 200 North in Kaysville. The proposed Kaysville Mixed-Use Development will consist of 132 residential apartment units, a 15,000 SF office building, a 5,000 SF office space/retail building, and a 115-room hotel. The buildings will be used for both residential and commercial purposes and are planned to be fully built out by 2025.

The Kaysville Mixed Use Development will use the two existing accesses which connect to 400 West. Access 1 is located along the existing stub road to the property and is located roughly 660 feet the north of 200 North. Access 2 will connect onto the existing roadway which currently provides access along the south of Intermountain Kaysville Creekside Clinic. Access 2 is located roughly 280 feet to the north of Access 1.

Refer to the Vicinity Map and Site Plan in Figures 1 and 2, respectively, for the location of the new development and the layout of the site and location of the proposed accesses onto 400 West.



KAYSVILLE MIXED-USE DEVELOPMENT
FIGURE 1 - VICINITY MAP



KAYSVILLE MIXED-USE DEVELOPMENT
FIGURE 2 - SITE PLAN

3.0 Existing Conditions

3.1 ROADWAYS

Main Street: Main Street currently consists of two lanes in each direction with bike lanes, curb, and gutter. Currently Main Street consists of a 12-foot two-way left turn lane for vehicles to access the many developments along this roadway. Main Street provided access to Layton Parkway to the north and 200 West to the south. The posted speed limit is 30 mph.

200 North: 200 North currently consists of two lanes in each direction with a center two-way left turn lane. 200 North runs east and west and provides access to I-15 to the west and US 89 to the east. 200 North is located on the south of the proposed development and the posted speed limit is 35 mph.

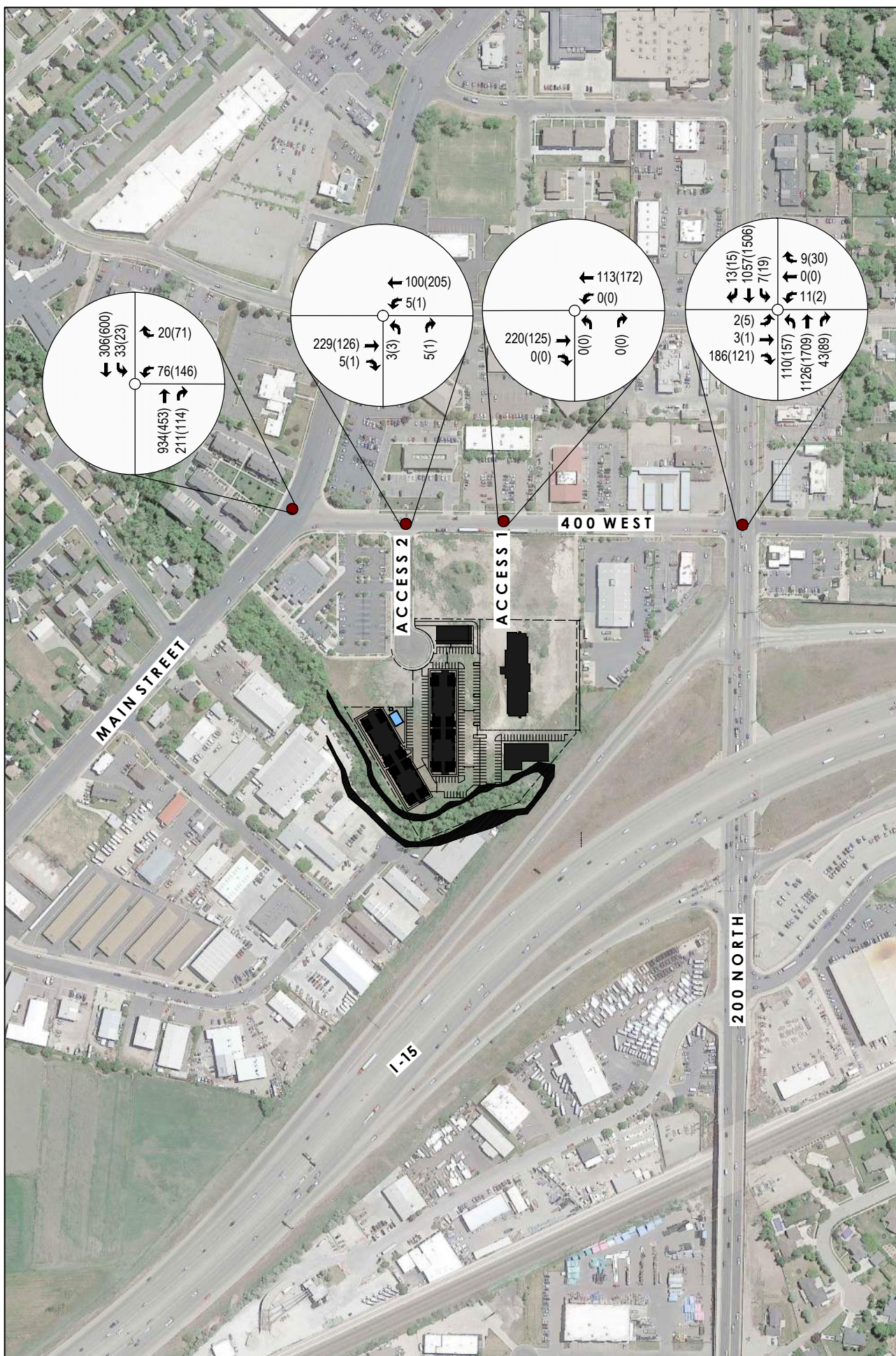
400 West: 400 West is a north/south roadway that provides access to the proposed development. 400 West is a local roadway owned by the Kaysville City and is currently not striped. The pavement width is wide enough to allow for vehicles to turn left into the adjacent development and a vehicle to pass on the right that is traveling north or south. 400 West is posted at 30 mph.

3.2 EXISTING TRAFFIC VOLUMES

Using UDOT's Traffic Study Guidelines for a Level II Traffic Study, it was determined existing traffic counts would be collected at the following intersections which fall within ½ mile of the proposed project boundary:

- 400 West & Main Street
- 400 West & 200 North
- 400 West & South Access to Intermountain Kaysville Creekside Clinic
- 400 West & Existing Road to proposed property.

Existing AM and PM peak hour traffic volumes were collected on February 28, 2023 at these two intersections, between the peak hours of 7 AM to 9 AM and 4 PM to 6 PM. From the existing counts that were collected, it was determined the peak hours at the 400 West and Main Street intersection are from 7:45 AM to 8:45 AM and 4:45 PM to 5:45 PM. The peak hours at the 400 West and 200 North intersection are from 8:00 AM to 9:00 AM and from 4:45 PM to 5:45 PM. These volumes are illustrated in Figure 3.



KAYSVILLE MIXED-USE DEVELOPMENT

FIGURE 3 - 2023 EXISTING YEAR TRAFFIC VOLUMES

XXX(XX) = AM(PM) PEAK HOUR TRAFFIC VOLUMES



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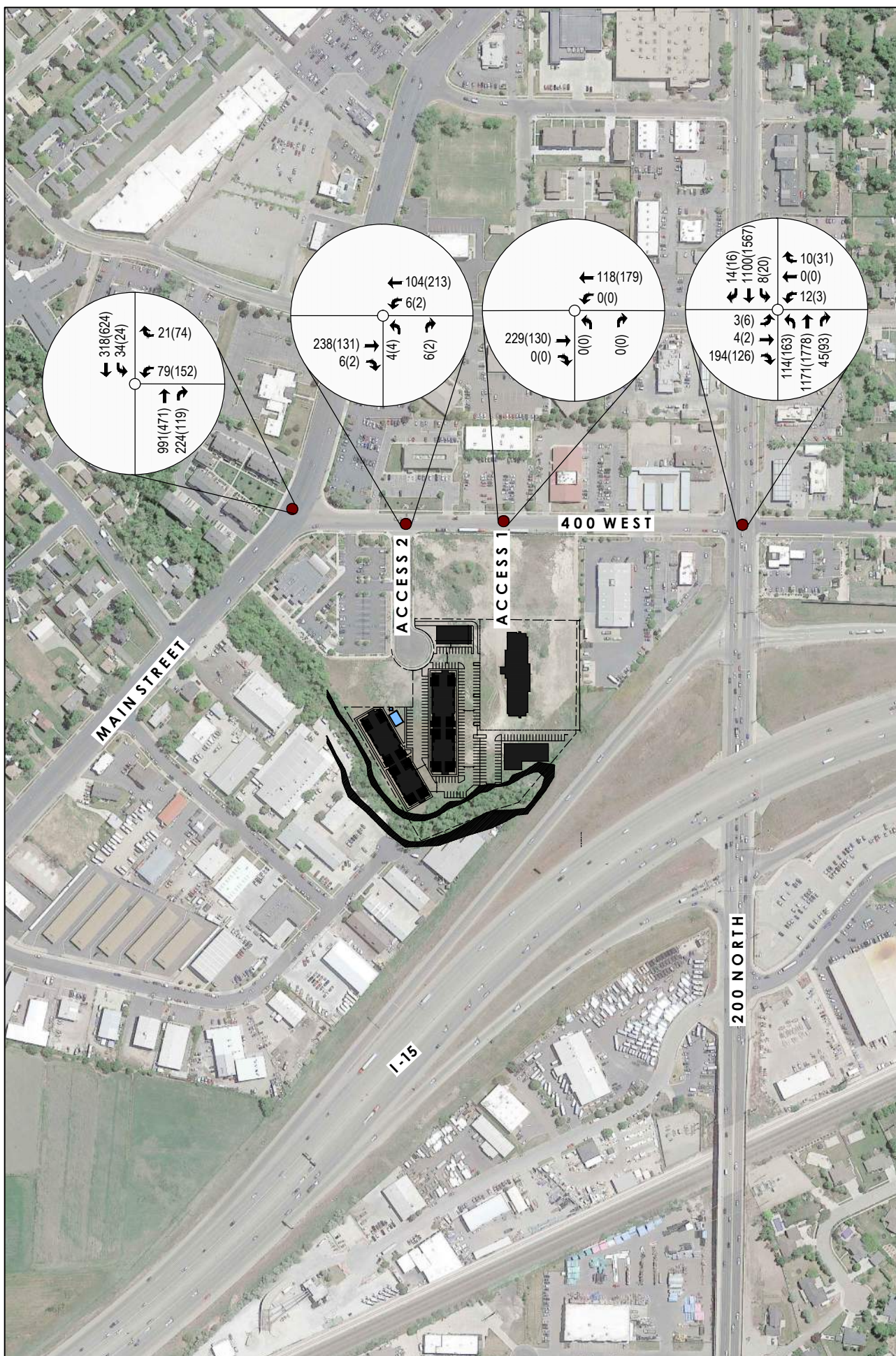
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4.0 Opening and Future Year Traffic Conditions

Opening Year traffic, also known as Background traffic, is the traffic that is on the roadways within the study area regardless if the proposed development is constructed or not. These traffic volumes are a projection of growth within the study area based on current land available and opportunities for future development within this area.

It is assumed an average growth of 2% will occur from 2023 to 2030 along the roadways within the study area. 2025 is the planned year for the completion of the Kaysville Mixed Use Development. Applying the assumed growth rate to the existing traffic volumes, the projected traffic volumes for the 2025 Opening Year traffic volumes are illustrated in Figure 4.

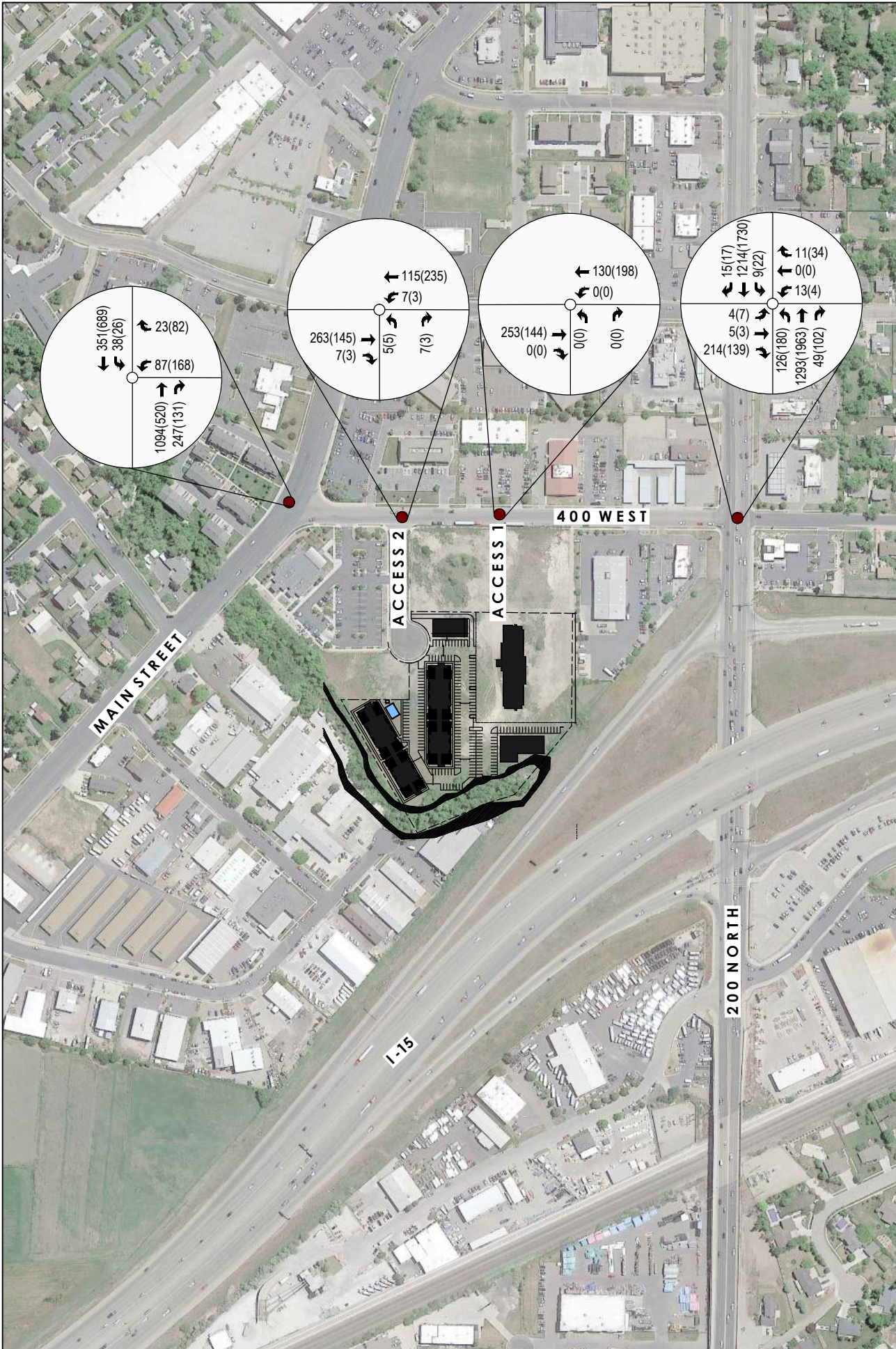
Following the UDOT Traffic Impact Study Guidelines, a Level II traffic study will also look at five years after Opening Year. These are recognized as the Future Year conditions. It is assumed after 2025, the growth rate will continue at 2% as vacant land becomes developed and less growth is available. Applying this growth to the Existing and Opening Year traffic volumes, the 2030 Future Year traffic volumes are generated. These volumes can be found in Figure 5.



KAYSVILLE MIXED-USE DEVELOPMENT

XXX(X) = AM(PM) PEAK HOUR TRAFFIC VOLUMES





KAYSVILLE MIXED-USE DEVELOPMENT

FIGURE 5 - 2030 FUTURE YEAR TRAFFIC VOLUMES

XX(XX) = AM(PM) PEAK HOUR TRAFFIC VOLUMES



5.0 Trip Generation and Trip Distribution

The full build-out of the proposed Kaysville Mixed Use Development will consist of 132 apartment units, a 15,000 SF general office building, a 5,000 SF small office building/retail and a 115-room hotel. Using land use codes 221, 710, 712 and 310 for each of these different land uses, the trip generation rates were determined using the 11th Edition of the Trip Generation Manual. This manual is an ITE information report, published by the *Institute of Transportation Engineers*. Trips generated by the proposed development which will occur during the peak hours of the proposed development were used for the analysis. The Peak Hour of Adjacent Street Traffic rates are used to generate the AM and PM peak hour volumes. The trips generated from the Kaysville Mixed Use Development are presented in Table 1.

Table 1 - Trip Generation

ITE Land Use Code	Land Use	Land Use Description	Size	Daily (AADT)	Trip Generation (AM)		Trip Generation (PM)	
					Enter	Exit	Enter	Exit
221	Multifamily Housing (Mid-Rise)	Dwelling Units	132	599	11	38	31	20
710	General Office Building	1000 Sq. Ft. GFA	15	163	20	3	4	18
712	Small Office Building	1000 Sq. Ft. GFA	5	72	7	1	4	7
310	Hotel	ROOMS	115	919	30	23	35	33
Total				1753	68	65	74	78

5.1 PASS-BY TRIP & INTERNAL CAPTURE REDUCTION

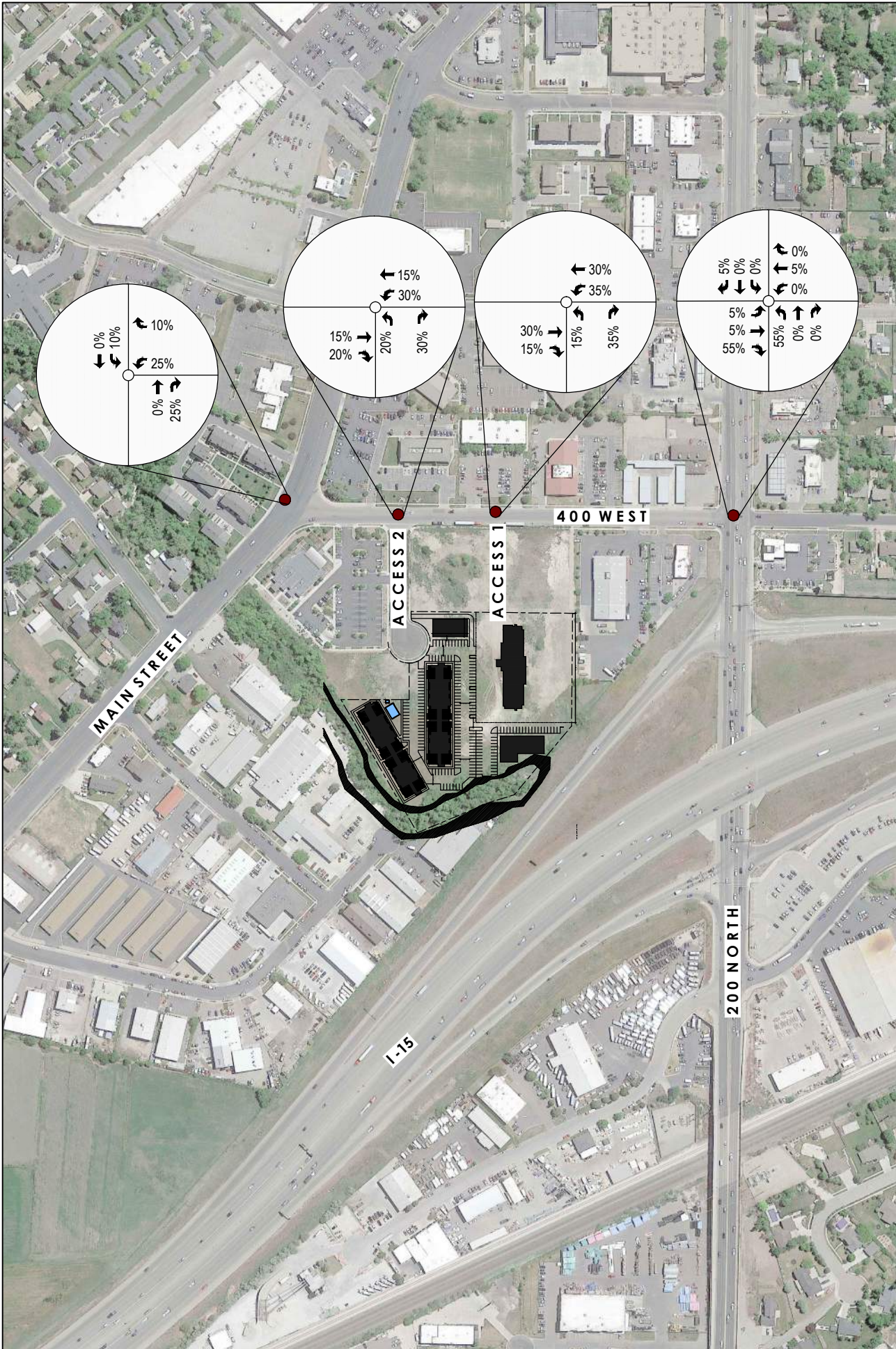
Pass-by trips are represented as traffic already on the surrounding roadways and not a new trip generated by the proposed development. For instance, someone on their way home from work and stops by the gas station, but then continues on to their final destination, i.e., home. Internal Capture trips are vehicles that will enter the site and visit more than one land use in their visit. For instance, someone enters the development to visit a retail store, and also stops at a gas station. The internal capture helps so trips generated by one vehicle that visit multiple land uses, aren't counted multiple times. The land uses proposed with the Kaysville Mixed-Use Development will not likely have pass-

by traffic or internal capture, therefore no reduction in the amount of traffic was accounted for.

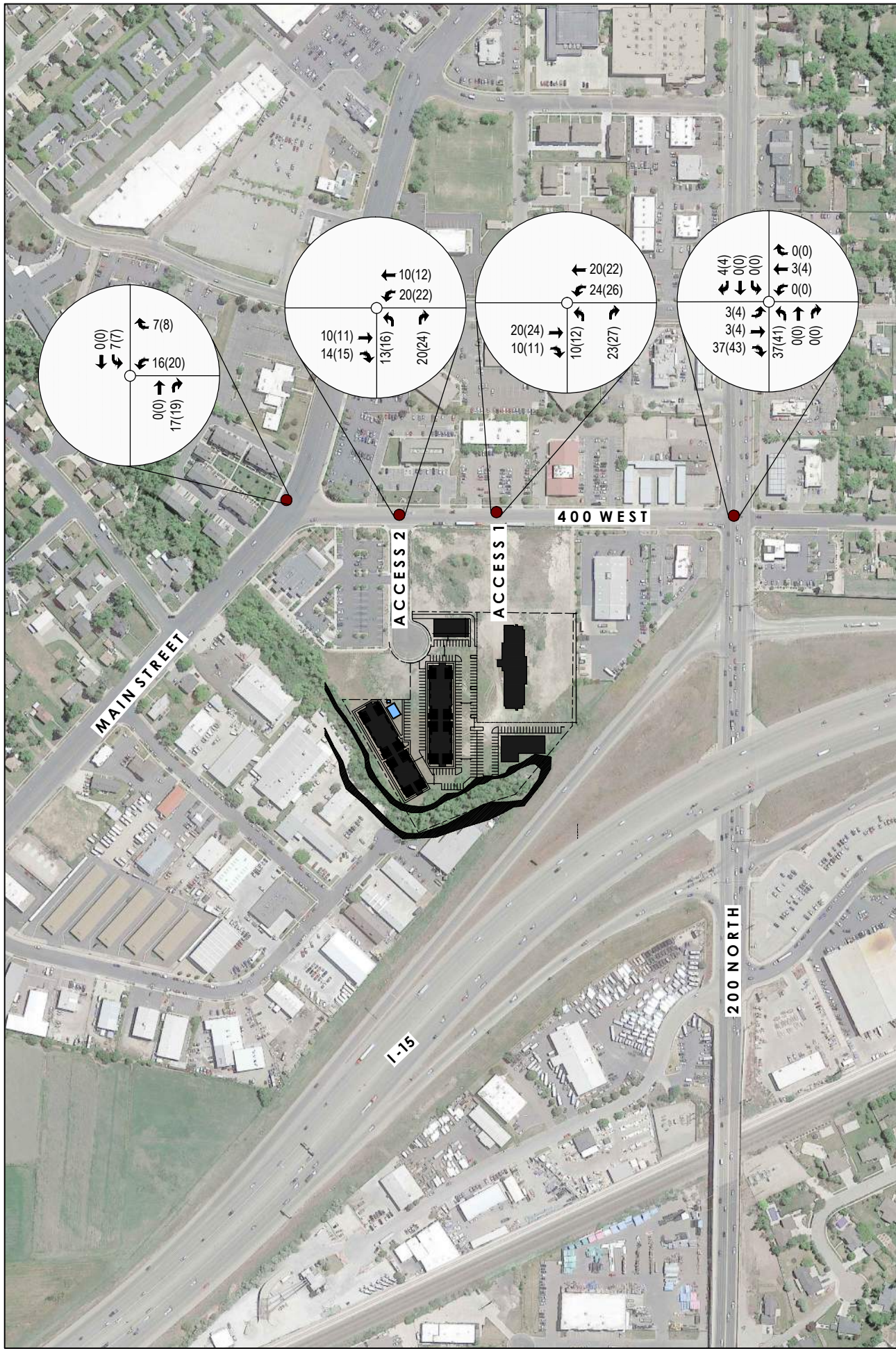
5.2 SITE TRAFFIC DISTRIBUTION

Site ingress/egress traffic at the proposed accesses were distributed based on the anticipated direction vehicles would be coming from or going to. Directional distribution was estimated based on current traffic patterns and also current land uses within the proximity of the proposed development, mainly access to highways, employment districts, shopping area, schools, etc. Figure 6 illustrates the site traffic distribution percentages throughout the study area.

Using the distribution percentages along with the projected traffic volumes outlined in Table 1, Figure 7 illustrates the site traffic volumes anticipated at the study area intersections.



KAYSVILLE MIXED-USE DEVELOPMENT
FIGURE 6 - PROJECT DISTRIBUTION PERCENTAGES
XX% = PROJECT DISTRIBUTION PERCENTAGE

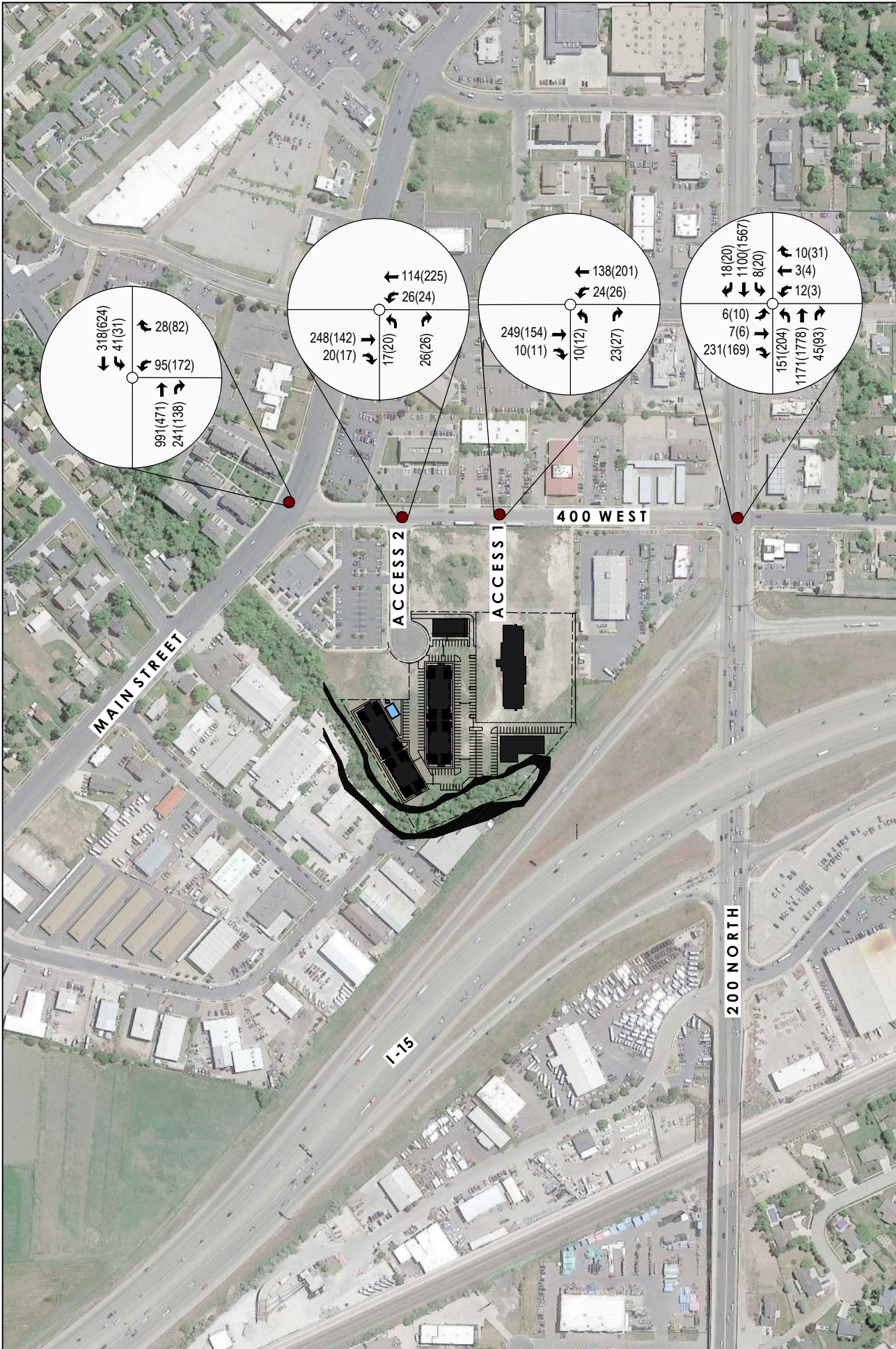


KAYSVILLE MIXED-USE DEVELOPMENT
FIGURE 7 - TRIP DISTRIBUTION VOLUMES
XX(XX) = AM(PM) PEAK HOUR TRAFFIC VOLUMES

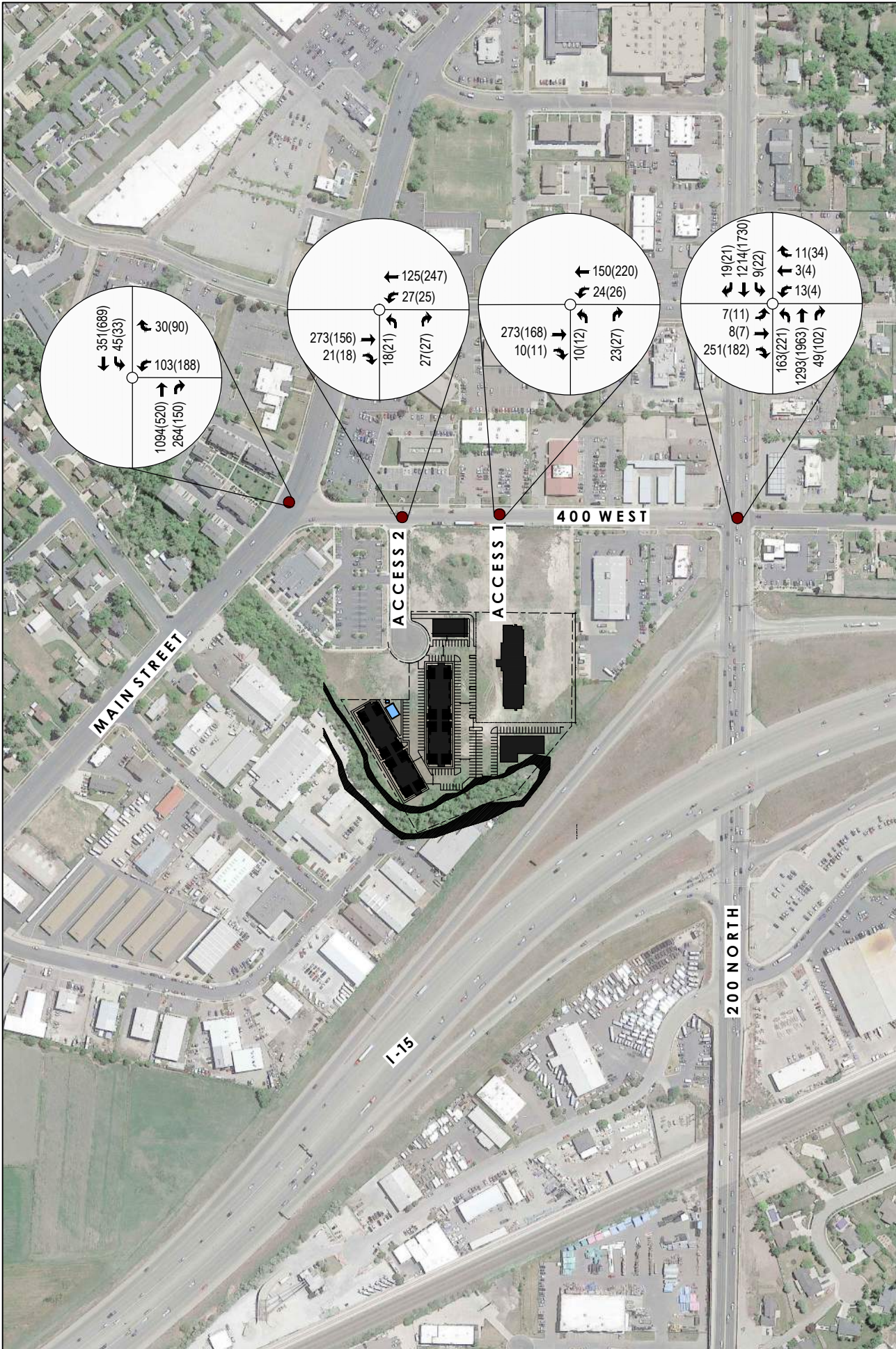
6.0 Opening and Future Year with Project Traffic Conditions

The Opening and Future Year with Project traffic volumes represent the traffic that will be added to the study area with the addition of the Kaysville Mixed Use Development. Using the 2025 Opening Year traffic volumes (Figure 4) and the site generated traffic volumes (Figure 7), the 2025 Opening Year with Project traffic volumes are generated. Per the developer's schedule, it is anticipated the Kaysville Mixed Use Development will be built out in 2025. The 2025 Opening Year with Project traffic volumes, which illustrates the full build-out of the development, are illustrated in Figure 8.

Applying this same approach, using the 2030 Future Year traffic volumes (Figure 5) and the site generated traffic volumes (Figure 7), the 2030 Future Year with Project traffic volumes are generated. These volumes are found in Figure 9.



KAYVILLE MIXED-USE DEVELOPMENT
FIGURE 8 - 2025 OPENING YEAR W/ PROJECT TRAFFIC VOLUMES
 XX(XX) = AM(PM) PEAK HOUR TRAFFIC VOLUMES



KAYVILLE MIXED-USE DEVELOPMENT
FIGURE 9 - 2030 FUTURE YEAR W/ PROJECT TRAFFIC VOLUMES
 XX(XX) = AM(PM) PEAK HOUR TRAFFIC VOLUMES

7.0 Capacity Analysis

Intersection capacity analysis was performed at the study area intersections and the proposed accesses to the Kaysville Mixed Use Development. Synchro® Version 11 was used to analyze the study intersections for the proposed trip conditions according to methods put forth by the Transportation Research Board's **Highway Capacity Manual (HCM 6th Edition)**.

The Level of Service (LOS) of an intersection range from A to F, where LOS A has a low vehicular delay indicating smooth free-flowing traffic. LOS F has a high vehicular delay and indicates the worst-case scenario with high congestion and a complete breakdown of traffic flow. Although LOS A through C are the desired levels, LOS D is considered acceptable in urban conditions. Traffic conditions with LOS of E or F are generally deemed unacceptable and represent significant travel delay, increased accident potential, and inefficient motor vehicle operation. Table 2 shows the relation between LOS and vehicular delay for signalized and unsignalized intersections.

Table 2 - Signalized and Unsignalized intersection LOS and Delay Parameters

Level of Service (LOS)	Vehicular Delay (seconds/vehicle)	
	Signalized Intersection	Stop Controlled Approach
A	$0.0 \leq 10.0$	$0.0 < 10.0$
B	$> 10.0 \leq 20.0$	$> 10.0 < 15.0$
C	$> 20.0 \leq 35.0$	$> 15.0 < 25.0$
D	$> 35.0 \leq 55.0$	$> 25.0 < 35.0$
E	$> 55.0 \leq 80.0$	$> 35.0 < 50.0$
F	> 80.0	> 50.0

The 2023 Existing traffic volumes at the study area intersections were analyzed using Synchro. The levels of service at each of the turning movements can be seen in the following table.

Table 3 – 2023 Existing Traffic LOS

Intersection	2023 Existing Year Traffic LOS(Delay)				
	Overall LOS	Northbound	Southbound	Eastbound	Westbound
1: 400 West & 200 North					
AM Peak Hour	-	F(375.2)	D(34.3)	A(1.1)	A(0.1)
PM Peak Hour	-	F(380.4)	F(215.7)	A(1.7)	A(0.2)
2: 400 West & Access 1					
AM Peak Hour	-	A(0.0)	A(0.0)	A(0.0)	-
PM Peak Hour	-	A(0.0)	A(0.0)	A(0.0)	-
3: 400 West & Access 2					
AM Peak Hour	-	A(0.4)	A(0.0)	B(10.0)	-
PM Peak Hour	-	A(0.1)	A(0.0)	B(10.0)	-
4: 400 West & Main Street					
AM Peak Hour	-	D(27.0)	-	A(0.0)	A(1.2)
PM Peak Hour	-	C(17.6)	-	A(0.0)	A(0.3)

As can be seen in Table 3, under the existing traffic conditions, the northbound and southbound traffic movements at 400 West and 200 North currently experience heavy delays and function at unacceptable levels of service (LOS). All other movements at the study area intersection function with acceptable levels of service.

With the projected growth to the Opening Year of 2025 and the Future Year of 2030, the following tables illustrate the LOS for the study area intersections under these scenarios.

Table 4 – 2025 Opening Year Traffic LOS

Intersection	2025 Opening Year Traffic LOS(Delay)				
	Overall LOS	Northbound	Southbound	Eastbound	Westbound
1: 400 West & 200 North					
AM Peak Hour	-	F(566.4)	F(51.4)	A(1.1)	A(0.1)
PM Peak Hour	-	F(*)	F(976.5)	A(1.9)	A(0.2)
2: 400 West & Access 1					
AM Peak Hour	-	A(0.0)	A(0.0)	A(0.0)	-
PM Peak Hour	-	A(0.0)	A(0.0)	A(0.0)	-
3: 400 West & Access 2					
AM Peak Hour	-	A(0.4)	A(0.0)	B(10.1)	-
PM Peak Hour	-	A(0.1)	A(0.0)	B(10.0)	-
4: 400 West & Main Street					
AM Peak Hour	-	D(30.6)	-	A(0.0)	A(1.2)
PM Peak Hour	-	C(18.6)	-	A(0.0)	A(0.3)

* = Synchro analysis provides an "error" as delay time exceed capacity.

As seen in Table 4, the northbound and southbound traffic movements at 200 North and 400 West will continue to fail. The other traffic movements at the other intersection will continue with similar levels of services as under the existing year conditions.

Table 5 – 2030 Future Year Traffic LOS

Intersection	2030 Future Year Traffic LOS(Delay)				
	Overall LOS	Northbound	Southbound	Eastbound	Westbound
1: 400 West & 200 North					
AM Peak Hour	-	F(2086.9)	F(170.9)	A(1.3)	A(0.1)
PM Peak Hour	-	F(*)	F(452.6)	A(2.8)	A(0.3)
2: 400 West & Access 1					
AM Peak Hour	-	A(0.0)	A(0.0)	A(0.0)	-
PM Peak Hour	-	A(0.0)	A(0.0)	A(0.0)	-
3: 400 West & Access 2					
AM Peak Hour	-	A(0.5)	A(0.0)	B(10.3)	-
PM Peak Hour	-	A(0.1)	A(0.0)	B(10.1)	-
4: 400 West & Main Street					
AM Peak Hour	-	E(40.8)	-	A(0.0)	A(1.3)
PM Peak Hour	-	C(22.0)	-	A(0.0)	A(0.3)

* = Synchro analysis provides an "error" as delay time exceed capacity.

Table 5 illustrates similar results at the 200 North and 400 West intersection as the northbound and southbound movements will continue to fail. The northbound movements at the 400 West and Main Street intersection will fall to a LOS E in the AM peak hour.

With the addition of Kaysville Mixed Use Development within this study area, the following tables illustrates the projected levels of service at the study area intersections under the 2025 Opening Year with Project and the 2030 Future Year with Project scenarios.

Table 6 – 2025 Opening Year w/ Project LOS

Intersection	2025 Opening Year w/ Project LOS				
	Overall LOS	Northbound	Southbound	Eastbound	Westbound
1: 400 West & 200 North					
AM Peak Hour	-	F(1339.9)	F(198.5)	A(1.5)	A(0.1)
PM Peak Hour	-	F(*)	F(*)	A(2.9)	A(0.2)
2: 400 West & Access 1					
AM Peak Hour	-	A(1.2)	A(0.0)	B(10.4)	-
PM Peak Hour	-	A(0.9)	A(0.0)	A(9.9)	-
3: 400 West & Access 2					
AM Peak Hour	-	A(1.5)	A(0.0)	B(10.6)	-
PM Peak Hour	-	A(0.7)	A(0.0)	B(10.2)	-
4: 400 West & Main Street					
AM Peak Hour	-	D(34.9)	-	A(0.0)	A(1.5)
PM Peak Hour	-	C(20.6)	-	A(0.0)	A(0.4)

* = Synchro analysis provides an "error" as delay time exceed capacity.

With the addition of the Kaysville Mixed Use Development, traffic movements will continue to function with the same levels of service as under the 2025 Opening Year scenario (without the proposed development).

Table 7 – 2030 Future Year w/ Project LOS

Intersection	2030 Future Year w/ Project LOS				
	Overall LOS	Northbound	Southbound	Eastbound	Westbound
1: 400 West & 200 North					
AM Peak Hour	-	F(*)	F(497.8)	A(1.7)	A(0.1)
PM Peak Hour	-	F(*)	F(661.8)	A(4.6)	A(0.3)
2: 400 West & Access 1					
AM Peak Hour	-	A(1.1)	A(0.0)	B(10.6)	-
PM Peak Hour	-	A(0.8)	A(0.0)	B(10.0)	-
3: 400 West & Access 2					
AM Peak Hour	-	A(1.4)	A(0.0)	B(10.8)	-
PM Peak Hour	-	A(0.7)	A(0.0)	B(10.4)	-
4: 400 West & Main Street					
AM Peak Hour	-	E(48.8)	-	A(0.0)	A(1.6)
PM Peak Hour	-	D(25.4)	-	A(0.0)	A(0.4)

* = Synchro analysis provides an “error” as delay time exceed capacity.

Under the 2030 Future Year with Project analysis, the northbound and southbound traffic movements at 400 West and 200 North will continue to function with unacceptable levels of service. The northbound approach at 400 West and Main Street will also continue to function with unacceptable levels of service.

8.0 Traffic Signal Warrant Analysis

With the unacceptable levels of service at the northbound and southbound approaches at 400 West and 200 North under all of the study scenarios, a peak hour signal warrant analysis was performed to look at a possible mitigation at this intersection. It should be noted that this intersection is only located roughly 300 feet from the northbound on and off ramp to I-15, which is signalized. Having two intersections within this close proximity, may not be viable. In order to analyze the need for a traffic signal, the 2009 Edition of the Manual on Traffic Control Devices (MUTCD), Part 4 is used. As per the MUTCD there are nine signal warrants and even if one warrant is met, a signal may be installed at the study intersection. The warrants are:

Warrant 1 - Eight Hour Vehicular Volume

Warrant 2 - Four Hour Vehicular Volume

Warrant 3 - Peak Hour

Warrant 4 - Pedestrian Volume

Warrant 5 - School Crossing

Warrant 6 - Coordinated Signal System

Warrant 7 - Crash Experience

Warrant 8 - Roadway Network

Warrant 9 - Intersection near a Grade Crossing

Based on the study location, traffic patterns and information we have available at this time, only Warrant 3 - Peak Hour was able to be analyzed with the projected peak hour traffic volumes under the 2025 Opening Year scenario. The following paragraphs provide the details of the signal warrant analysis.

Note that in all scenarios that were analyzed at the 400 West and 200 North intersection for a traffic signal warrant, the Major Street (200 North) total for both directions do not include the vehicles making a right turn from 200 North as these vehicles are not often counted in a traffic signal warrant analysis as they do not impede the Minor Street (400 West) traffic from making their movement.

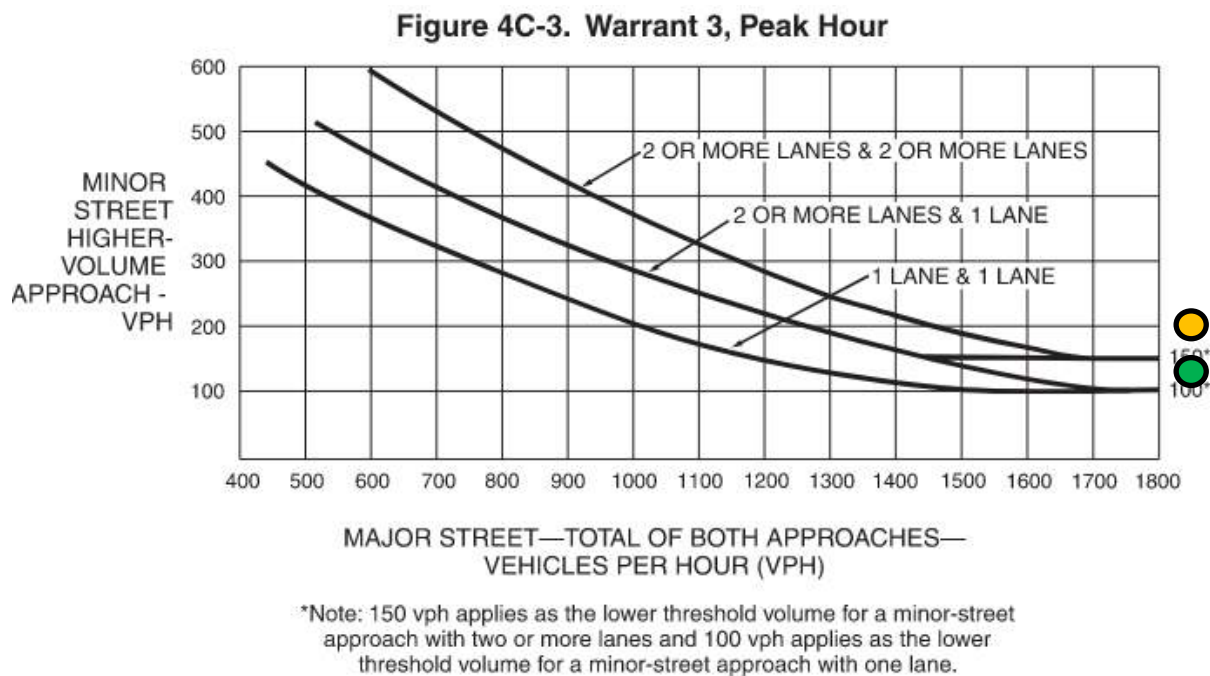
Warrant 3 (Peak Hour)

400 West and 200 North

This traffic signal warrant analysis was performed at 400 West and 200 North intersection. The Major Street is 200 North and the Minor Street is 400 West. It is projected under the 2025 Opening Year traffic volumes, along 200 North, the combined vehicles per hours (vph) of the Major Street in the AM Peak Hour will be 2438 vph and in the PM Peak Hour, 3621 vph. The higher volume of the Minor Street (400 West) under the 2025 Opening Year scenario, will be 201 vph in the AM peak hour and 134 vph in the PM peak hour.

As seen in the figure below, the plotted points of these volumes fall above the applicable curve and therefore warrant a traffic signal under the 2025 Opening Year scenario.

Figure 10 – 400 West & 200 North 2025 Opening Year Scenario Signal Warrant



● = 2025 Opening Year Traffic Volumes at 400 West and 200 North Intersection (AM Peak Hour)

● = 2025 Opening Year Traffic Volumes at 400 West and 200 North Intersection (PM Peak Hour)

With the 400 West and 200 North traffic volumes warranting a traffic signal under the 2025 Opening Year scenario, the other scenarios were not analyzed as they would also meet the warrant.

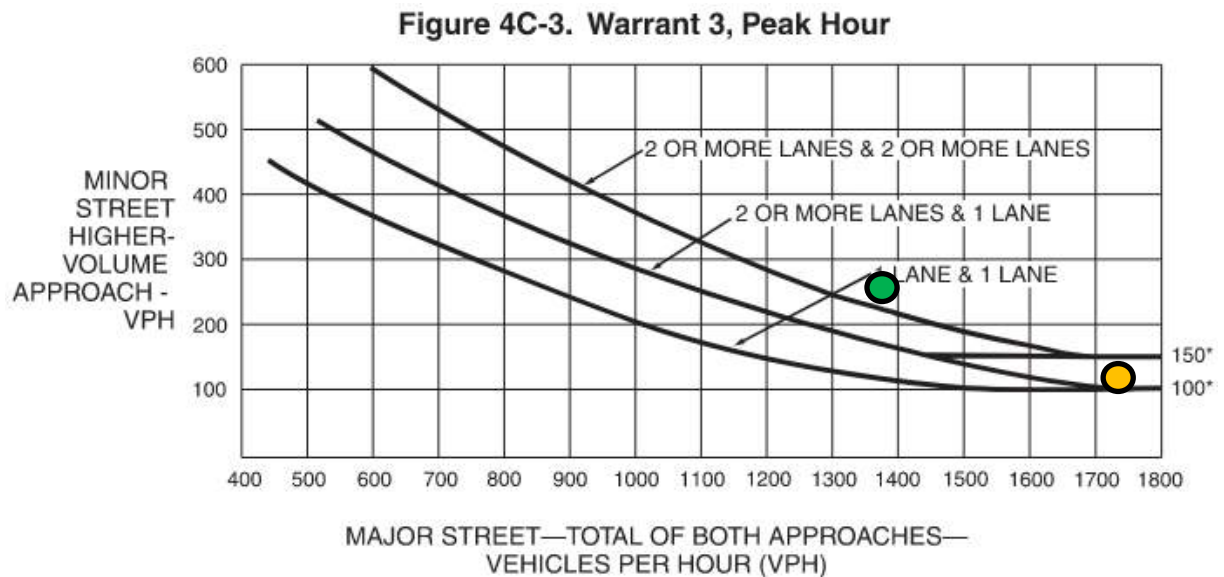
400 West and Main Street

This traffic signal warrant analysis was performed at 400 West and Main Street intersection under the 2030 Future Year scenario as the level of service falls below the acceptable threshold. The Major Street is Main Street and the Minor Street is 400 West. It is anticipated that 2030 Future Years and 2030 Future with Project are used in this analysis.

It is projected under the 2030 Future Year traffic volumes, along Main Street, the combined vehicles per hours (vph) of the Major Street in the AM Peak Hour will be 1730 vph and in the PM Peak Hour, 1366 vph. The higher volume of the Minor Street (400 West) under the 2030 Future Year scenario, will be 110 vph in the AM peak hour and 250 vph in the PM peak hour.

As seen in the figure below, the plotted points of these volumes fall above the applicable curve and therefore warrant a traffic signal under the 2030 Future Year scenario.

Figure 11 – 400 West & Main Street 2030 Future Year Scenario Signal Warrant



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

● = 2030 Future Year Traffic Volumes at 400 West and Main Street Intersection (AM Peak Hour)

● = 2030 Future Year Traffic Volumes at 400 West and Main Street Intersection (PM Peak Hour)

9.0 Recommendations

Based on the information and findings presented in this report, the following recommendations are proposed under the different study scenarios.

2025 Opening Year Scenario

The 200 North and 400 West intersection currently and under the 2025 Opening Year scenario functions with a LOS F in the northbound and southbound movements. The 200 North and 400 West intersection does meet the Peak Hour Warrant for a traffic signal which will improve the LOS. However, with the close proximity to I-15 on and off ramps, it would not make for a viable location with access spacing to signalize this intersection. It is recommended the city look at the entire corridor of 200 North for access control. Possible solution may be right-in/right-out, or continue the existing traffic operations and as delays increase, vehicles will find alternate routes if the delay is too excessive.

2025 Opening Year w/ Project Scenario

With the addition of the Kaysville Mixed Use Development, all intersections will continue to function with similar levels of service as under the scenarios without the development.

It is recommended Access 1 use the existing roadway with one receiving lane and one exiting lane. This access will meet city standards with appropriate driveway approach, signing and striping.

It is recommended Access 2 continue to function with one receiving lane and one exiting lane. This will continue to serve access to the adjacent property.

2030 Future Year Scenario

Similar to the 2025 Opening Year scenario, the 400 West and 200 North intersection will meet signal warrants. It is recommended this intersection be further analyzed to appropriate improvements, such as a signal, right-in/right-out or simply leave as existing functions.

400 West and Main Street will fall to a LOS E in the northbound direction under the 2030 Future Year scenario. It is the 400 West and Main Street intersection be monitored for when traffic volumes warrant a signal. The projected volumes illustrate a signal will meet warrants for the peak hour under the 2030 Future Year scenario.

2030 Future Year with Project Scenario

With the addition of the Kaysville Mixed Use Development and the implementation of a signal as recommended under the 2030 Future Year scenario, this intersection will function with acceptable levels of service. However, if no improvements are implemented under the 2030 Future Year scenario, this intersection will function with the similar levels of service.

Appendix

Existing Traffic Counts

TURNING MOVEMENT COUNT SUMMARY

FOCUS ENGINEERING & SURVEYING, LLC

AM PEAK HOUR VOLUMES

INTERSECTION:
N-S STREET:
E-W STREET:

400 W and 200 N
400 W
200 N

FOCUS PROJ. NO.:
COUNT DATE:
NOTES:

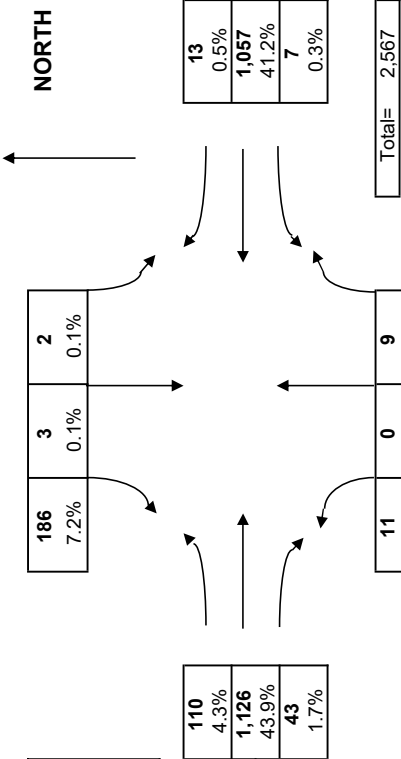
23-8001
28-Feb-23

COUNT TIME:
FROM:
TO:

7:00 AM
9:00 AM

PK HR VOLUME:
PHF:
PEAK HOUR:
FROM:
TO:

2,567
0.82
8:00 AM 9:00 AM



110	4.3%	11	0.4%	0	0.0%	9	0.4%	13	0.5%
1,126	43.9%	43	1.7%	11	0.4%	0	0.0%	9	0.4%
400 W		400 W		400 W		400 W		400 W	
Total= 2,567									

COUNT DATA INPUT:

TIME PERIOD		NORTHBOUND		EASTBOUND		SOUTHBOUND		WESTBOUND		TOTAL VOLUMES
FROM:	TO:	L	T	L	T	L	T	L	T	
7:00 AM	7:15 AM	5	0	1	20	128	5	1	0	144
7:15 AM	7:30 AM	1	0	2	20	181	7	1	39	180
7:30 AM	7:45 AM	3	0	1	17	259	6	1	0	221
7:45 AM	8:00 AM	3	0	4	35	349	2	0	30	211
8:00 AM	8:15 AM	2	0	1	33	290	10	0	51	226
8:15 AM	8:30 AM	3	0	3	29	243	13	1	2	196
8:30 AM	8:45 AM	6	0	3	12	267	8	1	0	288
8:45 AM	9:00 AM	0	0	2	36	326	12	1	50	347
										782

HOURLY TOTALS:

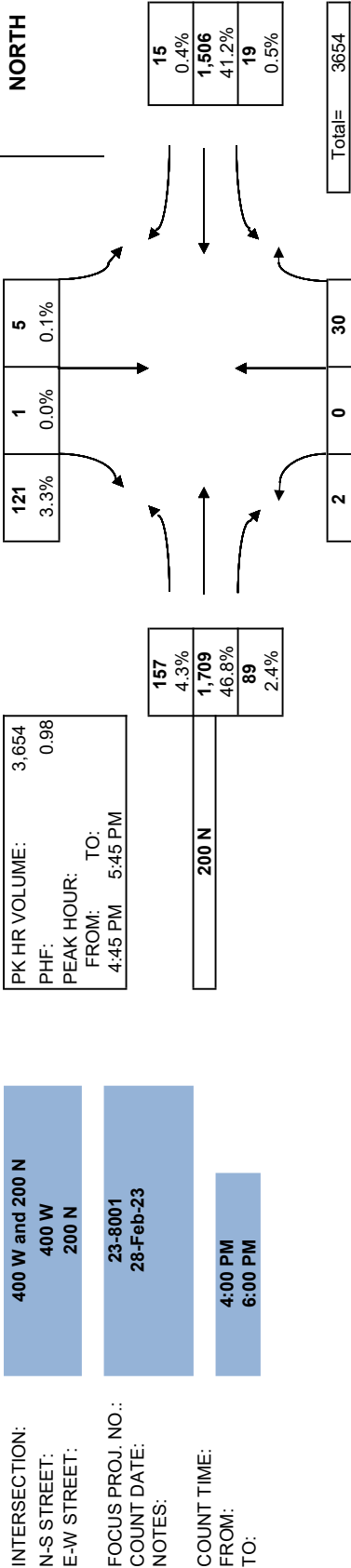
TIME PERIOD		NORTHBOUND		EASTBOUND		SOUTHBOUND		WESTBOUND		TOTAL VOLUMES
FROM:	TO:	L	T	L	T	L	T	L	T	
7:00 AM	8:00 AM	12	0	8	92	917	20	3	1	1,968
7:15 AM	8:15 AM	9	0	8	105	1,079	25	2	1	2,249
7:30 AM	8:30 AM	11	0	9	114	1,141	31	2	2	2,351
7:45 AM	8:45 AM	14	0	11	109	1,149	33	2	2	2,429
8:00 AM	9:00 AM	11	0	9	110	1,126	43	2	3	2,567

NOTE PHF IS BASED ON 15 MIN. PEAK WITHIN THE PEAK HOUR.

TURNING MOVEMENT COUNT SUMMARY

FOCUS ENGINEERING & SURVEYING, LLC

PM PEAK HOUR VOLUMES



COUNT DATA INPUT:

FROM:	TIME PERIOD	TO:	NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL VOLUMES
			L	T	R	L	T	R	L	T	R	L	T	R	
4:00 PM		4:15 PM	0	0	0	5	38	385	18	1	0	31	8	376	0
4:15 PM		4:30 PM	3	0	0	8	35	362	14	2	0	44	4	329	3
4:30 PM		4:45 PM	1	0	0	5	21	390	28	2	0	12	2	336	1
4:45 PM		5:00 PM	1	0	0	9	43	440	23	1	1	15	6	347	3
5:00 PM		5:15 PM	0	0	0	6	38	431	20	2	0	17	4	409	2
5:15 PM		5:30 PM	0	0	0	7	48	410	22	2	0	48	5	373	7
5:30 PM		5:45 PM	1	0	0	8	28	428	24	0	0	41	4	377	3
5:45 PM		6:00 PM	2	0	0	5	28	446	19	2	1	50	5	310	1
															6,987

HOURLY TOTALS:

FROM:	TIME PERIOD	TO:	NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL VOLUMES
			L	T	R	L	T	R	L	T	R	L	T	R	
4:00 PM		5:00 PM	5	0	0	27	137	1,577	83	6	1	102	7	1,388	7
4:15 PM		5:15 PM	5	0	0	28	137	1,623	85	7	1	88	16	1,421	9
4:30 PM		5:30 PM	2	0	0	27	150	1,671	93	7	1	92	17	1,465	13
4:45 PM		5:45 PM	2	0	0	30	157	1,709	89	5	1	121	19	1,506	15
5:00 PM		6:00 PM	3	0	0	26	142	1,715	85	6	1	156	18	1,469	13

NOTE PHF IS BASED ON 15 MIN. PEAK WITHIN THE PEAK HOUR.

TURNING MOVEMENT COUNT SUMMARY

FOCUS ENGINEERING & SURVEYING, LLC

AM PEAK HOUR VOLUMES

INTERSECTION:
N-S STREET:
E-W STREET:

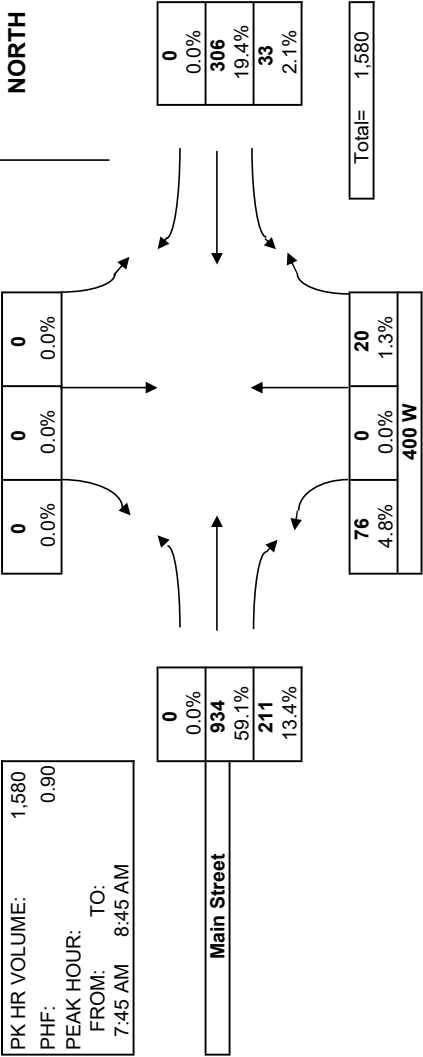
400 W and Main Street
400 W
Main Street

FOCUS PROJ. NO.:
COUNT DATE:

23-8001
28-Feb-23

COUNT TIME:
FROM:
TO:

7:00 AM
9:00 AM



COUNT DATA INPUT:

TIME PERIOD		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL VOLUMES
FROM:	TO:	L	T	R	L	T	R	L	T	R	L	T	R	
7:00 AM	7:15 AM	7	0	3	0	99	28	0	0	0	3	39	0	179
7:15 AM	7:30 AM	26	0	3	0	159	28	0	0	0	6	36	0	258
7:30 AM	7:45 AM	16	0	2	0	189	46	0	0	0	2	49	0	304
7:45 AM	8:00 AM	17	0	7	0	266	58	0	0	0	7	71	0	426
8:00 AM	8:15 AM	23	0	7	0	272	58	0	0	0	9	68	0	437
8:15 AM	8:30 AM	19	0	1	0	203	49	0	0	0	6	88	0	366
8:30 AM	8:45 AM	17	0	5	0	193	46	0	0	0	11	79	0	351
8:45 AM	9:00 AM	17	0	15	0	213	56	0	0	0	24	76	0	401

HOURLY TOTALS:

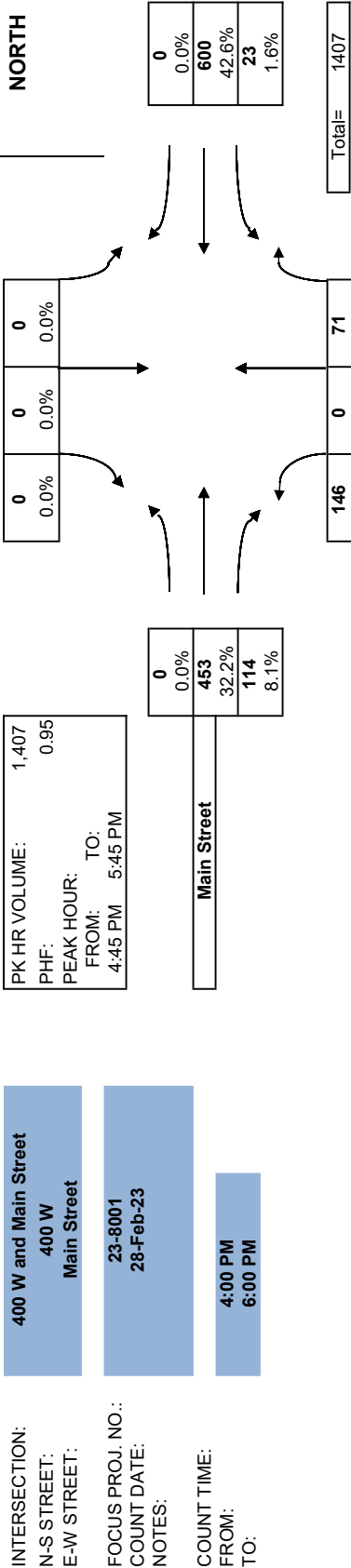
TIME PERIOD		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL VOLUMES
FROM:	TO:	L	T	R	L	T	R	L	T	R	L	T	R	
7:00 AM	8:00 AM	66	0	15	0	713	160	0	0	0	18	195	0	1,167
7:15 AM	8:15 AM	82	0	19	0	886	190	0	0	0	24	224	0	1,425
7:30 AM	8:30 AM	75	0	17	0	930	211	0	0	0	24	276	0	1,533
7:45 AM	8:45 AM	76	0	20	0	934	211	0	0	0	33	306	0	1,580
8:00 AM	9:00 AM	76	0	28	0	881	209	0	0	0	50	311	0	1,555

NOTE PHF IS BASED ON 15 MIN. PEAK WITHIN THE PEAK HOUR.

TURNING MOVEMENT COUNT SUMMARY

FOCUS ENGINEERING & SURVEYING, LLC

PM PEAK HOUR VOLUMES



COUNT DATA INPUT:

TIME PERIOD	NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL VOLUMES
	L	T	R	L	T	R	L	T	R	L	T	R	
FROM: 4:00 PM TO: 4:15 PM	31	0	12	0	101	26	0	0	0	13	168	0	351
4:15 PM TO: 4:30 PM	29	0	9	0	111	38	0	0	0	6	123	0	316
4:30 PM TO: 4:45 PM	36	0	18	0	109	36	0	0	0	5	132	0	336
4:45 PM TO: 5:00 PM	33	0	21	0	112	24	0	0	0	8	151	0	349
5:00 PM TO: 5:15 PM	23	0	15	0	129	27	0	0	0	4	172	0	370
5:15 PM TO: 5:30 PM	50	0	20	0	106	30	0	0	0	7	135	0	348
5:30 PM TO: 5:45 PM	40	0	15	0	106	33	0	0	0	4	142	0	340
5:45 PM TO: 6:00 PM	20	0	15	0	105	24	0	0	0	9	133	0	306

HOURLY TOTALS:

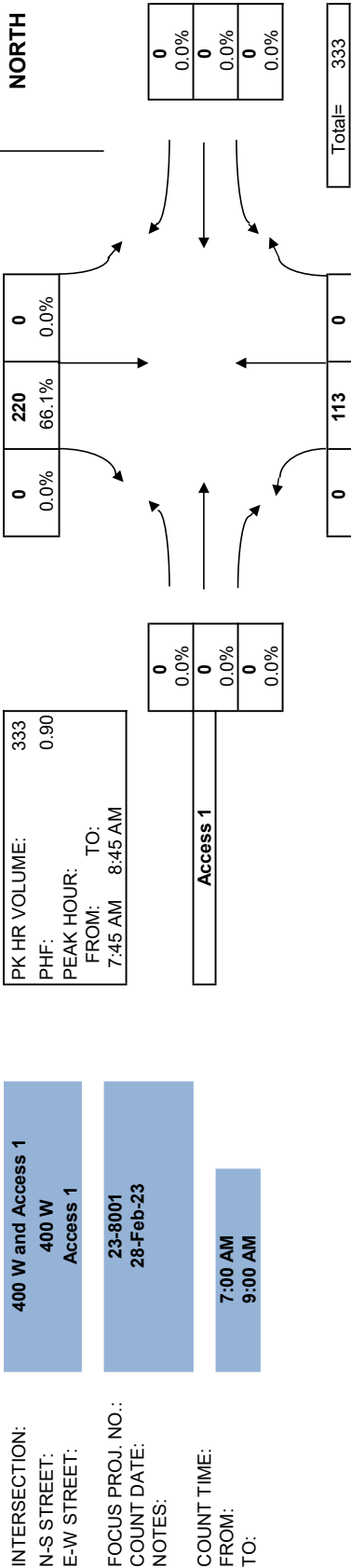
TIME PERIOD	NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL VOLUMES
	L	T	R	L	T	R	L	T	R	L	T	R	
FROM: 4:00 PM TO: 5:00 PM	129	0	60	0	433	124	0	0	0	32	574	0	1,352
4:15 PM TO: 5:15 PM	121	0	63	0	461	125	0	0	0	23	578	0	1,371
4:30 PM TO: 5:30 PM	142	0	74	0	456	117	0	0	0	24	590	0	1,403
4:45 PM TO: 5:45 PM	146	0	71	0	453	114	0	0	0	23	600	0	1,407
5:00 PM TO: 6:00 PM	133	0	65	0	446	114	0	0	0	24	582	0	1,364

NOTE PHF IS BASED ON 15 MIN. PEAK WITHIN THE PEAK HOUR.

TURNING MOVEMENT COUNT SUMMARY

FOCUS ENGINEERING & SURVEYING, LLC

AM PEAK HOUR VOLUMES



COUNT DATA INPUT:

TIME PERIOD		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL VOLUMES
FROM:	TO:	L	T	R	L	T	R	L	T	R	L	T	R	
7:00 AM	7:15 AM	1	13	0	0	0	0	0	39	0	0	0	0	53
7:15 AM	7:30 AM	1	12	0	0	0	0	0	37	0	0	0	0	50
7:30 AM	7:45 AM	1	11	0	0	0	0	0	42	0	0	0	0	54
7:45 AM	8:00 AM	0	38	0	0	0	0	0	43	0	0	0	0	81
8:00 AM	8:15 AM	0	29	0	0	0	0	0	64	0	0	0	0	93
8:15 AM	8:30 AM	0	26	0	0	0	0	0	59	0	0	0	0	85
8:30 AM	8:45 AM	0	20	0	0	0	0	0	54	0	0	0	0	74
8:45 AM	9:00 AM	0	5	0	0	0	0	0	32	0	0	0	0	37

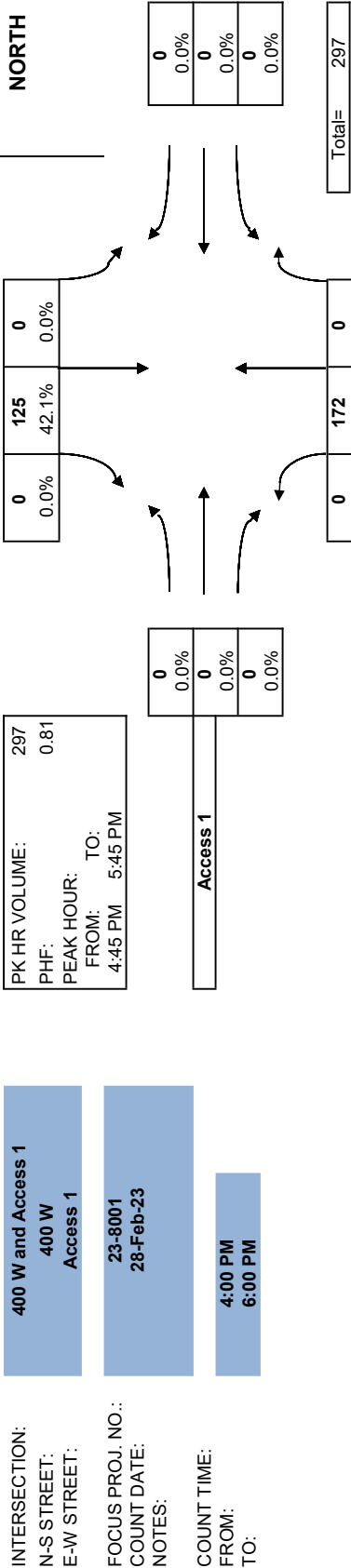
HOURLY TOTALS:

TIME PERIOD		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL VOLUMES
FROM:	TO:	L	T	R	L	T	R	L	T	R	L	T	R	
7:00 AM	8:00 AM	3	74	0	0	0	0	0	161	0	0	0	0	238
7:15 AM	8:15 AM	2	90	0	0	0	0	0	186	0	0	0	0	278
7:30 AM	8:30 AM	1	104	0	0	0	0	0	208	0	0	0	0	313
7:45 AM	8:45 AM	0	113	0	0	0	0	0	220	0	0	0	0	333
8:00 AM	9:00 AM	0	80	0	0	0	0	0	209	0	0	0	0	289

NOTE PHF IS BASED ON 15 MIN. PEAK WITHIN THE PEAK HOUR.

FOCUS ENGINEERING & SURVEYING, LLC

PM PEAK HOUR VOLUMES



COUNT DATA INPUT:

TIME PERIOD			NORTHBOUND		EASTBOUND		SOUTHBOUND		WESTBOUND		TOTAL VOLUMES	
FROM:	TO:		L	T	R	L	T	R	L	T	R	
4:00 PM	4:15 PM		0	26	0	1	0	1	0	0	0	57
4:15 PM	4:30 PM		0	33	0	1	0	0	0	0	0	60
4:30 PM	4:45 PM		1	34	0	0	0	0	0	23	0	58
4:45 PM	5:00 PM		0	37	0	0	0	0	0	21	0	58
5:00 PM	5:15 PM		0	56	0	0	0	0	0	36	0	92
5:15 PM	5:30 PM		0	41	0	0	0	0	0	29	0	70
5:30 PM	5:45 PM		0	38	0	0	0	0	0	39	0	77
5:45 PM	6:00 PM		0	29	0	2	0	0	0	24	0	55
527												

HOURLY TOTALS:

FROM:	TIME PERIOD	TO:	NORTHBOUND		EASTBOUND		SOUTHBOUND		WESTBOUND		TOTAL VOLUMES
			L	T	L	T	L	T	L	T	
4:00 PM		5:00 PM	1	130	0	0	0	98	0	0	233
4:15 PM		5:15 PM	1	160	0	0	0	105	0	0	268
4:30 PM		5:30 PM	1	168	0	0	0	109	0	0	278
4:45 PM		5:45 PM	0	172	0	0	0	125	0	0	297
5:00 PM		6:00 PM	0	164	0	0	0	128	0	0	294

NOTE PHF IS BASED ON 15 MIN. PEAK WITHIN THE PEAK HOUR.

TURNING MOVEMENT COUNT SUMMARY

FOCUS ENGINEERING & SURVEYING, LLC

AM PEAK HOUR VOLUMES

INTERSECTION:
N-S STREET:
E-W STREET:

400 W and Access 2
400 W
Access 2

FOCUS PROJ. NO.:
COUNT DATE:

23-8001
28-Feb-23

COUNT TIME:
FROM:
TO:

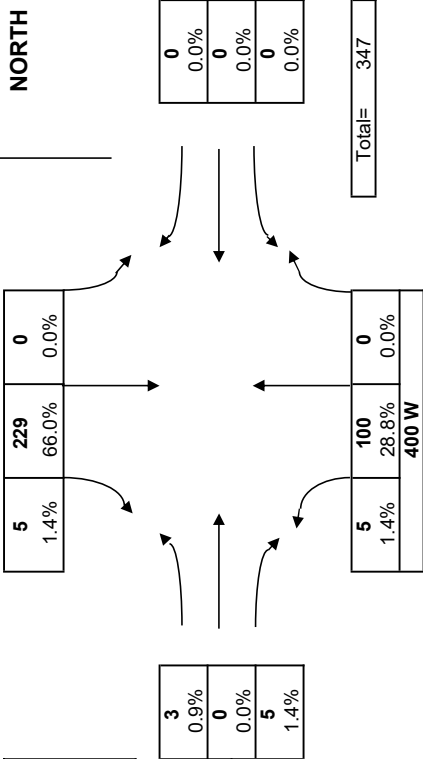
7:00 AM
9:00 AM

PK HR VOLUME:
PHF:

347
0.88

PEAK HOUR:
FROM:
TO:

7:45 AM
8:45 AM



COUNT DATA INPUT:

TIME PERIOD		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL VOLUMES
FROM:	TO:	L	T	R	L	T	R	L	T	R	L	T	R	
7:00 AM	7:15 AM	0	13	0	1	0	0	0	41	3	0	0	0	58
7:15 AM	7:30 AM	0	11	0	0	0	0	0	34	0	0	0	0	45
7:30 AM	7:45 AM	1	12	0	1	0	1	0	39	0	0	0	0	54
7:45 AM	8:00 AM	1	34	0	0	0	0	0	45	2	0	0	0	82
8:00 AM	8:15 AM	1	24	0	0	0	1	0	59	0	0	0	0	85
8:15 AM	8:30 AM	2	23	0	3	0	2	0	67	2	0	0	0	99
8:30 AM	8:45 AM	1	19	0	0	0	2	0	58	1	0	0	0	81
8:45 AM	9:00 AM	0	5	0	0	0	1	0	32	0	0	0	0	38

HOURLY TOTALS:

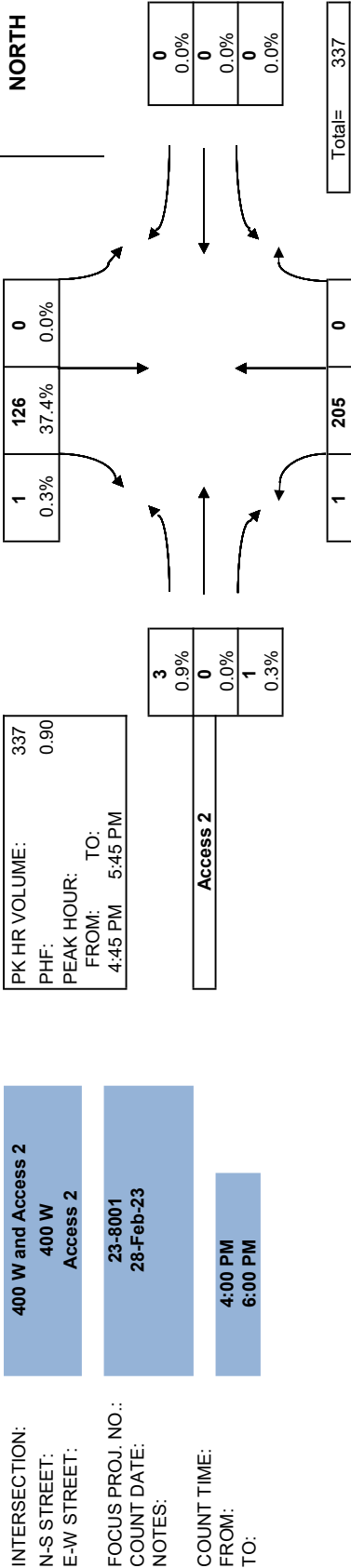
TIME PERIOD		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL VOLUMES
FROM:	TO:	L	T	R	L	T	R	L	T	R	L	T	R	
7:00 AM	8:00 AM	2	70	0	2	0	1	0	159	5	0	0	0	239
7:15 AM	8:15 AM	3	81	0	1	0	2	0	177	2	0	0	0	266
7:30 AM	8:30 AM	5	93	0	4	0	4	0	210	4	0	0	0	320
7:45 AM	8:45 AM	5	100	0	3	0	5	0	229	5	0	0	0	347
8:00 AM	9:00 AM	4	71	0	3	0	6	0	216	3	0	0	0	303

NOTE PHF IS BASED ON 15 MIN. PEAK WITHIN THE PEAK HOUR.

TURNING MOVEMENT COUNT SUMMARY

FOCUS ENGINEERING & SURVEYING, LLC

PM PEAK HOUR VOLUMES



COUNT DATA INPUT:

FROM:	TIME PERIOD	TO:	NORTHBOUND		EASTBOUND		SOUTHBOUND		WESTBOUND		TOTAL VOLUMES
			L	T	L	T	L	T	L	T	
4:00 PM		4:15 PM	0	28	0	2	0	0	0	0	54
4:15 PM		4:30 PM	0	32	0	1	0	0	0	0	52
4:30 PM		4:45 PM	0	39	0	0	0	0	0	0	61
4:45 PM		5:00 PM	0	51	0	0	0	0	0	0	75
5:00 PM		5:15 PM	0	58	0	1	0	0	0	0	92
5:15 PM		5:30 PM	1	44	0	1	0	0	0	0	76
5:30 PM		5:45 PM	0	52	0	1	0	0	0	0	94
5:45 PM		6:00 PM	0	19	0	0	0	0	0	0	38
542											

HOURLY TOTALS:

FROM:	TIME PERIOD	TO:	NORTHBOUND		EASTBOUND		SOUTHBOUND		WESTBOUND		TOTAL VOLUMES
			L	T	L	T	L	T	L	T	
4:00 PM		5:00 PM	0	150	0	3	0	1	0	0	242
4:15 PM		5:15 PM	0	180	0	2	0	0	0	0	280
4:30 PM		5:30 PM	1	192	0	2	0	1	0	0	304
4:45 PM		5:45 PM	1	205	0	3	0	1	0	0	337
5:00 PM		6:00 PM	1	173	0	3	0	1	0	0	300

NOTE PHF IS BASED ON 15 MIN. PEAK WITHIN THE PEAK HOUR.

Trip Generation Reports

Multifamily Housing (Mid-Rise)

Not Close to Rail Transit (221)

Vehicle Trip Ends vs:

Dwelling Units

On a:

Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location:

General Urban/Suburban

Number of Studies:

30

Avg. Num. of Dwelling Units:

173

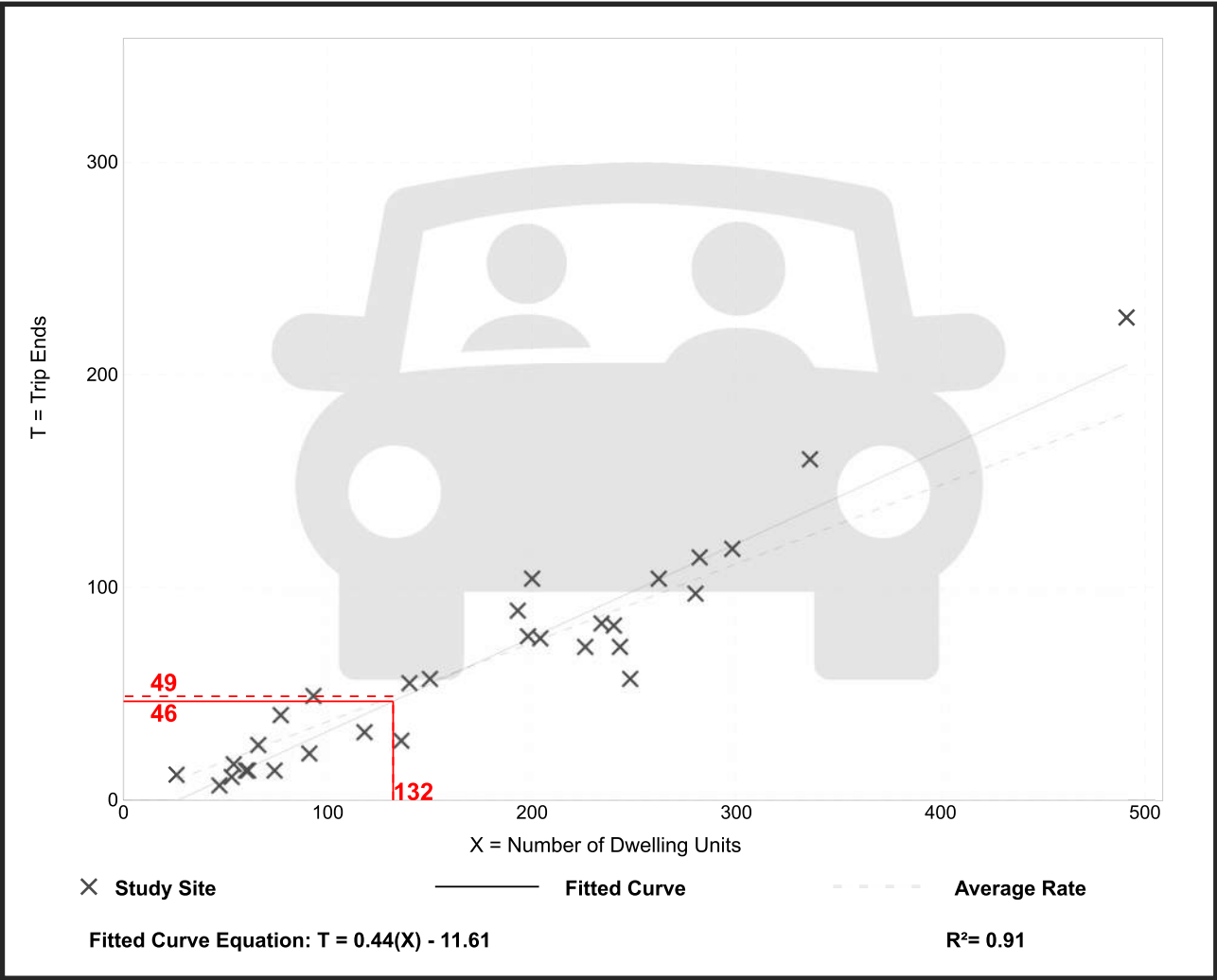
Directional Distribution:

23% entering, 77% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.37	0.15 - 0.53	0.09

Data Plot and Equation



Multifamily Housing (Mid-Rise) Not Close to Rail Transit (221)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

**Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.**

Setting/Location: General Urban/Suburban

Number of Studies: 31

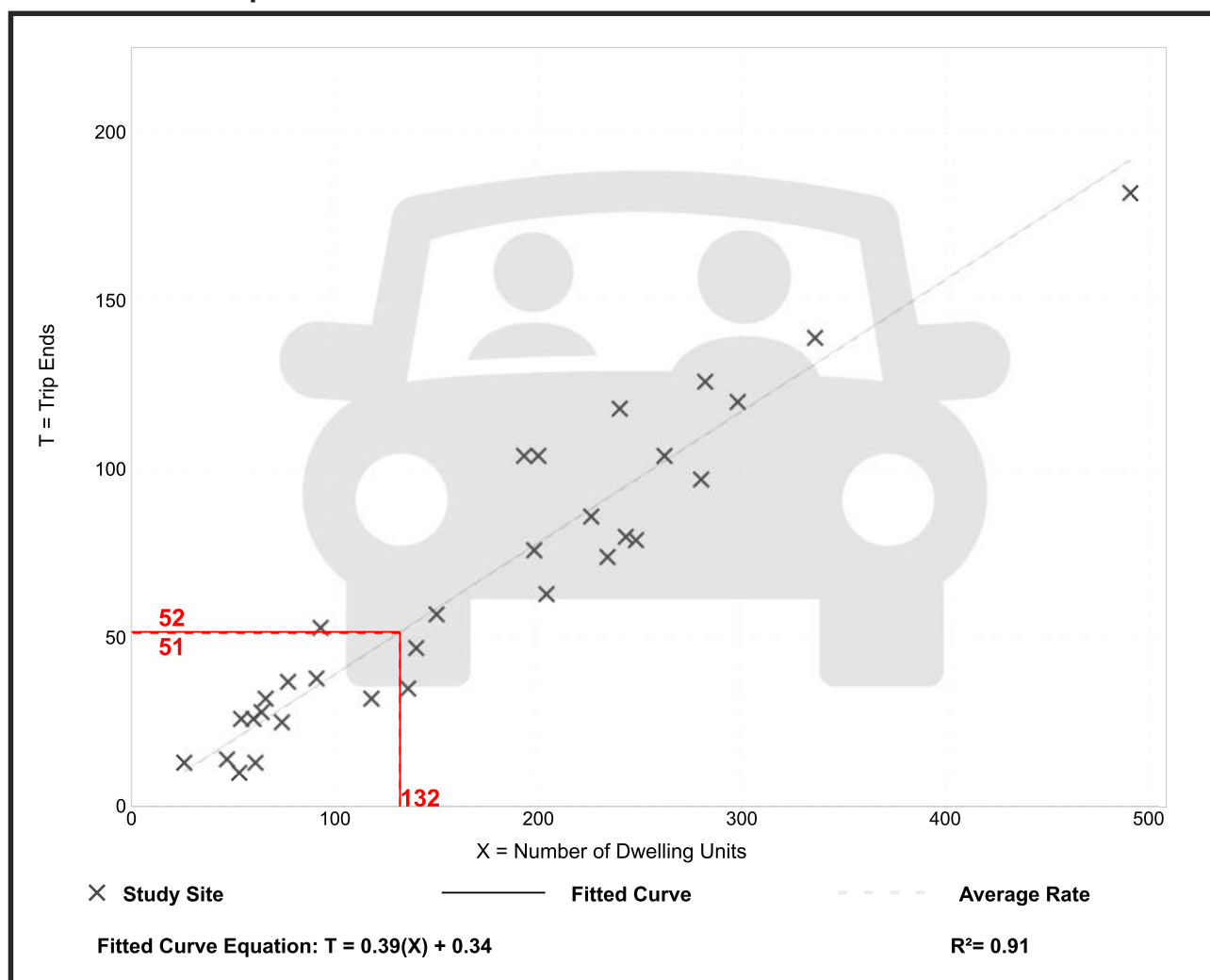
Avg. Num. of Dwelling Units: 169

Directional Distribution: 61% entering, 39% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.39	0.19 - 0.57	0.08

Data Plot and Equation



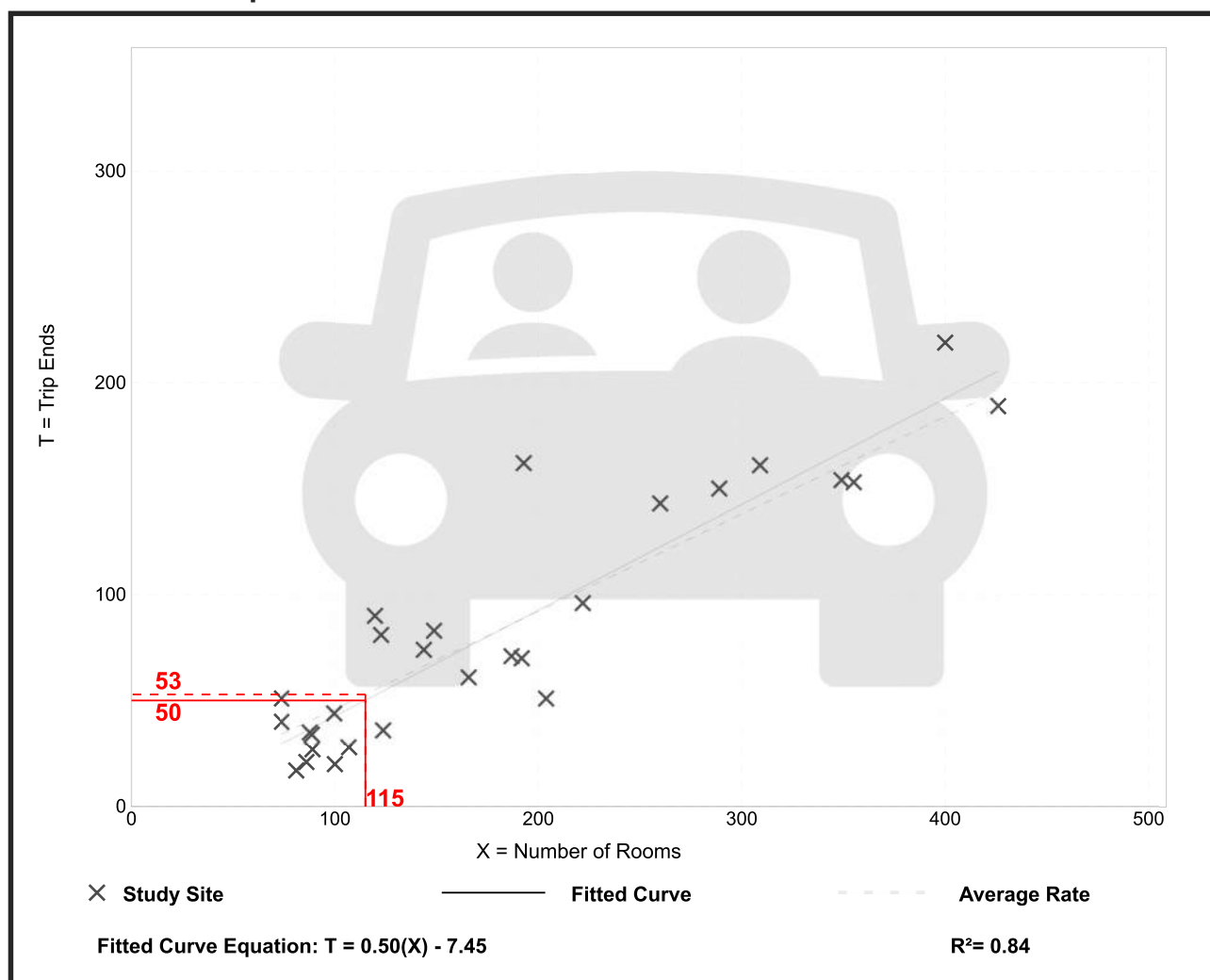
Hotel (310)

Vehicle Trip Ends vs: Rooms
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 28
 Avg. Num. of Rooms: 182
 Directional Distribution: 56% entering, 44% exiting

Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.46	0.20 - 0.84	0.14

Data Plot and Equation



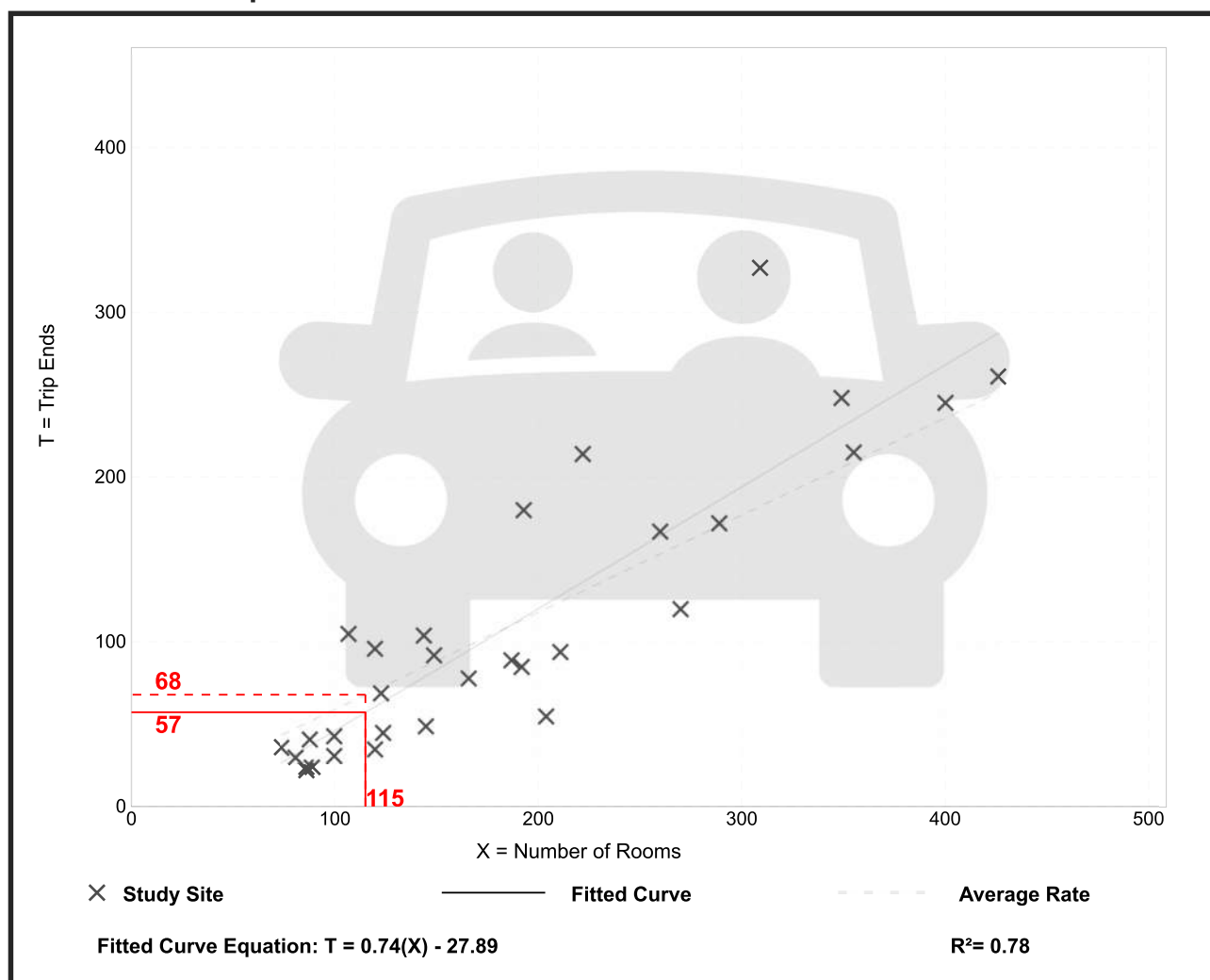
Hotel (310)

Vehicle Trip Ends vs: Rooms
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 31
 Avg. Num. of Rooms: 186
 Directional Distribution: 51% entering, 49% exiting

Vehicle Trip Generation per Room

Average Rate	Range of Rates	Standard Deviation
0.59	0.26 - 1.06	0.22

Data Plot and Equation



General Office Building (710)

Vehicle Trip Ends vs:

1000 Sq. Ft. GFA

On a:

Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Setting/Location:

General Urban/Suburban

Number of Studies:

221

Avg. 1000 Sq. Ft. GFA:

201

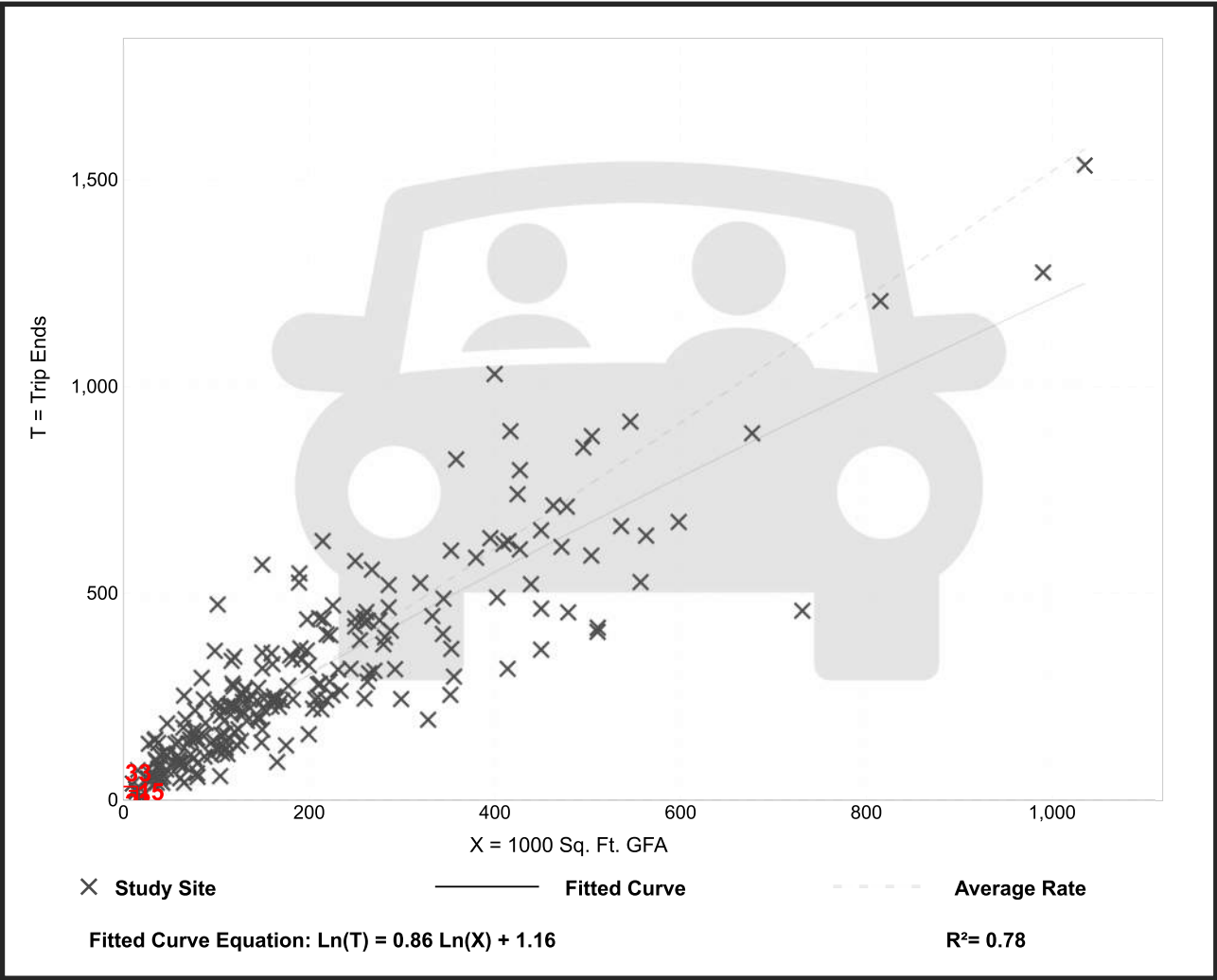
Directional Distribution:

88% entering, 12% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.52	0.32 - 4.93	0.58

Data Plot and Equation



General Office Building (710)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA

On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 232

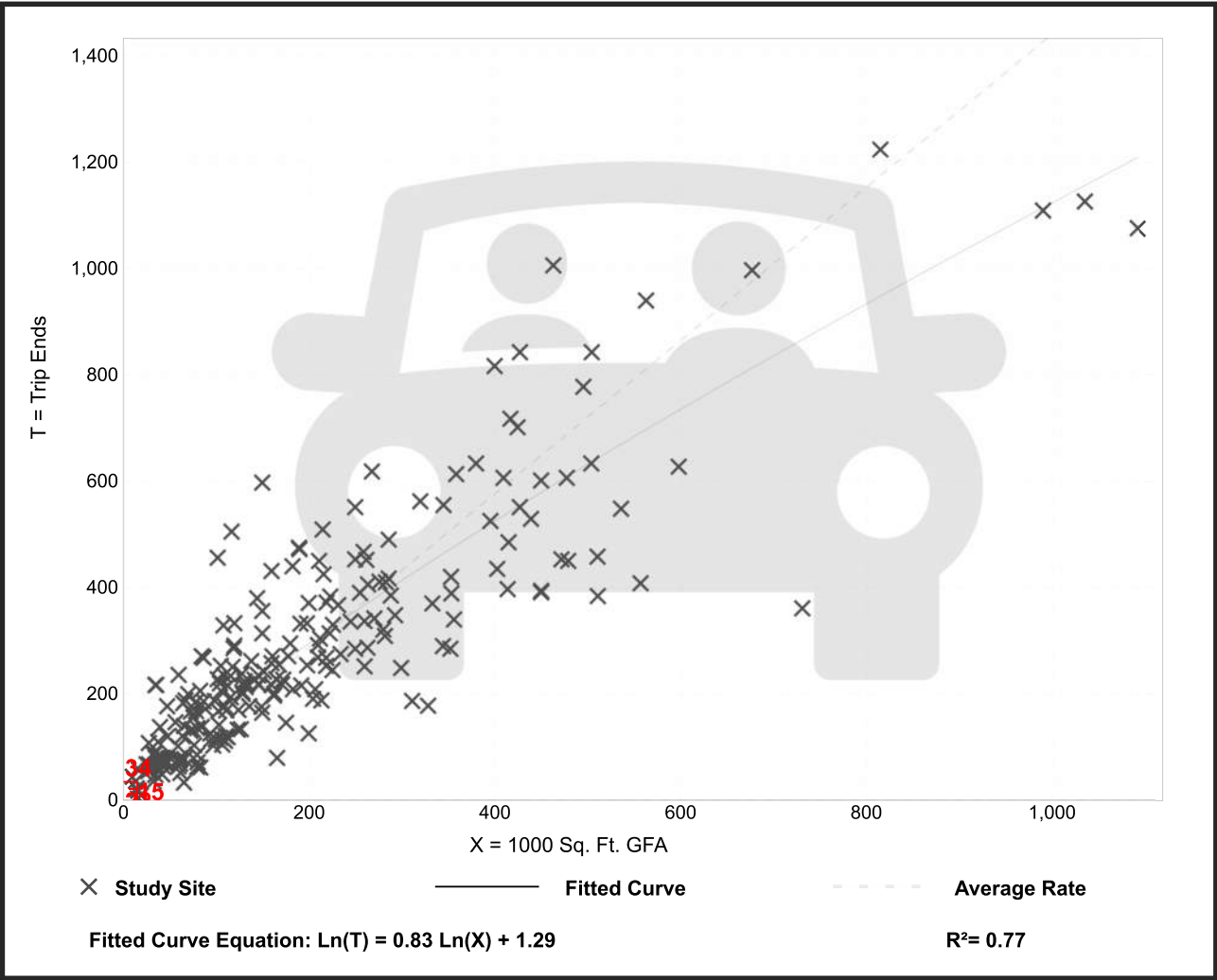
Avg. 1000 Sq. Ft. GFA: 199

Directional Distribution: 17% entering, 83% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.44	0.26 - 6.20	0.60

Data Plot and Equation



Small Office Building (712)

Vehicle Trip Ends vs:

1000 Sq. Ft. GFA

On a:

Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Setting/Location:

General Urban/Suburban

Number of Studies:

21

Avg. 1000 Sq. Ft. GFA:

3

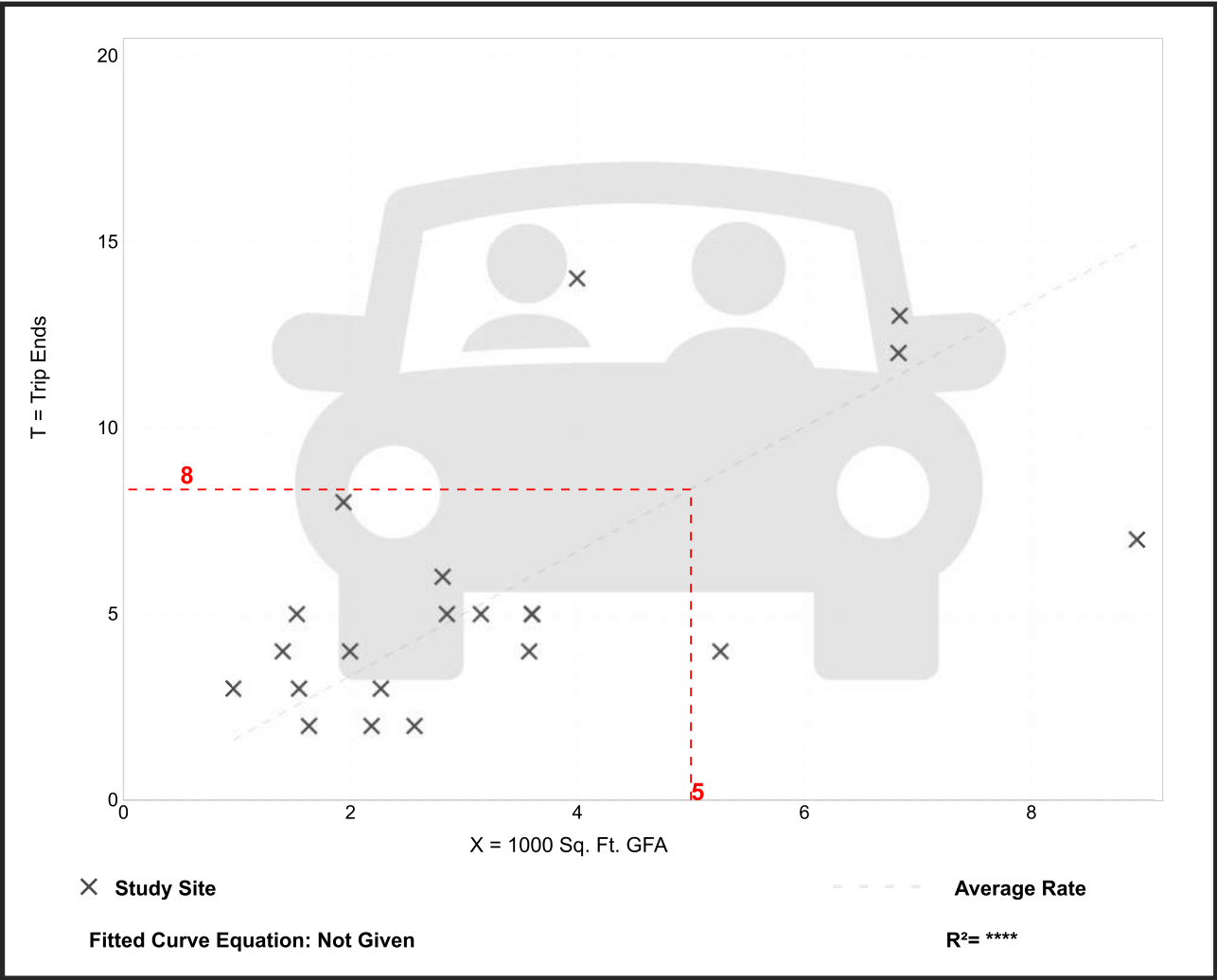
Directional Distribution:

82% entering, 18% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.67	0.76 - 4.12	0.88

Data Plot and Equation



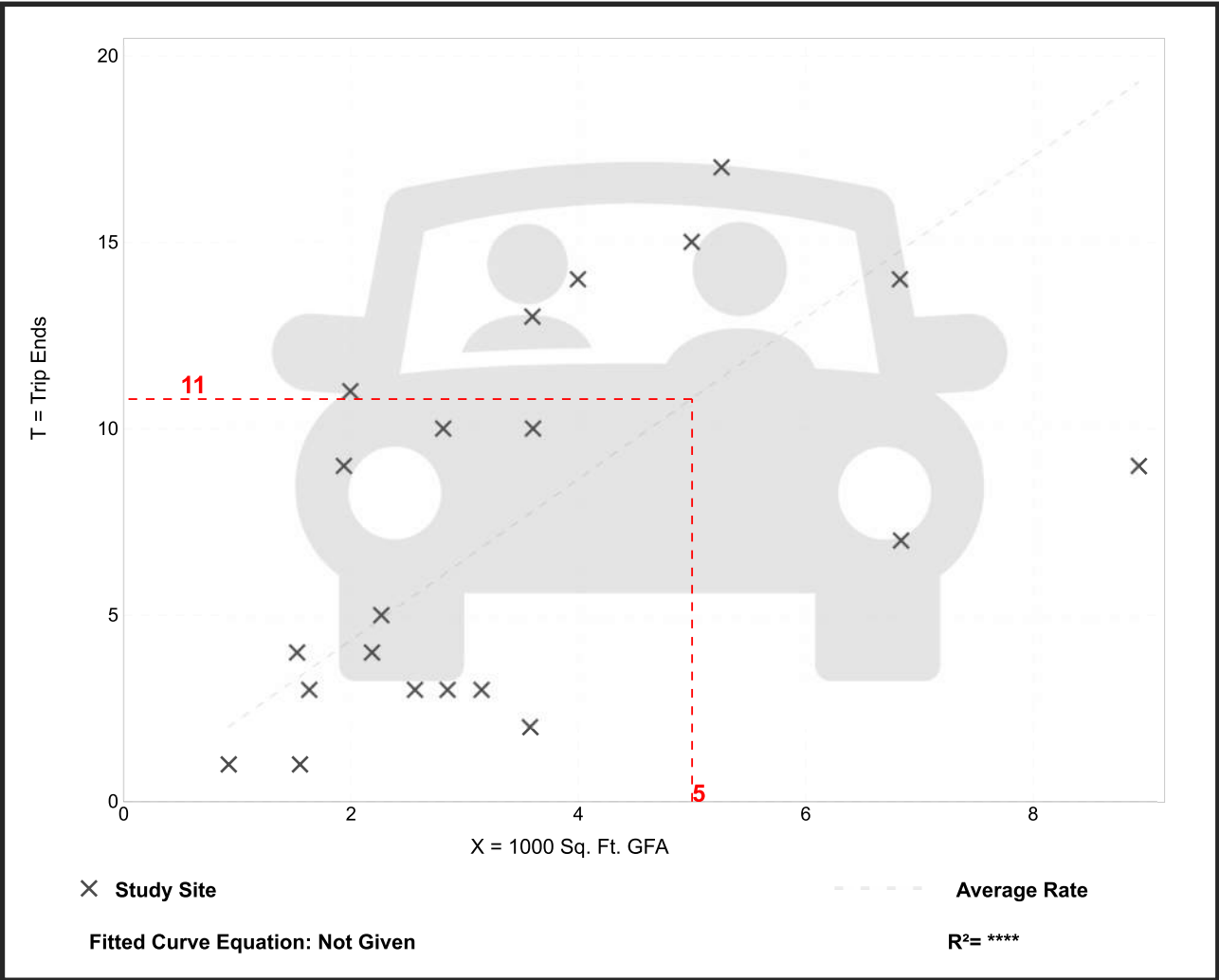
Small Office Building (712)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 21
Avg. 1000 Sq. Ft. GFA: 3
Directional Distribution: 34% entering, 66% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
2.16	0.56 - 5.50	1.26

Data Plot and Equation



Traffic Analysis Reports

2023 Existing Traffic Analysis

Intersection												
Int Delay, s/veh	6.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	110	1126	43	7	1057	13	11	0	9	2	3	186
Future Vol, veh/h	110	1126	43	7	1057	13	11	0	9	2	3	186
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	100	-	-	100	-	100	100	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	120	1224	47	8	1149	14	12	0	10	2	3	202
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1163	0	0	1271	0	0	2080	2667	636	2017	2676	575
Stage 1	-	-	-	-	-	-	1488	1488	-	1165	1165	-
Stage 2	-	-	-	-	-	-	592	1179	-	852	1511	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
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	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	596	-	-	542	-	-	31	22	421	34	22	461
Stage 1	-	-	-	-	-	-	130	186	-	206	267	-
Stage 2	-	-	-	-	-	-	460	262	-	321	181	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	596	-	-	542	-	-	12	17	421	28	17	461
Mov Cap-2 Maneuver	-	-	-	-	-	-	12	17	-	28	17	-
Stage 1	-	-	-	-	-	-	104	149	-	165	263	-
Stage 2	-	-	-	-	-	-	251	258	-	250	145	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.1			0.1			\$ 375.2			34.3		
HCM LOS							F			D		
Minor Lane/Major Mvmt	NBLn1 NBLn2		EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2		
Capacity (veh/h)	12	421	596	-	-	542	-	-	28	326		
HCM Lane V/C Ratio	0.996	0.023	0.201	-	-	0.014	-	-	0.078	0.63		
HCM Control Delay (s)	\$ 670.9	13.8	12.6	-	-	11.7	-	-	144.1	33.1		
HCM Lane LOS	F	B	B	-	-	B	-	-	F	D		
HCM 95th %tile Q(veh)	2.1	0.1	0.7	-	-	0	-	-	0.2	4		
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s				+: Computation Not Defined				*: All major volume in platoon		

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	113	220	0
Future Vol, veh/h	0	0	0	113	220	0
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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	123	239	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	362	239	239	0	-	0
Stage 1	239	-	-	-	-	-
Stage 2	123	-	-	-	-	-
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	637	800	1328	-	-	-
Stage 1	801	-	-	-	-	-
Stage 2	902	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	637	800	1328	-	-	-
Mov Cap-2 Maneuver	674	-	-	-	-	-
Stage 1	801	-	-	-	-	-
Stage 2	902	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1328	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	5	5	100	229	5
Future Vol, veh/h	3	5	5	100	229	5
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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	5	5	109	249	5
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	371	252	254	0	-	0
Stage 1	252	-	-	-	-	-
Stage 2	119	-	-	-	-	-
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	630	787	1311	-	-	-
Stage 1	790	-	-	-	-	-
Stage 2	906	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	627	787	1311	-	-	-
Mov Cap-2 Maneuver	665	-	-	-	-	-
Stage 1	787	-	-	-	-	-
Stage 2	906	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	10	0.4		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1311	-	736	-	-	
HCM Lane V/C Ratio	0.004	-	0.012	-	-	
HCM Control Delay (s)	7.8	-	10	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

Intersection						
Int Delay, s/veh	1.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱		↱	↑↑	↱	↱
Traffic Vol, veh/h	934	211	33	306	76	20
Future Vol, veh/h	934	211	33	306	76	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1015	229	36	333	83	22
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1244	0	1369	622
Stage 1	-	-	-	-	1130	-
Stage 2	-	-	-	-	239	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	555	-	138	430
Stage 1	-	-	-	-	270	-
Stage 2	-	-	-	-	778	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	555	-	129	430
Mov Cap-2 Maneuver	-	-	-	-	222	-
Stage 1	-	-	-	-	270	-
Stage 2	-	-	-	-	727	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.2		27	
HCM LOS					D	
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	222	430	-	-	555	-
HCM Lane V/C Ratio	0.372	0.051	-	-	0.065	-
HCM Control Delay (s)	30.5	13.8	-	-	11.9	-
HCM Lane LOS	D	B	-	-	B	-
HCM 95th %tile Q(veh)	1.6	0.2	-	-	0.2	-

Intersection												
Int Delay, s/veh	11.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	157	1709	89	19	1506	15	2	0	30	5	1	121
Future Vol, veh/h	157	1709	89	19	1506	15	2	0	30	5	1	121
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	100	-	-	100	-	100	100	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	171	1858	97	21	1637	16	2	0	33	5	1	132
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1653	0	0	1955	0	0	3110	3944	978	2950	3976	819
Stage 1	-	-	-	-	-	-	2249	2249	-	1679	1679	-
Stage 2	-	-	-	-	-	-	861	1695	-	1271	2297	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
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	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	386	-	-	295	-	-	5	3	250	6	3	319
Stage 1	-	-	-	-	-	-	43	77	-	99	150	-
Stage 2	-	-	-	-	-	-	317	147	-	178	73	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	386	-	-	295	-	-	~ 1	2	250	~ 3	2	319
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 1	2	-	~ 3	2	-
Stage 1	-	-	-	-	-	-	24	43	-	55	139	-
Stage 2	-	-	-	-	-	-	172	137	-	86	41	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.7			0.2			\$ 380.4			215.7		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1 NBLn2		EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2		
Capacity (veh/h)	1 250		386	-	-	295	-	-	3	139		
HCM Lane V/C Ratio	2.174 0.13		0.442	-	-	0.07	-	-	1.812	0.954		
HCM Control Delay (s)	\$ 5764.3		21.5	21.5	-	-	18.1	-	\$ 2393.4	126.5		
HCM Lane LOS	F C		C	-	-	C	-	-	F	F		
HCM 95th %tile Q(veh)	1 0.4		2.2	-	-	0.2	-	-	1.6	6.7		
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s				+: Computation Not Defined				*: All major volume in platoon		

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	172	125	0
Future Vol, veh/h	0	0	0	172	125	0
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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	187	136	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	323	136	136	0	-	0
Stage 1	136	-	-	-	-	-
Stage 2	187	-	-	-	-	-
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	671	913	1448	-	-	-
Stage 1	890	-	-	-	-	-
Stage 2	845	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	671	913	1448	-	-	-
Mov Cap-2 Maneuver	701	-	-	-	-	-
Stage 1	890	-	-	-	-	-
Stage 2	845	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1448	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	1	1	205	126	1
Future Vol, veh/h	3	1	1	205	126	1
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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	1	1	223	137	1
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	363	138	138	0	-	0
Stage 1	138	-	-	-	-	-
Stage 2	225	-	-	-	-	-
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	636	910	1446	-	-	-
Stage 1	889	-	-	-	-	-
Stage 2	812	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	635	910	1446	-	-	-
Mov Cap-2 Maneuver	675	-	-	-	-	-
Stage 1	888	-	-	-	-	-
Stage 2	812	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	10	0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1446	-	722	-	-	
HCM Lane V/C Ratio	0.001	-	0.006	-	-	
HCM Control Delay (s)	7.5	-	10	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

Intersection						
Int Delay, s/veh	2.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↘
Traffic Vol, veh/h	453	114	23	600	146	71
Future Vol, veh/h	453	114	23	600	146	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	492	124	25	652	159	77
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	616	0	930	308
Stage 1	-	-	-	-	554	-
Stage 2	-	-	-	-	376	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	960	-	266	688
Stage 1	-	-	-	-	539	-
Stage 2	-	-	-	-	664	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	960	-	259	688
Mov Cap-2 Maneuver	-	-	-	-	385	-
Stage 1	-	-	-	-	539	-
Stage 2	-	-	-	-	647	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.3		17.6	
HCM LOS	C					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	385	688	-	-	960	-
HCM Lane V/C Ratio	0.412	0.112	-	-	0.026	-
HCM Control Delay (s)	20.8	10.9	-	-	8.8	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	2	0.4	-	-	0.1	-

2025 Opening Year Traffic Analysis

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	114	1171	45	8	1100	14	12	0	10	3	4	194
Future Vol, veh/h	114	1171	45	8	1100	14	12	0	10	3	4	194
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	100	-	-	100	-	100	100	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	124	1273	49	9	1196	15	13	0	11	3	4	211
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1211	0	0	1322	0	0	2164	2775	661	2099	2784	598
Stage 1	-	-	-	-	-	-	1546	1546	-	1214	1214	-
Stage 2	-	-	-	-	-	-	618	1229	-	885	1570	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
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	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	572	-	-	519	-	-	26	19	405	30	19	445
Stage 1	-	-	-	-	-	-	120	174	-	193	253	-
Stage 2	-	-	-	-	-	-	443	248	-	306	170	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	572	-	-	519	-	-	~ 9	15	405	24	15	445
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 9	15	-	24	15	-
Stage 1	-	-	-	-	-	-	94	136	-	151	249	-
Stage 2	-	-	-	-	-	-	225	244	-	233	133	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.1			0.1			\$ 566.4			51.4		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1 NBLn2		EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2		
Capacity (veh/h)	9 405		572	-	-	519	-	-	24	282		
HCM Lane V/C Ratio	1.449 0.027		0.217	-	-	0.017	-	-	0.136	0.763		
HCM Control Delay (s)	\$ 1026.7 14.1		13	-	-	12.1	-	-	177.3	49.5		
HCM Lane LOS	F B		B	-	-	B	-	-	F	E		
HCM 95th %tile Q(veh)	2.5 0.1		0.8	-	-	0.1	-	-	0.4	5.7		
Notes												
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon												

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	118	229	0
Future Vol, veh/h	0	0	0	118	229	0
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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	128	249	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	377	249	249	0	-	0
Stage 1	249	-	-	-	-	-
Stage 2	128	-	-	-	-	-
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	625	790	1317	-	-	-
Stage 1	792	-	-	-	-	-
Stage 2	898	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	625	790	1317	-	-	-
Mov Cap-2 Maneuver	665	-	-	-	-	-
Stage 1	792	-	-	-	-	-
Stage 2	898	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1317	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	6	6	104	238	6
Future Vol, veh/h	4	6	6	104	238	6
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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	7	7	113	259	7

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	390	263	266	0	-	0
Stage 1	263	-	-	-	-	-
Stage 2	127	-	-	-	-	-
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	614	776	1298	-	-	-
Stage 1	781	-	-	-	-	-
Stage 2	899	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	611	776	1298	-	-	-
Mov Cap-2 Maneuver	654	-	-	-	-	-
Stage 1	777	-	-	-	-	-
Stage 2	899	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.1	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1298	-	722	-	-
HCM Lane V/C Ratio	0.005	-	0.015	-	-
HCM Control Delay (s)	7.8	-	10.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection						
Int Delay, s/veh	2.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱		↱	↑↑	↱	↱
Traffic Vol, veh/h	991	224	34	318	79	21
Future Vol, veh/h	991	224	34	318	79	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	-	-	100	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1077	243	37	346	86	23
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1320	0	1446	660
Stage 1	-	-	-	-	1199	-
Stage 2	-	-	-	-	247	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	519	-	122	406
Stage 1	-	-	-	-	248	-
Stage 2	-	-	-	-	771	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	519	-	113	406
Mov Cap-2 Maneuver	-	-	-	-	204	-
Stage 1	-	-	-	-	248	-
Stage 2	-	-	-	-	716	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.2		30.6	
HCM LOS	D					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	204	406	-	-	519	-
HCM Lane V/C Ratio	0.421	0.056	-	-	0.071	-
HCM Control Delay (s)	34.9	14.4	-	-	12.5	-
HCM Lane LOS	D	B	-	-	B	-
HCM 95th %tile Q(veh)	1.9	0.2	-	-	0.2	-

Intersection												
Int Delay, s/veh	35.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	163	1778	93	20	1567	16	3	0	31	6	2	126
Future Vol, veh/h	163	1778	93	20	1567	16	3	0	31	6	2	126
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	100	-	-	100	-	100	100	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	177	1933	101	22	1703	17	3	0	34	7	2	137

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1720	0	0	2034	0	0	3235	4102	1017	3068	4135	852
Stage 1	-	-	-	-	-	-	2338	2338	-	1747	1747	-
Stage 2	-	-	-	-	-	-	897	1764	-	1321	2388	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
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	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	364	-	-	274	-	-	4	2	235	~ 5	~ 2	303
Stage 1	-	-	-	-	-	-	37	69	-	89	138	-
Stage 2	-	-	-	-	-	-	301	136	-	165	65	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	364	-	-	274	-	-	-	1	235	~ 3	~ 1	303
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	1	-	~ 3	~ 1	-
Stage 1	-	-	-	-	-	-	19	35	-	46	127	-
Stage 2	-	-	-	-	-	-	149	125	-	73	33	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	0.2		\$ 976.5
HCM LOS			-	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	235	364	-	-	274	-	-	3	53
HCM Lane V/C Ratio	-	0.143	0.487	-	-	0.079	-	-	2.174	2.625
HCM Control Delay (s)	-	22.9	23.9	-	-	19.3	-	-	\$ 2584.3	\$ 901.1
HCM Lane LOS	-	C	C	-	-	C	-	-	F	F
HCM 95th %tile Q(veh)	-	0.5	2.6	-	-	0.3	-	-	1.8	14.4

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	179	130	0
Future Vol, veh/h	0	0	0	179	130	0
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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	195	141	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	336	141	141	0	-	0
Stage 1	141	-	-	-	-	-
Stage 2	195	-	-	-	-	-
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	659	907	1442	-	-	-
Stage 1	886	-	-	-	-	-
Stage 2	838	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	659	907	1442	-	-	-
Mov Cap-2 Maneuver	693	-	-	-	-	-
Stage 1	886	-	-	-	-	-
Stage 2	838	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1442	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	2	2	213	131	2
Future Vol, veh/h	4	2	2	213	131	2
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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	2	2	232	142	2
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	379	143	144	0	-	0
Stage 1	143	-	-	-	-	-
Stage 2	236	-	-	-	-	-
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	623	905	1438	-	-	-
Stage 1	884	-	-	-	-	-
Stage 2	803	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	622	905	1438	-	-	-
Mov Cap-2 Maneuver	665	-	-	-	-	-
Stage 1	883	-	-	-	-	-
Stage 2	803	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	10	0.1		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1438	-	729	-	-	
HCM Lane V/C Ratio	0.002	-	0.009	-	-	
HCM Control Delay (s)	7.5	-	10	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

Intersection						
Int Delay, s/veh	3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱		↱	↑↑	↱	↱
Traffic Vol, veh/h	471	119	24	624	152	74
Future Vol, veh/h	471	119	24	624	152	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	-	-	100	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	512	129	26	678	165	80
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	641	0	968	321
Stage 1	-	-	-	-	577	-
Stage 2	-	-	-	-	391	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	939	-	251	675
Stage 1	-	-	-	-	525	-
Stage 2	-	-	-	-	653	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	939	-	244	675
Mov Cap-2 Maneuver	-	-	-	-	372	-
Stage 1	-	-	-	-	525	-
Stage 2	-	-	-	-	635	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.3		18.6	
HCM LOS	C					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	372	675	-	-	939	-
HCM Lane V/C Ratio	0.444	0.119	-	-	0.028	-
HCM Control Delay (s)	22.2	11.1	-	-	8.9	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	2.2	0.4	-	-	0.1	-

2025 Opening Year with Project Traffic Analysis

Intersection												
Int Delay, s/veh	30.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	151	1171	45	8	1100	18	12	3	10	6	7	231
Future Vol, veh/h	151	1171	45	8	1100	18	12	3	10	6	7	231
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	100	-	-	100	-	100	100	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	164	1273	49	9	1196	20	13	3	11	7	8	251
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1216	0	0	1322	0	0	2246	2860	661	2180	2864	598
Stage 1	-	-	-	-	-	-	1626	1626	-	1214	1214	-
Stage 2	-	-	-	-	-	-	620	1234	-	966	1650	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
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	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	569	-	-	519	-	-	23	17	405	26	16	445
Stage 1	-	-	-	-	-	-	106	159	-	193	253	-
Stage 2	-	-	-	-	-	-	442	247	-	273	155	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	569	-	-	519	-	-	~ 4	12	405	16	11	445
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 4	12	-	16	11	-
Stage 1	-	-	-	-	-	-	75	113	-	137	249	-
Stage 2	-	-	-	-	-	-	183	243	-	184	110	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.5			0.1			\$ 1339.9			198.5		
HCM LOS							F			F		
Minor Lane/Major Mvmt	NBLn1 NBLn2		EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2		
Capacity (veh/h)	4 47		569	-	-	519	-	-	16	206		
HCM Lane V/C Ratio	3.261 0.301		0.288	-	-	0.017	-	-	0.408	1.256		
HCM Control Delay (s)	\$ 2670.4 111.7		13.9	-	-	12.1	-	-	\$ 339.7	194.9		
HCM Lane LOS	F F		B	-	-	B	-	-	F F			
HCM 95th %tile Q(veh)	2.8 1		1.2	-	-	0.1	-	-	1.1	13.7		
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s				+: Computation Not Defined				*: All major volume in platoon		

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	23	24	138	249	10
Future Vol, veh/h	10	23	24	138	249	10
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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	25	26	150	271	11
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	479	277	282	0	-	0
Stage 1	277	-	-	-	-	-
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	545	762	1280	-	-	-
Stage 1	770	-	-	-	-	-
Stage 2	832	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	534	762	1280	-	-	-
Mov Cap-2 Maneuver	603	-	-	-	-	-
Stage 1	755	-	-	-	-	-
Stage 2	832	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	10.4	1.2		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1280	-	706	-	-	
HCM Lane V/C Ratio	0.02	-	0.051	-	-	
HCM Control Delay (s)	7.9	-	10.4	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-	

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	26	26	114	248	20
Future Vol, veh/h	17	26	26	114	248	20
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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	28	28	124	270	22

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	461	281	292
Stage 1	281	-	-
Stage 2	180	-	-
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	559	758	1270
Stage 1	767	-	-
Stage 2	851	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	547	758	1270
Mov Cap-2 Maneuver	610	-	-
Stage 1	750	-	-
Stage 2	851	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.6	1.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1270	-	692	-	-
HCM Lane V/C Ratio	0.022	-	0.068	-	-
HCM Control Delay (s)	7.9	-	10.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection						
Int Delay, s/veh	2.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱		↱	↑↑	↱	↱
Traffic Vol, veh/h	991	241	41	318	95	28
Future Vol, veh/h	991	241	41	318	95	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1077	262	45	346	103	30
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1339	0	1471	670
Stage 1	-	-	-	-	1208	-
Stage 2	-	-	-	-	263	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	511	-	118	399
Stage 1	-	-	-	-	246	-
Stage 2	-	-	-	-	757	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	511	-	108	399
Mov Cap-2 Maneuver	-	-	-	-	200	-
Stage 1	-	-	-	-	246	-
Stage 2	-	-	-	-	690	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.5		34.9	
HCM LOS	D					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	200	399	-	-	511	-
HCM Lane V/C Ratio	0.516	0.076	-	-	0.087	-
HCM Control Delay (s)	40.8	14.8	-	-	12.7	-
HCM Lane LOS	E	B	-	-	B	-
HCM 95th %tile Q(veh)	2.6	0.2	-	-	0.3	-

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	204	1778	93	20	1567	20	3	4	31	10	6	169
Future Vol, veh/h	204	1778	93	20	1567	20	3	4	31	10	6	169
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	100	-	-	100	-	100	100	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	222	1933	101	22	1703	22	3	4	34	11	7	184
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1725	0	0	2034	0	0	3327	4197	1017	3160	4225	852
Stage 1	-	-	-	-	-	-	2428	2428	-	1747	1747	-
Stage 2	-	-	-	-	-	-	899	1769	-	1413	2478	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
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	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	362	-	-	274	-	-	~ 3	~ 2	235	~ 4	~ 2	303
Stage 1	-	-	-	-	-	-	33	62	-	89	138	-
Stage 2	-	-	-	-	-	-	300	135	-	145	58	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	362	-	-	274	-	-	-	~ 1	235	-	~ 1	303
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 1	-	-	~ 1	-
Stage 1	-	-	-	-	-	-	13	24	-	34	127	-
Stage 2	-	-	-	-	-	-	103	124	-	39	22	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.9			0.2								
HCM LOS							-			-		
Minor Lane/Major Mvmt	NBLn1 NBLn2		EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2		
Capacity (veh/h)	-		8	362	-	-	274	-	-	-	27	
HCM Lane V/C Ratio	-		4.755	0.613	-	-	0.079	-	-	-	7.045	
HCM Control Delay (s)	\$ 2594.9		29.5		-	-	19.3	-	-	-	\$ 3006	
HCM Lane LOS	-		F	D	-	-	C	-	-	-	F	
HCM 95th %tile Q(veh)	-		6.1	3.9	-	-	0.3	-	-	-	23.4	
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s				+: Computation Not Defined				*: All major volume in platoon		

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	27	26	201	154	11
Future Vol, veh/h	12	27	26	201	154	11
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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	29	28	218	167	12
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	447	173	179	0	-	0
Stage 1	173	-	-	-	-	-
Stage 2	274	-	-	-	-	-
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	569	871	1397	-	-	-
Stage 1	857	-	-	-	-	-
Stage 2	772	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	558	871	1397	-	-	-
Mov Cap-2 Maneuver	620	-	-	-	-	-
Stage 1	840	-	-	-	-	-
Stage 2	772	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.9	0.9		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1397	-	775	-	-	
HCM Lane V/C Ratio	0.02	-	0.055	-	-	
HCM Control Delay (s)	7.6	-	9.9	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-	

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	26	24	225	142	17
Future Vol, veh/h	20	26	24	225	142	17
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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	28	26	245	154	18
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	460	163	172	0	-	0
Stage 1	163	-	-	-	-	-
Stage 2	297	-	-	-	-	-
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	559	882	1405	-	-	-
Stage 1	866	-	-	-	-	-
Stage 2	754	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	548	882	1405	-	-	-
Mov Cap-2 Maneuver	612	-	-	-	-	-
Stage 1	850	-	-	-	-	-
Stage 2	754	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	10.2	0.7		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1405	-	740	-	-	
HCM Lane V/C Ratio	0.019	-	0.068	-	-	
HCM Control Delay (s)	7.6	-	10.2	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-	

Intersection						
Int Delay, s/veh	3.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	↑
Traffic Vol, veh/h	471	138	31	624	172	82
Future Vol, veh/h	471	138	31	624	172	82
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	512	150	34	678	187	89
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	662	0	994	331
Stage 1	-	-	-	-	587	-
Stage 2	-	-	-	-	407	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	922	-	242	665
Stage 1	-	-	-	-	519	-
Stage 2	-	-	-	-	641	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	922	-	233	665
Mov Cap-2 Maneuver	-	-	-	-	362	-
Stage 1	-	-	-	-	519	-
Stage 2	-	-	-	-	617	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	0.4	20.6			
HCM LOS	C					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	362	665	-	-	922	-
HCM Lane V/C Ratio	0.516	0.134	-	-	0.037	-
HCM Control Delay (s)	25.1	11.3	-	-	9.1	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	2.8	0.5	-	-	0.1	-

2030 Future Year Traffic Analysis

Intersection												
Int Delay, s/veh	30.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	126	1293	49	9	1214	15	13	0	11	4	5	214
Future Vol, veh/h	126	1293	49	9	1214	15	13	0	11	4	5	214
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	100	-	-	100	-	100	100	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	137	1405	53	10	1320	16	14	0	12	4	5	233

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1336	0	0	1458	0	0	2389	3062	729	2317	3072	660
Stage 1	-	-	-	-	-	-	1706	1706	-	1340	1340	-
Stage 2	-	-	-	-	-	-	683	1356	-	977	1732	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
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	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	512	-	-	460	-	-	18	12	365	20	12	406
Stage 1	-	-	-	-	-	-	95	145	-	161	220	-
Stage 2	-	-	-	-	-	-	405	216	-	269	141	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	512	-	-	460	-	-	~ 3	9	365	15	9	406
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 3	9	-	15	9	-
Stage 1	-	-	-	-	-	-	70	106	-	118	215	-
Stage 2	-	-	-	-	-	-	165	211	-	191	103	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0.1	\$ 2086.9	170.9
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	3	365	512	-	-	460	-	-	15	202
HCM Lane V/C Ratio	4.71	0.033	0.267	-	-	0.021	-	-	0.29	1.178
HCM Control Delay (s)	\$ 3839.9	15.2	14.6	-	-	13	-	-	\$ 323.6	168.1
HCM Lane LOS	F	C	B	-	-	B	-	-	F	F
HCM 95th %tile Q(veh)	3.1	0.1	1.1	-	-	0.1	-	-	0.8	12

Notes												
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined							*: All major volume in platoon			

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	130	253	0
Future Vol, veh/h	0	0	0	130	253	0
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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	141	275	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	416	275	275	0	-	0
Stage 1	275	-	-	-	-	-
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	593	764	1288	-	-	-
Stage 1	771	-	-	-	-	-
Stage 2	886	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	593	764	1288	-	-	-
Mov Cap-2 Maneuver	642	-	-	-	-	-
Stage 1	771	-	-	-	-	-
Stage 2	886	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1288	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	7	7	115	263	7
Future Vol, veh/h	5	7	7	115	263	7
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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	8	8	125	286	8
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	431	290	294	0	-	0
Stage 1	290	-	-	-	-	-
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	581	749	1268	-	-	-
Stage 1	759	-	-	-	-	-
Stage 2	886	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	578	749	1268	-	-	-
Mov Cap-2 Maneuver	630	-	-	-	-	-
Stage 1	754	-	-	-	-	-
Stage 2	886	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	10.3	0.5		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1268	-	694	-	-	
HCM Lane V/C Ratio	0.006	-	0.019	-	-	
HCM Control Delay (s)	7.9	-	10.3	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.1	-	-	

Intersection								
Int Delay, s/veh	2.7							
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↱		↱	↑↑	↱	↱		
Traffic Vol, veh/h	1094	247	38	351	87	23		
Future Vol, veh/h	1094	247	38	351	87	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	-	-	100	-	100	0		
Veh in Median Storage, #	0	-	-	0	0	-		
Grade, %	0	-	-	0	0	-		
Peak Hour Factor	92	92	92	92	92	92		
Heavy Vehicles, %	2	2	2	2	2	2		
Mvmt Flow	1189	268	41	382	95	25		
Major/Minor	Major1		Major2		Minor1			
Conflicting Flow All	0	0	1457	0	1596	729		
Stage 1	-	-	-	-	1323	-		
Stage 2	-	-	-	-	273	-		
Critical Hdwy	-	-	4.14	-	6.84	6.94		
Critical Hdwy Stg 1	-	-	-	-	5.84	-		
Critical Hdwy Stg 2	-	-	-	-	5.84	-		
Follow-up Hdwy	-	-	2.22	-	3.52	3.32		
Pot Cap-1 Maneuver	-	-	460	-	97	365		
Stage 1	-	-	-	-	213	-		
Stage 2	-	-	-	-	748	-		
Platoon blocked, %	-	-		-				
Mov Cap-1 Maneuver	-	-	460	-	~ 88	365		
Mov Cap-2 Maneuver	-	-	-	-	175	-		
Stage 1	-	-	-	-	213	-		
Stage 2	-	-	-	-	681	-		
Approach	EB		WB		NB			
HCM Control Delay, s	0		1.3		40.8			
HCM LOS	E							
Minor Lane/Major Mvmt	NBLn1		NBLn2		EBT	EBR	WBL	WBT
Capacity (veh/h)	175		365		-	-	460	-
HCM Lane V/C Ratio	0.54		0.068		-	-	0.09	-
HCM Control Delay (s)	47.4		15.6		-	-	13.6	-
HCM Lane LOS	E		C		-	-	B	-
HCM 95th %tile Q(veh)	2.8		0.2		-	-	0.3	-
Notes								
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon		

Intersection												
Int Delay, s/veh	17.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	180	1963	102	22	1730	17	4	0	34	7	3	139
Future Vol, veh/h	180	1963	102	22	1730	17	4	0	34	7	3	139
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	100	-	-	100	-	100	100	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	196	2134	111	24	1880	18	4	0	37	8	3	151

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1898	0	0	2245	0	0	3572	4528	1123	3387	4565	940
Stage 1	-	-	-	-	-	-	2582	2582	-	1928	1928	-
Stage 2	-	-	-	-	-	-	990	1946	-	1459	2637	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
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	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	310	-	-	227	-	-	~ 2	1	200	~ 3	~ 1	265
Stage 1	-	-	-	-	-	-	26	51	-	68	112	-
Stage 2	-	-	-	-	-	-	264	110	-	136	48	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	310	-	-	227	-	-	0	0	200	~ 1	0	265
Mov Cap-2 Maneuver	-	-	-	-	-	-	0	0	-	~ 1	0	-
Stage 1	-	-	-	-	-	-	10	19	-	25	100	-
Stage 2	-	-	-	-	-	-	98	98	-	41	18	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.8	0.3		\$ 452.6
HCM LOS			-	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	200	310	-	-	227	-	-	1	265
HCM Lane V/C Ratio	-	0.185	0.631	-	-	0.105	-	-	7.609	0.582
HCM Control Delay (s)	-	27	34.5	-	-	22.7	-	-	\$ 8904.7	35.9
HCM Lane LOS	-	D	D	-	-	C	-	-	F	E
HCM 95th %tile Q(veh)	-	0.7	4	-	-	0.3	-	-	2.2	3.4

Notes												
~: Volume exceeds capacity			\$: Delay exceeds 300s			+: Computation Not Defined			*: All major volume in platoon			

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	198	144	0
Future Vol, veh/h	0	0	0	198	144	0
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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	215	157	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	372	157	157	0	-	0
Stage 1	157	-	-	-	-	-
Stage 2	215	-	-	-	-	-
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	629	889	1423	-	-	-
Stage 1	871	-	-	-	-	-
Stage 2	821	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	629	889	1423	-	-	-
Mov Cap-2 Maneuver	672	-	-	-	-	-
Stage 1	871	-	-	-	-	-
Stage 2	821	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1423	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	3	3	235	145	3
Future Vol, veh/h	5	3	3	235	145	3
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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	3	3	255	158	3
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	421	160	161	0	-	0
Stage 1	160	-	-	-	-	-
Stage 2	261	-	-	-	-	-
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	589	885	1418	-	-	-
Stage 1	869	-	-	-	-	-
Stage 2	783	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	588	885	1418	-	-	-
Mov Cap-2 Maneuver	641	-	-	-	-	-
Stage 1	867	-	-	-	-	-
Stage 2	783	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	10.1	0.1		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1418	-	715	-	-	
HCM Lane V/C Ratio	0.002	-	0.012	-	-	
HCM Control Delay (s)	7.5	-	10.1	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

Intersection						
Int Delay, s/veh	3.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱		↱	↑↑	↱	↱
Traffic Vol, veh/h	520	131	26	689	168	82
Future Vol, veh/h	520	131	26	689	168	82
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	565	142	28	749	183	89
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	707	0	1067	354
Stage 1	-	-	-	-	636	-
Stage 2	-	-	-	-	431	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	887	-	217	642
Stage 1	-	-	-	-	489	-
Stage 2	-	-	-	-	623	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	887	-	210	642
Mov Cap-2 Maneuver	-	-	-	-	341	-
Stage 1	-	-	-	-	489	-
Stage 2	-	-	-	-	603	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.3		22	
HCM LOS	C					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	341	642	-	-	887	-
HCM Lane V/C Ratio	0.536	0.139	-	-	0.032	-
HCM Control Delay (s)	27.1	11.5	-	-	9.2	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	3	0.5	-	-	0.1	-

2030 Future Year with Project Traffic Analysis

Intersection												
Int Delay, s/veh	44.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	163	1293	49	9	1214	19	13	3	11	7	8	251
Future Vol, veh/h	163	1293	49	9	1214	19	13	3	11	7	8	251
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	100	-	-	100	-	100	100	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	177	1405	53	10	1320	21	14	3	12	8	9	273
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1341	0	0	1458	0	0	2471	3147	729	2398	3152	660
Stage 1	-	-	-	-	-	-	1786	1786	-	1340	1340	-
Stage 2	-	-	-	-	-	-	685	1361	-	1058	1812	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
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	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	510	-	-	460	-	-	15	11	365	17	11	406
Stage 1	-	-	-	-	-	-	84	132	-	161	220	-
Stage 2	-	-	-	-	-	-	404	215	-	240	128	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	510	-	-	460	-	-	-	7	365	8	~ 7	406
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	7	-	8	~ 7	-
Stage 1	-	-	-	-	-	-	55	86	-	105	215	-
Stage 2	-	-	-	-	-	-	124	210	-	146	84	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.7			0.1						\$ 497.8		
HCM LOS							-			F		
Minor Lane/Major Mvmt	NBLn1 NBLn2		EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2		
Capacity (veh/h)	-		31	510	-	-	460	-	-	8	147	
HCM Lane V/C Ratio	-		0.491	0.347	-	-	0.021	-	-	0.951	1.915	
HCM Control Delay (s)	-		203.5	15.8	-	-	13	-	-	\$ 883	\$ 487.4	
HCM Lane LOS	-		F	C	-	-	B	-	-	F	F	
HCM 95th %tile Q(veh)	-		1.6	1.5	-	-	0.1	-	-	1.7	21.7	
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s				+: Computation Not Defined				*: All major volume in platoon		

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	23	24	150	273	10
Future Vol, veh/h	10	23	24	150	273	10
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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	25	26	163	297	11
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	518	303	308	0	-	0
Stage 1	303	-	-	-	-	-
Stage 2	215	-	-	-	-	-
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	518	737	1253	-	-	-
Stage 1	749	-	-	-	-	-
Stage 2	821	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	507	737	1253	-	-	-
Mov Cap-2 Maneuver	583	-	-	-	-	-
Stage 1	733	-	-	-	-	-
Stage 2	821	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	10.6	1.1		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1253	-	682	-	-	
HCM Lane V/C Ratio	0.021	-	0.053	-	-	
HCM Control Delay (s)	7.9	-	10.6	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-	

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	18	27	27	125	273	21
Future Vol, veh/h	18	27	27	125	273	21
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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	29	29	136	297	23
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	503	309	320	0	-	0
Stage 1	309	-	-	-	-	-
Stage 2	194	-	-	-	-	-
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	528	731	1240	-	-	-
Stage 1	745	-	-	-	-	-
Stage 2	839	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	516	731	1240	-	-	-
Mov Cap-2 Maneuver	588	-	-	-	-	-
Stage 1	728	-	-	-	-	-
Stage 2	839	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	10.8	1.4		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1240	-	666	-	-	
HCM Lane V/C Ratio	0.024	-	0.073	-	-	
HCM Control Delay (s)	8	-	10.8	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-	

Intersection						
Int Delay, s/veh	3.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱		↱	↑↑	↱	↱
Traffic Vol, veh/h	1094	264	45	351	103	30
Future Vol, veh/h	1094	264	45	351	103	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1189	287	49	382	112	33
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1476	0	1622	738
Stage 1	-	-	-	-	1333	-
Stage 2	-	-	-	-	289	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	452	-	~ 94	360
Stage 1	-	-	-	-	211	-
Stage 2	-	-	-	-	735	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	452	-	~ 84	360
Mov Cap-2 Maneuver	-	-	-	-	172	-
Stage 1	-	-	-	-	211	-
Stage 2	-	-	-	-	656	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.6		48.8	
HCM LOS	E					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	172	360	-	-	452	-
HCM Lane V/C Ratio	0.651	0.091	-	-	0.108	-
HCM Control Delay (s)	58.3	16	-	-	13.9	-
HCM Lane LOS	F	C	-	-	B	-
HCM 95th %tile Q(veh)	3.7	0.3	-	-	0.4	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection												
Int Delay, s/veh	33.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	221	1963	102	22	1730	21	4	4	34	11	7	182
Future Vol, veh/h	221	1963	102	22	1730	21	4	4	34	11	7	182
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	100	-	-	100	-	100	100	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	240	2134	111	24	1880	23	4	4	37	12	8	198
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1903	0	0	2245	0	0	3662	4621	1123	3477	4653	940
Stage 1	-	-	-	-	-	-	2670	2670	-	1928	1928	-
Stage 2	-	-	-	-	-	-	992	1951	-	1549	2725	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
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	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	309	-	-	227	-	-	~ 2	~ 1	200	~ 2	~ 1	265
Stage 1	-	-	-	-	-	-	23	46	-	68	112	-
Stage 2	-	-	-	-	-	-	264	109	-	119	43	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	309	-	-	227	-	-	0	0	200	~ 1	0	265
Mov Cap-2 Maneuver	-	-	-	-	-	-	0	0	-	~ 1	0	-
Stage 1	-	-	-	-	-	-	5	10	-	15	100	-
Stage 2	-	-	-	-	-	-	55	97	-	12	10	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	4.6			0.3						\$ 661.8		
HCM LOS							-			F		
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2		
Capacity (veh/h)	-	200	309	-	-	227	-	-	1	265		
HCM Lane V/C Ratio	-	0.207	0.777	-	-	0.105	-	-	11.957	0.775		
HCM Control Delay (s)	-	27.6	47.7	-	-	22.7	-	-	\$ 11114.7	53.4		
HCM Lane LOS	-	D	E	-	-	C	-	-	F	F		
HCM 95th %tile Q(veh)	-	0.8	6.1	-	-	0.3	-	-	2.9	5.8		
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s				+: Computation Not Defined				*: All major volume in platoon		

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	27	26	220	168	11
Future Vol, veh/h	12	27	26	220	168	11
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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	29	28	239	183	12

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	484	189	195
Stage 1	189	-	-
Stage 2	295	-	-
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	542	853	1378
Stage 1	843	-	-
Stage 2	755	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	531	853	1378
Mov Cap-2 Maneuver	601	-	-
Stage 1	826	-	-
Stage 2	755	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10	0.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1378	-	756	-	-
HCM Lane V/C Ratio	0.021	-	0.056	-	-
HCM Control Delay (s)	7.7	-	10	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	27	25	247	156	18
Future Vol, veh/h	21	27	25	247	156	18
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	-	100	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	29	27	268	170	20
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	502	180	190	0	-	0
Stage 1	180	-	-	-	-	-
Stage 2	322	-	-	-	-	-
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	529	863	1384	-	-	-
Stage 1	851	-	-	-	-	-
Stage 2	735	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	518	863	1384	-	-	-
Mov Cap-2 Maneuver	590	-	-	-	-	-
Stage 1	834	-	-	-	-	-
Stage 2	735	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	10.4	0.7		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1384	-	718	-	-	
HCM Lane V/C Ratio	0.02	-	0.073	-	-	
HCM Control Delay (s)	7.7	-	10.4	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-	

Intersection						
Int Delay, s/veh	4.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱		↱	↑↑	↱	↱
Traffic Vol, veh/h	520	150	33	689	188	90
Future Vol, veh/h	520	150	33	689	188	90
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	100	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	565	163	36	749	204	98
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	728	0	1094	364
Stage 1	-	-	-	-	647	-
Stage 2	-	-	-	-	447	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	871	-	208	633
Stage 1	-	-	-	-	483	-
Stage 2	-	-	-	-	611	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	871	- ~	199	633
Mov Cap-2 Maneuver	-	-	-	-	331	-
Stage 1	-	-	-	-	483	-
Stage 2	-	-	-	-	586	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.4		25.4	
HCM LOS	D					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	331	633	-	-	871	-
HCM Lane V/C Ratio	0.617	0.155	-	-	0.041	-
HCM Control Delay (s)	31.9	11.7	-	-	9.3	-
HCM Lane LOS	D	B	-	-	A	-
HCM 95th %tile Q(veh)	3.9	0.5	-	-	0.1	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

THE ECONOMIC IMPACT OF HOTEL DEVELOPMENT BY: ALAN SUZUKI
Presented by: Alan Suzuki, Senior Consultant – Pinnacle Advisory Group

Hotels are considered an important economic component to any community. In some cases, cities and municipalities will offer incentives in order to stimulate hotel development. These incentives can be in the form of tax breaks, favorable land leases, or assistance with financing. Prior to establishing incentives for hotel development, a city or municipality should conduct an economic impact study to estimate the economic benefits that results from the development. This assessment should evaluate the economic benefits of the initial investment both in the short term and over the long-term. The economic impact to local and regional economies from hotel development is typically separated into four categories: direct, fiscal, indirect, and induced.

Direct Impact

Direct impact includes all projected revenues that will be generated from consumers at the new hotel. This will include all rooms revenues, food and beverage revenues from restaurants and banqueting, as well as other potential revenue sources such as spa or parking. Direct impact also includes total payroll paid out to employees hired at the hotel as well as all payroll paid out to temporary construction workers who construct the hotel.

Fiscal Impact

Fiscal impact refers to all federal, state, and local taxes that will be collected from the development and operations of the new hotel. Taxes include all sales taxes collected in association with the hotel generated revenues, as well as all payroll related taxes collected from full-time hotel employees and temporary construction workers. Local governments will also collect new property taxes from the operation of the hotel. Many local governments will also collect revenues through lodging taxes.

Indirect Impact

In addition to local governments and hotel owners/employees, contractors and suppliers to a newly developed hotel will also benefit. Indirect impact includes all jobs and income generated by businesses that supply goods and services to the hotel. Examples of businesses that will indirectly benefit from the development of a hotel include suppliers of rooms related goods (housekeeping supplies, room amenities, etc), telecommunication vendors (internet, cable, etc.), utility companies, food and beverage suppliers, and other hotel related vendors.

Induced Impact

Induced impact refers to economic effects generated when employees (full-time and temporary) and suppliers re-spend their wages on local consumer purchases. For example, an employee may purchase gas for their car on their way home from work.

Calculation of Impact

Pinnacle Advisory Group has conducted several economic impact studies as a result of hotel development. In most cases, direct and fiscal impacts can be calculated with relative confidence and accuracy. A hotel pro-forma will calculate the revenues in direct impact, while full-time and temporary payroll projections can be calculated from the preparation of staffing schedules combined with knowledge of local wages.

Indirect and induced impact, on the other hand involves a certain degree of subjectivity. While expenditures of goods and services can be estimated, it is difficult to accurately calculate how much of those expenditures will be generated from contractors and suppliers from the local area. Induced impact, which results from the re-spending of wages on local consumer products, is also difficult to estimate. Several complex models have been created by various economists that recommend multipliers that can be applied to total direct impact dollars. In general, depending on several factors including the size and economic diversity of the regional economy, multipliers typically range between 1.1 to 2 of total direct impacts.

A hotel's impact to the local community is often more than just job creation and additional tax revenue. When all economic considerations are accounted for, the calculation of total direct, fiscal, indirect, and induced impact can give the public a more universal understanding of a hotel development's impact.