Community & Economic
Development Department
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ADAMS COUNTY
COLORADO

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Re-submittal Form

Case Name/ Number: Maiker Boyers Rezoning and Preliminary Development Plan / PRC2024-00017

Case Manager: Brayan Marin

Re-submitted Items:

- [X] Development Plan/ Site Plan
- [ ] Plat
- [ ] Parking/ Landscape Plan
- [ ] Engineering Documents
- [ ] Subdivision Improvements Agreement (Microsoft Word version)
- [ ] Other: _____

*** All re-submittals must have this cover sheet and a cover letter addressing review comments.**

Please note the re-submittal review period is 21 days.

The cover letter must include the following information:

- Restate each comment that requires a response
- Provide a response below the comment with a description of the revisions
- Identify any additional changes made to the original document

For County Use Only:

Date Accepted:

Staff (accepting intake):

Resubmittal Active: Engineering; Planner; Right-of-Way; Addressing; Building Safety;

Neighborhood Services; Environmental; Parks; Attorney; Finance; Plan Coordination

SOPHERSPARN ARCHITECTS LLC

APPLICANT RESPONSES TO ADAMS COUNTY – DEVELOPMENT REVIEW TEAM COMMENTS – 1ST REVIEW

Date of Comments: December 26, 2024

PROJECT NAME: Maiker Boyers Rezoning and Preliminary Development Plan
LOCATION: 7295 Washington St.
DATE OF COMMENTS: 12/26/2024
PROJECT NUMBER: PRC2024-00017
REVIEW TYPE: Rezoning and Preliminary Development Plan Application

COMMENT RESPONSES ARE PROVIDED IN BLUE

Commenting Division: Development Services, Planning **Name of Reviewer**: Brayan Marin, Senior Planner **Email**: Bmarin@adcogov.org	
PLN01	The proposed request includes 117 units with a potential density of 54.8 dwelling units per acre (DU/AC). If approved, this would be the first development of this density in the county. However, staff has several concerns regarding this level of density, which are outlined below: • Has the applicant engaged with RTD to explore potential collaboration on this project? • Have discussions been held with any small or local grocery stores to consider occupying one of the commercial spaces on the first floor, thereby reducing trips outside the site? Please provide any relevant information demonstrating how the applicant is working to secure these potential collaborations.
	Response: On 1/22/2025, Maiker emailed RTD's engineering department and received an emailed response on 1/28/2025. In effect, the RTD would "definitely be interested in working with [Maiker] on having that bus stop improved", although the current bus stop's ridership "doesn't meet the warrants for us to install and maintain a shelter at this location [ourselves]". Therefore, we believe RTD to be open to collaboration but at Maiker's expense. Potential bus stop improvements are further addressed in comment ENG06. **Maiker sees the need for a grocery option in the area and has reached out to a few local grocery options and Italian markets. While there is nothing to report at this time, we will continue ongoing efforts to find a solution—whether it be an onsite store or coordinating food deliveries. We have recently heard of Denver Housing Authority's Decatur Fresh building that has a grocery store and have reached out to DHA, as we are very interested in learning more about the structure. We believe they subsidize the grocery rent which is something Maiker could pursue.** **We do caution that in past projects, we have also had difficulty with attracting a small/local grocery store. Even small grocers require extensive logistics and loading zones that do not appear practical for this location. We are considering pursuing leads for a convenience store (which better fits the 1,622 sf space) but are hesitant as these typically offer only high-calorie**

	alternatives to meals. **(Maiker)**
PLN02	The proposed dog park under consideration for the site does not qualify as active open space. The applicant will need to provide an alternative use for the proposed area in order to meet the active open space requirement. According to the county's Land Development Code, Section 11-02-438, "Active open space" is defined as: open space that may be improved, set aside, dedicated, designated, or reserved for recreational facilities such as swimming pools, play equipment for children, ball fields, court games, picnic tables, and similar amenities. Staff recommends relocating the dog park and the proposed nature-scaped playground area. This adjustment would allocate more active space for the future residents of the area.
	Response: The applicant is not currently counting the dog park area towards the active open space requirements. In addition, the design team feels strongly this type of use is the most beneficial for future residents of the building, who are more likely a younger, single demographic with pets. The unit mix in the building is proposed as 1-2 bedrooms, targeted to working adults, not families. Given the adjacency of the space to the interstate, and the obligation to keep the billboard in this area, we strongly feel the dog park would be the best use for this area of the site, providing a usable amenity that residents will appreciate given the location, despite it not 'counting' towards open space requirements for active use. RE: Sheet L2.00 - No Change. (SSA)
PLN03	The current site plan indicates that the southern courtyard will feature a flexible open space area. Will exercise equipment be provided for residents' use on-site? Additionally, how does the applicant plan to incorporate a pickleball court into this courtyard? Please provide a revised site plan demonstrating how a pickleball court can be accommodated within the southern courtyard.
	Response: Exercise equipment will be provided at the indoor fitness area adjacent to the exterior courtyards. This equipment could be brought out to the courtyard for specific classes/events. Fixed Exercise equipment is currently not planned for the courtyard. The intent is to keep this outdoor area flexible for a variety of quieter activities such as yoga classes, lawn games, etc. **Upon additional consideration, the applicant does not feel pickleball is suitable for this courtyard due to noise concerns. This potential function has been removed from the plan notes on sheets L2.00 & A1.10. (SSA)**
PLN04	Per section 4-16-01, A photometric plan will be required to review compliance with lighting standards.
	Response: The applicant has submitted a photometric plan with this resubmittal. RE: Sheets E1.10 - E2.30 (SSA)
PLN05	The west elevation drawings show a stair leading to the northern terrace. Will this area always remain open, or will there be a gate to restrict access and keep non-residents out of the communal space? Please provide clarification.
	Response: This stair is intended for emergency egress from the South courtyard only and access will be restricted to residents only. Plan notes added to sheets A1.10 & A2.00 (SSA)
PLN06	Please include a scale bar on all maps so that staff can confirm the shown setbacks on the following pages: A 1.00 Site Plan A 1.10 Ground and Second level Plans

	A 1.20 Third and Fourth Level Plan
	Response: A graphic bar scale has been added to all sheets identified above. (SSA)
PLN07	Include a title header for all sheets of the development plans that includes the name of the project and the sheet title. Additionally, include the case number (Case No.: PRC2024-00017 on the top right corner of each sheet.
	Response: Title header including the project name and sheet title, as well as the case number, have been added to all sheets. (SSA)
PLN08	The Development plan cover sheet needs to have the following signature blocks: - Certificate of Ownership - Planning Commission Approval - Board of County Commissioners Approval: - Certificate of the clerk and recorder
	Response: The above signature blocks have been added to the cover sheet, A0.00. (SSA)
Commenting Division: Development Services, Right-of-way: **Name of Review:** Ian Cortez / Right-of-way Supervisor **Email: Icortez@adcogov.org**	
ROW1	Show the location of the reservation of easement for a concrete lined water ditch as listed in the Permitted Exceptions attached to the landowner's Special Warranty Deed. If this does not apply, please have the land surveyor coordinate with the title company to remove the exception on the submitted and updated title commitment or report.
	Response: Location call out in wrong spot. Updated ALTA provided and callout moved to correct location as shown on C1.00, C1.01, & C1.02. (R&R)
ROW2	Show the location of the right of access line ("A-line") to I-25 as defined in the Permitted Exceptions.
	Response: Location call out added on C1.00, C1.01, & C1.02. (R&R)
ROW3	Show the locations of the notes, easements and rights of way as shown on the plat of Amended Boyer Coffee Subdivision.
	Response: Callouts added on C1.00. (R&R)
ROW4	Per Item 5 of the Permitted Exceptions, there is a fence encroachment along the southwesterly property line. Please address how this will be remedied (i.e. remove or relocate fence or enter into a private fence agreement.). If the fence is CDOT's, discuss with CDOT and determine appropriate action.
	Response: Voicemail left on 1/28 with CDOT right-of-way manager requesting information on fence and access line. Coordination ongoing. Called again 2/3/25 and got their voicemail again. CDOT Denver North Residences agents have been called and voicemails left. The existing fence is proposed to be removed and a new fence installed along the southwesterly property line, callouts added on C1.00 & C1.01. (R&R)
ROW5	Provide public drainage easements for the storm water quality ponds per engineering recommendations.

	Response: Proposed easements and callouts added on C1.01 & C1.02. (R&R)
ROW6	Provide ROW dedication for street improvements at the main entrance into the site.
	Response: Proposed right-of-way and callouts added on C1.01 and C1.02. (R&R)
ROW7	Adams County Public Works has a street improvement project scheduled for E73rd Avenue. Please reach out to Long Nguyen, Project Manager (720-523-6875 or publicworks@adcogov.org), for intersection layout and street improvement plans.
	Response: Voicemail left on 1/30. Email sent requesting plans on 1/30. Coordination ongoing (R&R)
Commenting Division: Development Services, Engineering: **Name of Review:** Caio Gajdys / Civil Engineer I **Email: agajdys@adcogov.org** ***** Comments ENG1 through ENG6 must be resolved prior to scheduling the Rezoning for hearing with the Planning Commission. *****	
ENG1	Property IS in Adams County MS4 Stormwater Permit area. Proposed improvements appear to disturb more than one (1) acre of ground. A Stormwater Quality (SWQ) Permit WILL be required as long as (1) acre or more of ground is disturbed, and a State Permit COR400000 WILL be required as long as one (1) acre or more of ground is disturbed. Applicant is responsible for installation and maintenance of Erosion and Sediment Control BMPs. Builder/developer is responsible for adhering to all the regulations of Adams County Ordinance 11 regarding illicit discharge. The applicant should contact Juliana Archuleta, the County's Stormwater Program Manager, to inquire about obtaining a SWQ Permit. Ms. Archuleta can be contacted at 720-523-6869 or by email at mjarchuleta@adcogov.org.
	Response: (R&R) Noted, MS4 Permit & SWQ will be completed prior to construction.
ENG2	Applicant must submit Sediment and Erosion Control plans that have been signed and stamped by a Professional Engineer licensed in the state of Colorado. Plans must also include all BMP details. See Small Construction Site Sediment and Erosion Control Guidelines, found at https://www.adcogov.org/sites/default/files/598.pdf for more information.
	Response: (R&R) BMP Detail Sheet added as C2.03 - C2.05.
ENG3	The applicant is proposing to install over three thousand square feet (3,000-sf) of impervious area on the whole project site. As such a drainage report and drainage plans in accordance to Chapter 9 of the Adams County Development Standards and Regulations (ACDSR), are required to be completed, signed, and stamped by a Professional Engineer (P.E.) licensed in the State of Colorado and submitted to Adams County for review and final approval. See Section 9-01-11 of the ACDSR for details regarding detention. Include a grading plan with the submittal to demonstrate that historic drainage will be maintained and there will be no adverse impacts on neighboring properties. Plans must also show the locations of all Erosion and Sediment Control BMPs that will be installed.
	Response: (R&R) Erosion and Sediment Control plans provided with PDP submittal as sheets C2.00, C2.01, and C2.02. Drainage Report and Plans to be provided at a later phase.
ENG4	Underground detention is proposed. In order for the County to consider allowing detention underground, the applicant must show that detention cannot be done above ground and

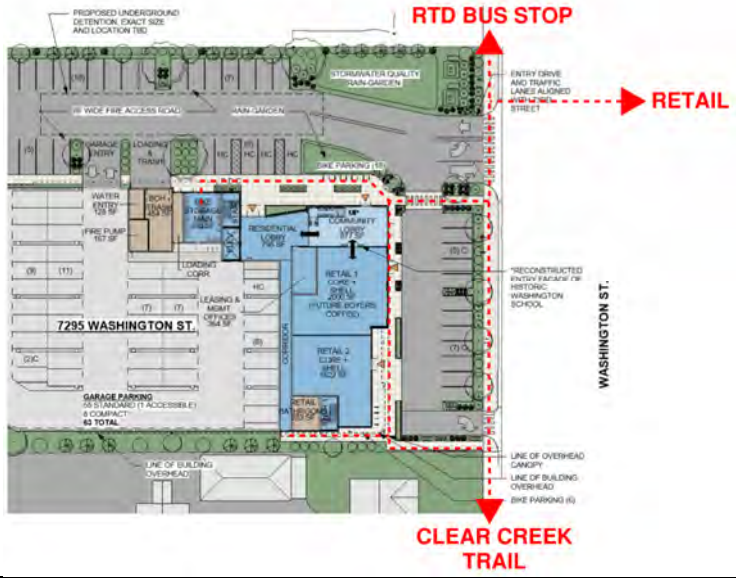
	subsequently justify their position. Water Quality, however, must all be done above ground; water quality is not allowed underground
	Response: (R&R) Water Quality is proposed above ground in rain gardens and detention is proposed below ground (shown on C1.01). There is not enough area on site for parking, so a parking reduction is being requested, and a pond would make this problem worse by taking away from the already reduced parking on site. Additionally, the historic low side of the site is the eastern portion near Washington Street. Since two entrances off of Washington St. are proposed for site circulation, the pond would not fit in these areas. Therefore, detention is proposed below grade as shown on C1.01 and C1.02.
ENG5	The development of this site appears to be generating more than twenty (20) Vehicle Trips Per Day. The applicant will be required to submit a Traffic Impact Study (TIS) and may be responsible for roadway improvements (i.e. curb, gutter and sidewalk). The level of TIS required will be determined by criteria identified in Table 8.15 within section 08-02-02 of Chapter 8 of the Adams County Development Standards and Regulations (ADCO DSR).
	Response: The applicant is submitting a Level 3 traffic study in this resubmittal. See attached Level 3 Traffic Impact Analysis Report document. (SSA)
ENG6	Applicant is requesting a reduction in required parking. To help support this request, the County would like to see the implementation of multi-modal transportation infrastructure to accommodate a reduced parking. Improvements include, but are not limited to, a bus shelter with full weather coverage, a new mast arm for east bound traffic signal, vehicle detection for traffic signal, traffic signal cameras, ADA accessible ramps at all four corners of Washington St. and E 73rd Ave., and striping improvements of said intersection including crosswalks.
	Response: Maiker understands this request and could respectfully offer to provide the new eastbound mast arm. We also considered the ADA ramps, but it appears all four corners of Washington already have this feature. We do not see vehicle detection/traffic cameras as a feasible donation for this project due to added cost, coordination, overhead, time, scheduling constraints, liability, and shrinking federal grants/expenditures and tax credit opportunities. The lead times are particularly risky for us if completion of the mast and road improvements become required prior to foundation construction. We are, of course, amenable to including the signal improvements if the County wishes to pay for and coordinate their delivery and installation. **With regards to the bus shelter, Maiker has reached out to RTD's engineering department and received an emailed response on 1/28/2025. Per RTD, they "certainly wouldn't object as along as it was installed in a manner that didn't block access to the stop". Maiker is not opposed to providing this improvement, provided we are allowed access to do so and that this will not hold up our construction schedule in any way. Please advise on whether we need permission from our neighbor or if we can do so entirely though the County. (Maiker)**
	*** Comments ENG7 through ENG11 must be resolved prior to scheduling the Rezoning for hearing with the Board of County Commissioners.***
ENG7	Prior to scheduling the BOCC hearing for PRC2024-00017, the developer is required to submit for review and receive approval of all Construction Documents (CDs), Drainage Report and Drainage Plan, and Traffic Impact Study (TIS). All CDs must meet the requirements of the Adams County Development Standards and Regulations (ADCO DSR). CDs shall include, at a minimum, onsite and public improvements construction plans. The Drainage Report and Drainage Plan must be in accordance with and meet the requirements of Chapter 9 of the ADCO DSR. The TIS must be in accordance with and meet the requirements of Chapter 8 of the ADCO DSR. The CD's, Drainage Report and Drainage Plan, and TIS must all be signed and stamped by a Professional Engineer licensed in the State of Colorado.

	Response: Noted. To be submitted as part of the FDP. (R&R)
ENG8	The applicant/developer shall submit to the Adams County Development Review Engineering division the following items: - Development Engineering Review Application - Development Engineering Review Fee - One (1) electronic copy of all Construction Documents - One (1) electronic copy of the Drainage Report and Drainage Plan - One (1) electronic copy of the Traffic Impact Study The Complete Development Engineering Review (EGR) Application can be found at the following URL: https://adcogov.org/sites/default/files/Development-Engineering-Review.pdf The Development Review fee can be found in the Community and Economic Development Department Fee Schedule, at the following URL: https://adcogov.org/sites/default/files/2022-12/final_2023%20Fee%20Schedule%20Planning_CED%20%28003%29.pdf The Engineering Checklist and Standard Details can be found within Appendix B of the ADCO DSR, at the following URL: https://adcogov.org/appendix-b-engineering-checklists-and-standard-details The Engineering Road Standards can be found within Appendix C of the ADCO DSR, at the following URL: https://adcogov.org/appendix-c-engineering-road-standards
	Response: Noted. To be submitted once those stages of the project have been completed. (R&R)
ENG9	Low Impact Development (LID) features and measures must be shown on the Construction Documents. All construction projects shall reduce drainage impacts to the maximum extent practicable, and implement practices such as: 1. On-site structural and non-structural BMPs to promote infiltration, evapo-transpiration or use of stormwater, 2. Minimization of Directly Connected Impervious Area (MDCIA), 3. Green Infrastructure (GI), 4. Preservation of natural drainage systems that result in the infiltration, evapo-transpiration or use of stormwater in order to protect water quality and aquatic habitat. 5. Use of vegetation, soils, and roots to slow and filter stormwater runoff. 6. Management of stormwater as a resource rather than a waste product by creating functional, attractive, and environmentally friendly developments. 7. Treatment of stormwater flows as close to the impervious area as possible. LID shall be designed and maintained to meet the standards of these Regulations and the Urban Drainage and Flood Control District's Urban Storm Drainage Criteria Manual, Volume 3. Fore more information regarding LID Standards and Regulations, see Section 9-01-03-14 of the ADCO DSR.
	Response: Noted. Drainage analysis to be finalized during construction documents phase. (R&R)
ENG10	Prior to the issuance of any construction or building permits, the developer shall enter into a Subdivision Improvements Agreement (SIA) with the County and provide a security bond for all public improvements.
	Response: Noted. Please email the requested SIA form and advise on any deadlines. Please contact Chuck Christian at cchristian@maikerhp.org (Maiker)

ENG11	Applicant must submit legal descriptions, exhibits, and easement documents for any proposed easements on the site. These documents must be reviewed and approved by Development Engineering and recorded at the Clerk and Recorders Office. The record number along with the book and page number must be shown on the approved site plan.
	Response: Noted. To be submitted once farther into FDP development process. (R&R)
Commenting Division: Environmental Programs **Name of Review:** Megan Grant **Email: MGrant@adcogov.org**	
ENV1	The subject parcel is located within the Adams County Mineral Conservation Overlay (MCO) district, the purpose of which is to establish reasonable and uniform limitations, safeguards, and controls for the conservation and wise utilization of natural resources and for rehabilitation of excavated land. Land within this classification is designated as containing commercial mineral deposits in sufficient size parcels and in areas where extraction and rehabilitation can be undertaken while still protecting the health, safety, and welfare of the inhabitants of the area and the County. Although this parcel is located within the MCO district, the parcel is less than 5 acres and previously developed; therefore, the MCO restrictions are not applicable in this case.
	Response: Noted (SSA)
ENV2	The subject parcel is adjacent to the Lower Clear Creek Ditch. The applicant will need to work with the ditch authority if the ditch may be impacted by the proposed project and provide this information to Adams County for review.
	Response: (R&R) **No impacts are expected to the ditch. See email below confirming requirements for site from Ditch company.**

	Trevor Smith **From:** LCC Ditch <office@lowerclearcreekditch.com> **Sent:** Thursday, January 23, 2025 2:44 PM **To:** Trevor Smith **Cc:** cchristian@maikerhp.org; Tim Stackhouse; jschneck@sopherspam.com **Subject:** Re: FW: Development Adjacent to Colorado Agriculture Ditch **Follow Up Flag:** Follow up **Flag Status:** Flagged CAUTION: *Do not click links or open attachments unless you recognize the sender and know the content is safe.* Hi Trevor, I quickly looked over the plans and it does not seem that this application will impact the ditch. However, the ditch company must retain vehicle access to the ditch infrastructure and no permanent structures including buildings or trees may be put within 20ft of the ditch bank. Please let me know if you have any questions - thank you for reaching out! Pia Gerstle Lower Clear Creek Ditch Company c. 720-556-5842 Website Note: This email is checked periodically. Board meets on the first Thursday once a month. On Thu, Jan 23, 2025 at 2:33 PM Matt Stockton <Matt.Stockton@thorntonco.gov> wrote: **From:** Trevor Smith <trevor.smith@rrengineers.com> **Sent:** Tuesday, January 21, 2025 12:30 PM **To:** Matt Stockton <Matt.Stockton@thorntonco.gov> **Cc:** Chuck Christian <cchristian@maikerhp.org>; Jacob Schneck <jschneck@sopherspam.com>; Tim Stackhouse <tstackhouse@rrengineers.com> **Subject:** (External) Development Adjacent to Colorado Agriculture Ditch Good afternoon Matt, I am a civil engineer working on a project at 7295 Washinton St., Adams County, CO 80229 which is adjacent to the Lower Clear Creek Ditch. The project will be a 117 unit apartment complex with a coffee shop and retail store on the main floor. During our 1st Preliminary Development Plan review, it was requested that we coordinate with you to gain approval of our project. **What is required to gain approval of construction on our site adjacent to the ditch ?** We are currently proposing grading to send all water away from the ditch (see attached grading plan draft) but wondered if you needed a written narrative or anything else. Thank you for your help, R&R ENGINEERS SURVEYORS Trevor Smith Assistant Project Manager 1635 W 13th Ave, Suite 310 Denver, CO 80204 O: 720.399.4108 | C: 720.985.5773 | O: 303.753.6730 trevor.smith@rrengineers.com | www.rrengineers.com *You could use some R&R!*
ENV3	The following comments apply to applicants proposing food businesses:

	Illness-causing organisms are spread easily to the public through food and beverages. To reduce the risk of food borne illnesses, Adams County Health Department (ACHD) reviews plans for new and remodeled retail food establishments for conformance with the Colorado Retail Food Establishment Rules and Regulations. The applicant shall submit plans for the proposed food establishment to 7190 Colorado Blvd., Ste. 200, Commerce City, CO 80022, along with the appropriate Plan Review Packet found at https://adamscountyhealthdepartment.org/food-license-application.
	Response: Noted, the commercial space is intended to be constructed as Core & Shell as part of this project. The coffee shop and future retail are intended to be completed as a future tenant build-out and under a separate permit. Plans will be provided to ACHD at the appropriate time under the separate building permit. (SSA)
ENV4	Plans must be approved by ACHD before the start of construction; therefore, staff recommends completion of the ACHD plans review before issuance of a building permit for the construction. The applicant may call ACHD's Plan Review at 303-288-6816 to determine requirements and schedule inspections. Instructions for opening a retail food establishment can be found at https://adamscountyhealthdepartment.org/retail-food-licensing.
	Response: Noted, see response above (SSA)
ENV5	The following comments apply to demolition and construction: Exposure to air pollution is associated with numerous health problems including asthma, lung cancer, and heart disease. Construction and traffic in unpaved areas may contribute to increased fugitive dust emissions. Adams County recommends the applicant utilize all available methods to minimize fugitive dust during all phases of construction.
	Response: Noted. (SSA)
ENV6	State air quality regulations require that precautions be taken prior to demolition of buildings to evaluate the presence of asbestos fibers that may present a health risk. If asbestos is present, actions must be taken to prevent their release into the environment. State regulations also address control of ozone depleting compounds (chlorofluorocarbons) that may be contained in air conditioning or refrigerating equipment. The applicant shall contact the Colorado Department of Public Health and Environment Air Pollution Control Division (APCD) at (303) 692-3100 for more information. Additional information is available at http://www.cdphe.state.co.us/ap/asbestos.
	Response: Noted, all state regulations will be followed. (SSA)
ENV7	Buildings constructed prior to 1978 may contain lead paint. The Environmental Protection Agency's (EPA) 2008 Lead-Based Paint Renovation, Repair, and Painting (RRP) Rule (as amended in 2010 and 2011), aims to protect the public from lead-based paint hazards associated with renovation, repair, and painting activities. These activities can create hazardous lead dust when surfaces with lead paint, even from many decades ago, are disturbed, such as during demolition activities. More information can be found at https://www.epa.gov/lead/leadrenovation-repair-and-painting-program-rules and https://www.epa.gov/lead
	Response: Noted. (SSA)
ENV8	A demolition permit is required for fire-damaged buildings to ensure proper removal of debris, utility disconnection, and compliance with safety regulations, even if the structure is completely destroyed by fire. Additionally, an inspection by a licensed engineer may be necessary to assess the structural integrity of the remaining foundation if rebuilding is planned. Proper debris removal and disposal plans must be outlined as part of the demolition permit application. Additional information is available at https://adcogov.org/building-permit-and-contractor-registration.

	Response: Noted, a demolition permit will be obtained at the appropriate stage of the project. (SSA)
ENV9	The applicant/operator shall follow all applicable hazardous materials and waste management regulations to ensure proper management of hazardous materials and waste such that they do not present a significant actual or potential hazard to public health, safety, or environment.
	Response: Noted, all applicable hazardous materials and waste management regulations will be followed. (SSA)
ENV10	The following comments apply to design and are included as recommendations to be considered: The applicant may want to consider crosswalk(s) where pedestrian access and/or sidewalk crosses internal site drive lanes coming off Washington Street, as this pedestrian crossing may not be easily visible to drivers since it is not at a street intersection. The simplest crossing design would be to post signs and provide striping on the pavement. A safer design alternative would be to provide a raised pedestrian crossing, with striping and a contrasting color, to clearly delineate the crossing. The raised crossing will provide the added benefit of slowing traffic and improving driver awareness of the crossing.
	Response: Noted, the team intends to provide striping, lighting, signage, and contrasting color to clearly delineate the crossing. Refer to drawings C1.01 & A1.00. (SSA+R&R)
ENV11	Where public transportation systems exist, direct pedestrian access should be provided to increase transit use and reduce unnecessary vehicle trips, and related vehicle emissions. The pedestrian/bicycle networks should be integrated with the existing and future transit plans for the area.
	Response: Noted, the applicant is providing pedestrian and multi-model path connections from the site to adjacent uses to encourage less vehicular traffic. (SSA) 
ENV12	The way that buildings are designed impacts health through the materials used and the amount of volatile organic compounds (VOCs) or other harmful chemicals that they contain; the air and water quality; the amount of daylight; and even by encouraging physical activity and social interaction. Adams County encourages the applicant to consider incorporating design standards into the development to ensure a health-promoting environment. The applicant could pursue building certifications such as LEED, WELL Building Standard, Certified Healthy, or Living Building Challenge.

	Response: Noted, applicant is exploring design standards to ensure a health-promoting environment. (SSA)
ENV13	Adams County encourages community designs that make it easy for people to include regular physical activity, such as walking and bicycling, in their daily routines. Because research shows that the way we design our communities can encourage regular physical activity, community plans that incorporate pedestrian and bicycle amenities that support the use of a broader pedestrian and bicycle network are strongly encouraged. Neighborhoods best encourage residents to walk and/or bicycle as part of their daily routine when they contain a system of well-designed and well-lit sidewalks and trails that connect with destinations in and adjacent to the community.
	Response: Noted, see response to ENV 11 above, the applicant is passionate about providing a healthy and supportive community for residents to safely and effectively connect with the adjacent community/ amenities. (SSA)
ENV14	Research shows that people are more likely to use pedestrian amenities when these features are attractive and feel safe. One way to improve the feeling of safety is by providing pedestrian scale lighting. Adams County encourages the use of appropriate lighting in the area and along access routes.
	Response: Noted, pedestrian scale lighting is provided as shown on the photometric plans, sheets E1.10 and E1.20. (SSA)
ENV15	Bicycle parking locations and design should allow for safe access from external roads and sidewalks and to/from buildings and internal pedestrian paths.
	Response: Noted, see response ENV 11 above. See sheets A1.00 & A1.10 for bike parking locations and connections to existing multi-model networks. (SSA)
Adams County Fire Rescue, Fire Prevention Bureau **Name of Review:** Carla Gutierrez **Email: fireprevention@acfpd.org**	
General	
1	The 2018 International Fire Code is the current fire code adopted within the city and all development must be in compliance with its requirements. The 2018 IFC can be accessed online for free by going to https://codes.iccsafe.org/public/document/IFC2018. Amendments to this code can be located by going to http://www.adcogov.org/sites/default/files/Ordinance%20No.%204_1.pdf.
	Response: Noted. (SSA)
2	Site and building design and construction shall be in accordance with the provisions of the 2018 International Fire Code (IFC) as adopted by Adams County. All construction shall be in accordance with IFC Chapter 33, *Fire Safety During Construction and Demolition*.
	Response: Noted. (SSA)
3	Please be aware that these comments are subject to change as more information is received or if there are changes to the plans during subsequent reviews.
	Response: Noted. (SSA)
Access Requirements	
4	Approved access roads must be constructed prior to any vertical construction and/or to combustible materials being delivered to the site, whichever comes first. Temporary access roads are prohibited unless specifically approved by the Fire District. Fire apparatus access must be designed and maintained to support the imposed loads of fire apparatus (i.e. 85,000 lbs), and must have a surface that provides all-weather driving capabilities. Vehicle access shall be provided to within 150 feet of temporary or permanent fire department connections. **Note only.**
	Response: Noted. (SSA)
5	Fire apparatus access roads shall be a minimum of 24' wide or 26' when a hydrant is present or the building exceeds 30' in height. **Note only: Appears to be met on the preliminary plan provided.**

	Response: Noted, a 26' wide fire apparatus access road is provided along the North side of the building, Sheet C1.01 and A1.00. (SSA)
6	Fire apparatus access roads shall be within 150' of all ground level exterior portions of the building. **Note only: Appears to be met on the preliminary plan provided.**
	Response: Noted. (SSA)
7	Any dead-end fire apparatus access road in excess of 150' shall be provided with an approved turnaround. **Note Only: A turn around is required. The reviewed preliminary plan does show an approved turn around.** ***No parking will be allowed along the turn around. Appropriate "No Parking" signage will also need to be posted throughout the site. This will need to be indicated on the engineered civil plans. An auto-turn path analysis utilizing our truck specification (attached) will also be required showing the ease of maneuverability for the turn around.***
	Response: (R&R) Noted "No Parking" signage added to C1.01 and the auto-turn path analysis has been provided to the fire department as a separate exhibit.
8	Any temporary construction or permanent security gates shall be a minimum of 24 feet and a no parking fire lane sign shall be posted on the gate. The gates shall also have a Knox key switch installed for emergency operation if automatic. **Note only.**
	Response: Noted. (SSA)
9	New and existing buildings shall have approved address numbers, building numbers, or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property. These numbers shall contrast with their background. Numbers shall be a minimum of 4 inches high with a minimum stroke width of 0.5 inch. Please be aware that the size of the number may need to be larger than 4 inches is not clearly visible from the street or road. A temporary sign must be provided if the permanent signage is not yet installed. **Note only.**
	Response: Noted. (SSA)
10	Developments of one- or two-family dwellings where the number of dwelling units exceeds 30 shall be provided with two separate and approved fire apparatus access roads. a. Exceptions: i. Where there are more than 30 dwelling units on a single public or private fire apparatus access road and all dwelling units are equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3, access from two directions shall not be required. ii. The number of dwelling units on a single fire apparatus access road shall not be increased unless fire apparatus access roads will connect with future development, as determined by the fire code official. b. Where two fire apparatus access roads are required, they shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the property or area to be served, measured in a straight line between accesses. This project does not provide two separate and approved fire apparatus access roads and therefore, an approved automatic fire sprinkler system will be required to be installed in the building. We recommend sharing this information with the water district as early as possible to begin planning the underground fire sprinkler supply line.
	Response: Noted, an approved automatic fire sprinkler system will be provided. (SSA)
Fire Protection Water Supply and Hydrants	
11	**Water mains and all required hydrants shall be installed before the delivery of combustible materials to the site**. Hydrants shall be maintained operational at all times thereafter, unless

	alternate provisions for water supply are approved by the Fire District. Any private fire service mains and fire hydrants and all fire sprinkler service lines shall be installed by a State of Colorado Licensed Fire Suppression System Contractor – Underground Contractor and meet the requirements of National Fire Protection Association Standard 24. **Note only.**
	Response: Noted. (SSA)
12	Plans for the underground fire sprinkler service line shall be submitted for review and approval to ACFR. A current list of registered contractors can be found by going to https://www.colorado.gov/dfpc/fire-suppression-system-contractors. Once installed, all underground fire sprinkler service lines must be inspected by an ACFR inspector before covering. **Note only.**
	Response: Noted. (SSA)
13	Unobstructed access to fire hydrants shall be maintained at all times. Fire department personnel shall not be deterred or hindered from gaining immediate access to fire protection equipment or fire hydrants. A 3-foot (radius) clear space shall be maintained around the circumference of fire hydrants. Within that 6-foot diameter circle and within a 6-foot-wide path leading to the 4.5-inch outlet of a hydrant, vegetation shall be no higher than 4 inches above grade. The unobstructed vertical clearance within that 6-foot circle and 6-foot approach path shall not be less than 7 feet, unless otherwise approved by the Fire District. **Note only.**
	Response: Noted. (SSA)
14	A fire hydrant shall be located within 400' (un-sprinklered building) or 600' (fully sprinkled building) of all ground level exterior portions of the building. **Fire hydrants are not shown on the reviewed preliminary plan. Fire hydrants will need to be shown on the engineered civil plans.**
	Response: (R&R) **Currently confirming with fire department if a new hydrant is required, or if the two existing hydrants within 600' of the site will suffice. Hydrants will be shown on engineered civil plans. Coordination ongoing since 1/24/25.**
15	The number and distribution of fire hydrants is based on the required fire flow. You may refer to Appendix C of the 2018 IFC for guidance.
	Response: (R&R) **Per the fire department's calculations in comment 16, 1 hydrant will suffice. Coordination is ongoing to confirm this.**
16	Fire hydrants are not shown on the reviewed preliminary plan. Fire hydrants will need to be shown on the engineered civil plans. Plans indicate the construction type for the proposed building will be of IA and the building is 135,997 square feet in size. The required fire flow for the building is 4,000 GPM @ 20 PSI. A fire flow reduction is allowed because the building will be equipped with an approved automatic fire sprinkler system. With the fire flow reduction, the required fire flow is 1,000 GPM and hydrants are to be spaced as required in code section C102.1.
	Response: (R&R) **Noted.**
Automatic Fire Sprinkler System	
17	As stated in the 2018 International Fire Code as adopted and amended by Adams County, an approved automatic fire sprinkler system is REQUIRED.
	Response: Noted. (SSA)
Other Helpful Information	
18	Please be aware that the fire code does not specify building fire rating or set-back requirements. These are located within the building code and therefore are out of our scope.

	This preliminary review does not approve anything covered under the building code. These requirements need to be verified with the County's Building and Planning Departments.
	Response: Noted. (SSA)
19	Please be aware that we are a separate entity from the County and anytime you submit to the county, you will need to submit to us separately utilizing our online portal. The link is below: https://go.citygrows.com/acfr-fire-prevention
	Response: Noted. (SSA)
20	The following reviews and permits are often needed for new development projects: a. Site Development and Water Plans i. Civil Plans ii. Utility Plans iii. Auto-turn Exhibit (use attached apparatus specifications) b. New Construction Building Plans i. Architectural c. Fire Protection System Plans i. Fire Sprinkler
	Response: Noted. (SSA)
21	Site development plans must be reviewed and approved before plans for all buildings and fire protection systems are submitted to us for review and permitting. All fees (permit and impact) shall be paid at time of permit pick-up.
	Response: Noted. (SSA)

LIST OF ADDITIONAL CHANGES MADE TO ORIGINAL SUBMISSION:

GENERAL:

1. A0.01 – Minor change to overall building area under Zoning Data & Sheet Index updated to include added sheets.

CIVIL:

1. C0.01 – Sheet index updated to include Erosion and Sediment Control Detail Sheets
2. C1.01 – Additional transformer added to site plan, as dictated by updated preliminary electrical load estimates and revisions made to internal pedestrian crossing to be high-emphasis.
3. C2.03, C2.04, & C2.05 – Sheets added to include Erosion and Sediment Control Detail Sheets

LANDSCAPE:

1. L1.00 – Proposed tree counts updated to reflect minor landscape changes in Adams County Landscape Requirements Table.
2. L2.00 – Addition site furnishing added throughout site per plan development. Proposed nature-scaped play-area West of building revised to gathering area with shade sail, picnic tables and bench due to projected target demographic. Refinements made to elevated courtyard planting and proposed uses.

ARCHITECTURAL:

1. A1.00 – Minor updates to retail core & shell interior layout, additional interior bike storage added, and bike parking numbers updated accordingly.
2. A1.10 - Minor updates to retail core & shell interior layout and additional interior bike storage added to Level 1 Plan. Refinements made to elevated courtyard planting and proposed uses on Level 2 Plan.
3. A2.00 – Additional development made to exterior building elevations specifically window layout and design.
4. A2.01 – Additional building elevations of elevated courtyards added as part of building design development.
5. A2.10 – Conceptual renderings updated to reflect development of building exterior.
6. A2.11 – Conceptual renderings updated to reflect development of building exterior.

ELECTRICAL:

1. E1.10 – E2.30 – Site Photometric and Lighting cut sheets added per PLN04 comment.

CASE NO. PRC2024-00017

MAIKER BOYERS
COVER SHEET

CONCEPTUAL RENDERING

CERTIFICATE OF OWNERSHIP
(X), BEING THE OWNER OR REPRESENTATIVE OF THE MAIKER BOYERS SITE LOCATED IN THE COUNTY OF ADAMS, STATE OF COLORADO, HEREBY SUBMITS THIS PRELIMINARY DEVELOPMENT PLAN AND REZONING SUBMITTAL AND AGREES TO PERFORM UNDER THE TERMS NOTED HEREON.

_____
(OWNER'S SIGNATURE)

THE OWNERS SIGNATURE(S) SHALL BE ACKNOWLEDGED AS FOLLOWS:

STATE)_____

COUNTY)_____

CITY)_____

THE FOREGOING OWNERSHIP CERTIFICATE WAS ACKNOWLEDGED BEFORE ME THIS ___, DAY OF _____, 20____.

NOTARY PUBLIC _____

MY COMMISION EXPIRES:_____

PLANNING COMMISION APPROVAL:
APPROVED BY THE ADAMS COUNTY PLANNING COMMISSION THIS ___, DAY OF _____, 20____.

_____
CHAIRMAN

BOARD OF COUNTY COMMISSIONERS APPROVAL:
APPROVED BY THE ADAMS COUNTY BOARD OF COMMISSIONERS THIS ___, DAY OF _____, 20____.

_____
CHAIRMAN

CERTIFICATE OF THE CLERK AND RECORDER:
THIS MAJOR PUD AMENDMENT WAS FILED FOR RECORD IN THE OFFICE OF THE ADAMS COUNTY CLERK AND RECORDER IN THE STATE OF COLORADO AT ___M. ON THE _____, DAY OF _____, 20____.

_____
COUNTY CLERK AND RECORDER

PDP & REZONING SUBMITTAL - REV. 01 - 02.07.2025

7295 WASHINGTON ST, ADAMS COUNTY, CO 80229

OWNER
MAIKER HOUSING PARTNERS
3033 W. 71ST AVE., SUITE 1000
WESTMINSTER, CO 80030

CONTACT
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CCHRISTIAN@MAIKERHP.ORG

ARCHITECT
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GENERAL CONTRACTOR
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P. 303.444.6633

CONTACT
MARTY JOHNSON
MJOHNSON@DENEUVECONSTRUCTION.COM

CONSULTANT

No.	Date

CASE NO. PRC2024-00017

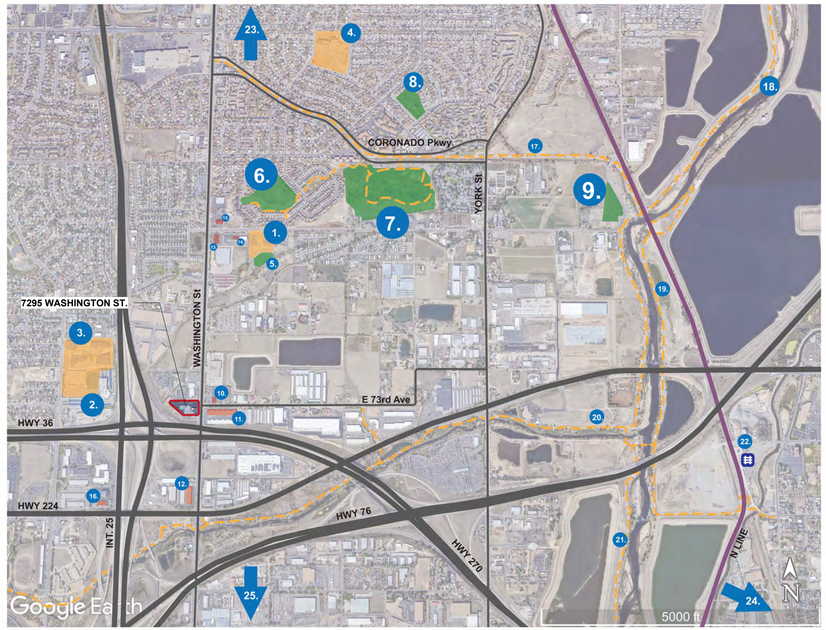
MAIKER BOYERS

PROJECT INFORMATION & SHEET INDEX

ZONING DATA

BUILDING CODE:	2018 INTERNATIONAL BUILDING CODE
IBC USE AND OCCUPANCY:	R-2 (APARTMENT UNITS) B (COFFEE SHOP) M (MERCANTILE RETAIL)
CONSTRUCTION TYPE:	(4) STORIES TYPE VA OVER (1) STORY TYPE IA
ZONING DESIGNATION:	EXISTING: I-1; **PROPOSED: PUD**
SPRINKLER SYSTEM:	NFPA 13, PER SECTION 903.3.1.2
LOT AREA: (PER SURVEY)	92,862 SQ. FT. (2.132 ACRES)
PROPOSED DWELLING UNITS:	117 DUS
DWELLING UNITS PER ACRE:	54.9 DUAC
EXISTING BUILDING COVERAGE:	30,285 SQ. FT.
PROPOSED BUILDING COVERAGE:	36,013 SQ. FT.
PROPOSED BUILDING AREA:	135,839 SQ. FT.
EXISTING BUILDING HEIGHT:	28'-0" (WASHINGTON SCHOOL BUILDING)
PROPOSED BUILDING HEIGHT:	62'-0"
NUMBER OF STORIES:	5 STORIES: (4) STORIES TYPE VA OVER (1) STORY TYPE IA
PROPOSED SETBACKS:	
FRONT (WASHINGTON ST.)	50'-0"
REAR	NOT APPLICABLE
SIDE - SOUTH	9'-9"
SIDE - NORTH	70'-4"
ROOF FIRE CLASS:	CLASS B
ROOF DESIGN WIND SPEED (V 3SEC ASD):	130 MPH
ROOF EXPOSURE CATEGORY:	C
SEISMIC DESIGN CATEGORY:	B
SNOW LOAD:	30 PSF
PARKING PROVIDED:	
TOTAL VEHICLE PARKING	148 SPACES
STANDARD	117 (79%)
COMPACT	31 (21%)
BICYCLE PARKING:	
TOTAL BICYCLE PARKING	102
LONG-TERM	70
SHORT-TERM	32

VICINITY MAP



LEGEND

SITE
7295 WASHINGTON STREET

EDUCATION
1. WELBY COMMUNITY SCHOOL - 1 MILE
2. MAPLETON PUBLIC SCHOOLS - 1.4 MILES
3. GLOBAL LEADERSHIP ACADEMY - 1.6 MILES
4. CORONADO HILLS ELEMENTARY SCHOOL - 2 MILES

RECREATION
5. WELBY LEARNING PARK - 1 MILE
6. SANDHOFER OPEN SPACE - 1 MILE
7. ROTELLA PARK - 1.6 MILES
8. CITY VIEW PARK - 1.8 MILES

AMENITIES
9. STEELE STREET PARK - 2.2 MILES
10. MR. EGG - .1 MILE
11. FARM TO TRUCK COLORADO - .2 MILES
12. PHO 15 - .4 MILES
13. RICCO'S BURRITOS - .8 MILES
14. CROSSFIT EMINENCE - .8 MILES
15. JAY'S GRILLE & BAR - .8 MILES

MULTIMODAL PATHS
*NOTES POSSIBLE FUTURE CONNECTIONS
16. ETAI'S BAKERY CAFE - .8 MILES
17. NIVER CREEK TRAIL
18. COLORADO FRONT RANGE TRAIL
19. FERNALD TRAIL
20. CLEAR CREEK TRAIL

LIGHT RAIL
21. S PLATTE RIVER TRAIL

OFF MAP
22. 72nd AVE STATION - 3.4 MILES
23. WALMART - 2 MILES
24. KING SOOPERS - 5.4 MILES

PROJECT DESCRIPTION

A 5-STORY MIXED-USE DEVELOPMENT CONTAINING GROUND LEVEL COMMERCIAL SPACE INCLUDING SPACE FOR A FUTURE BOYERS COFFEE SHOP, RESIDENTIAL LOBBY, AND COVERED PARKING, WITH PERMANENTLY AFFORDABLE HOUSING ON THE UPPER FLOORS. THE AFFORDABLE HOUSING WILL CONSIST OF APPROXIMATELY 117 PERMANENTLY AFFORDABLE 1 & 2 BEDROOM FOR RENT APARTMENT UNITS. RESIDENTIAL AMENITIES WILL INCLUDE TWO ELEVATED COURTYARDS, A FITNESS ROOM AND ROOF TOP AMENITY DECK.

PROJECT INTENT

MAIKER HOUSING PARTNERS PROPOSES TO REZONE THE SITE TO PUD ZONING AND DEVELOP THE SITE INTO A MIXED-USE DEVELOPMENT CONTAINING GROUND LEVEL COMMERCIAL SPACE FOR A FUTURE BOYERS COFFEE SHOP WITH PERMANENTLY AFFORDABLE HOUSING ON THE UPPER FLOORS. THE PROJECT WILL BE A NEW COMMUNITY HUB AND GATEWAY FOR THE WELBY NEIGHBORHOOD OF ADAMS COUNTY, IN SUPPORT OF THE GOALS AND VISION ESTABLISHED IN THE **WELBY SUBAREA PLAN**. THE PROJECT WILL CELEBRATE THE HISTORY OF THE SITE BY INCORPORATING HISTORIC ELEMENTS OF THE 1927 SCHOOLHOUSE AND CONTINUE THE RICH TRADITION OF THE BOYERS COFFEE SHOP AS A COMMUNITY HUB AND MEETING PLACE.

THE PURPOSE AND OBJECTIVE OF A PLANNED UNIT DEVELOPMENT (P.U.D.) IS TO ENCOURAGE THE DEVELOPMENT OF LAND AS A SINGLE UNIT. A P.U.D. ALLOWS GREATER FLEXIBILITY IN THE DESIGN OF A DEVELOPMENT, MORE VARIETY AND DIVERSIFICATION IN THE RELATIONSHIPS BETWEEN BUILDINGS, OPEN SPACES AND USES, AND CONSERVATION AND RETENTION OF HISTORICAL AND NATURAL TOPOGRAPHIC FEATURES WHILE MEETING THE GOALS, POLICIES AND OBJECTIVES OF THE COMPREHENSIVE PLAN.

PROJECT CHARACTER – GENERAL

THE NEW PROPOSAL WILL CREATE A VIBRANT, PERMANENTLY AFFORDABLE RESIDENTIAL OPTION FOR ADAMS COUNTY RESIDENTS. THE SITE'S VICINITY TO DOWNTOWN DENVER AND PROXIMITY TO MASS TRANSIT OPTIONS AND THE CLEAR CREEK TRAILWAY MAKE IT A PERFECT OPPORTUNITY TO BEGIN TO IMPLEMENT THE STRATEGIES IDENTIFIED IN THE **WELBY SUBAREA PLAN**. WHEN IMPLEMENTED IN 2014, THE STATED GOAL OF THE DOCUMENT WAS TO BUILD ON AND TRANSFORM THE EXISTING ASSETS, REINVEST, AND MAINTAIN A VIBRANT COMMUNITY THAT ATTRACTS INVESTMENTS FROM BOTH INSIDE AND OUTSIDE WELBY. THE NEW WELBY PROPOSAL UNDER REVIEW WILL NOT ONLY RE-ESTABLISH A WELL-LOVED COMMUNITY ASSET IN THE BOYERS COFFEE SHOP, BUT IT WILL ALSO HELP MEET ADAMS 'S COUNTY'S AFFORDABLE HOUSING GOALS, A RESIDENTIAL BUILDING MANAGED AND DELIVERED VIA MAIKER HOUSING PARTNERS.

SHEET INDEX

ABBREVIATIONS

A.F.F.	ABOVE FINISHED FLOOR	INSUL.	INSULATION
APPROX.	APPROXIMATE	INT.	INTERIOR
ARCH.	ARCHITECT	IDF	INTERMEDIATE DISTRIBUTION FRAME (ELECTRICAL)
BM.	BEAM		
B.O.	BOTTOM OF	JC	JANITOR CLOSET
BLDG	BUILDING	LAV	LAVATORY
BR	BRICK	LP	LOW POINT (ROOF)
CAB.	CABINET	MECH.	MECHANICAL
CLR.	CLEAR	MEP	MECHANICAL-ELECTRICAL-PLUMBING
CMU	CONCRETE MASONRY UNIT	MEZZ.	MEZZANINE
COL.	COLUMN	MFR.	MANUFACTURER
CONC.	CONCRETE	MIN.	MINIMUM
CONT.	CONTINUOUS	MIR.	MIRROR
CONTR.	CONTRACTOR	MTL.	METAL
CP	COMPOSITE PANEL	O/	OVER
C.W.	CURTAIN WALL	O.C.	ON CENTER
DIA.	DIAMETER	O.H.	OPPOSITE HAND
DS	DOWNSPOUT	PERF.	PERFORATED
DWGS.	DRAWINGS	PERIM.	PERIMETER
ELEC.	ELECTRICAL	PLYWD.	PLYWOOD
ELEV.	ELEVATOR	PTD.	PAINTED
EQMT.	EQUIPMENT	QTY.	QUANTITY
EXT.	EXTERIOR	RD	ROOF DRAIN
FAAP	FIRE ALARM ANNUNCIATOR PANEL	RE.	REFER
FACP	FIRE ALARM CONTROL PANEL	REINF.	REINFORCED
FD	FLOOR DRAIN	REQ'D	REQUIRED
FDC	FIRE DEPARTMENT CONNECTION	R.O.	ROUGH OPENING
FEC	FIRE EXTINGUISHER CABINET	S.F.	SQUARE FEET
FG BATT	FIBERGLASS BATT	SHT'G	SHEATHING
FTG.	FOOTING	SIM.	SIMILAR
FLR.	FLOOR	SQ.	SQUARE
FLR'G	FLOORING	STL.	STEEL
FT.	FOOT	STOR.	STORAGE
GA	GAUGE	STRUCT.	STRUCTURAL
GALV.	GALVANIZED	T&G	TONGUE AND GROOVE
GL.	GLASS	T.O.	TOP OF
GWB	GYPSUM WALL BOARD	TEMP.	TEMPERED
HORZ.	HORIZONTAL	TYP.	TYPICAL
HP	HIGH POINT (ROOF)	T.P.O.	THERMOPLASTIC POLYOLEFIN MEMBRANE
HT.	HEIGHT	U.N.O.	UNLESS NOTED OTHERWISE
HVAC	HEATING, VENTILATION, & AIR CONDITIONING	VERT.	VERTICAL
		W/	WITH
IN	INCH	WD.	WOOD
		VL	VINYL

DRAWING SYMBOLS

BUILDING SECTION REFERENCE

WALL SECTION REFERENCE

DETAIL SECTION REFERENCE

INTERIOR ELEVATION REFERENCE

EXTERIOR ELEVATION REFERENCE

VIEW NUMBER

VIEW NAME

VIEW SCALE

DETAIL CALLOUT

GRID LINE

VERTICAL ELEVATION REFERENCE

DIMENSION LINE

WINDOW TAG

CEILING HEIGHT TAG

DOOR TAG

INTERIOR PARTITION TYPE

ASSEMBLY TYPE REFERENCE

KEYNOTE REFERENCE

MATERIAL TAG

FURNITURE / PRODUCT TAG

LIGHTING FIXTURE TAG

RESTROOM FIXTURE TAG

SPECIALTY EQUIPMENT TAG

CASEWORK TAG

NOTE AND LEADER

CENTERLINE

SMOKE DETECTOR

SMOKE AND CO2 DETECTOR

STAIR RISER TAG

NORTH ARROW

REVISION CLOUD AND TAG

SCALE: 1/4" = 1'-0"

GENERAL NOTES

1. DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS AND CONDITIONS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT.
2. THIS PROJECT SHALL COMPLY WITH ALL GOVERNING REGULATIONS, ORDINANCES, OR COVENANTS OF THE AREA IN WHICH IT IS BUILT.
3. CONTRACTOR TO VERIFY CODE REQUIREMENTS FOR STAIR HANDRAILS AND GUARDS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT.
4. CONTRACTOR TO VERIFY CONFORMANCE TO CODE REQUIREMENTS FOR LOCATIONS OF TEMPERED GLASS. TEMPERED GLASS TO BE LOCATED AT THE FOLLOWING AREAS:
   - WITHIN A 24" ARC OF DOORS (OPEN OR CLOSED) OR OTHER AREAS SUBJECT TO HUMAN IMPACT.
   - USED IN DOORS.
   - SHOWER LOCATIONS.
5. PROVED FIRESTOPS AT CONCEALED VERTICAL AND HORIZONTAL SPACES AND ALL FLUES & OPENINGS AT THE TOP OF WALLS.
6. PROVIDE FIRE-RATED PENETRATION PROTECTIVES AT ASSEMBLIES WITH REQUIRED FIRE RATING.
7. ALL EXTERIOR DOORS AND DOORS LEADING TO UNHEATED AREAS TO BE WEATHERSTRIPPED
8. INSULATION: PER BUILDING ASSEMBLIES
9. ALL EXPOSED ROOF VENTS AND STACKS ARE TO BE PAINTED TO MATCH THE ADJACENT ROOF MATERIAL
10. CONTRACTOR TO OBSERVE MANUFACTURER'S INSTRUCTIONS AND PROCEDURES FOR INSTALLATION OF ALL MATERIAL & EQUIPMENT
11. PROVIDE MOISTURE RESISTANT GYP. BD. AT ALL WET WALLS. PROVIDE TILE BACKER BOARD AT SHOWER STALL WHERE WALLS ARE TO BE FINISHED WITH NON-ABSORBENT SURFACE TO MIN. HEIGHT OF 70" ABOVE DRAIN INLET

SOPHERSPARN ARCHITECTS LLC
2505 Walnut | Suite 200 | Boulder, CO 80302
303.442.4422 | www.sophersparn.com

Maiker Housing Partners

CONSULTANT

No.	Date

MAIKER BOYERS
7295 WASHINGTON ST., ADAMS COUNTY, CO 80229

PDP & REZONING SUBMITTAL 02.07.2025

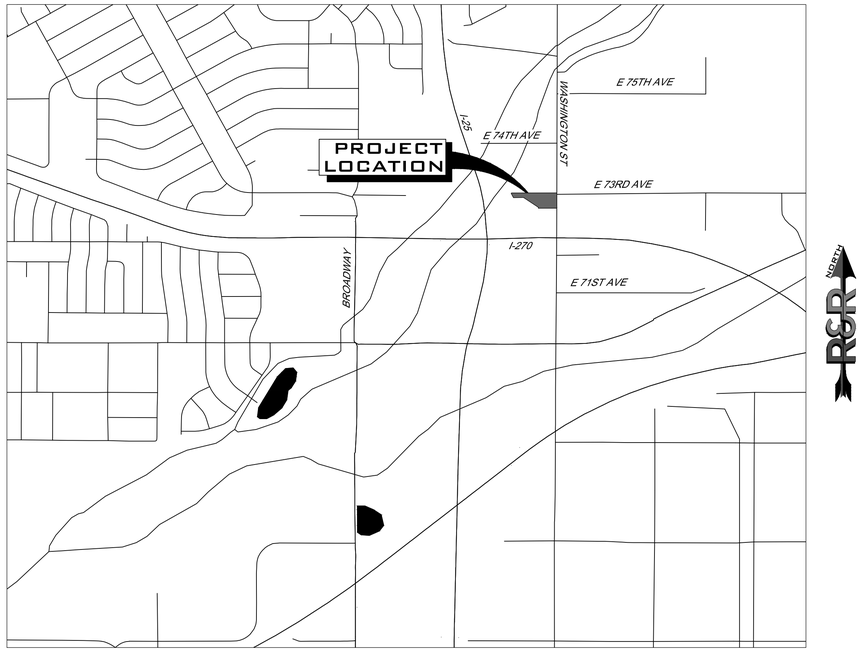
PROJECT INFORMATION & SHEET INDEX

A 0.01

CASE NO. PRC2024-00017

MAIKER BOYERS
PRELIMINARY DEVELOPMENT PLAN

LOCATED AT: 7295 WASHINGTON ST., ADAMS COUNTY, CO 80229
LOT 1, AMENDED BOYER COFFEE SUBDIVISION (7295 WASHINGTON ST, DENVER, CO)
LOCATED IN THE SE QUARTER OF SECTION 34, TOWNSHIP 2 SOUTH, RANGE 68 WEST OF THE 6TH PRINCIPAL MERIDIAN
CITY OF DENVER, COUNTY OF ADAMS, STATE OF COLORADO



VICINITY MAP
SCALE 1" = 1,000'

Sheet List Table	
Sheet Number	Sheet Title
C0.01	COVER SHEET
C0.02	GENERAL NOTES
C0.03	GENERAL NOTES
C1.00	EXISTING CONDITIONS AND DEMO PLAN
C1.01	SITE PLAN
C1.02	UTILITY PLAN
C2.00	EROSION AND SEDIMENT CONTROL PLAN - INITIAL
C2.01	EROSION AND SEDIMENT CONTROL PLAN - INTERIM
C2.02	EROSION AND SEDIMENT CONTROL PLAN - FINAL
C2.03	EROSION AND SEDIMENT CONTROL DETAILS
C2.04	EROSION AND SEDIMENT CONTROL DETAILS
C2.05	EROSION AND SEDIMENT CONTROL DETAILS

BENCHMARK:
(NAVD83 DATUM)

ORIGINATING BENCHMARK:
SET MAG NAIL IN ASPHALT AS SHOWN ON SHEET 2. USED OPUS PROCESSING FOR COORDINATE AND ELEVATION RESULT ON MARCH 9, 2023, HAVING USED 13,340 OF 14,196 OBSERVATIONS (94%) AND 68 OF 71 FIXED AMBIGUITIES (96%). (LIES APPROXIMATELY 9.2' NORTH OF WESTERLY MOST CORNER OF CONCRETE FOUNDATION.)

ELEVATION = 5149.69'

BASIS OF BEARINGS:

BEARINGS ARE BASED ON THE EAST LINE OF THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 34, TOWNSHIP 2 SOUTH, RANGE 68 WEST OF THE 6TH P.M. HAVING AN ASSUMED BEARING OF NORTH 00°04'31" WEST, SAID LINE BEING MONUMENTED AT EACH END BY A FOUND REBAR WITH 3-1/4" ALUMINUM CAP (STAMPING ILLEGIBLE) IN A RANGE BOX.

SOPHERSPARN ARCHITECTS LLC
2505 Walnut | Suite 200 | Boulder, CO 80302
303.442.4422 | www.sophersparn.com

Maiker Housing Partners

R&R ENGINEERS SURVEYORS INC

No.	Date

MAIKER BOYERS
7295 WASHINGTON ST., ADAMS COUNTY, CO 80229

PDP & REZONING SUBMITTAL 02.07.2025

COVER SHEET C0.01

CASE NO. PRC2024-00017

GENERAL CONSTRUCTION AND SURVEY NOTES

1. LOCAL JURISDICTIONAL REQUIREMENTS SHALL OVERRIDE THE SPECIFICATIONS ON THESE GENERAL NOTES PAGES IF APPLICABLE.
2. CONTRACTOR AGREES THAT THEY SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF THE WORK ON THIS PROJECT, EXCEPTING FROM LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.
3. ANY DISCREPANCY OR CONFLICT WITHIN THE DRAWINGS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. DISCREPANCIES OR CONFLICTS NOT BROUGHT TO THE ENGINEER’S ATTENTION AND CLARIFIED DURING BIDDING OF THE PROJECT WILL BE DEEMED TO HAVE BEEN BID OR PROPOSED IN THE MORE COSTLY MANNER, AND THE BETTER QUALITY OR GREATER QUANTITY OF THE WORK SHALL BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH ENGINEER’S INTERPRETATION.
4. LOCATIONS, ELEVATIONS, AND DIMENSION OF EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME THESE DRAWINGS WERE PREPARED, BUT DO NOT PURPORT TO BE ABSOLUTELY CORRECT. THE INDICATED LOCATION OF UNDERGROUND UTILITIES, STRUCTURES, AND FACILITIES IS APPROXIMATE AND REFLECTS THE BEST INFORMATION AVAILABLE FROM SURVEYS AND RECORDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT SIZE, LOCATION, DEPTH, HEIGHT, ELEVATION, DIMENSION, AND EXTENT OF ALL UNDERGROUND AND OVERHEAD FACILITIES AND OTHER FEATURES AFFECTING THEIR WORK PRIOR TO PROCEEDING WITH ANY CONSTRUCTION ACTIVITY THAT MAY AFFECT SUCH FACILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE CAUSED BY FAILURE TO COMPLY WITH THESE INSTRUCTIONS.
5. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND ALL RESPECTIVE GOVERNMENTAL OR UTILITY AGENCIES AFFECTED BY CONSTRUCTION 72 HOURS PRIOR TO STARTING CONSTRUCTION. ANY TIE-IN SHALL BE COORDINATED BY THE CONTRACTOR WITH THE PUBLIC WORKS DEPARTMENT, AT LEAST 48 HOURS IN ADVANCE.
6. THE CONTRACTOR’S SURVEYOR SHALL OBTAIN AN AUTOCAD FILE FROM ENGINEER AND VERIFY ALL HORIZONTAL DIMENSIONING PRIOR TO CONSTRUCTION STAKING. SURVEYOR MUST VERIFY ALL BENCHMARKS, BASIS OF BEARING AND DATUM INFORMATION TO ENSURE IMPROVEMENTS WILL BE AT THE SAME HORIZONTAL AND VERTICAL LOCATIONS SHOWN ON THE DESIGN CONSTRUCTION DRAWINGS. PRIOR TO CONSTRUCTION STAKING ANY DISCREPANCY MUST BE REPORTED TO THE OWNER AND ENGINEER PRIOR TO CONTINUATION OF ANY FURTHER STAKING OR CONSTRUCTION WORK. ALL BENCHMARKS OR MONUMENTS THAT NEED TO BE RELOCATED SHALL BE DONE SO BY A LICENSED SURVEYOR.
7. IT IS THE CONTRACTOR’S RESPONSIBILITY TO NOTIFY THE OWNER/DEVELOPER AND ENGINEER OF ANY PROBLEM CONFORMING TO THE APPROVED PLANS FOR ANY ELEMENT OF THE PROPOSED IMPROVEMENTS PRIOR TO CONSTRUCTION.
8. THE CONTRACTOR MUST HAVE THE APPROVED CONSTRUCTION DRAWINGS IN THEIR POSSESSION PRIOR TO THE START OF CONSTRUCTION. AT LEAST ONE (1) COPY OF THE APPROVED PLANS, WITH REVISIONS, MUST BE KEPT ON-SITE AT ALL TIMES.
9. THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS SPECIFIC AUTHORIZATION HAS BEEN GRANTED BY ADJACENT PROPERTY OR RIGHT OF WAY OWNER.
10. CONTRACTOR SHALL MAINTAIN A CLEAN AND ORDERLY JOB SITE AT ALL TIMES.
11. ALL STATIONS AND OFFSETS REFER TO THE CONSTRUCTION REFERENCE LINE, WHICH SHALL BE THE CENTERLINE OF THE ROADWAY, UNLESS OTHERWISE NOTED.
12. ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN ALTERED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.
13. THE CONSTRUCTION LENGTHS INDICATED IN THESE PLANS ARE APPROXIMATE. ACTUAL LIMITS MAY BE SET IN THE FIELD AS DIRECTED BY THE ENGINEER.
14. THE CONTRACTOR SHALL OBTAIN, AT THEIR OWN EXPENSE, ALL APPLICABLE CODES, LICENSES, STANDARDS, SPECIFICATIONS, PERMITS, BONDS, ETC. WHICH ARE NECESSARY TO PERFORM THE PROPOSED WORK.
15. THE CONTRACTOR SHALL HAVE A FOREMAN, OR RESPONSIBLE PARTY ON SITE AT ALL TIMES WHEN WORK IS BEING PERFORMED. ALL WORKERS ON THE JOB SITE WILL BE COURTEOUS TO THE PUBLIC AT ALL TIMES AND SHALL REFER ANY QUESTIONS OR CONCERNS TO THE CONTRACTOR’S FOREMAN OR MUNICIPALITY INSPECTOR.
16. THE CONTRACTOR SHALL MAINTAIN DETAILED "RECORD" DRAWINGS THROUGH THE COURSE OF CONSTRUCTION THAT DETAIL ALL FIELD ADJUSTMENTS IN THE EVENT SURVEYED AS-BUILT INFORMATION CANNOT BE OBTAINED PRIOR TO UTILITY BURIAL. RECORD DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER ALONG WITH SURVEYED AS-BUILT DRAWINGS FOR APPROVAL PRIOR TO FINAL ACCEPTANCE OF THE WORK BY THE OWNER.
17. “AS-BUILT” DRAWINGS ARE TO BE PREPARED BY A LICENSED SURVEYOR PER JURISDICTIONAL PERMIT REQUIREMENTS AND SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO FINAL ACCEPTANCE OF THE WORK BY OWNER. AS-BUILT DRAWINGS MUST DEPICT THE SIZE, TYPE OF MATERIAL, AND HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITY, STORMWATER RELATED SITE IMPROVEMENTS. THIS INCLUDES BUT IS NOT LIMITED TO STORMWATER PIPES (INVERTS MUST BE SHOWN), INLETS, CURBS, SWALES, BERMS AND GRADE CHANCES IN PAVED AREAS. IN PARKING AND RETENTION AREAS THE AS-BUILT DRAWINGS MUST INCLUDE TOP-OF-BANK, TOE-OF-SLOPE, GRADE BREAKS, AND BOTTOM ELEVATIONS. PAVED, CONCRETE, AND LANDSCAPED AREAS MUST BE CLEARLY DEFINED. IT SHALL BE THE CONTRACTOR’S SOLE RESPONSIBILITY TO PROVIDE AS-BUILTS THAT MEET ALL OWNER, GOVERNMENTAL AGENCIES, AND ENGINEER OF RECORD’S REQUIREMENTS. AS-BUILTS MUST BE PERFORMED AND SIGNED AND SEALED BY A STATE LICENSED LAND SURVEYOR.
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL QUALITY CONTROL MEASURES AND TESTING TO ENSURE THE WORK CONFORMS TO THE SPECIFICATIONS AND DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR ARRANGING ALL NECESSARY INSPECTIONS. ANY WORK FOUND TO BE DEFECTIVE OR NOT IN COMPLIANCE SHALL BE CORRECTED BY THE ENGINEER AT THEIR OWN EXPENSE.
19. CONSTRUCTION EASEMENTS, RIGHT-OF-WAY, AND OTHER CRITICAL EASEMENTS SHALL BE DELINEATED WITH TEMPORARY STAKING BY THE CONTRACTOR.
20. REFER TO FINAL RECORDED PLAT FOR LOT, TRACT, PARCEL, AND EASEMENT LOCATIONS AND DESIGNATIONS.
21. ALL RETAINING WALLS OVER 4’ IN HEIGHT REQUIRE A BUILDING PERMIT. (MEASURED FROM BOTTOM OF FOOTER TO TOP OF WALL)
22. THE INFORMATION PROVIDED ON THESE PLANS DEPICT ONLY THE TOP OF WALL ELEVATION AND THE BOTTOM OF WALL ELEVATION WHERE THE FACE OF THE WALL MEETS THE FINISHED GRADE. DEPTH OF FOOTINGS OR ANY OTHER REQUIRED STRUCTURAL ELEMENTS ARE NOT INCLUDED. RETAINING WALLS SHALL BE DESIGNED BY OTHERS.
23. THE ENGINEER SHALL NOT HAVE CONTROL OVER OR CHARGE OF AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK SHOWN ON THESE PLANS. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR’S SCHEDULES OR FAILURE TO CARRY OUT THE WORK. THE ENGINEER IS NOT RESPONSIBLE FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTOR, OR THEIR AGENTS OR EMPLOYEES, OR OF ANY OTHER PERSONS PERFORMING PORTIONS OF THE WORK.
24. ALL TRENCH EXCAVATIONS SHALL BE PROPERLY SLOPED, SHORED, OR OTHERWISE SUPPORTED IN A MANNER REQUIRED BY OSHA AND AS REQUIRED BY STATE OR LOCAL LAWS.
25. IF CONFLICTING INFORMATION IS NOTED WITHIN THESE PLANS, THE CONTRACTOR IS TO IMMEDIATELY CONTACT THE ENGINEER FOR CLARIFICATION.

EROSION AND SEDIMENT CONTROL NOTES

1. LOCAL JURISDICTIONAL REQUIREMENTS SHALL OVERRIDE THE SPECIFICATIONS ON THESE GENERAL NOTES PAGES, IF APPLICABLE.
2. THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IS COMPRISED OF THE EROSION PLANS AND STANDARD DETAILS IN THIS PLAN SET PLUS THE PERMIT AND ALL SUBSEQUENT REPORTS AND RELATED DOCUMENTS. ALL STORMWATER POLLUTION PREVENTION MEASURES PRESENTED IN THESE DRAWINGS, AND/OR IN THE STORMWATER POLLUTION PREVENTION PLAN, SHALL BE INITIATED AS SOON AS PRACTICABLE.
3. ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH STORMWATER POLLUTION PREVENTION SHALL OBTAIN A COPY OF THE STORMWATER POLLUTION PREVENTION PLAN AND THE STATE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERIC PERMIT (NPDES PERMIT) AND BECOME FAMILIAR WITH THEIR CONTENTS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SITE CONDITIONS DURING CONSTRUCTION UNTIL THE PROJECT IS ACCEPTED.
5. THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES (BMP'S) AS REQUIRED BY THE SWPPP. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST TO THE OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.
6. BEST MANAGEMENT PRACTICES AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE. THE CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY THE PERMITTING AGENCY OR OWNER.
7. PERMITS FOR ANY CONSTRUCTION ACTIVITY IMPACTING STATE WATERS OR REGULATED WETLANDS SHALL ALWAYS BE RETAINED ON SITE.
8. THE CONTRACTOR SHALL LIMIT CLEARING TO THE MINIMUM EXTENT PRACTICAL OR AS REQUIRED BY THE GENERAL PERMIT.
9. CONTRACTOR TO LIMIT DISTURBANCE OF SITE IN STRICT ACCORDANCE WITH EROSION CONTROL SEQUENCING SHOWN ON THESE PLANS. NO UNNECESSARY OR IMPROPERLY SEQUENCED CLEARING AND/OR GRADING SHALL BE PERMITTED.
10. CONTRACTOR SHALL APPLY EROSION CONTROL BLANKETS TO ALL SLOPES 3:1 (H:V) OR STEEPER.
11. THE GENERAL CONTRACTOR SHALL DENOTE ON PLAN THE TEMPORARY PARKING AND STORAGE AREA WHICH SHALL ALSO BE USED AS THE EQUIPMENT MAINTENANCE AND CLEANING AREA, EMPLOYEE PARKING AREA, AND AREA FOR LOCATING PORTABLE FACILITIES, OFFICE TRAILERS, AND TOILET FACILITIES.
12. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.
13. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.
14. DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATION IS PROHIBITED.
15. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORMWATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
16. ALL DENUDED AREAS THAT WILL BE INACTIVE FOR 14 DAYS OR MORE, MUST BE STABILIZED TEMPORARILY WITH THE USE OF FAST-GERMINATING ANNUAL GRASS/GRAN VARIETIES, STRAW/HAY, MULCH, WOOD CELLULOSE FIBERS, TACKIFIERS, NETTING OR BLANKETS AS SHOWN ON THESE DRAWINGS.
17. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY STABILIZED AS SHOWN ON THE PLANS. THESE AREAS SHALL BE SEEDED, SODDED AND/OR VEGETATED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO THE GRADING PLAN AND/OR LANDSCAPE PLAN.
18. IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION ENTRANCES IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF DIRT OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE. ONLY USE INGRESS/EGRESS LOCATIONS AS PROVIDED.
19. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
20. CONTRACTORS OR SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING SEDIMENT IN THE DETENTION POND AND ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE. CONTRACTOR SHALL ALSO REMOVE ALL SILT/SEDIMENT/DEBRIS PRIOR TO CERTIFICATION.
21. ON-SITE & OFF-SITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT REQUIREMENTS.
22. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.
23. DUE TO THE GRADE CHANGES DURING DEVELOPMENT OF THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION AND SEDIMENT CONTROL MEASURES (SILT FENCES, ETC.) TO PREVENT EROSION AND POLLUTANT DISCHARGE.
24. SEE SITE PLAN FOR PERMANENT AND TEMPORARY SIGNAGE.
25. THE GENERAL CONTRACTOR IS TO DESIGNATE/IDENTIFY AREAS ON THESE DRAWINGS, INSIDE THE LIMITS OF DISTURBANCE FOR WASTE DISPOSAL AND DELIVERY OF MATERIAL STORAGE.
26. THE CONTRACTOR SHALL INSPECT ALL EROSION AND SEDIMENT CONTROL MEASURES ON A WEEKLY BASIS AND FOLLOWING MAJOR STORM EVENTS. REPARATIVE ACTION SHALL BE TAKEN WITHIN 24 HOURS OF INSPECTION. EROSION CONTROL INSPECTORS SHALL KEEP A RECORD OF ALL INSPECTIONS AND MAINTENANCE ACTIVITIES INCLUDING DATES OF INSPECTIONS, NAMES OF INSPECTORS, OBSERVATIONS, ACTIONS TAKEN, AND RAINFALL AMOUNTS.
27. SEDIMENT SHALL BE REMOVED FROM BMP MEASURES ONCE SEDIMENT HAS REACHED ONE-HALF HEIGHT OF THE BARRIER.
28. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A DEWATERING PLAN TO REGULATORY AGENCIES IF NECESSITATED.

DEMOLITION NOTES

1. LOCAL JURISDICTIONAL REQUIREMENTS SHALL OVERRIDE THE SPECIFICATIONS ON THESE GENERAL NOTES PAGES, IF APPLICABLE.
2. ALL EXISTING ABOVE AND BELOW GROUND STRUCTURES WITHIN THE LIMITS OF CONSTRUCTION SHALL BE DEMOLISHED OR REMOVED UNLESS NOTED OTHERWISE WITHIN THIS CONSTRUCTION SET AND/OR PROJECT SPECIFICATIONS. ALL PAVEMENT, BASE COURSES, SIDEWALKS, CURBS, BUILDINGS, FOUNDATIONS, ETC., WITHIN THE AREA TO BE DEMOLISHED SHALL BE REMOVED TO FULL DEPTH. THIS INCLUDES FOUNDATION SLABS, WALLS, AND FOOTINGS. CAVITIES LEFT BY STRUCTURE REMOVAL SHALL BE BACKFILLED WITH SATISFACTORY MATERIALS AND COMPACTED PER THE PROJECT SPECIFICATIONS, AS DETERMINED BY THE ONSITE GEOTECHNICAL ENGINEER.
3. ITEMS SHOWN TO BE RELOCATED SHALL BE CAREFULLY REMOVED AND STORED BY THE CONTRACTOR UNTIL SUCH TIME AS THEY CAN BE PLACED IN THEIR NEW LOCATION. CONTRACTOR SHALL VERIFY THESE ITEMS WITH THE OWNER PRIOR TO CONSTRUCTION.
4. IF ELEMENTS ARE DISCOVERED THAT ARE NOT DEPICTED IN THIS SET OF PLANS OR SUPPORTING REPORTS, THEY SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER.
5. CLEARING LIMITS SHALL BE PHYSICALLY MARKED IN THE FIELD.
6. ALL DEMOLITION WASTE AND CONSTRUCTION DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED AND SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFFSITE IN A STATE APPROVED WASTE SITE AND IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS. TAKE CARE TO PROTECT UTILITIES AND STRUCTURES THAT ARE TO REMAIN. REPAIR DAMAGE ACCORDING TO THE APPROPRIATE UTILITY COMPANY STANDARDS AND AT THE CONTRACTOR'S EXPENSE.
7. ALL UTILITY DISCONNECTION, REMOVAL, RELOCATION, CUTTING, CAPPING AND /OR ABANDONMENT SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANY / AGENCY.
8. ALL UTILITY AND STRUCTURE REMOVAL, RELOCATION, CUTTING, CAPPING AND/OR ABANDONMENT SHALL BE COORDINATED AND PROPERLY DOCUMENTED BY A CERTIFIED PROFESSIONAL, WHEN APPLICABLE, WITH THE APPROPRIATE UTILITY COMPANY, MUNICIPALITY AND/OR AGENCY. DEMOLITION OF REGULATED ITEMS MAY INCLUDE, BUT IS NOT LIMITED TO: WELLS, ASBESTOS, UNDERGROUND STORAGE TANKS, SEPTIC TANKS AND ELECTRIC TRANSFORMERS. DEMOLITION CONTRACTOR SHALL REFER TO ANY ENVIRONMENTAL STUDIES FOR DEMOLITION RECOMMENDATIONS AND GUIDANCE. AVAILABLE ENVIRONMENTAL STUDIES MAY INCLUDE, BUT ARE NOT LIMITED TO: PHASE I ESA, PHASE II, AND ASBESTOS SURVEY. ALL APPLICABLE ENVIRONMENTAL STUDIES SHALL BE MADE AVAILABLE UPON REQUEST.
9. EROSION AND SEDIMENTATION CONTROL MEASURES AROUND AREAS OF DEMOLITION SHALL BE PROPERLY INSTALLED AND SHALL FUNCTION PROPERLY PRIOR TO INITIALIZATION OF DEMOLITION ACTIVITIES. ADDITIONALLY, THE CONTRACTOR SHALL USE SUITABLE METHODS TO CONTROL DUST AND DIRT CAUSED BY THE DEMOLITION ACTIVITIES.
10. CONTRACTOR SHALL COORDINATE AN ASBESTOS INSPECTION/SURVEY PRIOR TO DEMOLITION OF ANY BUILDING. ASBESTOS OR HAZARDOUS MATERIALS, IF FOUND ON SITE, SHALL BE REMOVED BY A LICENSED HAZARDOUS MATERIALS CONTRACTOR. THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY IF HAZARDOUS MATERIALS ARE ENCOUNTERED. THE DEVELOPER AND OR OWNER SHALL PROVIDE THE PHASE I ESA TO THE CONTRACTOR.
11. CONTRACTOR SHALL ADHERE TO ALL LOCAL, STATE, FEDERAL AND OSHA REGULATIONS DURING ALL DEMOLITION ACTIVITIES.
12. CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES, STRUCTURES, AND FEATURES TO REMAIN. ANY ITEMS TO REMAIN THAT HAVE BEEN DISTURBED OR DAMAGED AS A RESULT OF CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. REPAIR TO PRE-CONSTRUCTION CONDITION OR BETTER.
13. CONTRACTOR SHALL PROVIDE AND MAINTAIN TRAFFIC CONTROL MEASURES IN ACCORDANCE WITH STATE DEPARTMENT OF TRANSPORTATION REGULATIONS AND AS REQUIRED BY LOCAL AGENCIES WHEN WORKING IN AND/OR ALONG STREETS, ROADS, HIGHWAYS, ETC. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN APPROVAL AND COORDINATE WITH LOCAL AND/OR STATE AGENCIES REGARDING THE NEED, EXTENT AND LIMITATIONS ASSOCIATED WITH INSTALLING AND MAINTAINING TRAFFIC CONTROL MEASURES.
14. DAMAGE TO LOOPS OR ANY SIGNAL EQUIPMENT CAUSED BY CONSTRUCTION OF THIS PROJECT MUST BE REPAIRED OR REPLACED TO ORIGINAL OR BETTER CONDITION BY THE CONTRACTOR AT NO COST TO THE OWNER OR MUNICIPALITY.
15. ASPHALT/CONCRETE REMOVAL SHALL BE FULL DEPTH TO SUBGRADE PROVIDE NEAT, STRAIGHT, FULL DEPTH, SAW CUTS OF EXISTING PAVEMENT. LANDSCAPE AREAS SHALL BE BACKFILLED PER LANDSCAPE PLANS/GUIDELINES.
16. NO TREES SHALL BE REMOVED, NOR VEGETATION DISTURBED BEYOND THE LIMITS OF CONSTRUCTION WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
17. THE CONTRACTOR WILL BE RESPONSIBLE FOR ENSURING THAT APPROPRIATE MEASURES ARE TAKEN IF PREVIOUSLY UNIDENTIFIED ENVIRONMENTAL IMPACTS ARE DISCOVERED ON THE DEVELOPMENT SITE.
18. UPON DISCOVERY OF PREVIOUSLY UNIDENTIFIED CONTAMINATION, THE CONTRACTOR WILL BE RESPONSIBLE FOR ENSURING WORKERS' HEALTH AND SAFETY. IF UNSAFE WORKING CONDITIONS PREVAIL, THE CONTRACTOR WILL BE RESPONSIBLE FOR STOPPING WORK WITHIN SAID AREA IMMEDIATELY. THE CONTRACTOR SHALL MAKE AN ATTEMPT TO DOCUMENT AND ASSESS THE NATURE AND DISPOSITION OF THE IDENTIFIED IMPACT. FOLLOWING THIS INITIAL DOCUMENTATION, THE CONTRACTOR WILL NOTIFY THE ENVIRONMENTAL CONSULTANT OF THE DISCOVERY.
19. IF IT IS SAFE TO OPERATE WITHIN THE AFFECTED AREA, THE CONTRACTOR, UNDER THE DIRECTION OF THE ENVIRONMENTAL CONSULTANT, WILL APPLY APPROPRIATE MEASURES TO PRECLUDE EXACERBATION OF THE IDENTIFIED IMPACT.
20. UPON NOTIFICATION, THE ENVIRONMENTAL CONSULTANT SHALL CONDUCT A PRELIMINARY INVESTIGATION OF THE AFFECTED AREA(S) AND DETERMINE THE APPROPRIATE COURSE OF ACTION. FURTHERMORE, THE ENVIRONMENTAL CONSULTANT SHALL BE RESPONSIBLE FOR INITIATING THE REQUISITE NOTIFICATION PROCEDURES IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
21. WORK WILL RESUME WITHIN THE AFFECTED AREA AT THE DIRECTION OF THE ENVIRONMENTAL CONSULTANT.
22. APPROVAL FROM THE PERMIT ISSUING JURISDICTION MUST BE OBTAINED PRIOR TO THE REMOVAL OF NATIVE VEGETATION.
23. CONTRACTOR TO COORDINATE WITH LOCAL UTILITY PROVIDERS PRIOR TO ANY MODIFICATION OR ANY INTERRUPTION IN SERVICE.
24. ANY DISTURBANCE OR DAMAGE TO EXISTING FEATURES WITHIN RIGHTS-OF-WAYS SHALL BE REPAIRED TO ORIGINAL CONDITION OR BETTER, AND THE RIGHT OF WAY OWNER SHALL BE NOTIFIED IMMEDIATELY.
25. ANY DESTRUCTION OF PAVEMENT AS A RESULT OF UTILITY CONSTRUCTION SHALL BE REPLACED THE FULL LANE WIDTH PER APPLICABLE CONSTRUCTION STANDARDS.
26. IF ANY HISTORICAL OR CULTURAL ARTIFACTS ARE DISCOVERED DURING DEMOLITION, THE CONTRACTOR SHALL IMMEDIATELY CEASE WORK IN THAT AREA AND NOTIFY THE OWNER AND APPROPRIATE AUTHORITIES.
27. THE CONTRACTOR SHALL COMPLY WITH LOCAL NOISE ORDINANCES AND RESTRICT LOUD DEMOLITION ACTIVITIES TO THE HOURS SPECIFIED BY LOCAL REGULATIONS OR AS DIRECTED BY THE OWNER
28. THE CONTRACTOR SHALL MONITOR AND CONTROL VIBRATIONS FROM DEMOLITION ACTIVITIES TO PREVENT DAMAGE TO ADJACENT STRUCTURES AND UTILITIES.

TEMPORARY TRAFFIC CONTROL NOTES

1. LOCAL JURISDICTIONAL REQUIREMENTS SHALL OVERRIDE THE SPECIFICATIONS ON THESE GENERAL NOTES PAGES, IF APPLICABLE.
2. THE CONTRACTOR SHALL PROVIDE FOR THE SAFE MOVEMENT OF PEDESTRIANS AND VEHICLES THROUGHOUT ALL PHASES OF CONSTRUCTION, INCLUDING DELIVERIES AND DROP-OFFS IN WORK ZONES. THE CONTRACTOR SHALL FURNISH, ERECT AND MAINTAIN ALL NECESSARY TRAFFIC CONTROL AND SAFETY DEVICES, IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION (FHWA) AND MUTCD STANDARDS AS WELL AS ANY ADDITIONAL REQUIREMENTS IMPOSED BY THE STATE'S DOT.
3. ALL TRAFFIC CONTROL MEASURES SHALL PRIORITIZE SAFETY ABOVE ALL ELSE.
4. ACCESS TO ALL SIDE STREETS AND DRIVEWAYS SHALL BE CONTINUOUSLY MAINTAINED FOR THE DURATION OF THE PROJECT UNLESS PREVIOUSLY APPROVED BY THE LOCAL JURISDICTION.
5. ANY LANE CLOSURE REQUIRES APPROVAL BY THE LOCAL JURISDICTION DEPARTMENT AS WELL AS ADVANCED NOTICE OF 72 HOURS WHEN THE LANE CLOSURE IS TO OCCUR. CONTRACTOR TO TAKE ADDITIONAL CONSIDERATION IN COMMUNICATION OF SPECIFIC HOMES AND BUSINESSES THAT ARE TO BE IMPACTED.
6. ENSURE EMERGENCY VEHICLES CAN ACCESS AT ALL TIMES. ANY BLOCKAGES OR DIVERSIONS SHOULD BE COMMUNICATED TO LOCAL EMERGENCY SERVICES IN ADVANCE.
7. DURING PERIODS OF LANE CLOSURES, THE CONTRACTOR IS TO PROVIDE A DOT CERTIFIED SITE TRAFFIC SUPERVISOR FOR THE INSTALLATION, MAINTENANCE, AND REMOVAL OF TRAFFIC CONTROL DEVICES (E.G. BARRICADES, SIGNS, ARROW PANELS, ETC.) AS OUTLINED IN THE STATE'S DEPARTMENT OF TRANSPORTATION STANDARDS.
8. TRAFFIC CONTROL MEASURES ARE TO BE MONITORED, PARTICULARLY DURING PEAK HOURS, TO ENSURE THAT CONTROL MEASURES ARE EFFECTIVE AND THAT NO DANGEROUS SITUATIONS ARISE.
9. BE PREPARED TO ADJUST TRAFFIC CONTROL MEASURES AS NEEDED. WHAT WORKS DURING ONE PHASE OF CONSTRUCTION MAY NOT BE SUITABLE FOR ANOTHER.
10. IF WORK IS BEING PERFORMED AT NIGHT, ENSURE ALL TRAFFIC CONTROL DEVICES ARE CLEARLY VISIBLE. THIS MIGHT REQUIRE ADDITIONAL LIGHTING OR REFLECTIVE MATERIALS.
11. MAINTAIN THOROUGH DOCUMENTATION OF ALL TRAFFIC CONTROL MEASURES, INCLUDING ADJUSTMENTS MADE DURING THE CONSTRUCTION PROCESS.

SOURCES OF INFORMATION*

DESCRIPTION	COMPANY	DATE
BOUNDARY SURVEY	R&R ENGINEERS-SURVEYORS, LLC	3/17/2023
TOPOGRAPHIC SURVEY	R&R ENGINEERS-SURVEYORS, LLC	3/17/2023
ARCHITECTURAL INFORMATION & DIMENSIONS	SOPHER SPARN ARCHITECTS, LLC	11/19/2024
HISTORICAL/CULTURAL RESOURCE SURVEY		
BUILDING UTILITY CONNECTION LOCATIONS	RJA ENGINEERING	11/15/2024
GEOTECHNICAL REPORT	PARTNER ASSESSMENT CORPORATION	3/22/2023
ENVIRONMENTAL REPORT		
TRAFFIC IMPACT ANALYSIS	LSC TRANSPORTATION CONSULTANTS	TBD
MECHANICAL, ELECTRICAL, PLUMBING (MEP)	RJA ENGINEERING	11/15/2024

* = THE FOLLOWING SOURCES HAVE BEEN UTILIZED IN PREPARATION OF THESE PLANS, IT IS POSSIBLE THAT UPDATES TO THESE SOURCES HAVE BEEN COMPLETED FOLLOWING ISSUANCE OF THESE PLANS, AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE LATEST VERSION.

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Maiker Housing Partners

R&R ENGINEERS SURVEYORS INC

No.	Date

MAIKER BOYERS
7295 WASHINGTON ST., ADAMS COUNTY, CO 80229

PDP & REZONING SUBMITTAL
GENERAL NOTES

02.07.2025
C0.02

CASE NO. PRC2024-00017

PAVING NOTES

1. LOCAL JURISDICTIONAL REQUIREMENTS SHALL OVERRIDE THE SPECIFICATIONS ON THESE GENERAL NOTES PAGES, IF APPLICABLE.
2. EXISTING PAVEMENT SHALL BE SAWCUT IN PROPOSED PATCH AREAS TO A DEPTH REQUIRED FOR THE PROPOSED PAVEMENT AS SHOWN ON THE PLANS.
3. ALL PROPOSED ASPHALT PATCHES AND SURFACING OVERLAID ON EXISTING PAVEMENT SHALL BE FEATHERED SMOOTHLY INTO THE EXISTING PAVEMENT, AND MAY REQUIRE THE NEED FOR A MILLED BUTT-JOINT AS DIRECTED BY THE ENGINEER.
4. ALL SIDEWALKS ARE TO BE 4" THICK IN NON-VEHICULAR AREAS, UNLESS OTHERWISE NOTED.
5. UNLESS OTHERWISE STATED IN THE SPECIFICATIONS OR UNDER A SEPARATE ITEM, ALL EXCESS MILLINGS SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF AT AN APPROVED SITE PROVIDED BY THE CONTRACTOR.
6. NO SURFACING SHALL BE APPLIED TO ANY MANHOLE COVERS, FRAMES, VALVE BOXES, GAS DROPS, ETC. EXISTING APPURTENANCES ARE TO BE ADJUSTED TO FINISHED GRADE.
7. ALL EXISTING AND PROPOSED UTILITY AND STORM SEWER STRUCTURE TOPS THAT ARE TO BE EXPOSED WITHIN ANY SIDEWALK OR PAVED AREAS SHALL BE ADJUSTED SO THAT THE TOP SURFACE OF COVERS OR FRAMES SHALL BE FLUSH WITH THE SIDEWALK OR PAVEMENT SURFACE.
8. ANY FACILITIES DAMAGED THAT ARE LOCATED OUTSIDE THE LIMITS OF DISTURBANCE SHALL BE REPAIRED IN A TIMELY MANNER AND AT THE EXPENSE OF THE CONTRACTOR.
9. THE CONTRACTOR IS TO ENSURE THAT THE QUALITY OF MATERIALS AND WORKMANSHIP FOR PAVING MEETS OR EXCEEDS THE STANDARDS SET BY LOCAL AND STATE REGULATIONS.
10. PAVING OPERATIONS SHALL NOT BE CONDUCTED DURING RAINY WEATHER OR WHEN THE BASE MATERIAL IS WET OR FROZEN.
11. PROPER COMPACTION OF THE SUBGRADES, BASE, AND SURFACE LAYERS IS ESSENTIAL. THE CONTRACTOR SHALL ENSURE THAT THESE ARE COMPACTED TO THE SPECIFICATIONS PROVIDED IN THE PLANS OR DICTATED BY STATE/LOCAL REGULATION.
12. ALL JOINTS SHALL BE PROPERLY SEALED TO PREVENT WATER INFILTRATION AND ENSURE THE LONGEVITY OF THE PAVEMENT.
13. FRESHLY LAID ASPHALT SHALL BE PROTECTED FROM TRAFFIC UNTIL IT HAS COOLED AND HARDENED.
14. THE CONTRACTOR SHALL DISTURB NO MORE GROUND THAN WHAT IS NECESSARY FOR CONSTRUCTION. NO OPEN EXCAVATED TRENCH, OR OTHER UNSAFE CONDITION, WILL BE LEFT OVERNIGHT.
15. UPON COMPLETION OF PAVING WORK, THE CONTRACTOR SHALL CLEAN UP AND REMOVE ALL SURPLUS MATERIALS, LEAVING THE SITE IN A NEAT AND ORDERLY CONDITION.
16. CONTRACTOR SHALL REFERENCE GEOTECHNICAL REPORT FOR PAVEMENT THICKNESS AND FOUNDATION RECOMMENDATIONS.

TREES & VEGETATION NOTES

1. LOCAL JURISDICTIONAL REQUIREMENTS SHALL OVERRIDE THE SPECIFICATIONS ON THESE GENERAL NOTES PAGES, IF APPLICABLE.
2. THE CONTRACTOR SHALL VERIFY WHICH TREES ARE TO BE SAVED AND PROTECTED PRIOR TO COMMENCING CONSTRUCTION. DURABLE FENCE PROTECTION BARRIERS SHALL BE INSTALLED AROUND ALL TREES TO BE SAVED WITH FENCE PLACEMENT A MINIMUM OF 10 FEET FROM TREE CANOPY OR THE DRIP LINE, WHICHEVER IS GREATER.
3. THE CONTRACTOR SHALL NOT DISTURB AREAS AROUND EXISTING TREES TO BE SAVED.
4. THE CONTRACTOR SHALL PROTECT EXISTING GRASS, LANDSCAPING, AND TREES NOT IN DIRECT CONFLICT WITH PROPOSED IMPROVEMENTS DURING CONSTRUCTION. GRASSED AREAS DAMAGED DURING CONSTRUCTION SHALL BE RESTORED BY THE CONTRACTOR WITH TOPSOIL AND SODDED.
5. THE CONTRACTOR SHALL REMOVE ALL VEGETATION, TREES, STUMPS, GRASSES, ORGANIC SOIL, DEBRIS, AND DELETERIOUS MATERIALS IN CONFLICT WITH IMPROVEMENTS.
6. AFTER THE CONTRACTOR HAS REMOVED THE MATERIALS AS DESCRIBED ABOVE, HE SHALL STRIP SUITABLE TOPSOIL AND STOCKPILE FOR LANDSCAPING USE.
7. THE CONTRACTOR SHALL EXERCISE EXTRA CARE TO AVOID DAMAGE TO TREES AND ORNAMENTAL SHRUBS PLANTED AND MAINTAINED BY PROPERTY OWNERS IN THE TERRACES FRONTING THEIR PROPERTY.
8. CONTRACTOR SHALL COMPENSATE OWNER FOR DAMAGE TO TREES NOT SHOWN TO BE REMOVED IN PLANS.
9. OAK TREES DAMAGED DURING CONSTRUCTION SHALL BE SEALED WITHIN SIX HOURS OF DAMAGE TO PREVENT INFECTION BY OAK WILT.

GRADING & DRAINAGE NOTES

1. LOCAL JURISDICTIONAL REQUIREMENTS SHALL OVERRIDE THE SPECIFICATIONS ON THESE GENERAL NOTES PAGES, IF APPLICABLE.
2. ELEVATIONS DEPICTED HEREON ARE BASED UPON THE NORTH AMERICAN VERTICAL DATUM OF 1988, (NAVD 88), OR AS SPECIFIED ON THE PLAN SET.
3. THE CONTRACTOR SHALL THOROUGHLY REVIEW ASSOCIATED PROFESSIONAL REPORTS (ENVIRONMENTAL, DRAINAGE, GEOTECHNICAL, ETC.) AND IMPLEMENT SITE SPECIFIC RECOMMENDATIONS OF THESE REPORTS.
4. PRIOR TO GRADING, CONTRACTOR TO COORDINATE WITH UTILITY CONTRACTORS TO ENSURE NO UNDERGROUND UTILITIES ARE DAMAGED DURING OPERATIONS.
5. CONTRACTOR SHALL ENSURE ALL NECESSARY PERMITS RELATED TO GRADING AND DRAINAGE HAVE BEEN OBTAINED PRIOR TO COMMENCING WORK.
6. IF CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, HE SHALL HAVE MADE, AT HIS EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED LAND SURVEYOR AND SUBMIT IT TO THE OWNER AND ENGINEER FOR REVIEW.
7. ANY SETTLEMENT OR SOIL ACCUMULATION BEYOND THE PROPERTY LIMITS DUE TO GRADING OR EROSION SHALL BE REPAIRED IMMEDIATELY.
8. STREET CONTOURS SHOWN ON THESE PLANS REPRESENT TOP OF ASPHALT ELEVATION.
9. COMPACTION FILL MATERIAL SHALL BE COMPACTED ACCORDING TO THE APPROPRIATE GOVERNING AGENCY REGULATIONS AND THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT.
10. STATION AND OFFSET INFORMATION FOR STORM DRAIN INFRASTRUCTURE REFERENCE THE CENTER OF THE SPECIFIED STRUCTURE BOTTOM. CONTRACTOR IS TO CONFIRM LENGTHS ASSOCIATED WITH PIPES THAT INCLUDE A MITERED END SECTION.
11. PRESSURIZED MAINS OR OTHER "DRY UTILITY" LINES IN CONFLICT WITH GRAVITY SEWER OR GRAVITY STORM ARE TO BE RESOLVED BY ADJUSTING THE PRESSURIZED AND/OR "DRY UTILITY" SYSTEMS. CONTRACTOR TO IMMEDIATELY NOTIFY ENGINEER IF CONFLICTS ARE OBSERVED THAT ARE NOT DEPICTED ON THESE PLANS.
12. WHERE IT IS NECESSARY TO DEFLECT PIPE EITHER HORIZONTALLY OR VERTICALLY, PIPE JOINT DEFLECTION SHALL NOT EXCEED THE MAXIMUM VALUES SPECIFIED IN AWWA C-600-B2 OR BOX OF THE PIPE MANUFACTURER'S MAXIMUM RECOMMENDED DEFLECTION, WHICHEVER IS MORE STRINGENT.
13. PROOF ROLL BUILDING AND ALL PARKING AREAS. NOTIFY THE ENGINEER OF ANY UNACCEPTABLE AREAS.
14. EDGE OF NEW PAVEMENT TO BE FLUSH WITH EXISTING PAVEMENT TO ASSURE A SMOOTH, CONTINUOUS GRADE.
15. ALL SIDEWALK CURB AND GUTTER, STREET PAVING, CURB CUTS, DRIVEWAY APPROACHES, HANDICAP RAMPS, ETC. CONSTRUCTED OUTSIDE THE PROPERTY LINE IN THE RIGHT-OF-WAY SHALL CONFORM TO ALL MUNICIPAL, ADA, AND STATE SPECIFICATIONS AND REQUIREMENTS.
16. CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL ADA ACCESSIBLE SIDEWALKS MAINTAIN SLOPES NOT TO EXCEED 5% LONGITUDINALLY AND 2% CROSS SLOPES. SLOPES AT ACCESSIBLE PARKING SPACES AND ACCESS AISLE SHALL BE A MAXIMUM 2%, AND THE MANEUVERING CLEARANCE AT EXTERIOR ENTRANCES SHALL HAVE A MAXIMUM SLOPE OF 2%. THE MAXIMUM SLOPE OF A RAMP SHALL NOT EXCEED 12:1 (H:V)
17. FOR AREAS OUTSIDE THE PROPERTY LINES, REPAIR AND/OR REPLACE ALL DAMAGE DONE TO EXISTING ELEMENTS (SIDEWALKS, PAVING, LANDSCAPING, ETC.) AS REQUIRED BY THE OWNER AND/OR GOVERNING AUTHORITY.
18. CONTRACTOR IS RESPONSIBLE FOR DEMOLITION OF EXISTING STRUCTURES INCLUDING REMOVAL OF ANY EXISTING UTILITIES SERVING THE STRUCTURE. UTILITIES ARE TO BE REMOVED TO THE RIGHT-OF-WAY. CONTRACTOR SHALL DISPOSE OF ALL WASTE/DEBRIS FROM SITE TO A PROPER AND APPROVED WASTE SITE.
19. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST THE EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
20. ALL CUT OR FILL SLOPES SHALL BE 4:1 (H:V) OR FLATTER UNLESS OTHERWISE NOTED.
21. EXISTING DRAINAGE STRUCTURES SHALL BE INSPECTED AND REPAIRED AS NEEDED, AND EXISTING PIPES SHALL BE CLEANED OUT TO REMOVE ALL SILT AND DEBRIS.
22. IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
23. ALL STORM PIPE ENTERING STRUCTURES SHALL BE GROUTED TO ASSURE CONNECTION AT STRUCTURE IS WATERTIGHT.
24. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
25. CONTRACTOR TO VERIFY EXISTING PAVEMENT GRADES WHERE MODIFICATIONS AND/OR DRIVEWAY CONNECTIONS ARE BEING MADE. IF THERE IS ANY DEVIATION FROM THE EXISTING GRADES SHOWN HEREON THE CONTRACTOR MUST CONTACT ENGINEER OF RECORD FOR DIRECTION.
26. ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE 3" OF TOPSOIL AND BE SODDED TO MATCH SURROUNDING AREA.
27. ALL STORM STRUCTURES SHALL HAVE A SMOOTH UNIFORM POURED MORTAR INVERT FROM INVERT IN TO INVERT OUT.
28. ALL STORM PIPE SHALL BE REINFORCED CONCRETE PIPE WITHIN THE RIGHT OF WAY, OR AS SPECIFIED IN THESE DOCUMENTS.
29. CONTRACTOR TO RAISE ALL EXISTING UTILITY MANHOLES, VAULT BOXES, METER BOXES, ETC. TO PROPOSED GRADES UNLESS OTHERWISE NOTED.
30. CONTRACTOR SHALL REVIEW ALL GEOTECHNICAL REPORTS FOR SUPPLEMENTAL CONSTRUCTION RECOMMENDATIONS.

UTILITY NOTES

1. LOCAL JURISDICTIONAL REQUIREMENTS SHALL OVERRIDE THE SPECIFICATIONS ON THESE GENERAL NOTES PAGES, IF APPLICABLE.
2. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST PLACE AN 811 TICKET, AND/OR CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (1-800-922-1987). CONTRACTOR TO COORDINATE WITH THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS. THIS WORK BY THE CONTRACTOR SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED. ANY DEVIATION FROM THESE PLANS SHALL NEED TO BE APPROVED BY THE ENGINEER OF RECORD AND/OR AGENCIES WITH SIGNED AND WRITTEN CONSENT.
3. THE CONTRACTOR IS TO VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITIES, WHETHER SHOWN OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY CONFLICTS TO ENGINEER.
4. THE CONTRACTOR SHALL MAINTAIN OPEN COMMUNICATION WITH UTILITY PROVIDERS THROUGHOUT THE PROJECT TO ENSURE THAT ANY DISRUPTIONS TO SERVICE ARE MINIMIZED AND COORDINATED.
5. BEFORE STARTING ANY EXCAVATION, THE CONTRACTOR SHALL USE A UTILITY LOCATING SERVICE TO IDENTIFY AND MARK THE LOCATION OF ALL UNDERGROUND UTILITIES.
6. NO TEMPORARY CONNECTIONS TO FIRE HYDRANTS MAY BE MADE WITHOUT THE EXPRESS AUTHORIZATION OF THE UTILITY OWNER.
7. BACKFLOW DEVICES ARE CRUCIAL FOR PREVENTING CONTAMINATION OF THE POTABLE WATER SUPPLY. THE CONTRACTOR SHOULD ENSURE THAT THESE DEVICES ARE INSTALLED CORRECTLY, TESTED REGULARLY, AND PASS ALL LOCALLY REQUIRED INSPECTIONS.
8. NO VALVES IN THE OWNER'S WATER DISTRIBUTION SYSTEM SHALL BE OPERATED BY THE CONTRACTOR WITHOUT PRIOR PERMISSION OF THE OWNER. THE CONTRACTOR SHALL NOTIFY THE OWNER WHEN A VALVE IS TO BE OPERATED AND SHALL ONLY OPERATE THE VALVE IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE. COORDINATE ALL SHUTDOWN OF MAINS FOR TIE-INS WITH THE OWNER 72 HOURS PRIOR TO WORK BEING COMPLETED. THE CONTRACTOR SHALL INSPECT THE MATERIALS FOR DEFECTS AT THE TIME THEY ARE UNLOADED, AND ANY MATERIALS FOUND DEFECTIVE SHALL BE REMOVED FROM THE SITE.
9. ALL UTILITY WORK SHALL BE INSPECTED BY A QUALIFIED PROFESSIONAL TO ENSURE IT MEETS THE DESIGN SPECIFICATIONS AND ANY APPLICABLE REGULATIONS.
10. THE CONTRACTOR SHALL HAVE EMERGENCY PROTOCOLS IN PLACE IN CASE OF UTILITY DAMAGE OR OTHER UNFORESEEN ISSUES. THIS INCLUDES IMMEDIATE NOTIFICATION OF ALL APPROPRIATE PARTIES AND TAKING STEPS TO MITIGATE ANY POTENTIAL HAZARDS.
11. WHEN WORKING NEAR WATER SOURCES OR IN ENVIRONMENTALLY SENSITIVE AREAS, THE CONTRACTOR SHALL TAKE EXTRA PRECAUTIONS TO PREVENT CONTAMINATION OR DAMAGE TO THE ENVIRONMENT.
12. NO TIE-IN SHALL BE MADE TO THE EXISTING UTILITY SYSTEM UNTIL ALL TEST RESULTS HAVE BEEN PROVIDED TO THE LOCAL PUBLIC WORKS DEPARTMENT AND ARE VERIFIED.
13. PRIOR TO TESTING, ANY CONNECTION TO THE PUBLIC WATER SUPPLY SHALL BE THROUGH AN APPROVED AND TESTED BACKFLOW DEVICE.
14. PLUG EXISTING SEWER BEFORE INSTALLING ANY NEW SEWER MAIN.
15. CONCRETE PADS SHALL BE PROVIDED AROUND CLEAN-OUTS (24"X24"X4").
16. ALL WATER JOINTS ARE TO BE MECHANICAL JOINTS WITH THRUST BLOCKING AS CALLED OUT IN STATE/LOCAL SPECIFICATIONS FOR WATER MAIN CONSTRUCTION.
17. WATER AND SANITARY SEWER SHOULD BE KEPT TEN (10') APART (PARALLEL) OR 18" APART WHEN CROSSING (OUTSIDE EDGE OF PIPE TO OUTSIDE EDGE OF PIPE),
18. THE CONTRACTOR SHALL INSTALL ALL WATER MAINS BELOW THE JURISDICTIONAL FROST DEPTH.
19. CONTRACTOR TO PLACE IDENTIFICATION RIBBON AND TRACER WIRE PER UTILITY PROVIDER'S SPECIFICATIONS.
20. NEW WATER MAINS AND FORCE MAINS TO BE PVC C900, UNLESS OTHERWISE SHOWN IN PLANS AND APPROVED BY UTILITY PROVIDER. HYDROSTATIC TESTING WILL BE PERFORMED UNDER THE SUPERVISION OF THE UTILITY PROVIDER.
21. NEW SEWER MAINS ARE TO BE SDR31 PVC UNLESS OTHERWISE SHOWN IN PLANS AND APPROVED BY THE UTILITY PROVIDER.
22. CONTRACTORS SHOULD USE HTH FOR DISINFECTION OF WATER LINES (NOT CHLORINE INJECTION) UNLESS APPROVED OTHERWISE PRIOR TO ISSUANCE OF PERMIT.
23. NEW WATERLINES SHALL BE TIED INTO THE EXISTING WATER SYSTEM UNDER THE SUPERVISION OF LOCAL PUBLIC WORKS PERSONNEL NO LATER THAN 14 DAYS AFTER PASSING BACTERIOLOGICAL TESTS.
24. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT NO OVERFLOWS OR SPILLAGE OF SEWER OCCURS. SHOULD THIS OCCUR, THE CONTRACTOR SHALL:
    - A. IDENTIFY THE SOURCE OF THE SPILL AND ATTEMPT TO ELIMINATE ANY ADDITIONAL SPILLAGE.
    - B. NOTIFY THE UTILITY PROVIDER.
    - C. CONTAIN THE SPILL IN PLACE AND AVOID CONTAMINATION OF STREAMS.
    - D. DISINFECT THE AREA OF THE SPILL WITH A MIXTURE OF HTH CHLORINE AND WATER.
    - E. ALL WORK SHALL BE DONE ACCORDING TO STATE AND LOCAL GUIDELINES.
25. CONTRACTOR TO PROVIDE NOTICE TO RESIDENTS OF SHUTDOWN OF MAIN. CONTRACTOR TO NOTIFY RESIDENTS OF WORK WITHIN THEIR PROPERTY AND OF THE RELOCATION OF METERS. ANY COMPLAINTS BY RESIDENTS ARE TO BE PASSED IMMEDIATELY TO THE UTILITY PROVIDER'S INSPECTOR OR TO THE UTILITY PROVIDER'S OFFICE. TAKE APPROPRIATE MEASURES TO PROTECT EXISTING SANITARY SEWER LATERALS SHOWN IN PLANS. ANY REPAIRS TO BE MADE AT THE CONTRACTORS' EXPENSE.
26. ABANDONED CUSTOMER LINES SHALL BE CAPPED OR PLUGGED AT THE PROPERTY LINE.
27. ASBESTOS PIPE REMOVAL AND DISPOSAL IS THE CONTRACTOR'S RESPONSIBILITY.
28. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN EXCAVATING IN THE PROXIMITY OF WATER MAINS, WASTEWATER FORCE MAINS, AND GRAVITY MAINS. MAIN LOCATIONS SHOWN ON PLANS MAY NOT BE EXACT. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING EXISTING UTILITY LOCATIONS.
29. SHOULD A PIPE EMERGENCY OCCUR, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY OWNER.
30. THE CONTRACTOR SHALL NOTIFY THE UTILITY PROVIDER AT LEAST SEVEN DAYS PRIOR TO COMMENCEMENT OF THE CONSTRUCTION PROJECT.
31. THE CONTRACTOR SHALL NOTIFY THE UTILITY PROVIDER AT LEAST 48 HOURS PRIOR TO ANY UTILITY CONSTRUCTION.
32. CONSTRUCTION ACTIVITIES SHALL NOT CAUSE INTERRUPTIONS IN WATER OR WASTEWATER SERVICE. THE CONTRACTOR SHALL COORDINATE PREAPPROVED INTERRUPTIONS OF SERVICE WITH THE INSPECTORS 7 WORKING DAYS IN ADVANCE.
33. THE MATERIALS, PRODUCTS, AND CONSTRUCTION OF ALL UTILITIES CONNECTING TO THE MUNICIPAL SYSTEMS SHALL BE IN CONFORMANCE WITH MUNICIPAL UTILITIES STANDARDS AND CONSTRUCTION SPECIFICATIONS.
34. ALL MAINS AND FACILITIES WITHIN THE LIMITS OF THE PROJECT SHALL BE SUPPORTED AND PROTECTED AGAINST DAMAGE DURING CONSTRUCTION.
35. THE CONTRACTOR SHALL ADJUST ALL EXISTING MAINS AND FACILITIES IN CONFLICT WITH NEW GRADE. NEW OR ALTERED ROADWAYS, SIDEWALKS, DRIVEWAYS, OR STORM WATER IMPROVEMENTS. FACILITIES TO BE ADJUSTED INCLUDE, BUT ARE NOT LIMITED TO PIPELINES, PUMP STATIONS, VALVE BOXES, AIR RELEASE VALVES, FIRE HYDRANTS, MANHOLE COVERS, AND METERS.
36. THE CONTRACTOR SHALL PROVIDE FOR BYPASSING AND/OR HAULING WASTEWATER DURING APPROVED INTERRUPTIONS OF WASTEWATER FLOWS AND CONNECTIONS. THE CONTRACTOR SHALL SUBMIT A BYPASS PLAN SIGNED AND SEALED BY A PROFESSIONAL ENGINEER TO THE UTILITY COMPANY FOR APPROVAL PRIOR TO IMPLEMENTATION BY CONTRACTOR.
37. ALL VALVES INSTALLED AS PART OF THIS CONSTRUCTION PROJECT SHALL REMAIN CLOSED DURING CONSTRUCTION. KEEP VALVES ON ALL WET TAPS CLOSED UNTIL CLEARED BY INSPECTOR. DO NOT CONNECT NEWLY CONSTRUCTED WATER MAINS TO ANY EXISTING WATER MAINS UNLESS CLEARED BY UTILITY PROVIDER.
38. THE CONTRACTOR SHALL PROVIDE A JUMPER ASSEMBLY WITH A BACKFLOW PREVENTER FOR MAKING TEMPORARY CONNECTIONS TO AN EXISTING POTABLE WATER SOURCE IN ORDER TO CHLORINATE AND FLUSH NEW WATER MAINS WITH POTABLE WATER. ANY TEMPORARY POTABLE WATER CONNECTIONS TO FORCE MAIN SHALL ALSO BE EQUIPPED WITH A BACKFLOW PREVENTER.
39. FOR PVC PIPE THAT WILL BE OWNED AND MAINTAINED BY THE MUNICIPALITY, NO PIPE BENDING IS ALLOWED. THE MAXIMUM ALLOWABLE TOLERANCE FOR JOINT DEFLECTION IS 0.75 DEGREES (3-INCHES PER JOINT PER 20 FT STICK OF PIPE.) ALIGNMENT CHANGE SHALL BE MADE ONLY WITH SLEEVES AND FITTINGS.
40. FOR NON-PVC PIPE THAT WILL BE OWNED AND MAINTAINED BY THE MUNICIPALITY, LONG RADIUS CURVES, EITHER HORIZONTAL OR VERTICAL, MAY BE INSTALLED WITH STANDARD PIPE BY DEFLECTIONS AT THE JOINTS. MAXIMUM DEFLECTIONS AT PIPE JOINTS, FITTINGS AND LAYING RADIUS FOR THE VARIOUS PIPE LENGTHS SHALL NOT EXCEED 75% OF THE PIPE MANUFACTURER'S RECOMMENDATION.
41. MAINTAIN UTILITY PROVIDER'S RECOMMENDED MINIMUM COVER OVER ALL PROPOSED WATER, WASTEWATER, AND RECLAIMED WATER LINES.
42. ANY LIGHTING SHOWN HEREON IS AS SPECIFIED BY THE CLIENT AND IS INCLUDED FOR INFORMATION PURPOSES ONLY, AS DIRECTED BY THE OWNER AND/OR PUBLIC AGENCY REQUIREMENTS. R&R ENGINEERS-SURVEYORS, INC. HAS NOT PERFORMED THE LIGHTING DESIGN, AND THEREFORE DOES NOT WARRANT AND IS NOT RESPONSIBLE FOR THE DEGREE AND/OR ADEQUACY OF ILLUMINATION ON THIS PROJECT.
43. CONTRACTOR SHALL MAINTAIN ELECTRICAL SERVICE TO ALL EXISTING BUILDINGS, TRANSFORMERS TO REMAIN, AND ALL EXISTING SITE LIGHTS DURING ALL PHASES OF CONSTRUCTION.
44. ANY SEPTIC SYSTEMS DEPICTED ON THESE PLANS ARE REPRESENTATIVE ONLY. A SEPTIC SYSTEM SHALL REQUIRE DESIGN AND PERMITTING TO BE PERFORMED BY OTHERS.
45. ALL WATER WELLS SHALL BE TESTED, AND APPROVED BY STATE DEP AND LOCAL HEALTH DEPARTMENT PRIOR TO USE ON PRIVATE HOMES. WELLS WILL NOT BE ALLOWED FOR PUBLIC POTABLE WATER CONSUMPTION. WELLS WILL NOT BE ALLOWED AS A SOURCE OF FIRE PROTECTION.

SIGNAGE & STRIPING NOTES

1. LOCAL JURISDICTIONAL REQUIREMENTS SHALL OVERRIDE THE SPECIFICATIONS ON THESE GENERAL NOTES PAGES, IF APPLICABLE.
2. STRIPING SHALL REFER TO COLORADO DOT STANDARD PLANS S-627-1
3. ALL EXISTING SIGNS WITHIN THE PROJECT LIMITS SHALL REMAIN UNLESS OTHERWISE NOTED IN THE PLANS OR AS DIRECTED BY THE ENGINEER. SIGN LOCATIONS SHOWN ON PLANS ARE APPROXIMATE AND MAY REQUIRE FIELD ADJUSTMENT, AS DIRECTED BY THE ENGINEER.
4. ANY EXISTING SIGNS TO REMAIN THAT ARE DISTURBED OR RELOCATED DURING CONSTRUCTION SHALL BE RESET TO CURRENT STANDARDS FOR HEIGHT, OFFSET, AND METHOD OF INSTALLATION.
5. CAUTION SHOULD BE EXERCISED WHILE RELOCATING EXISTING SIGNS SO AS TO PREVENT DAMAGE TO THE SIGN. DAMAGE BEYOND USE, AS DETERMINED BY THE ENGINEER, SHALL REQUIRE REPLACEMENT BY THE CONTRACTOR AT HIS EXPENSE.
6. CAUTION SHOULD BE EXERCISED DURING THE INSTALLATION OF NEW SIGNS. BOTH EXISTING AND PROPOSED UTILITIES MAY EXIST IN THE VICINITY OF PROPOSED SIGN LOCATIONS, INCLUDING THE POTENTIAL FOR UTILITIES AND OTHER OBJECTS NOT IDENTIFIED IN THESE PLANS.
7. ALL SIGNS SHALL BE COMPLIANT WITH MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND DOT STANDARDS, AS WELL AS ANY ADDITIONAL LOCAL REQUIREMENTS.
8. ALL STRIPING AND PAVEMENT MARKINGS IN THE RIGHT-OF-WAY SHALL BE THERMOPLASTIC AND SHALL NOT BE APPLIED UNTIL A MINIMUM OF 30 DAYS AFTER THE PLACEMENT OF THE FINAL ASPHALT SURFACE. IN THE INTERIM, STRIPING SHALL BE PAINT AND ANY REQUIRED RPM'S INSTALLED PER THE PLANS. DO NOT STRIPE ACROSS MANHOLE LIDS OR DRAINAGE GRATES.
9. STRIPING WITHIN PRIVATE PROPERTY IS TO FOLLOW DOT GUIDELINES WHERE PRACTICABLE. PAINT MAY BE UTILIZED FOR PARKING STRIPING AND LANE STRIPING WITHIN PRIVATE DEVELOPMENT.
10. REFLECTIVE PAVEMENT MARKINGS (RPM'S) SHALL BE INSTALLED IN ALL LOCATIONS AS REQUIRED BY DOT DESIGN STANDARD (LATEST EDITION).
11. ANY PAVEMENT MARKINGS AND RPM'S THAT ARE DESTROYED, DAMAGED, OR DIMINISHED BY CONSTRUCTION ACTIVITIES FOR UP TO 500 FEET IN EITHER DIRECTION BEYOND THE LIMITS OF CONSTRUCTION SHALL BE REPLACED OR REFURBISHED BY THE CONTRACTOR.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE ADJACENT RIGHT-OF-WAYS FOR THE DURATION OF CONSTRUCTION. AT A MINIMUM, THE CONTRACTOR SHALL MOW THE RIGHT-OF-WAY ON AN AS NEEDED BASIS AND MAINTAIN THE DRAINAGE CONVEYANCE SYSTEM. ADDITIONAL MAINTENANCE MAY BE REQUIRED ON A CASE-BY-CASE BASIS.
13. ALL SIGNS AND STRIPING SHALL BE CLEARLY VISIBLE TO DRIVERS, PEDESTRIANS, AND OTHER ROAD USERS. THIS INCLUDES ENSURING THAT SIGNS ARE NOT OBSCURED BY VEGETATION, OTHER STRUCTURES, OR DIRT/GRIME.
14. ALL HANDICAPPED SPACES SHALL HAVE AN ABOVE GRADE IDENTIFICATION SIGN MEETING ADA AND OTHER APPROPRIATE GOVERNING AGENCY STANDARDS.

SOPHERSPARN ARCHITECTS LLC
2505 Walnut | Suite 200 | Boulder, CO 80302
303.442.4422 | www.sophersparn.com

Maiker Housing Partners

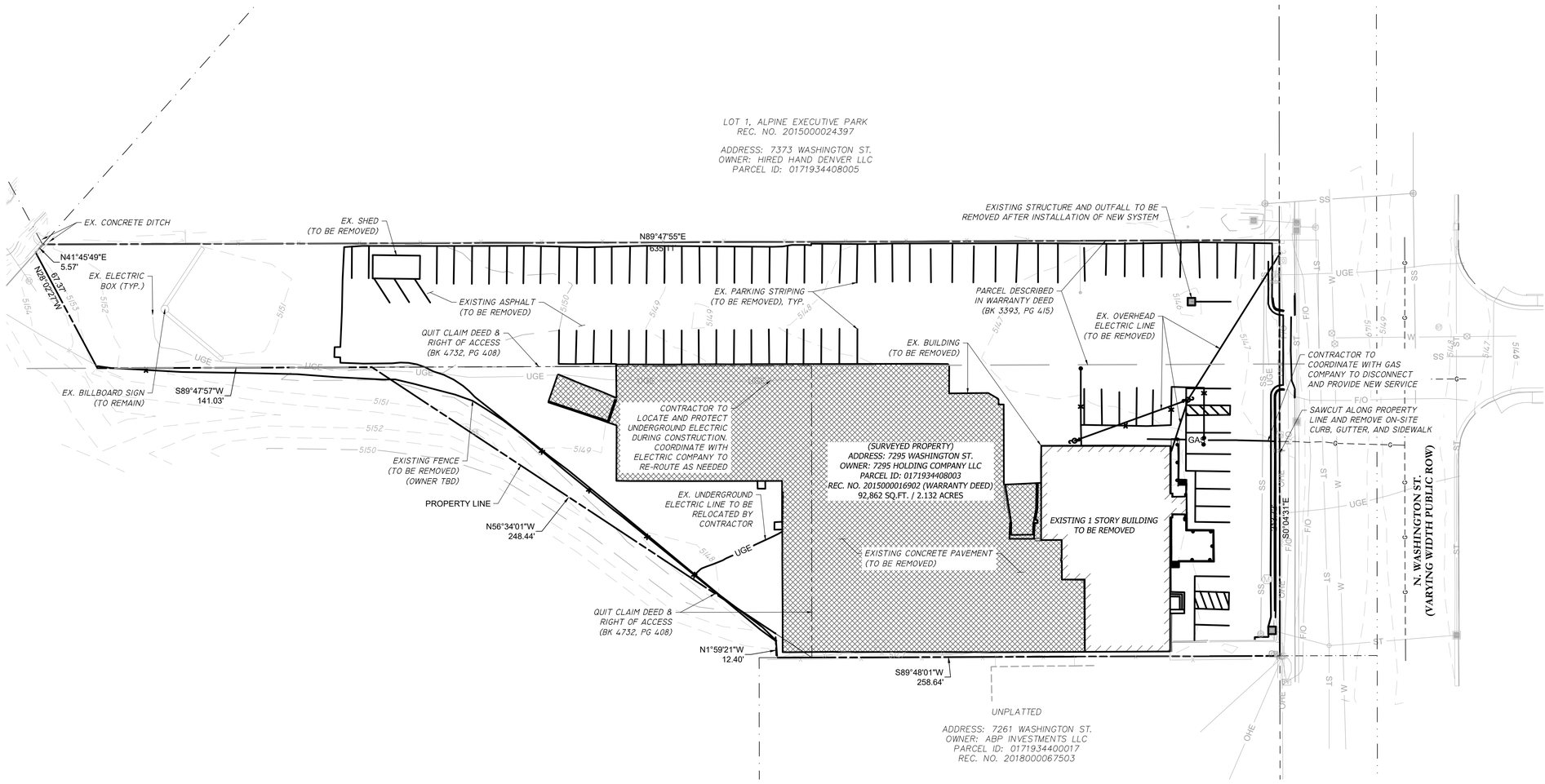
R&R ENGINEERS SURVEYORS INC

No.	Date

MAIKER BOYERS

7295 WASHINGTON ST., ADAMS COUNTY, CO 80229

CASE NO. PRC2024-00017



DEMOLITION LEGEND

EXISTING	DEMOLITION	
T	T	COMMUNICATIONS
CATV	CATV	CABLE TV
F/O	F/O	FIBER OPTIC
GAS	GAS	NATURAL GAS PIPE
OHE	OHE	POWER - OVERHEAD
UGE	UGE	POWER - UNDERGROUND
SS	SS	SANITARY SEWER PIPE
ST	ST	STORM SEWER PIPE
W	W	WATER PIPE
		EASEMENT
x	x	FENCE LINE
		ROAD CURB AND GUTTER
		SIDEWALK
		WALL - RETAINING
5820		MAJOR CONTOUR
5822		MINOR CONTOUR
EM	EM	ELECTRICAL METER
E	E	ELECTRICAL STRUCTURE
		GUY WIRE
		LIGHT POLE
TR	TR	TRANSFORMER PAD
CATV	CATV	CABLE TV STRUCTURE
T	T	COMMUNICATIONS MANHOLE
T	T	COMMUNICATIONS STRUCTURE
FO	FO	FIBER OPTIC STRUCTURE
GM	GM	GAS METER
GAS	GAS	GAS VALVE
		SANITARY SEWER CLEANOUT
ST	ST	STORM SEWER MANHOLE
		STORM SEWER AREA INLET
		STORM SEWER CURB INLET
		STORM SEWER FLARED END SECTION
		FIRE HYDRANT
IRR	IRR	IRRIGATION STRUCTURE
		WATER FITTING
M	M	WATER METER
		WATER TAP / CORP STOP
		WATER VALVE
		ADA ACCESSIBLE PARKING
		SIGN
		TREES

NORTH

0 30' 60' 90'

SCALE: 1" = 30'

SOPHERSPARN ARCHITECTS LLC
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R&R ENGINEERS SURVEYORS INC

No.	Date

MAIKER BOYERS

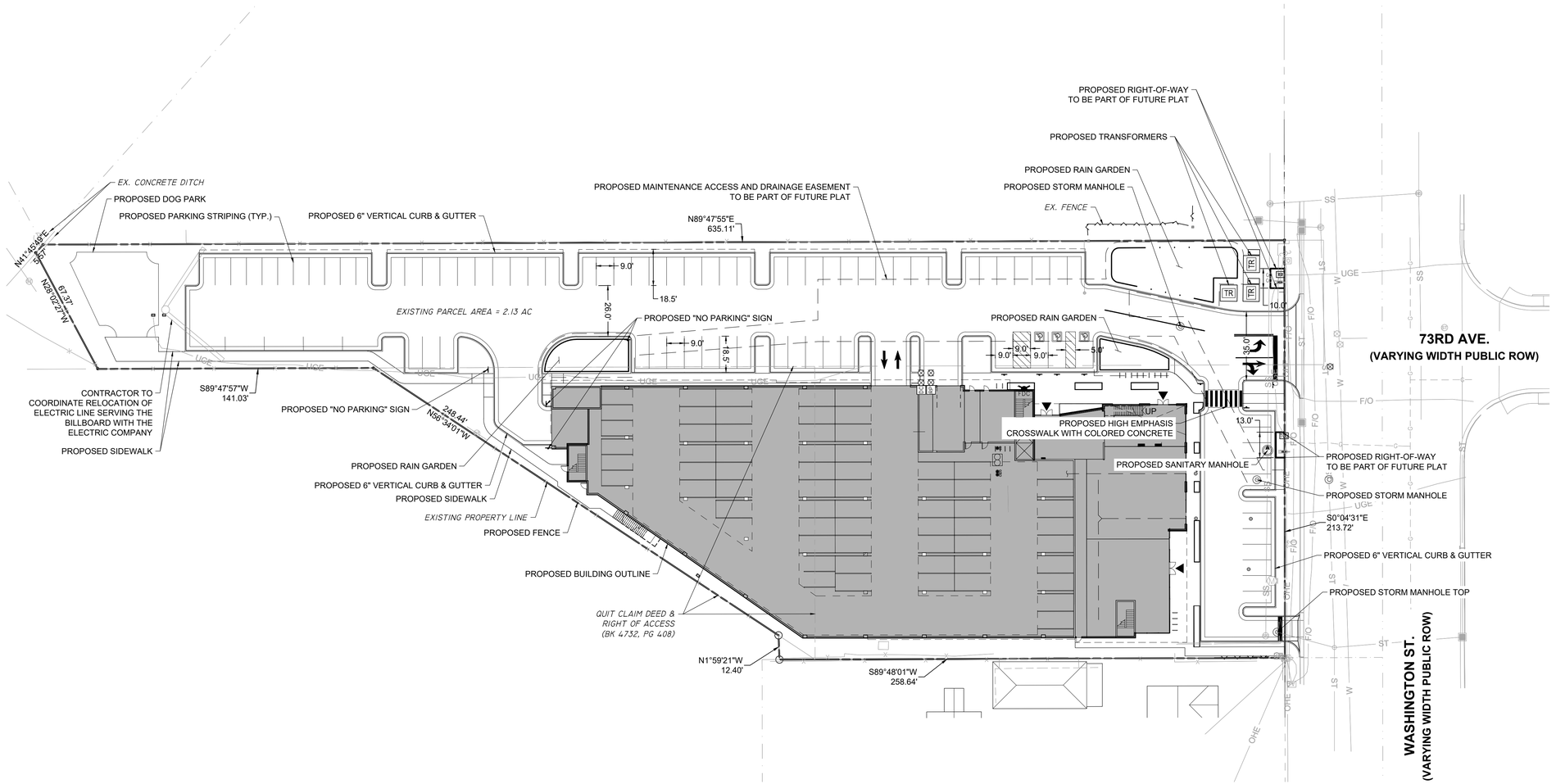
7295 WASHINGTON ST., ADAMS COUNTY, CO 80229

PDP & REZONING SUBMITTAL
EXISTING CONDITIONS AND DEMO PLAN

02.07.2025

C1.00

CASE NO. PRC2024-00017



LEGEND

EXISTING	PROPOSED	
T	T	COMMUNICATIONS
CATV	CATV	CABLE TV
F/O	F/O	FIBER OPTIC
GAS	GAS	NATURAL GAS PIPE
OHE	OHE	POWER - OVERHEAD
UGE	UGE	POWER - UNDERGROUND
SS	SS	SANITARY SEWER PIPE
ST	ST	STORM SEWER PIPE
W	W	WATER PIPE
		EASEMENT
		FLOODPLAIN LIMIT
		LOT LINE
		PROPERTY LINE
		RIGHT OF WAY
		SECTION LINE
		SETBACK
x	x	FENCE LINE
		ROAD CURB AND GUTTER
		SIDEWALK
EM	EM	ELECTRICAL METER
E	E	ELECTRICAL STRUCTURE
		GUY WIRE
		LIGHT POLE
TR	TR	TRANSFORMER PAD
		UTILITY POLE
CATV	CATV	CABLE TV STRUCTURE
T	T	COMMUNICATIONS MANHOLE
T	T	COMMUNICATIONS STRUCTURE
FO	FO	FIBER OPTIC STRUCTURE
GM	GM	GAS METER
G	G	GAS MANHOLE
GAS	GAS	GAS VALVE
SS	SS	SANITARY SEWER MANHOLE
SS	SS	SANITARY SEWER CLEANOUT
ST	ST	STORM SEWER MANHOLE
		STORM SEWER AREA INLET
		STORM SEWER CURB INLET
		STORM SEWER FLARED END SECTION
		FIRE HYDRANT
IRR	IRR	IRRIGATION STRUCTURE
		WATER FITTING
M	M	WATER METER
		WATER TAP / CORP STOP
		WATER VALVE
		ADA ACCESSIBLE PARKING
		SIGN
		TREES

BENCHMARK (NAVD83 Datum)

ORIGINATING BENCHMARK:
SET MAG NAIL IN ASPHALT AS SHOWN ON SHEET 2. USED OPUS PROCESSING FOR COORDINATE AND ELEVATION RESULT ON MARCH 9, 2023, HAVING USED 13,340 OF 14,196 OBSERVATIONS (94%) AND 68 OF 71 FIXED AMBIGUITIES (96%). (LIES APPROXIMATELY 9.2' NORTH OF WESTERLY MOST CORNER OF CONCRETE FOUNDATION.)

ELEVATION = 5149.69'

NORTH

0 30' 60' 90'

SCALE: 1" = 30'

SOPHERSPARN ARCHITECTS LLC
2505 Walnut | Suite 200 | Boulder, CO 80302
303.442.4422 | www.sophersparn.com

Maiker Housing Partners

R&R ENGINEERS SURVEYORS INC

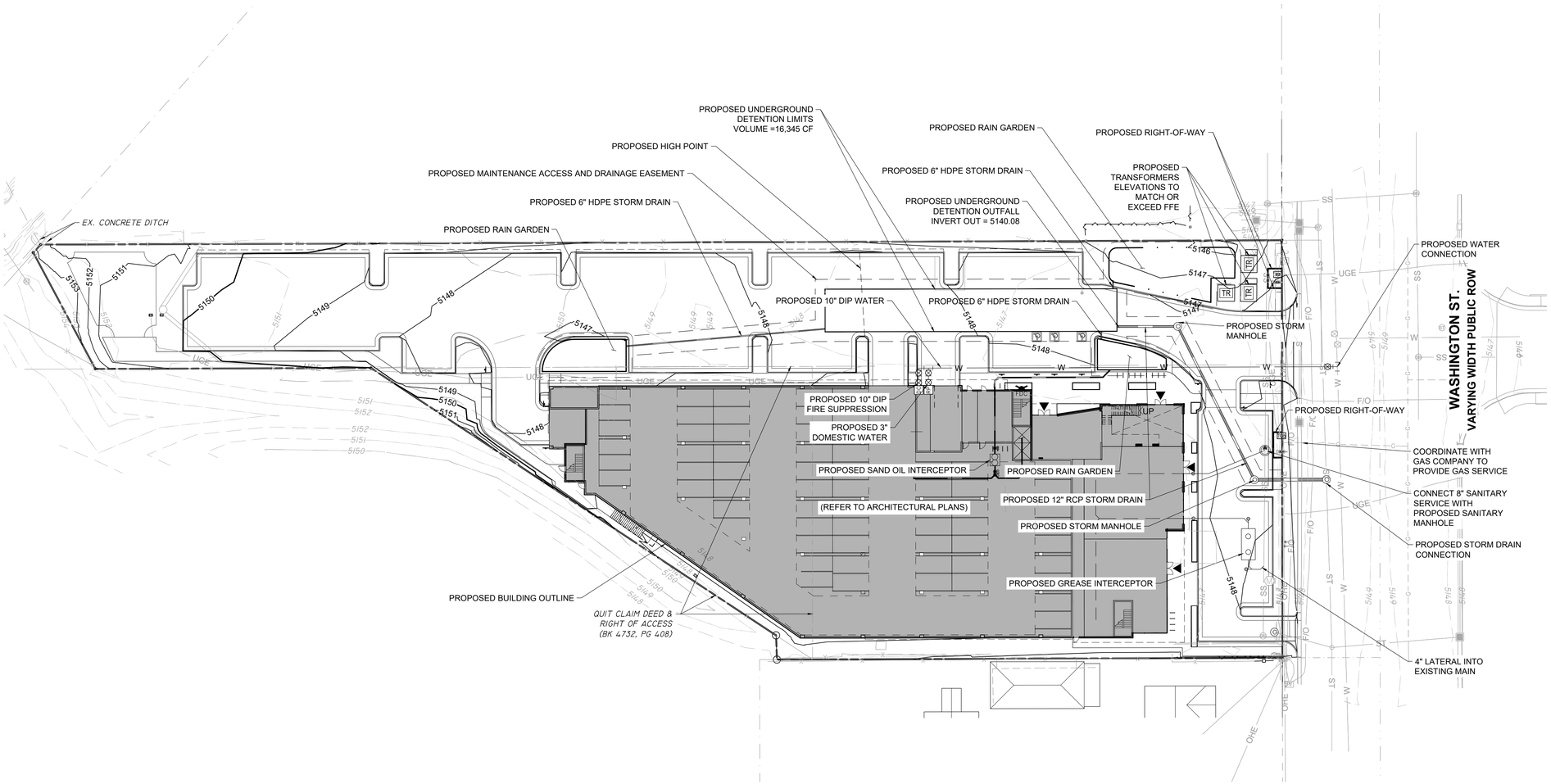
No.	Date

MAIKER BOYERS

7295 WASHINGTON ST., ADAMS COUNTY, CO 80229

PDP & REZONING SUBMITTAL 02.07.2025

SITE PLAN C1.01



CASE NO. PRC2024-00017

LEGEND

EXISTING	PROPOSED	
T	T	COMMUNICATIONS
CATV	CATV	CABLE TV
F/O	F/O	FIBER OPTIC
GAS	GAS	NATURAL GAS PIPE
OHE	OHE	POWER - OVERHEAD
UGE	UGE	POWER - UNDERGROUND
SS	SS	SANITARY SEWER PIPE
ST	▬	STORM SEWER PIPE
W	W	WATER PIPE
— —	— —	EASEMENT
— · · —	— · · —	FLOODPLAIN LIMIT
——	——	LOT LINE
— — —	— — —	PROPERTY LINE
— · —	— — —	RIGHT OF WAY
——		SECTION LINE
- - -	- - -	SETBACK
x	x	FENCE LINE
═	═	ROAD CURB AND GUTTER
═	═	SIDEWALK
EM	EM	ELECTRICAL METER
E	E	ELECTRICAL STRUCTURE
←	←	GUY WIRE
☼	☼	LIGHT POLE
TR	TR	TRANSFORMER PAD
○	○	UTILITY POLE
CATV	CATV	CABLE TV STRUCTURE
Ⓣ	Ⓣ	COMMUNICATIONS MANHOLE
T	T	COMMUNICATIONS STRUCTURE
FO	FO	FIBER OPTIC STRUCTURE
GM	GM	GAS METER
Ⓖ	Ⓖ	GAS MANHOLE
⊠	⊠	GAS VALVE
Ⓢ	●	SANITARY SEWER MANHOLE
○	◎	SANITARY SEWER CLEANOUT
ST	◎	STORM SEWER MANHOLE
● ■	● ■	STORM SEWER AREA INLET
▭ ■	▭ ■	STORM SEWER CURB INLET
▷	▷	STORM SEWER FLARED END SECTION
●	●	FIRE HYDRANT
IRR	IRR	IRRIGATION STRUCTURE
	+ ×	WATER FITTING
Ⓜ	Ⓜ	WATER METER
	•	WATER TAP / CORP STOP
⊠	⊠	WATER VALVE
♿	♿	ADA ACCESSIBLE PARKING
—o	—o	SIGN
✲ ●	✲ ●	TREES

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ELEVATION = 5149.69'

SCALE: 1" = 30'

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NOTICE: DUTY OF COOPERATION

RELEASE OF THESE DOCUMENTS CONTEMPLATES FURTHER COOPERATION AMONG THE OWNER, HIS CONTRACTOR, AND THE ARCHITECT. DESIGN AND CONSTRUCTION ARE COMPLEX. ALTHOUGH THE ARCHITECT AND HIS CONSULTANTS HAVE PERFORMED THEIR SERVICES WITH DUE CARE AND DILIGENCE, THEY CANNOT GUARANTEE PERFECTION. COMMUNICATION IS IMPERFECT AND EVERY CONTINGENCY CANNOT BE ANTICIPATED. ANY ERRORS, OMISSIONS, OR DISCREPANCY DISCOVERED BY THE USE OF THESE DOCUMENTS SHALL BE REPORTED IMMEDIATELY TO THE ARCHITECT. FAILURE TO NOTIFY THE ARCHITECT COMPOUNDS MISUNDERSTANDING AND INCREASES CONSTRUCTION COSTS. A FAILURE TO COOPERATE BY SIMPLE NOTICE TO THE ARCHITECT SHALL RELIEVE THE ARCHITECT FROM RESPONSIBILITY FOR ALL CONSEQUENCES ARRIVING OUT OF SUCH CHANGES.

DO NOT SCALE FROM DRAWING. VERIFY ALL DIMENSIONS ON SITE.

R&R ENGINEERS SURVEYORS INC

No.	Date

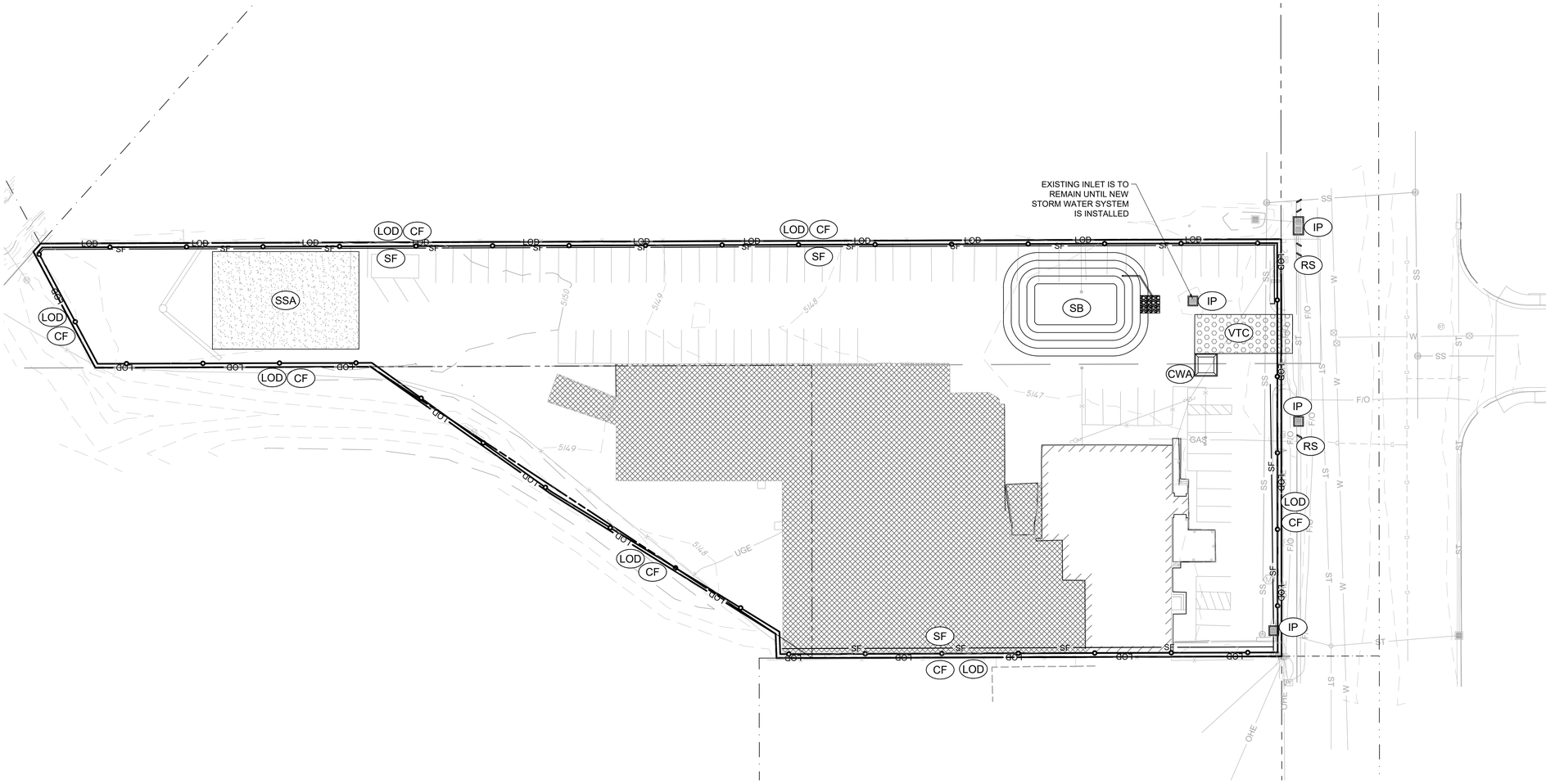
MAIKER BOYERS

7295 WASHINGTON ST., ADAMS COUNTY, CO 80229

PDP & REZONING SUBMITTAL **02.07.2025**

UTILITY PLAN C1.02

CASE NO. PRC2024-00017



BMP LEGEND

CF	CONSTRUCTION FENCE
CWA	CONCRETE WASHOUT AREA
SF	SILT FENCE
LOD	LIMITS OF DISTURBANCE
RS	ROCK SOCK
SSA	STABILIZED STAGING AREA
VTC	VEHICLE TRACKING
IP	INLET PROTECTION
SB	SEDIMENT BASIN

NORTH

0 30' 60' 90'

SCALE: 1" = 30'

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Maiker Housing Partners

R&R ENGINEERS SURVEYORS INC

No.	Date

MAIKER BOYERS
7295 WASHINGTON ST., ADAMS COUNTY, CO 80229

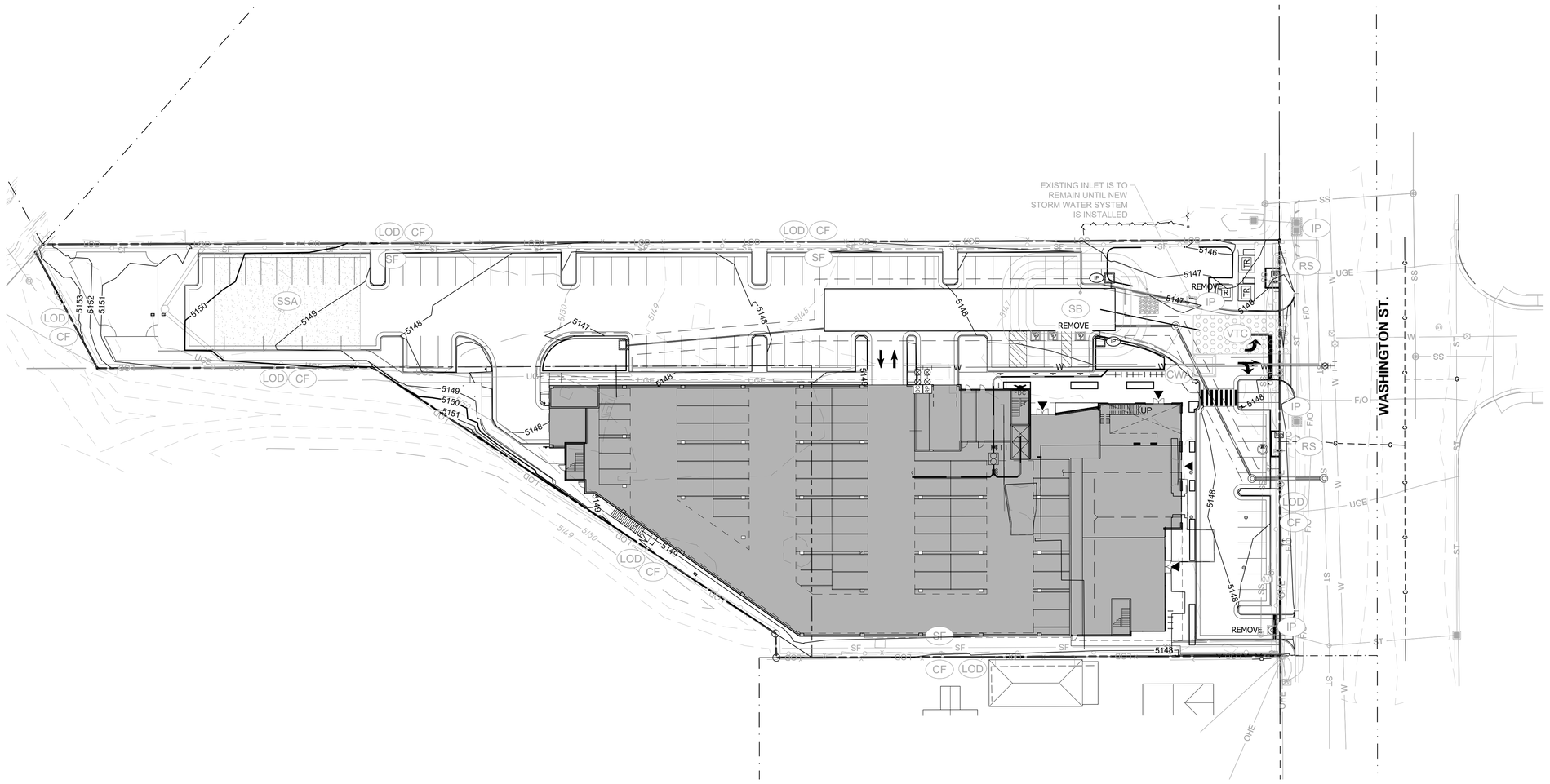
EROSION AND SEDIMENT CONTROL PLAN - INITIAL

PLAN/REZONING SUBMITTAL

02.07.2025

C2.00

CASE NO. PRC2024-00017



BMP LEGEND

CF	CONSTRUCTION FENCE
CWA	CONCRETE WASHOUT AREA
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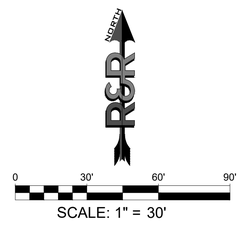

SCALE: 1" = 30'

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Maiker Housing Partners

R&R ENGINEERS SURVEYORS INC

No.	Date

MAIKER BOYERS

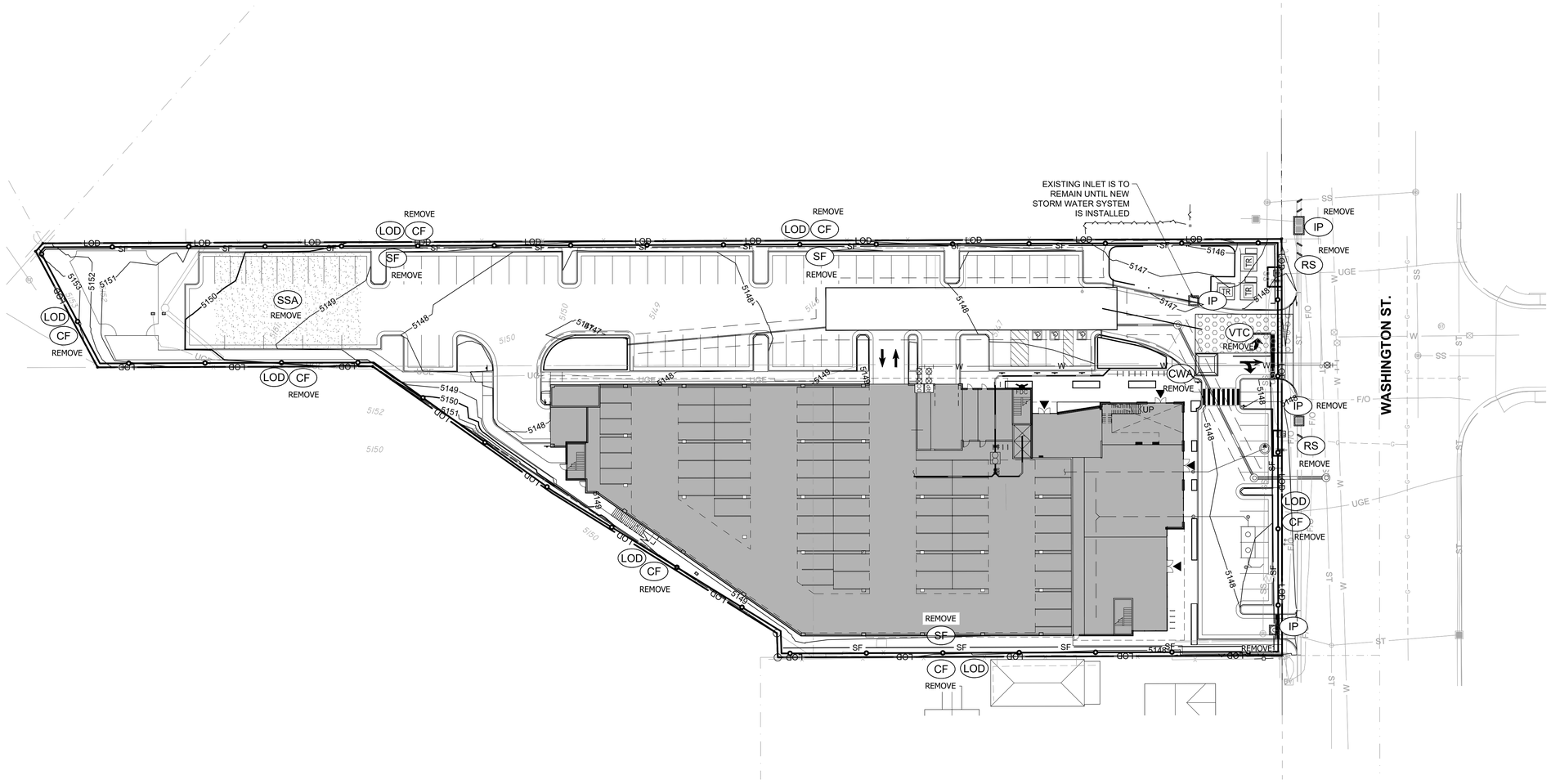
7295 WASHINGTON ST., ADAMS COUNTY, CO 80229

EROSION AND SEDIMENTATION CONTROL PLAN- INTERIM

02.07.2025

C2.01

CASE NO. PRC2024-00017



BMP LEGEND

CF	CONSTRUCTION FENCE
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SF	SILT FENCE
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SCALE: 1" = 30'

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R&R ENGINEERS-SURVEYORS, INC

No.	Date

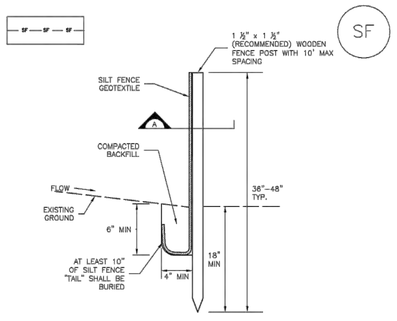
MAIKER BOYERS

7295 WASHINGTON ST., ADAMS COUNTY, CO 80229

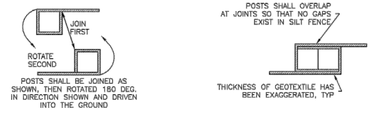
EROSION AND SEDIMENTATION CONTROL PLANS-FINAL

02.07.2025

C2.02



SILT FENCE



SECTION A

SF–1. SILT FENCE

SILT FENCE INSTALLATION NOTES

1. SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER PONDING. SILT FENCE AT THE TOE OF A SLOPE SHOULD BE INSTALLED IN A FLAT LOCATION AT LEAST SEVERAL FEET (2–5 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR PONDING AND DEPOSITION.

2. A UNIFORM 6" X 4" ANCHOR TRENCH SHALL BE EXCAVATED USING TRENCHER OR SILT FENCE INSTALLATION DEVICE. NO ROAD GRADERS, BACKHOES, OR SIMILAR EQUIPMENT SHALL BE USED.

3. COMPACT ANCHOR TRENCH BY HAND WITH A "JUMPING JACK" OR BY WHEEL ROLLING. COMPACTION SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.

4. SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO NOTICEABLE SAG BETWEEN STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES.

5. SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEADS. STAPLES AND NAILS SHOULD BE PLACED 3" ALONG THE FABRIC DOWN THE STAKE.

6. AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE TURNED PERPENDICULAR TO THE CONTOUR TO CREATE A "J-HOOK." THE "J-HOOK" EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP RUNOFF FROM FLOWING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' – 20').

7. SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

SILT FENCE MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. SEDIMENT ACCUMULATED UPSTREAM OF THE SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 6".

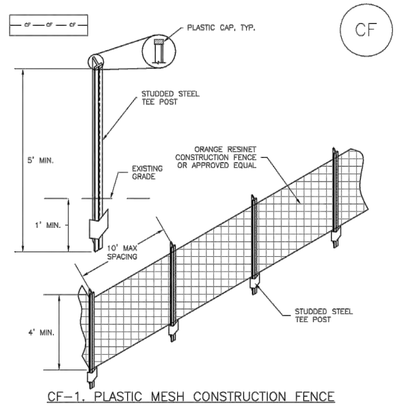
5. REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.

6. SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERIMETER SEDIMENT CONTROL BMP.

7. WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, NOT AVAILABLE IN AUTOCAD)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.



CF–1. PLASTIC MESH CONSTRUCTION FENCE

CONSTRUCTION FENCE INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION OF CONSTRUCTION FENCE.

2. CONSTRUCTION FENCE SHOWN SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

3. CONSTRUCTION FENCE SHALL BE COMPOSED OF ORANGE, CONTRACTOR–GRADE MATERIAL THAT IS AT LEAST 4' HIGH. METAL POSTS SHOULD HAVE A PLASTIC CAP FOR SAFETY.

4. STUDDED STEEL TEE POSTS SHALL BE UTILIZED TO SUPPORT THE CONSTRUCTION FENCE. MAXIMUM SPACING FOR STEEL TEE POSTS SHALL BE 10'.

5. CONSTRUCTION FENCE SHALL BE SECURELY FASTENED TO THE TOP, MIDDLE, AND BOTTOM OF EACH POST.

CONSTRUCTION FENCE MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

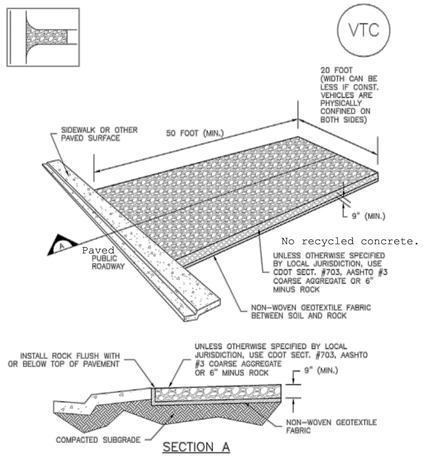
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. CONSTRUCTION FENCE SHALL BE REPAIRED OR REPLACED WHEN THERE ARE SIGNS OF DAMAGE SUCH AS RIPS OR SAGS. CONSTRUCTION FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

5. WHEN CONSTRUCTION FENCES ARE REMOVED, ALL DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE FENCE SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

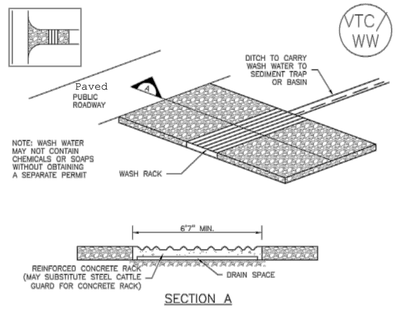
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD)



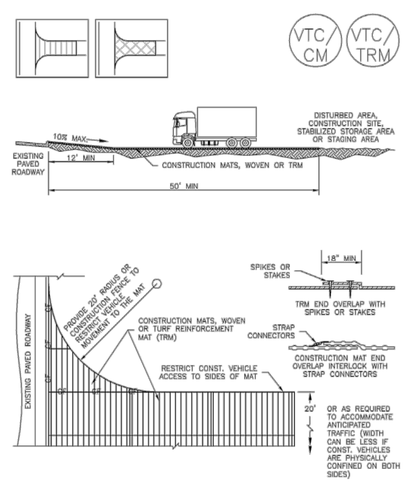
SECTION A

VTC–1. AGGREGATE VEHICLE TRACKING CONTROL



SECTION A

VTC–2. AGGREGATE VEHICLE TRACKING CONTROL WITH WASH RACK



VTC–3. VEHICLE TRACKING CONTROL W/ CONSTRUCTION MAT OR TURF REINFORCEMENT MAT (TRM)

STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   –LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S).
   –TYPE OF CONSTRUCTION ENTRANCE(S)/EXITS(S) (WITH/WITHOUT WHEEL WASH, CONSTRUCTION MAT OR TRM).

2. CONSTRUCTION MAT OR TRM STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE USED ON SHORT DURATION PROJECTS (TYPICALLY RANGING FROM A WEEK TO A MONTH) WHERE THERE WILL BE LIMITED VEHICULAR ACCESS.

3. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT–OF–WAYS.

4. STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

5. A NON–WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.

6. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK. Recycled concrete is not allowed.

STABILIZED CONSTRUCTION ENTRANCE/EXIT MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.

5. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND AT THE END OF THE DAY BY SHOVELING OR SWEEPING. SEDIMENT MAY NOT BE WASHED DOWN STORM SEWER DRAINS.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM CITY OF BROOMFIELD, COLORADO, NOT AVAILABLE IN AUTOCAD)

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R&R ENGINEERS SURVEYORS INC

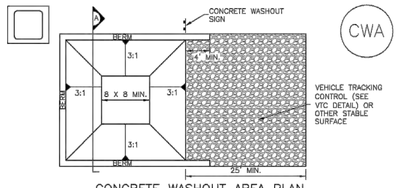
No.	Date

MAIKER BOYERS
7295 WASHINGTON ST., ADAMS COUNTY, CO 80229

PDP & REZONING SUBMITTAL 02.07.2025

EROSION AND SEDIMENT CONTROL DETAILS

C2.03



CWA–1. CONCRETE WASHOUT AREA

CWA INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –CWA INSTALLATION LOCATION.

2. DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 1,000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE ARE SHOULD BE USED.

3. THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.

4. CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8' SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.

5. BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.

6. VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.

7. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.

8. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

CWA MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

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3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. THE CWA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS, ACCUMULATED IN PIT, SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 2'.

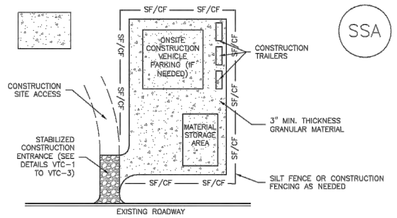
5. CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER–TIGHT CONTAINER AND DISPOSED OF PROPERLY.

6. THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.

7. WHEN THE CWA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, SEED AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND THE CITY OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD).

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.



SSA–1. STABILIZED STAGING AREA

STABILIZED STAGING AREA INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   –LOCATION OF STAGING AREA(S).
   –CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.

2. STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.

3. STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.

4. THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.

5. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

6. ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.

STABILIZED STAGING AREA MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

STABILIZED STAGING AREA MAINTENANCE NOTES

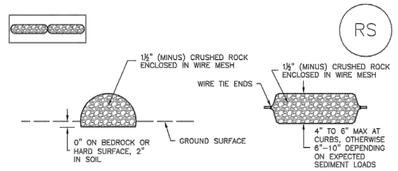
5. STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.

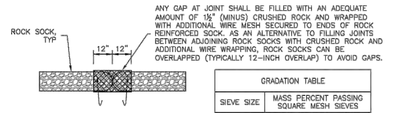
6. THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE–ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)





GRADATION TABLE	
SIEVE SIZE	MASS PERCENT PASSING SQUARE MESH SIEVES
	NO. 4
2"	100
1½"	90 – 100
1"	20 – 55
¾"	0 – 15
⅜"	0 – 5
MATCHES SPECIFICATIONS FOR NO. 4 COARSE AGGREGATE FOR CONCRETE PER AASHTO M43. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES.	

ROCK SOCK INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION(S) OF ROCK SOCKS.

2. CRUSHED ROCK SHALL BE 1½" (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET (1½" MINUS).

3. WIRE MESH SHALL BE FABRICATED OF 10 GAGE POULTRY MESH, OR EQUIVALENT, WITH A MAXIMUM OPENING OF ½", RECOMMENDED MINIMUM ROLL WIDTH OF 48"

4. WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6" CENTERS ALONG ALL JOINTS AND AT 2" CENTERS ON ENDS OF SOCKS.

5. SOME MUNICIPALITIES MAY ALLOW THE USE OF FILTER FABRIC AS AN ALTERNATIVE TO WIRE MESH FOR THE ROCK ENCLOSURE.

RS–1. ROCK SOCK PERIMETER CONTROL

ROCK SOCK MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. ROCK SOCKS SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED, OR DAMAGED BEYOND REPAIR.

5. SEDIMENT ACCUMULATED UPSTREAM OF ROCK SOCKS SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY ½ OF THE HEIGHT OF THE ROCK SOCK.

6. ROCK SOCKS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

7. WHEN ROCK SOCKS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF ROCK SOCK INSTALLATION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY OTHER SIMILAR PROPRIETARY PRODUCTS ON THE MARKET. UDFCD NEITHER NDORSES NOR DISCOURAGES USE OF PROPRIETARY PROTECTION PRODUCTS; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWMP AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN IN THE MANUFACTURER'S DETAILS.

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Maiker Housing Partners

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MAIKER BOYERS
7295 WASHINGTON ST., ADAMS COUNTY, CO 80229

PDP & REZONING SUBMITTAL 02.07.2025
EROSION AND SEDIMENT CONTROL DETAILS
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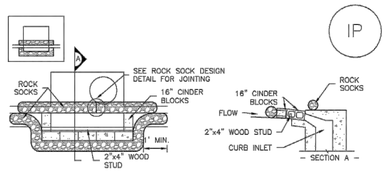


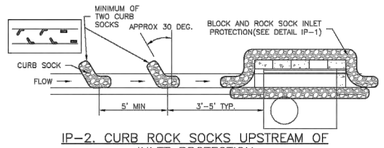
IP–1, BLOCK AND ROCK SOCK SUMP OR ON GRADE INLET PROTECTION

BLOCK AND CURB SOCK INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. CONCRETE "CINDER" BLOCKS SHALL BE LAID ON THEIR SIDES AROUND THE INLET IN A SINGLE ROW, ABUTTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.

3. GRAVEL BAGS SHALL BE PLACED AROUND CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER AND JOINTED TOGETHER IN ACCORDANCE WITH ROCK SOCK DESIGN DETAIL.



IP–2. CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION

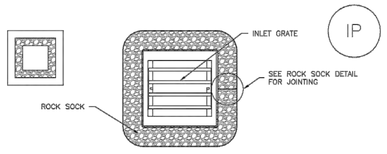
CURB ROCK SOCK INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL INSTALLATION REQUIREMENTS.

2. PLACEMENT OF THE SOCK SHALL BE APPROXIMATELY 30 DEGREES FROM PERPENDICULAR IN THE OPPOSITE DIRECTION OF FLOW.

3. SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5 FEET APART.

4. AT LEAST TWO CURB SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON–GRADE INLETS.

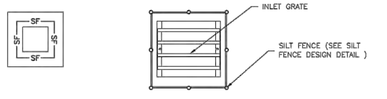


IP–3. ROCK SOCK SUMP/AREA INLET PROTECTION

ROCK SOCK SUMP/AREA INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF ROCK SOCKS FOR INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.



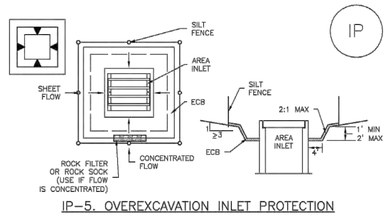
IP–4. SILT FENCE FOR SUMP INLET PROTECTION

SILT FENCE INLET PROTECTION INSTALLATION NOTES

1. SEE SILT FENCE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. POSTS SHALL BE PLACED AT EACH CORNER OF THE INLET AND AROUND THE EDGES AT A MAXIMUM SPACING OF 3 FEET.

3. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF SILT FENCE FOR INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.



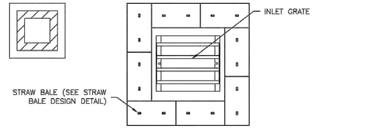
IP–5. OVEREXCAVATION INLET PROTECTION

OVEREXCAVATION INLET PROTECTION INSTALLATION NOTES

1. THIS FORM OF INLET PROTECTION IS PRIMARILY APPLICABLE FOR SITES THAT HAVE NOT YET REACHED FINAL GRADE AND SHOULD BE USED ONLY FOR INLETS WITH A RELATIVELY SMALL CONTRIBUTING DRAINAGE AREA.

2. WHEN USING FOR CONCENTRATED FLOWS, SHAPE BASIN IN 2:1 RATIO WITH LENGTH ORIENTED TOWARDS DIRECTION OF FLOW.

3. SEDIMENT MUST BE PERIODICALLY REMOVED FROM THE OVEREXCAVATED AREA.



IP–6. STRAW BALE FOR SUMP INLET PROTECTION

STRAW BALE BARRIER INLET PROTECTION INSTALLATION NOTES

1. SEE STRAW BALE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. BALES SHALL BE PLACED IN A SINGLE ROW AROUND THE INLET WITH ENDS OF BALES TIGHTLY ABUTTING ONE ANOTHER.

GENERAL INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION OF INLET PROTECTION.
   –TYPE OF INLET PROTECTION (IP.1, IP.2, IP.3, IP.4, IP.5, IP.6)

2. INLET PROTECTION SHALL BE INSTALLED PROMPTLY AFTER INLET CONSTRUCTION OR PAVING IS COMPLETE (TYPICALLY WITHIN 48 HOURS). IF A RAINFALL/RUNOFF EVENT IS FORECAST, INSTALL INLET PROTECTION PRIOR TO ONSET OF EVENT.

3. MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

INLET PROTECTION MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. SEDIMENT ACCUMULATED UPSTREAM OF INLET PROTECTION SHALL BE REMOVED AS NECESSARY TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN STORAGE VOLUME REACHES 50% OF CAPACITY, A DEPTH OF 6" WHEN SILT FENCE IS USED, OR ¼ OF THE HEIGHT FOR STRAW BALES.

5. INLET PROTECTION IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED, UNLESS THE LOCAL JURISDICTION APPROVES EARLIER REMOVAL OF INLET PROTECTION IN STREETS.

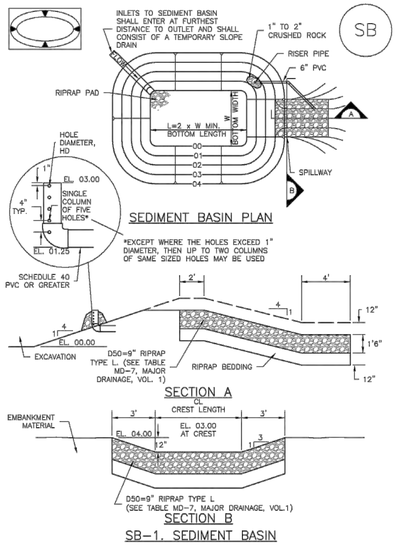
6. WHEN INLET PROTECTION AT AREA INLETS IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF INLET PROTECTION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY PROPRIETARY INLET PROTECTION METHODS ON THE MARKET. UDFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY INLET PROTECTION; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWMP AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN IN THE MANUFACTURER'S DETAILS.

NOTE: SOME MUNICIPALITIES DISCOURAGE OR PROHIBIT THE USE OF STRAW BALES FOR INLET PROTECTION. CHECK WITH LOCAL JURISDICTION TO DETERMINE IF STRAW BALE INLET PROTECTION IS ACCEPTABLE.



SB–1. SEDIMENT BASIN

TABLE SB–1. SIZING INFORMATION FOR STANDARD SEDIMENT BASIN

Upstream Drainage Area (rounded to nearest acre), (ac)	Basin Bottom Width (W), (ft)	Spillway Crest Length (CL), (ft)	Hole Diameter (HD), (in)
1	12 ½	2	9/32
2	21	3	13/16
3	28	5	½
4	33 ½	6	9/16
5	38 ½	8	23/32
6	43	9	23/32
7	47 ¼	11	29/32
8	51	12	23/32
9	55	13	⅝
10	58 ¾	15	19/16
11	61	16	3/32
12	64	18	1
13	67 ½	19	1 7/16
14	70 ½	21	1 ⅜
15	73 ¼	22	1 5/16

SEDIMENT BASIN INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION OF SEDIMENT BASIN.
   –TYPE OF BASIN (STANDARD BASIN OR NONSTANDARD BASIN).
   –FOR STANDARD BASIN, BOTTOM WIDTH W, CREST LENGTH CL, AND HOLE DIAMETER, HD.
   –FOR NONSTANDARD BASIN, SEE CONSTRUCTION DRAWINGS FOR DESIGN OF BASIN INCLUDING RISER HEIGHT H, NUMBER OF COLUMNS N, HOLE DIAMETER HD AND PIPE DIAMETER D.

2. FOR STANDARD BASIN, BOTTOM DIMENSION MAY BE MODIFIED AS LONG AS BOTTOM AREA IS NOT REDUCED.

3. SEDIMENT BASINS SHALL BE INSTALLED PRIOR TO ANY OTHER LAND–DISTURBING ACTIVITY THAT RELIES ON ON BASINS AS AS A STORMWATER CONTROL.

4. EMBANKMENT MATERIAL SHALL CONSIST OF SOIL FREE OF DEBRIS, ORGANIC MATERIAL, AND ROCKS OR CONCRETE GREATER THAN 3 INCHES AND SHALL HAVE A MINIMUM OF 15 PERCENT BY WEIGHT PASSING THE NO. 200 SIEVE.

5. EMBANKMENT MATERIAL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D698.

6. PIPE SCH 40 OR GREATER SHALL BE USED.

7. THE DETAILS SHOWN ON THESE SHEETS PERTAIN TO STANDARD SEDIMENT BASIN(S) FOR DRAINAGE AREAS LESS THAN 15 ACRES. SEE CONSTRUCTION DRAWINGS FOR EMBANKMENT, STORAGE VOLUME, SPILLWAY, OUTLET, AND OUTLET PROTECTION DETAILS FOR ANY SEDIMENT BASIN(S) THAT HAVE BEEN INDIVIDUALLY DESIGNED FOR DRAINAGE AREAS LARGER THAN 15 ACRES.

SEDIMENT BASIN MAINTENANCE NOTES

1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. SEDIMENT ACCUMULATED IN BASIN SHALL BE REMOVED AS NEEDED TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN SEDIMENT DEPTH REACHES ONE FOOT (I.E., TWO FEET BELOW THE SPILLWAY CREST).

5. SEDIMENT BASINS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS ACCEPTED BY THE LOCAL JURISDICTION.

6. WHEN SEDIMENT BASINS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

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Maiker Housing Partners

R&R ENGINEERS SURVEYORS INC

No.	Date

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7295 WASHINGTON ST., ADAMS COUNTY, CO 80229

PDP & REZONING SUBMITTAL 02.07.2025
EROSION AND SEDIMENT CONTROL DETAILS
C2.05

MAIKER BOYERS

CASE NO. PRC2024-00017

LANDSCAPE PLANT LIST

DECIDUOUS SHADE TREES

SYMBOL	COMMON NAME	BOTANICAL NAME	MATURE HEIGHT	MATURE SPREAD	WATER USE	SUN/SHADE	SIZE AND CONDITION
WEH	Western Hackberry	Celtis occidentalis	50-60'	40-50'	Low	Sun	2" Cal., B&B
PSG	Princeton Sentry Ginkgo	Ginkgo biloba 'Princeton Sentry'	35-40'	12-15'	Medium	Sun	2" Cal., B&B
SKL	Skyline Honeylocust	Gleditsia triacanthos inermis 'Skyline'	40'	30'	Low	Sun	2" Cal., B&B
KYC	Kentucky Coffeetree	Gymnocladus dioicus	50-60'	40-50'	Low	Sun	2" Cal., B&B
BUO	Bur Oak	Quercus macrocarpa	50-80'	50-80'	Low	Sun	2" Cal., B&B
CHO	Chinquapin Oak	Quercus muehlenbergii	35-50'	35-50'	Low	Sun	2" Cal., B&B

ORNAMENTAL TREES

SYMBOL	COMMON NAME	BOTANICAL NAME	MATURE HEIGHT	MATURE SPREAD	WATER USE	SUN/SHADE	SIZE AND CONDITION
SHS	Shadblow Serviceberry	Amelanchier canadensis	15-25'	15-25'	Low	Sun	1-1/2" Cal., B&B
EAR	Eastern Redbud	Cercis canadensis	20-30'	20-30'	Medium	Shade / Part Shade	1-1/2" Cal., B&B
TCH	Thornless Cockspur Hawthorn	Crataegus crus-galli inermis	15-25'	15-20'	Low	Sun	1-1/2" Cal., B&B
PSG	Princeton Sentry Ginkgo	Ginkgo biloba 'Princeton Sentry'	35-40'	12-15'	Medium	Sun	1-1/2" Cal., B&B
SSF	Seven-son Flower	Heptacodium miconioides	18'	12'	Medium	Sun / Part Shade	1-1/2" Cal., B&B
CSO	Crimson Spire Oak	Quercus robur x alba 'Crimschmidt'	45'	14'	Medium	Sun	1-1/2" Cal., B&B
JTL	Japanese Tree Lilac	Syringa reticulata	15-25'	15-20'	Low	Sun / Part Shade	1-1/2" Cal., B&B
CCG	Clear Creek Golden Yellowhorn	Xanthoceras sorbifolium 'Pagan'	18-22'	10-15'	Low	Sun	1-1/2" Cal., B&B

EVERGREEN TREES

SYMBOL	COMMON NAME	BOTANICAL NAME	MATURE HEIGHT	MATURE SPREAD	WATER USE	SUN/SHADE	SIZE AND CONDITION
RMJ	Rocky Mountain Juniper	Juniperus scopulorum	20-30'	8-12'	Very Low	Sun	6' ht., B&B
FNS	Fastgate Norway Spruce	Picea abies 'Cupressina'	15-20'	4-6'	Medium	Sun	6' ht., B&B
WWS	Weeping White Spruce	Picea glauca 'Pendula'	15-25'	5-8'	Medium	Sun	6' ht., B&B
HIS	Hoopsi Spruce	Picea pungens 'Hoopsii'	25'	12'	Medium	Adaptable	6' ht., B&B
BRP	Bristlecone Pine	Pinus aristata	20-40'	10-20'	Low	Sun / Part Shade	6' ht., B&B
VPP	Vanderwolfs Pyramid Pine	Pinus flexilis 'Vanderwolfs Pyramid'	30-50'	15-30'	Low	Sun / Part Shade	6' ht., B&B
AUS	Austrian Pine	Pinus nigra	40-60'	30-40'	Low	Sun	6' ht., B&B
KCA	Komet Columnar Austrian Pine	Pinus nigra 'Komet'	15-20'	4-5'	Low	Sun	6' ht., B&B

DECIDUOUS SHRUBS

SYMBOL	COMMON NAME	BOTANICAL NAME	MATURE HEIGHT	MATURE SPREAD	WATER USE	SUN/SHADE	SIZE AND CONDITION
BLC	Black Chokeberry	Aronia melanocarpa elata	5-8'	4-6'	Low	Adaptable	5 Gallon Cont.
OCJ	Orange Columnar Japanese Barberry	Berberis thunbergii 'Orange Rocket'	4-5'	18-24"	Low	Sun / Part Shade	5 Gallon Cont.
LMM	Littleleaf Mountain Mahogany	Cercocarpus intricatus	6-8'	4-6'	Very Low	Sun / Part Shade	5 Gallon Cont.
AFD	Arctic Fire Dogwood	Cornus sericea Arctic Fire	3-4'	3-4'	Medium	Adaptable	5 Gallon Cont.
PCE	Peking Cotoneaster	Cotoneaster lucidus	6-12'	6-10'	Low	Sun / Part Shade	5 Gallon Cont.
CMD	Carol Mackie Daphne	Daphne x burkwoodii 'Carol Mackie'	3-5'	3-5'	Medium	Part Shade / Shade	5 Gallon Cont.
PPR	PURPLE PILLAR® Rose of Sharon	Hibiscus syriacus 'Purple Pillar'	10-16'	4-5'	Medium	Sun	5 Gallon Cont.
LOP	Lodense Privet	Ligustrum vulgare 'Lodense'	2-3'	3-4'	Low	Sun / Part Shade	5 Gallon Cont.
SWN	Summer Wine Ninebark	Physocarpus opulifolius 'Summer Wine'	4-6'	4-6'	Low	Sun / Part Shade	5 Gallon Cont.
CTS	Creeping Three-Leaf Sumac	Rhus trilobata 'Autumn Amber'	12-18"	6-8'	Very Low	Sun	5 Gallon Cont.
GMC	Green Mound Currant	Ribes alpinum 'Green Mound'	3-4'	2-3'	Low	Sun / Part Shade	5 Gallon Cont.
CCC	Crandall Clove Currant	Ribes odoratum 'Crandall'	3-5'	4-6'	Low	Sun / Part Shade	5 Gallon Cont.
BTE	Black Tower Elderberry	Sambucus nigra 'Eifel 1' PP23,633	6-8'	3-4'	Medium	Sun	5 Gallon Cont.
LMS	Limemound Spirea	Spiraea japonica Limemound	18-24"	2-3'	Medium	Sun / Part Shade	5 Gallon Cont.
WSB	Western Snowberry	Symphoricarpos occidentalis	3-5'	3-5'	Low	Sun / Part Shade	5 Gallon Cont.
PRL	Purple Reblooming Lilac	Syringa x Bloomerang	4-5'	4-5'	Low	Sun	5 Gallon Cont.
DEC	Dwarf European Cranberrybush	Viburnum opulus 'Nanum'	1-2'	1-2'	Medium	Adaptable	5 Gallon Cont.
CAC	Compact American Cranberrybush	Viburnum trilobum 'Bailey Compact'	4-5'	4-5'	Medium	Adaptable	5 Gallon Cont.

EVERGREEN SHRUBS

SYMBOL	COMMON NAME	BOTANICAL NAME	MATURE HEIGHT	MATURE SPREAD	WATER USE	SUN/SHADE	SIZE AND CONDITION
IBJ	Icee Blue Juniper	Juniperus horizontalis Icee Blue	2-4"	6-8'	Low	Sun	5 Gallon Cont.
COJ	Cologreen Juniper	Juniperus scopulorum 'Cologreen'	15-20'	4-6'	Very Low	Sun	5 Gallon Cont.
OGH	Oregon Grape Holly	Mahonia aquifolium	4-6'	4-6'	Low	Shade	5 Gallon Cont.
COG	Compact Oregon Grape Holly	Mahonia aquifolium compacta	2-3'	2-3'	Low	Shade	5 Gallon Cont.
DGG	Dwarf Globe Green Spruce	Picea pungens 'Roundabout'	2-3'	2-3'	Medium	Adaptable	5 Gallon Cont.
BTM	Big Tuna Mugo Pine	Pinus mugo 'Big Tuna'	6-8'	5-6'	Low	Sun	5 Gallon Cont.
AND	Adam's Needle Yucca	Yucca filamentosa	2-3'	3-4'	Low	Sun	5 Gallon Cont.

ORNAMENTAL GRASSES

SYMBOL	COMMON NAME	BOTANICAL NAME	MATURE HEIGHT	MATURE SPREAD	WATER USE	SUN/SHADE	SIZE AND CONDITION
SGG	Sideoats Grama Grass	Bouteloua curtipendula	8-24"	8-12"	Low	Sun	1 Gallon Cont.
BAM	Blonde Ambition Grama Grass	Bouteloua gracilis 'Blonde Ambition'	2-3'	1-2'	Very Low	Sun	1 Gallon Cont.
FRG	Feather Reed Grass	Calamagrostis acutiflora 'Karl Foerster'	4-5'	18-24"	Low	Sun / Part Shade	1 Gallon Cont.
KOR	Korean Feather Reed Grass	Calamagrostis brachytricha	3-4'	2-3'	Low	Adaptable	1 Gallon Cont.
DFG	Dwarf Fountain Grass	Pennisetum alopecuroides 'Hameln'	1-2'	18-24"	Low	Sun	1 Gallon Cont.
PLG	Plume Grass	Saccharum ravennae	8-12'	3-4'	Medium	Sun	5 Gallon Cont.
TBL	The Blues Little Bluestem Grass	Schizachyrium scoparium 'The Blues'	3-4'	18-24"	Low	Sun	1 Gallon Cont.
GSG	Giant Sacaton Grass	Sporobolus wrightii	3-6'	3-5'	Low	Sun	5 Gallon Cont.

PERENNIALS

SYMBOL	COMMON NAME	BOTANICAL NAME	MATURE HEIGHT	MATURE SPREAD	WATER USE	SUN/SHADE	SIZE AND SPACING
MOY	Moonshine Yarrow	Achillea 'Moonshine'	24-30"	18-24"	Low	Sun	1 Gallon Cont.
COH	Coronado Hyssop	Agastache aurantiaca Coronado	15-18"	12-15"	Low	Sun / Part Shade	1 Gallon Cont.
SMS	Silver Mound Sage	Artemisia schmidtiana	12-18"	18-24"	Low	Sun	1 Gallon Cont.
PBO	Plumbago	Ceratostigma plumbaginoides	8-12"	2-3'	Low	Adaptable	1 Gallon Cont.
OCC	Orange Carpet California Fuchsia	Epilobium canum garrettii Orange Carpet	4-6"	15-20"	Low	Sun	1 Gallon Cont.
BLF	Native Blanket Flower	Gaillardia aristata	18-24"	18-24"	Low	Sun	1 Gallon Cont.
CRD	Cranberry Red Daylily	Hemerocallis 'Pardon Me'	18-24"	12-18"	Low	Sun	1 Gallon Cont.
CVS	Cream Variegated Sweet Iris	Iris pallida 'Argentea Variegata'	2-3'	12-18"	Low	Sun / Part Shade	1 Gallon Cont.

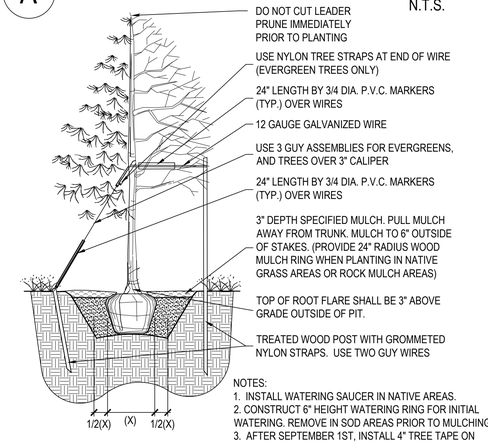
SOD
90 / 10 Fescue/Bluegrass Mix

RAIN GARDEN PLANTINGS

SYMBOL	COMMON NAME	BOTANICAL NAME	MATURE HEIGHT	MATURE SPREAD	WATER USE	SUN/SHADE	SIZE AND CONDITION
CWY	Common White Yarrow	Achillea millefolium	1-2'	2-3'	Low	Sun	1 Gallon Cont.
IRG	Indian Rice Grass	Achnatherum hymenoides	15-18"	12-18"	Low	Sun	1 Gallon Cont.
DGC	Denver Gold Columbine	Aquilegia chrysantha	28"-32"	16-18"	Low	Sun / Part Shade	1 Gallon Cont.
BUW	Butterfly Weed	Asclepias tuberosa	18-36"	18-24"	Low	Sun	1 Gallon Cont.
PWC	Prairie Winecups	Callirhoe involucrata	6-12"	2-3'	Low	Sun	1 Gallon Cont.
BHB	Blue Harebell	Campanula rotundifolia 'Olympica'	6-18"	12-18"	Low	Sun / Part Shade	1 Gallon Cont.
MBC	Moonbeam Coreopsis	Coreopsis verticillata 'Moonbeam'	18-24"	18-24"	Low	Sun	1 Gallon Cont.
PPC	Purple Prairie Clover	Dalea purpurea	2-3'	1-2'	Low	Sun	1 Gallon Cont.
PCF	Purple Coneflower	Echinacea purpurea	2-3'	18-24"	Low	Sun	1 Gallon Cont.
SFB	Showy Fleabane	Erigeron speciosus	18-24"	18-24"	Low	Sun	1 Gallon Cont.
SBF	Siskiyou Blue Idaho Fescue	Festuca idahoensis 'Siskiyou Blue'	15-18"	12-15"	Medium	Sun	1 Gallon Cont.
JNG	June Grass	Koeleria macrantha	18-24"	12-18"	Low	Sun / Part Shade	1 Gallon Cont.
NLB	Native Lavender Bee-Balm	Monarda fistulosa menthifolia	2-3'	18-24"	Low	Sun	1 Gallon Cont.
SRS	Shenandoah Red Switch Grass	Panicum virgatum 'Shenandoah'	3-4'	12-18"	Low	Sun	1 Gallon Cont.
DEP	Desert beardtongue	Pensternon pseudospectabilis	30"	15"	Low	Sun	1 Gallon Cont.
RIG	Ribbon Grass	Phalaris arundinacea 'Picta'	2-3'	18-24"	Medium	Adaptable	1 Gallon Cont.
PRC	Prairie Red Coneflower	Ratibida columnifera pulcherrima	18-24"	18-24"	Very Low	Sun	1 Gallon Cont.
BES	Black Eyed Susan	Rudbeckia fulgida 'Goldsturm'	18-24"	18-24"	Low	Sun	1 Gallon Cont.
GBG	Golden Baby Goldenrod	Solidago 'Golden Baby'	1-3'	18-24"	Low	Sun / Part Shade	1 Gallon Cont.
ING	Indian Grass	Sorghastrum nutans	3-5'	3-4'	Low	Sun	1 Gallon Cont.

A PLANTING DETAIL FOR ALL TREES & B&B SHRUBS

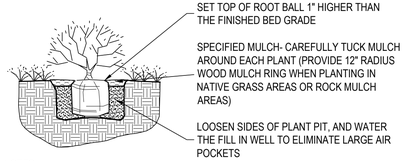
N.T.S.



NOTES:
1. INSTALL WATERING SAUCER IN NATIVE AREAS.
2. CONSTRUCT 6" HEIGHT WATERING RING FOR INITIAL WATERING. REMOVE IN SOD AREAS PRIOR TO MULCHING.
3. AFTER SEPTEMBER 1ST, INSTALL 4" TREE TAPE ON DECIDUOUS TREES FROM 6" OFF THE GROUND TO THE FIRST BRANCH. REMOVE PROMPTLY IN SPRING.
4. COMPLETELY REMOVE WIRE BASKET, ALL TWINE & PLASTIC. REMOVE BURLAP OFF TOP 2/3 OF BALL.
5. FILL PLANT PIT WITH 1/2 SPECIFIED SOIL MIX AND 1/2 PIT SOIL.

B PLANTING DETAIL FOR SHRUBS, AND ALL CONTAINER PLANTS LARGER THAN 1 GALLON

N.T.S.



NOTES:
1. PRUNE ALL DEAD OR DAMAGED BRANCHES PRIOR TO, AND AFTER PLANTING.
2. CRUMBLING OR BROKEN ROOT BALLS WILL BE REJECTED.
3. DIG PLANT PIT TWICE AS WIDE AND HIGH AS CONTAINER.
4. TAKE CARE NOT TO DAMAGE ROOT BALL WHEN REMOVING THE PLANT FROM IT'S CONTAINER.
5. FOR ALL PLANTS IDENTIFIED WITH WATER USE OF "LOW" OR "VERY LOW" ON THE PLANT LIST, KEEP WOOD MULCH 2" BACK FROM TRUNK OR STEM.
6. FILL PLANT PIT WITH 1/2 SPECIFIED SOIL MIX AND 1/2 PIT SOIL.
7. SCORE ROOT BOUND ROOT BALLS TO FREE UP ROOTS.

GENERAL LANDSCAPE NOTES

1. ALL LOW PERENNIAL AND GROUNDCOVER PLANTING AREAS SHALL BE MULCHED WITH SHREDDED WESTERN RED CEDAR WOOD MULCH, AT A DEPTH OF 2". WEED BARRIER FABRIC IS NOT REQUIRED UNDER WOOD MULCH.

2. IN AREAS OF NATIVE SEEDING OR AREAS OF ROCK MULCH, ALL NEWLY PLANTED TREES, SHRUBS AND PERENNIALS SHALL HAVE A RING OF WOOD MULCH INSTALLED AROUND THE BASE OF EACH PLANT. SEE THE PLANTING DETAILS FOR THE SPECIFIC SIZING AND DEPTH OF THE WOOD MULCH.

3. ALL OTHER PLANTING BED AREAS SHALL BE MULCHED WITH 1-1/2" GRAY ROSE MULTI-COLORED RIVER ROCK, AT A DEPTH OF 3", INSTALLED OVER PERMEABLE WEED BARRIER FABRIC. DO NOT INSTALL EDGING BETWEEN WOOD MULCH AND ROCK MULCH AREAS.

4. SOD EDGER SHALL BE 14 GAUGE ROLLED TOP STEEL EDGING (DARK GREEN COLOR) IN THE LOCATIONS SHOWN ON THE PLANS. EDGER IS NOT REQUIRED WHERE SOD ABUTS CONCRETE.

5. ALL AREAS TO BE LANDSCAPED SHALL HAVE ORGANIC AMENDMENTS THOROUGHLY INCORPORATED INTO THE SOIL AT A RATE OF 5 CUBIC YARDS PER 1,000 SQUARE FEET, AND TILLED TO A DEPTH OF 6 INCHES.

6. ALL SOD AREAS, BED AREAS, AND LANDSCAPE AREAS SHALL BE FINE GRADED PRIOR TO INSTALLATION OF NEW PLANT MATERIAL. ROCKS, WOOD, AND ANY MATERIAL LARGER THAN 1" IN DIAMETER SHALL BE REMOVED FROM ALL PLANTING AREAS PRIOR TO SODDING AND PLANTING NEW MATERIALS.

7. ANY EXISTING TURF, SHRUBS, TREES, AND PLANT MATERIAL THAT IS SPECIFIED ON THE PLANS TO BE REMOVED, SHALL BE FULLY REMOVED FROM THE SITE, INCLUDING ALL ROOTS.

8. ALL LANDSCAPED AREAS SHALL BE WATERED BY A FULLY AUTOMATIC UNDERGROUND IRRIGATION SYSTEM.

9. SOD AREAS SHALL BE ZONED SEPARATELY THAN BEDS, AND SHALL BE IRRIGATED VIA POP-UP SPRAY HEADS PROVIDING FULL (HEAD TO HEAD) COVERAGE. HEADS SHALL BE COMMERCIAL GRADE WITH REPLACEABLE NOZZLES, PRESSURE REGULATORS, AND CHECK VALVES.

10. BED AREAS SHALL BE ZONED SEPARATELY THAN SOD AREAS, AND SHALL BE IRRIGATED BY INDIVIDUAL DRIP EMITTERS TO EACH PLANT. DRIP COMPONENTS SHALL BE COMMERCIAL GRADE RAIN-BIRD OR EQUAL POINT SOURCE EMITTERS, WITH ALL PLANTS RECEIVING IRRIGATION.

ADAMS COUNTY LANDSCAPE REQUIREMENTS FOR SPECIFIC AREAS OF THE SITE

REQUIREMENT CATEGORY & LOCATION	BUFFERYARD WIDTH REQUIREMENT	WIDTH PROVIDED	LANDSCAPE REQUIREMENTS	LANDSCAPE PROVIDED
WEST BUFFERYARD (213 LF)	N/A (ADJACENT USE IS CDOT OPEN SPACE)	7' - 4"	N/A (ADJACENT USE IS CDOT OPEN SPACE)	7 TREES, 27 SHRUBS, 6 ORN. GRASSES AND 6 FT. PRIVACY FENCE
NORTH BUFFERYARD TYPE 'D' (635 LF)	15'	5' - 7"	3 TREES / 60 L.F. = 32 TREES AND 6 FT. PRIVACY FENCE	32 TREES, 32 SHRUBS, 13 GRASSES AND 6 FT. PRIVACY FENCE
SOUTH BUFFERYARD TYPE 'C' (399 LF)	15'	10' - 10"	2 TREES / 80 L.F. = 10 TREES AND 6 FT. PRIVACY FENCE	11 TREES, 28 SHRUBS, 9 ORN. GRASSES AND 6 FT. PRIVACY FENCE
STREET FRONTAGE LS WASHINGTON ST. (166 LF) OPTION 3	10' WIDE	5'	2 TREES & 5 SHRUBS / 40 LF. = 9 TREES & 21 SHRUBS	5 TREES, 27 SHRUBS, 9 ORNAMENTAL GRASSES Note: # of trees provided is limited due to utilities on north end.
PARKING LOT LANDSCAPE (87 STALLS PROPOSED)	N / A	N / A	1 TREE / 10 PRKG. STALLS = 9 TREES; AND 75% COVER LIVING LS AREA 25 SF OF INTERNAL LS AREA / 1 STALL=2175 SF	12 TREES, 40 SHRUBS, 39 ORN. GRASSES, + RAIN GARDEN PLANTINGS (TBD). 6,000 SF OF INTERNAL LS AREA

ADAMS COUNTY LANDSCAPE REQUIREMENTS FOR OVERALL SITE

REQUIREMENT CATEGORY	LANDSCAPE REQUIREMENTS	LANDSCAPE AREA OR LANDSCAPE PROVIDED
REQ. LOT LANDSCAPING (sec. 4-19-07)	A MIN. OF 10% OF THE LOT AREA SHALL BE LANDSCAPED LOT = 92,861.58 SF; 10% = 9,286 SF	17,410.6 SF AT GRADE (18.7% OF THE LOT)
DWELLING MULTIFAMILY LANDSCAPE (sec. 4-19-09-01-04)	30% OF THE SITE AREA SHALL BE LANDSCAPED; 30% COVER w/ LIVING GROUND MATERIAL LOT = 92,861.58 SF; 30% = 27,858 SF	17,410.6 SF AT GRADE & 2,628 SF ON THE ELEVATED DECKS = 20,038.6 SF (21.6% OF LOT)
DWELLING MULTIFAMILY REQ. TREES & SHRUBS (sec. 4-19-09-01-04)	1 LG. TREE & 2 SHRUBS, OR 2 ORN. TREES & 2 SHRUBS / 1,500 SF OF LS AREA 20,038.6 SF OF LS AREA = 14 LG. TREES OR 27 ORN. TREES & 27 SHRUBS	13 LARGE TREES, 33 EVGRN. TREES, 22 ORN. TREES, 172 SHRUBS, 153 GRASSES, & 48 PERENNIALS AT GRADE; 8 ORN. TREES, 6 EVGRN. TREES, 14 SHRUBS, 99 ORN. GRASSES, 83 PERENN. ON ELEVATED DECK

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No.	Date

MAIKER BOYERS
7295 WASHINGTON ST., ADAMS COUNTY, CO 80229

PDP & REZONING SUBMITTAL 02.07.2025

LANDSCAPE COVER SHEET & PLANT LIST

L 1.00

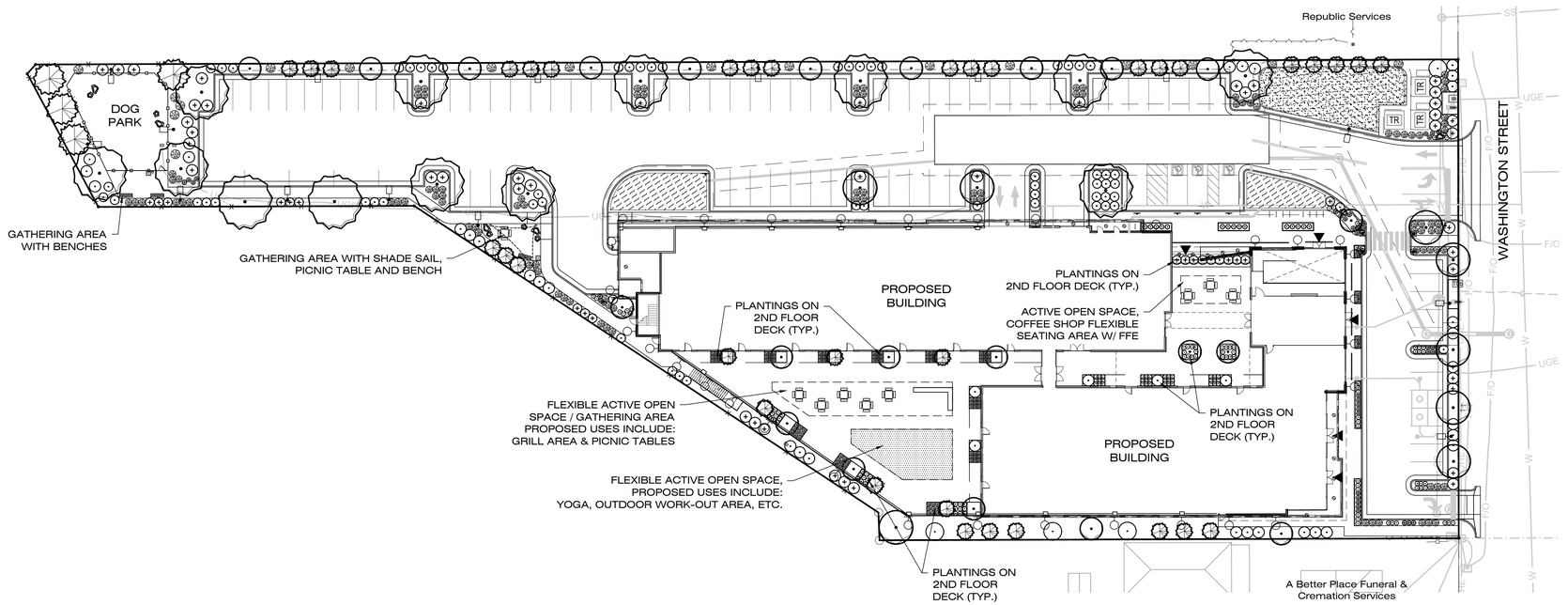
MAIKER BOYERS

CASE NO. PRC2024-00017

LANDSCAPE LEGEND

- DECIDUOUS SHADE TREES
- ORNAMENTAL TREES
- EVERGREEN TREES
- DECIDUOUS SHRUBS
- EVERGREEN SHRUBS
- ORNAMENTAL GRASSES
- PERENNIALS
- SOD
- RAIN GARDEN PLANTINGS
- LANDSCAPE BOULDERS
- SYNTHETIC TURF

LANDSCAPE PLAN



C PLANTING DETAIL FOR PERENNIALS, ANNUALS, & ALL CONTAINER PLANTS 1 GALLON OR SMALLER

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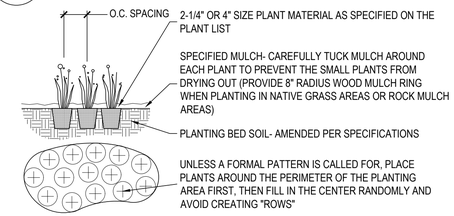
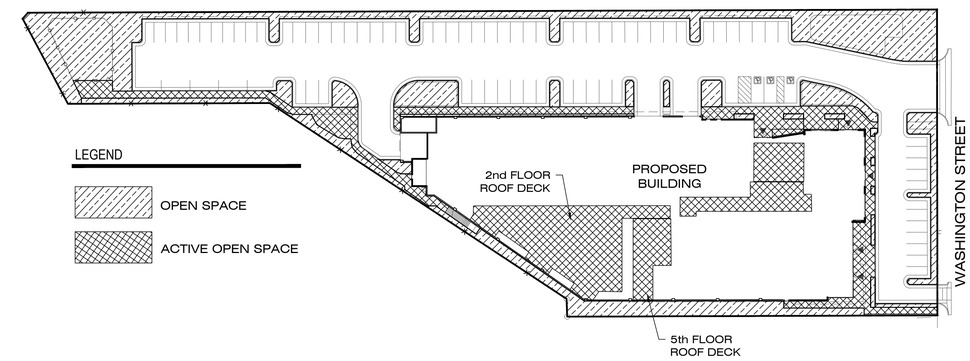


ADAMS COUNTY OPEN SPACE REQUIREMENTS FOR OVERALL SITE

REQUIREMENT CATEGORY	OPEN SPACE & ACTIVE OPEN SPACE AREA REQUIREMENTS	OPEN SPACE & ACTIVE OPEN SPACE AREAS PROVIDED
MINIMUM OPEN SPACE AREA (sec. 3-34-03-05)	A MIN. OF 30% OF THE LOT AREA SHALL BE OPEN SPACE. A MIN. OF 25% OF THE OPEN SPACE SHALL BE ACTIVE OPEN SPACE. LOT = 92,861.6 SF; 30% = 27,858.5 SF 25% OF 27,858.47 SF = 6,964.6 SF	OPEN SPACE AT GRADE = 23,076 SF OPEN SPACE ON ELEV. DECKS = 8,175.6 SF TOTAL OPEN SPACE = 31,251.6 SF or 32.3% of the lot ACTIVE OPEN SPACE AT GRADE = 6,250.8 SF ACTIVE OPEN SPACE ON ELEVATED DECKS = 8,175.6 SF TOTAL ACTIVE OPEN SPACE = 14,426.4 SF or 46% of the open space

OPEN SPACE & ACTIVE OPEN SPACE PLAN



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MAIKER BOYERS

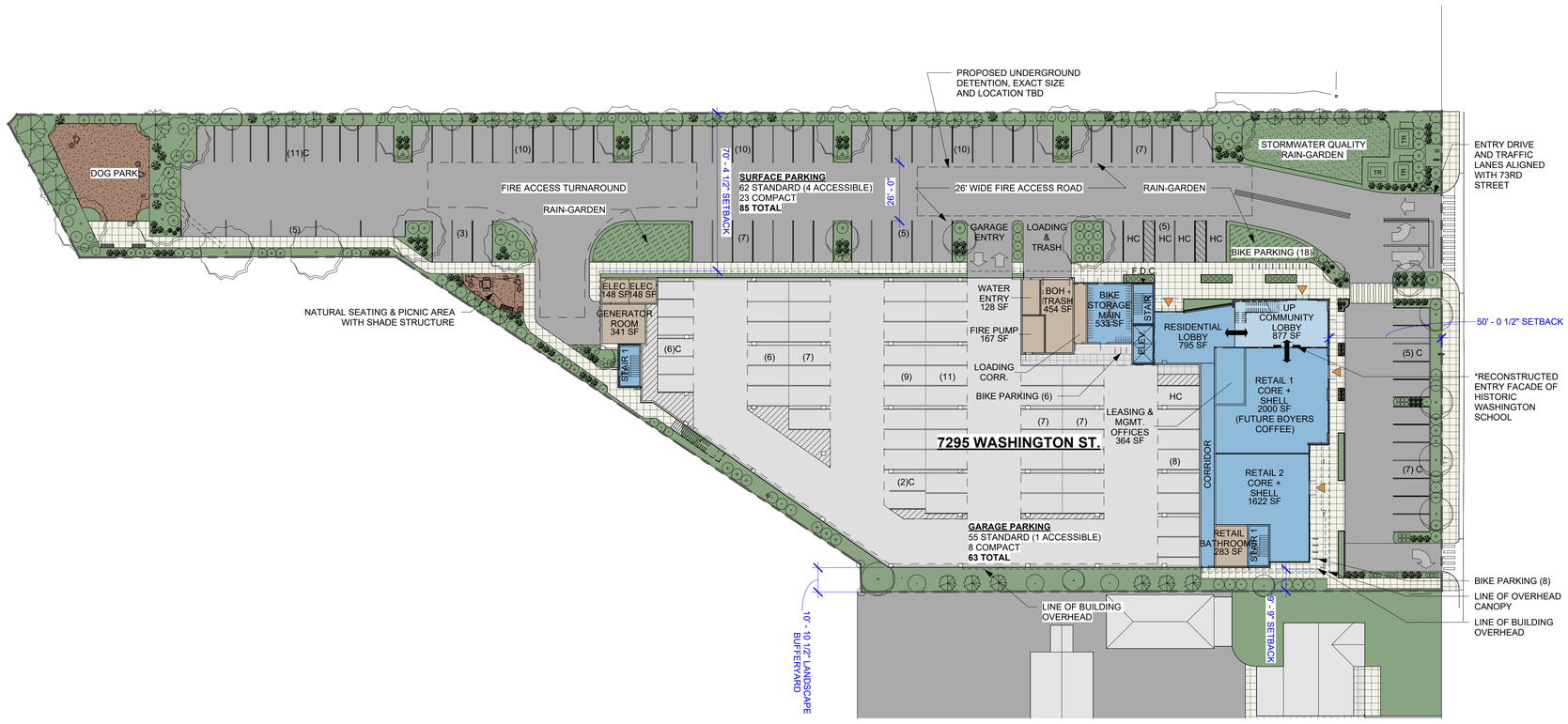
7295 WASHINGTON ST., ADAMS COUNTY, CO 80229

PDP & REZONING SUBMITTAL 02.07.2025

LANDSCAPE PLAN L 2.00

MAIKER BOYERS
SITE PLAN

CASE NO. PRC2024-00017



1 **SITE PLAN**
1" = 30'-0"

N

PARKING COUNT LEGEND	
PROPOSED PARKING	
STANDARD	= 117 (79%)
COMPACT	= 31 (21%)
TOTAL PROPOSED PARKING	**= 148 SPACES**
REQUIRED PARKING	
RESIDENTIAL PARKING	= 132 SPACES
((88) - 1-BR UNITS @ 1 SPACE	= 88 SPACES
((29) - 2-BR UNITS @ 1.5 SPACE	= 44 SPACES
VISITORS @ 15% OF 132	= 20 SPACES
RETAIL @ 1 SPACE PER 3 SEATS	= 30 SPACES
TOTAL REQUIRED PARKING	**= 182 SPACES**
PROPOSED PARKING REDUCTION	~ 19.0% REDUCTION (-34 SPACES)
PROPOSED RESIDENTIAL PARKING RATIO	1.01 SPACES/ UNIT
PROPOSED BIKE PARKING	
LONG-TERM BIKE PARKING	= 70 (47%)*
SHORT-TERM BIKE PARKING	= 32 (21%)*
TOTAL BIKE PARKING	**= 102 (68%)***
*PERCENTAGE OF TOTAL AUTOMOBILE PARKING	

TOTAL BUILDING AREA	
LEVEL	**FLOOR AREA**
01 - GROUND LEVEL	33963 SF
02 - SECOND LEVEL	26021 SF
03 - THIRD LEVEL	25428 SF
04 - FOURTH LEVEL	25428 SF
05 - FIFTH LEVEL	25000 SF
TOTAL BUILDING AREA	135839 SF

ZONING SUMMARY		
	EXISTING	PROPOSED
ZONING	I-1	PUD
USE	MANUFACTURING/ DISTRIBUTION	COMMERCIAL, RESIDENTIAL MIXED-USE
SITE AREA	2.132 AC	
DWELLING UNITS PER ACRE	54.8 DUAC	
OCCUPANCY	R-2; M; B	
CONSTRUCTION TYPE	5 STORIES: (4) STORIES TYPE VA OVER (1) STORY TYPE IA	
SPRINKLERED	NFPA 13	
PROPOSED HEIGHT	5 STORIES; APPROX. 60' - 0"	
PROPOSED BUILDING AREA	135,839 SF	
PROPOSED SETBACKS		
FRONT	50' - 0"	
REAR	N / A	
SIDE - SOUTH	9' - 9"	
SIDE - NORTH	70' - 4"	

SCALE: 1" = 30'-0"
0' 15' 30' 60' 120'

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CONSULTANT

No.	Date

MAIKER BOYERS
7295 WASHINGTON ST., ADAMS COUNTY, CO 80229

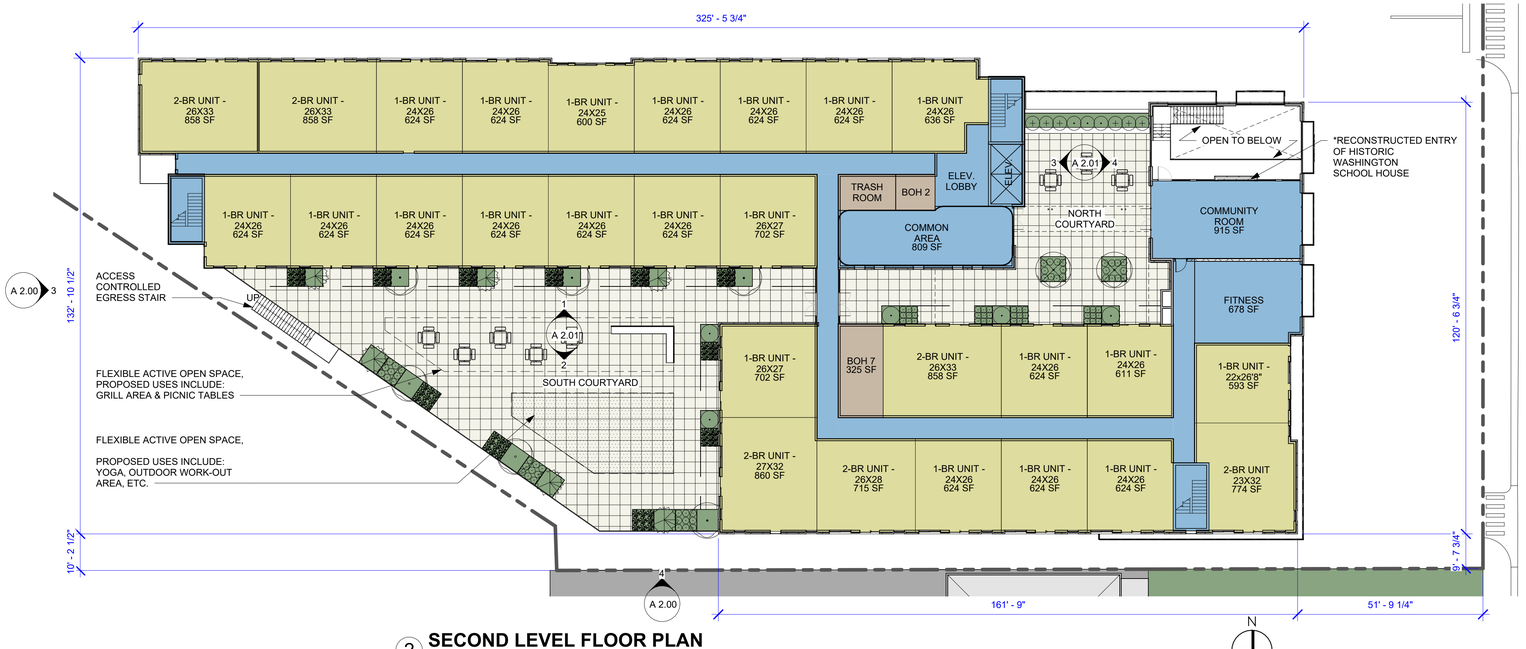
PDP & REZONING SUBMITTAL 02.07.2025

SITE PLAN A 1.00

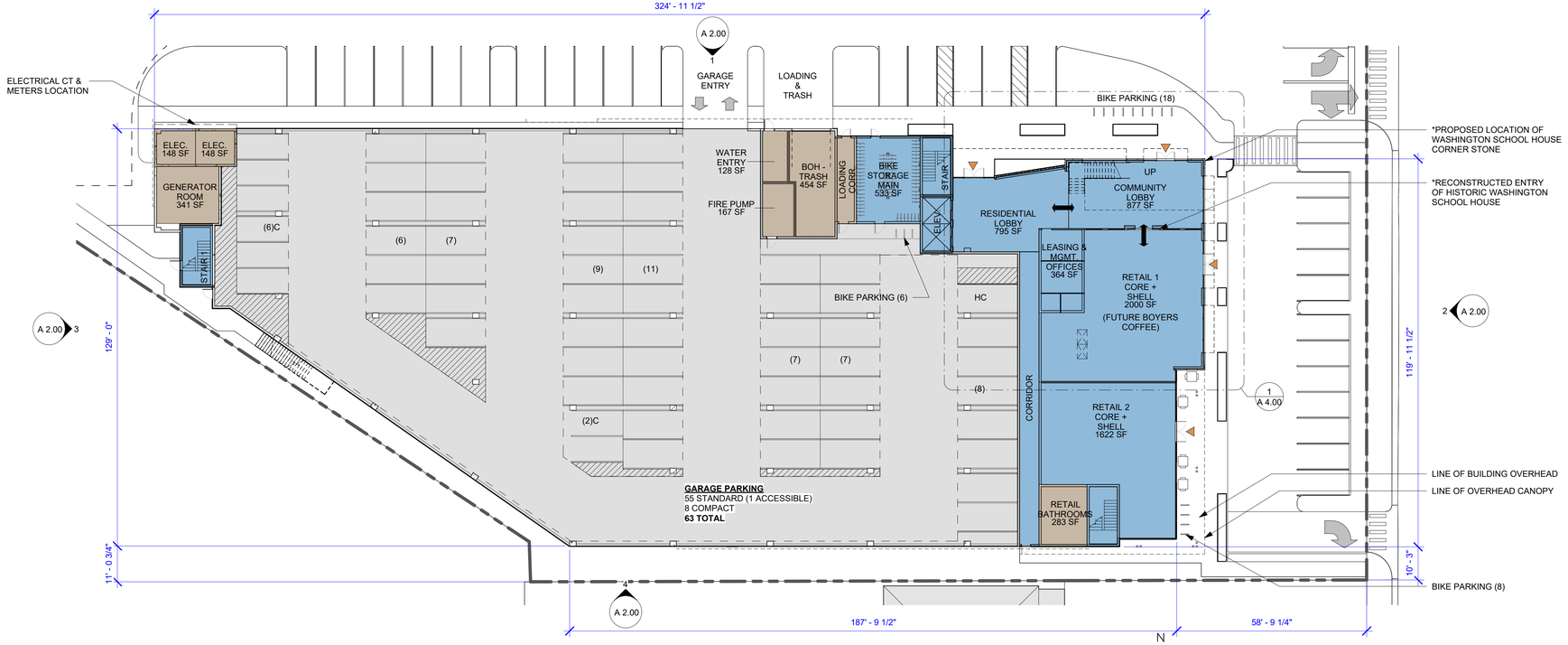
MAIKER BOYERS

GROUND AND SECOND LEVEL PLANS

CASE NO. PRC2024-00017



2 SECOND LEVEL FLOOR PLAN
1" = 20'-0"



1 GROUND LEVEL FLOOR PLAN
1" = 20'-0"

PROPOSED - UNIT BREAKDOWN		
UNIT TYPE	**LEVEL**	**COUNT**
1-BR	02 - SECOND LEVEL	21
1-BR	03 - THIRD LEVEL	23
1-BR	04 - FOURTH LEVEL	23
1-BR	05 - FIFTH LEVEL	21
1-BR: 88		88 = 75%
2-BR	02 - SECOND LEVEL	6
2-BR	03 - THIRD LEVEL	8
2-BR	04 - FOURTH LEVEL	8
2-BR	05 - FIFTH LEVEL	7
2-BR: 29		29 = 25%
TOTAL UNIT COUNT: 117		117

CONCEPT - OVERALL FLOOR AREA		
LEVEL	DESCRIPTION	GROSS FLOOR AREA
01 - GROUND LEVEL	BOH	1668 SF
01 - GROUND LEVEL	COMMERCIAL	4168 SF
01 - GROUND LEVEL	COMMON	3107 SF
01 - GROUND LEVEL	GARAGE	25020 SF
01 - GROUND LEVEL		33963 SF
02 - SECOND LEVEL	1-BR	13204 SF
02 - SECOND LEVEL	2-BR	4922 SF
02 - SECOND LEVEL	BOH	595 SF
02 - SECOND LEVEL	COMMERCIAL	915 SF
02 - SECOND LEVEL	COMMON	6384 SF
02 - SECOND LEVEL		26021 SF
03 - THIRD LEVEL	1-BR	14439 SF
03 - THIRD LEVEL	2-BR	6652 SF
03 - THIRD LEVEL	BOH	595 SF
03 - THIRD LEVEL	COMMON	3741 SF
03 - THIRD LEVEL		25428 SF
04 - FOURTH LEVEL	1-BR	14439 SF
04 - FOURTH LEVEL	2-BR	6652 SF
04 - FOURTH LEVEL	BOH	595 SF
04 - FOURTH LEVEL	COMMON	3741 SF
04 - FOURTH LEVEL		25428 SF
05 - FIFTH LEVEL	1-BR	13140 SF
05 - FIFTH LEVEL	2-BR	5874 SF
05 - FIFTH LEVEL	BOH	595 SF
05 - FIFTH LEVEL	COMMON	5391 SF
05 - FIFTH LEVEL		25000 SF
TOTAL GROSS AREA		135839 SF

*REFERENCE IMAGE OF ENTRY TO HISTORIC WASHINGTON SCHOOL HOUSE

*REFERENCE IMAGE OF WASHINGTON SCHOOL HOUSE CORNERSTONE

0' 10' 20' 40' 80'

SCALE: 1" = 20'-0"

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Maiker Housing Partners

CONSULTANT

No.	Date

MAIKER BOYERS

7295 WASHINGTON ST., ADAMS COUNTY, CO 80229

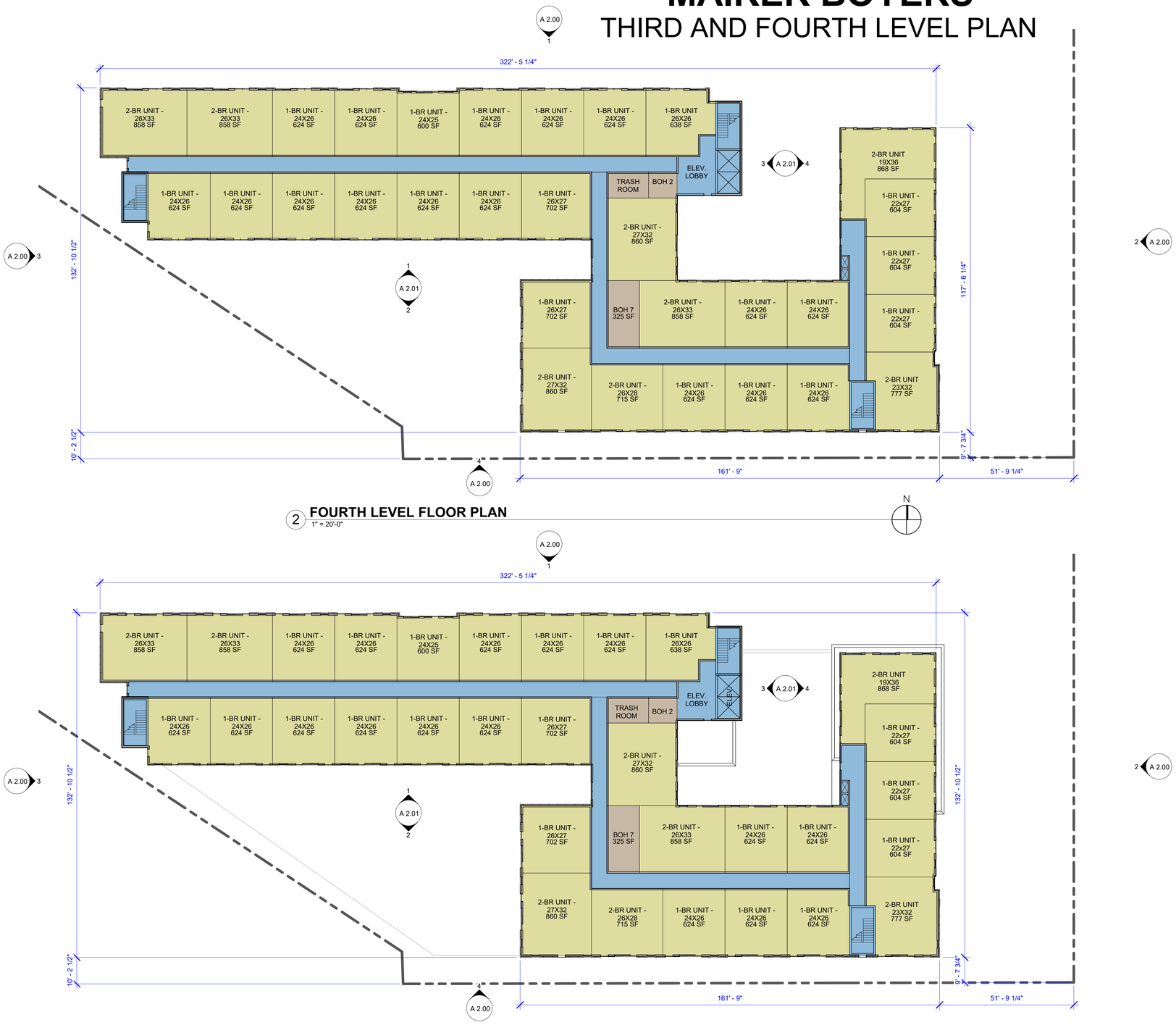
PDP & REZONING SUBMITTAL | **02.07.2025**

GROUND AND SECOND LEVEL PLANS | A 1.10

MAIKER BOYERS

THIRD AND FOURTH LEVEL PLAN

CASE NO. PRC2024-00017



2 **FOURTH LEVEL FLOOR PLAN**
1" = 20'-0"

PROPOSED - UNIT BREAKDOWN		
UNIT TYPE	**LEVEL**	**COUNT**
1-BR	02 - SECOND LEVEL	21
1-BR	03 - THIRD LEVEL	23
1-BR	04 - FOURTH LEVEL	23
1-BR	05 - FIFTH LEVEL	21
1-BR: 88		88 = 75%
2-BR	02 - SECOND LEVEL	6
2-BR	03 - THIRD LEVEL	8
2-BR	04 - FOURTH LEVEL	8
2-BR	05 - FIFTH LEVEL	7
2-BR: 29		29 = 25%
TOTAL UNIT COUNT: 117		117

CONCEPT - OVERALL FLOOR AREA		
LEVEL	DESCRIPTION	GROSS FLOOR AREA
01 - GROUND LEVEL	BOH	1668 SF
01 - GROUND LEVEL	COMMERCIAL	4168 SF
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05 - FIFTH LEVEL	COMMON	5391 SF
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TOTAL GROSS AREA		135839 SF

SCALE: 1" = 20'-0"
0' 10' 20' 40' 80'

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MAIKER BOYERS
7295 WASHINGTON ST., ADAMS COUNTY, CO 80229

PDP & REZONING SUBMITTAL 02.07.2025

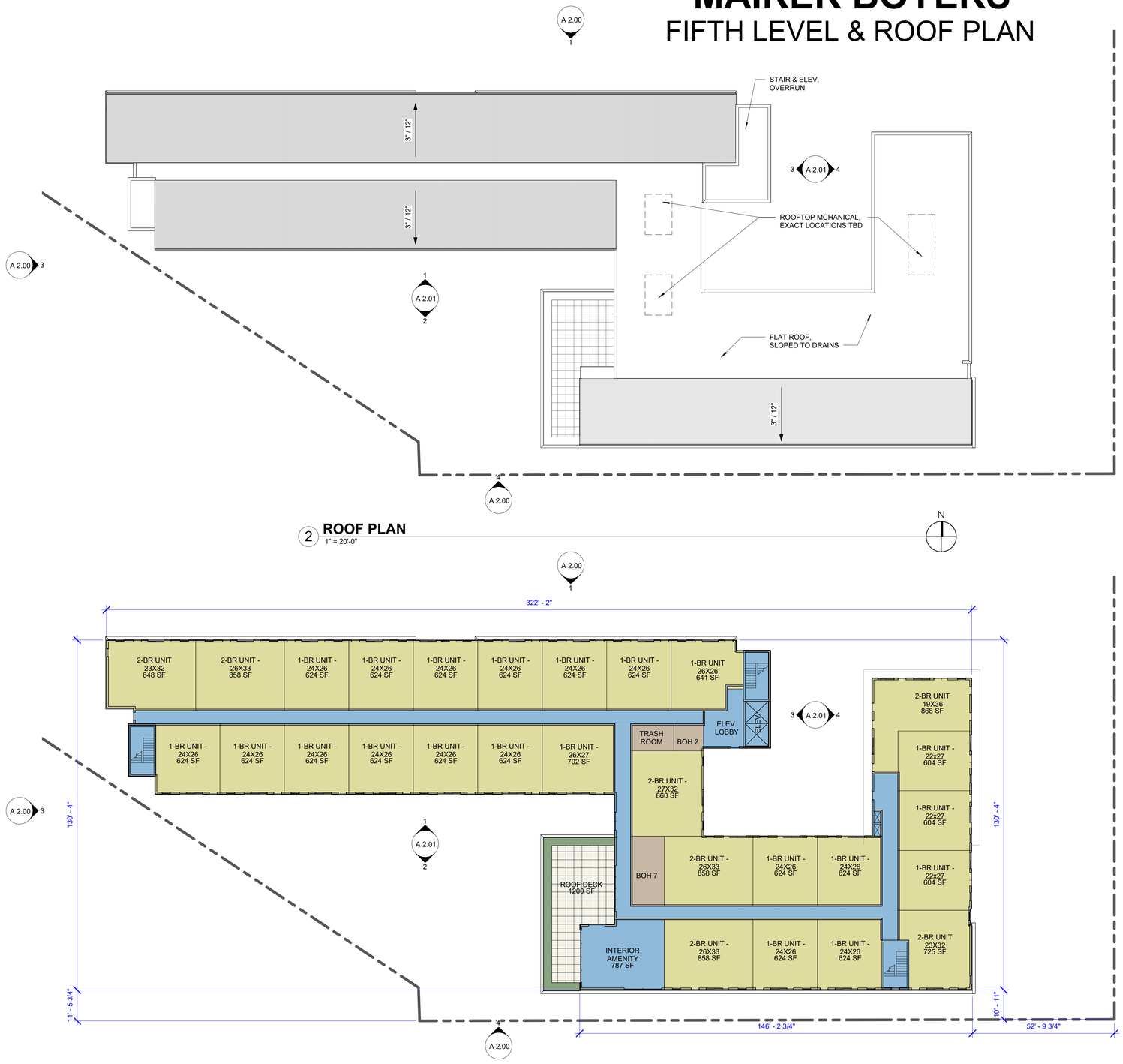
THIRD AND FOURTH LEVEL PLAN

A 1.20

MAIKER BOYERS

FIFTH LEVEL & ROOF PLAN

CASE NO. PRC2024-00017



2 **ROOF PLAN**
1" = 20'-0"

1 **FIFTH LEVEL FLOOR PLAN**
1" = 20'-0"

N

PROPOSED - UNIT BREAKDOWN

UNIT TYPE	LEVEL	COUNT
1-BR	02 - SECOND LEVEL	21
1-BR	03 - THIRD LEVEL	23
1-BR	04 - FOURTH LEVEL	23
1-BR	05 - FIFTH LEVEL	21
1-BR: 88		88 = 75%
2-BR	02 - SECOND LEVEL	6
2-BR	03 - THIRD LEVEL	8
2-BR	04 - FOURTH LEVEL	8
2-BR	05 - FIFTH LEVEL	7
2-BR: 29		29 = 25%
TOTAL UNIT COUNT: 117		117

CONCEPT - OVERALL FLOOR AREA

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SCALE: 1" = 20'-0"

0' 10' 20' 40' 80'

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MAIKER BOYERS

7295 WASHINGTON ST., ADAMS COUNTY, CO 80229

PDP & REZONING SUBMITTAL 02.07.2025

FIFTH LEVEL & ROOF PLAN

A 1.30

CASE NO. PRC2024-00017

MAIKER BOYERS
ELEVATIONS

4 **SOUTH ELEVATION**
1/16" = 1'-0"

3 **WEST ELEVATION**
1/16" = 1'-0"

2 **EAST ELEVATION (WASHINGTON ST.)**
1/16" = 1'-0"

1 **NORTH ELEVATION**
1/16" = 1'-0"

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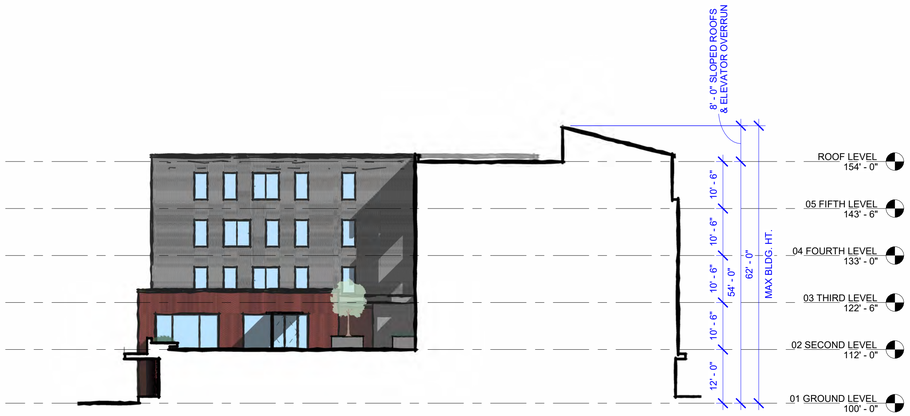
MAIKER BOYERS
7295 WASHINGTON ST., ADAMS COUNTY, CO 80229

PDP & REZONING SUBMITTAL 02.07.2025

ELEVATIONS A 2.00

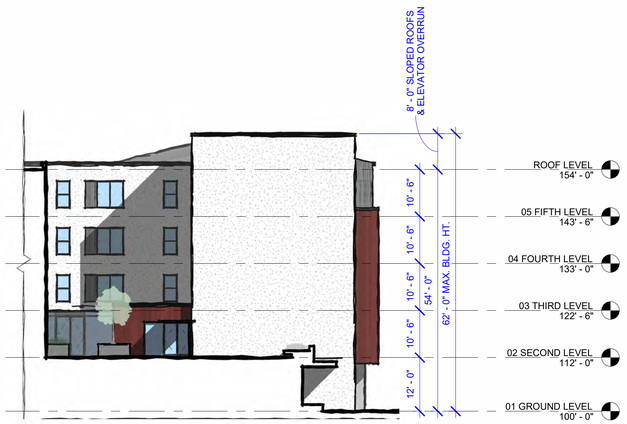
CASE NO. PRC2024-00017

MAIKER BOYERS
ELEVATIONS



4 **NORTH COURTYARD - EAST ELEVATION**
1/16" = 1'-0"

2 **NORTH COURTYARD - SOUTH ELEVATION**
1/16" = 1'-0"



3 **NORTH COURTYARD - WEST ELEVATION**
1/16" = 1'-0"

1 **SOUTH COURTYARD - NORTH ELEVATION**
1/16" = 1'-0"

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MAIKER BOYERS
7295 WASHINGTON ST., ADAMS COUNTY, CO 80229

PDP & REZONING SUBMITTAL 02.07.2025

ELEVATIONS A 2.01

CASE NO. PRC2024-00017

MAIKER BOYERS
CONCEPTUAL 3-D VIEWS

VIEW FROM WASHINGTON STREET & 73RD AVE.
INTERSECTION CONCEPTUAL RENDERING

PROMINENT COMMUNITY ENTRY CONCEPTUAL RENDERING

SITE HISTORY REFERENCE IMAGERY

INDENITY AND BRANDING CONCEPTUAL RENDERING

MURAL ART CONCEPTUAL RENDERING

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MAIKER BOYERS
7295 WASHINGTON ST., ADAMS COUNTY, CO 80229

PDP & REZONING SUBMITTAL | **02.07.2025**
CONCEPTUAL 3-D VIEWS | **A 2.10**

CASE NO. PRC2024-00017

MAIKER BOYERS
CONCEPTUAL 3-D VIEWS

VIEW FROM INTERSTATE 270 CONCEPTUAL RENDERING

INTIMATE RESIDENTIAL ENTRY CONCEPTUAL RENDERING

SITE HISTORY REFERENCE IMAGERY

OUTDOOR SPACE CONCEPTUAL RENDERING

ACTIVATED STOREFRONT CONCEPTUAL RENDERING

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No.	Date

MAIKER BOYERS
7295 WASHINGTON ST., ADAMS COUNTY, CO 80229

PDP & REZONING SUBMITTAL 02.07.2025

CONCEPTUAL 3-D VIEWS A 2.11

CASE NO. PRC2024-00017

MAIKER BOYERS

SITE PHOTOMETRIC PLAN

SITE CALCULATION STATISTICS:				RATIOS*:	
AREA	AVG (FC)	MAX (FC)	MIN (FC)	MAX/MIN	AVG/MIN
SITE	0.6	7.0	0.0	N/A	N/A
DRIVE AISLE	0.6	1.5	0.1	18.0:1	3.0:1
PARKING	0.8	1.0	0.1	18.0:1	7.0:1
PROPERTY LINE	0.1	1.1	0.0	N/A	N/A
20' BEYOND PROPERTY LINE	0.0	0.1	0.0	N/A	N/A
LEVEL 2 COURTYARDS	0.6	10.5	0.0	N/A	N/A
LEVEL 5 DECK	3.4	6.7	0.5	13.4:1	6.8:1

(*)NOTE: THESE VALUES ARE RATIOS, NOT FOOTCANDLES. RATIOS REPRESENT QUANTITATIVE RELATION BETWEEN TWO VALUES AND ARE UNITLESS

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER OR APPROVED EQUIVALENT	CATALOG SERIES NUMBER OR APPROVED EQUIVALENT	LAMPS (QTY) TYPE	INPUT VA	DRIVER/ DIM PROTOCOL	LUMENS	VOLTAGE	BUG RATING	MOUNTING R	MOUNTING S	MOUNTING P	MOUNTING W	NOTES
B1	BOLLARD, 360-DEG DISTRIBUTION, FULL CUTOFF	BEGA	B84691, B84003	LED 3000K	25.2	0-10V	709	120/277	B2 U0 G0			X		43" OH
C1	CATENARY LIGHTING, 24" SPACING, FULL CUTOFF CANOPY	PRIMUS	DSW-24-120-G16.5F-27/200-DSC7-LTK	LED 2700K	2.0/BULB	0-10V	200/BULB	120	B1 U0 G2		X			+10'-6" AFF, UNO
D1	4" RECESSED DOWNLIGHT, WIDE DISTRIBUTION	GOTHAM	EVO4-30/07-AR-LD-WD-MVOLT-EZ1	LED 3000K	7.9	0-10V	750	120/277	B2 U0 G1	X				MOUNTED IN OVERHANG
D2	4" RECESSED WALL WASH DOWNLIGHT	GOTHAM	EVO4LW-30/07-AR-LD-MVOLT-EZ-1	LED 3000K	7.9	0-10V	750	120/277	B0 U0 G1	X				MOUNTED IN OVERHANG
E1	48" LINEAR WALL GRAZER MURAL LIGHT, 10-DEG X 10-DEG OPTICS, FULL CUTOFF, 18" EXTENDED ARM	INSIGHT	PEX-MO-3000K-10-EXA-18-48"-277V-DIM-MG	LED 3000K	28	0-10V	2582	277	B2 U0 G1				X	+49'-6" AFF
P1	POLE MOUNTED AREA LIGHT, TYPE 3 DISTRIBUTION, FULL CUTOFF, BACKLIGHT CONTROL, DIMMING DRIVER	BEACON	VP-1-160L-35-3K8-3-UNV-BLT-BC-ADT	LED 3000K	36.8	0-10V	3014	120/277	B0 U0 G1					+20'-0" OH
P4	POLE MOUNTED PEDESTRIAN LIGHT, TYPE 3 DISTRIBUTION, FULL CUTOFF DIMMING DRIVER	KIM LIGHTING	UR20-96L-30-3K8-3-UNV-PT-BLT-7PR	LED 3000K	28.2	0-10V	3326	120/277	B1 U0 G1					+10'-0" OH
L1	12' LINEAR RECESSED FIXTURE, DIMMED TO 20%	LITECONTROL	2L-XX-D-12'-.3-06-SOF-XX-30K9-D030-D01-1C-UNV	LED 3000K	33.3	0-10V	7200	120/277	B2 U0 G0	X				MOUNTED IN OVERHANG
L2	4' LINEAR RECESSED FIXTURE, DIMMED TO 20%	LITECONTROL	2L-XX-D-4'-.3-04-SOF-XX-30K9-D030-D01-1C-UNV	LED 3000K	11.1	0-10V	1800	120/277	B2 U0 G0	X				MOUNTED IN OVERHANG
T1	TAPE LIGHT, WET RATED, MOUNTED WITHIN EXTRUSION	WAC LIGHTING	8352-30-WT, T24-OD-CH5-CL	LED 3000K	1.5/FT	0-10V	100/FT	12	B0 U0 G2		X			NOTE 2
W1	WALL SCONCE FORWARD THROW, FULL CUTOFF	LITHONIA	WDGE1-LED-P1-30K-80CRI-VF-MVOLT-DBLXD	LED 3000K	10	0-10V	1161	120/277	B0 U0 G0				X	+9'-0" AFF, UNO
W2	WALL SCONCE, FULL CUTOFF	WAC LIGHTING	WS-W14911-BK	LED 3000K	7	0-10V	441	120	B1 U0 G0				X	+9'-0" AFF, UNO
W3	WALL SCONCE TO HIGHLIGHT ARCHITECTURAL FEATURES, UP/DOWN 15-DEG NARROW BEAMS	KIM LIGHTING	CY1-15-3K8-2-SP-SP-UNV-BLT-CB-FPP	LED 3000K	17.3	0-10V	1701	120/277	B2 U2 G0				X	NOTE 1, +10'-6" AFF
W4	WALL SCONCE, TYPE 4 FORWARD DISTRIBUTION, FULL CUTOFF	KIM LIGHTING	CY1-25-3K8-1-4-UNV-BLT-R-FPP	LED 3000K	26	0-10V	2201	120/277	B1 U0 G1				X	+10'-6" AFF

ABBREVIATIONS: BF - BOTTOM OF FIXTURE; OH - OVERALL FIXTURE HEIGHT; RD - RECESSED FIXTURE DEPTH; AFF - ABOVE FINISHED FLOOR

SCHEDULED NOTES:

1. FIXTURE IS USED FOR ARCHITECTURAL LIGHTING PURPOSES AND GREATER THAN 90% OF TOTAL DISTRIBUTION PATTERN OF LIGHT IS WITHIN THE ILLUMINATED STRUCTURE AS ALLOWED AND REQUIRED STANDARDS 4-16-01.4. BY ADAMS COUNTY DESIGN REQUIREMENTS AND PERFORMANCE STANDARDS 4-16-01.4.
2. FIXTURE IS MOUNTED AT 0'-8" AFF UNDER PLANTERS AT NORTH COURTYARD AND 2'-6" AFF UNDER RAILING AT SOUTH COURTYARD ON LEVEL 2.

GENERAL NOTES (ALL SHEETS)

A. NO SUBSTITUTIONS, ADDITIONS, OR CHANGES MAY BE MADE WITHOUT PRIOR APPROVAL BY ADAMS COUNTY.

B. PRIOR TO ISSUING A CERTIFICATE OF OCCUPANCY THE COUNTY MAY REQUIRE CERTIFICATION THAT THE PROPERTY IS COMPLIANT WITH THE APPROVED PLANS AND REGULATIONS OF THE COUNTY.

C. ALL CALCULATIONS ARE DONE WITH LIGHT LOSS FACTOR OF 1.0

D. ALL CALCULATION POINTS ARE AT GRADE.

E. ANY PROPOSED LIGHT FIXTURES INSTALLED ON PRIVATE PROPERTY, ADJACENT TO THE RIGHT OF WAY, SHALL BE ORIENTED IN SUCH A MANNER OR LIMITED IN LUMEN OUTPUT TO PREVENT GLARE PROBLEMS AND SHALL NOT EXCEED NATIONAL IES LIGHTING STANDARDS FOR DISABILITY GLARE.

F. ALL OUTDOOR LIGHTING SHALL HAVE LIGHT SOURCES THAT ARE CONCEALED BY A FULL CUTOFF LIGHTING FIXTURE SO THAT THE LIGHT SOURCE IS NOT VISIBLE FROM ANY STREET RIGHT-OF-WAY OR ADJACENT PROPERTIES. IN ORDER TO DIRECT LIGHT DOWNWARD AND MINIMIZE THE AMOUNT OF LIGHT SPILL INTO THE NIGHT SKY AND ONTO ADJACENT PROPERTIES, ALL LIGHTING FIXTURES SHALL BE FULL CUTOFF LIGHTING FIXTURES.

G. SIGNAGE LIGHTING SHALL BE APPROVED AS PART OF A SEPARATE SIGN PERMIT.

H. LUMINAIRES SHALL BE SHIELDED AND DIRECTED TO AVOID GLARE AND OVERSPILL ONTO ADJACENT PROPERTY.

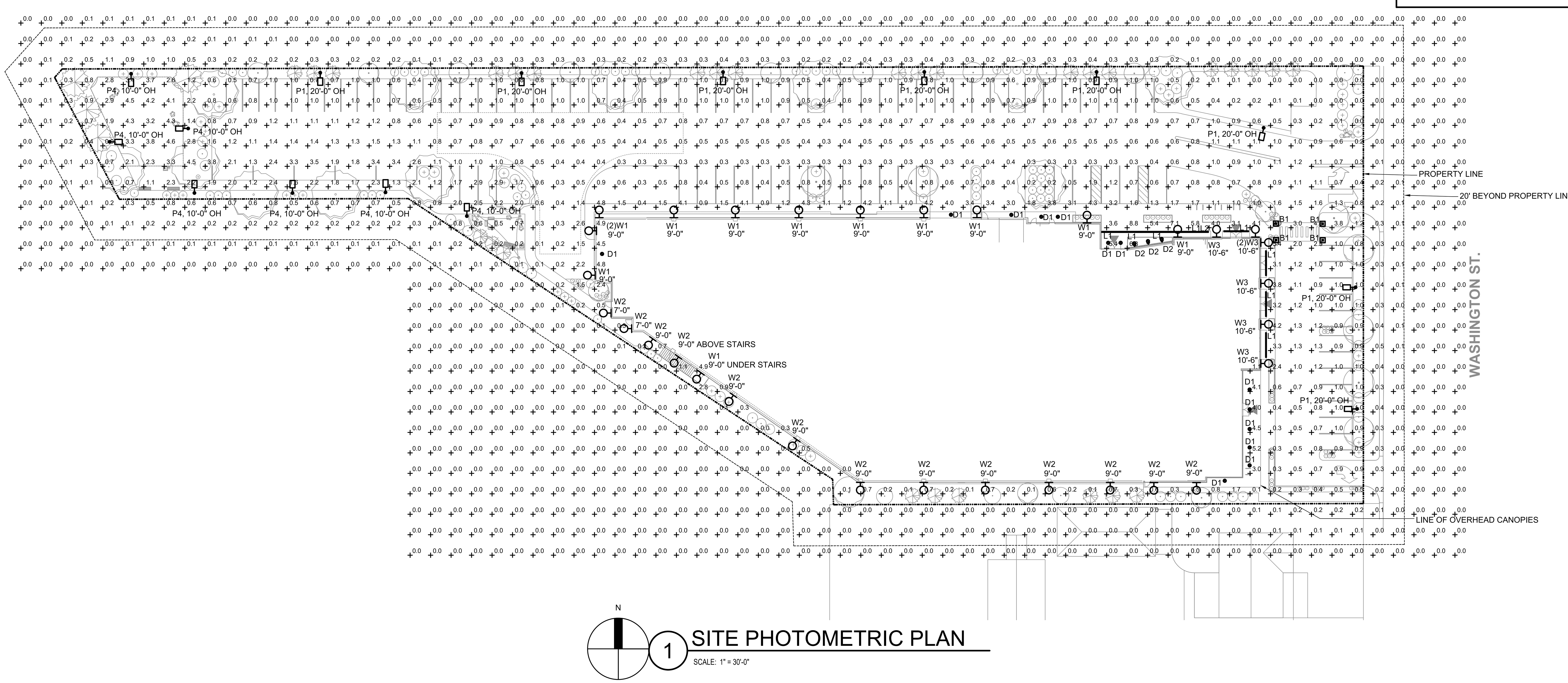
I. ALL EXTERIOR LIGHT FIXTURES SHALL BE FULL CUTOFF FIXTURES THAT ARE DIRECTED DOWNWARD (90 DEGREES FROM TRUE VERTICAL) AND SHALL HAVE FLAT LENSES, EMITTING NO MORE THAN 10 PERCENT OF THE TOTAL LUMENS BETWEEN 80 AND 90 DEGREES FROM TRUE VERTICAL. FIXTURES SHALL BE CONFIGURED SO THAT LIGHTS DO NOT CAUSE GLARE.

J. ALL LIGHT FIXTURES ON STRUCTURES, POLES, BOLLARDS, STANDS, OR MOUNTED ON A BUILDING SHALL HAVE A SHIELD, ADJUSTABLE REFLECTOR, AND/OR NON-PROTRUDING DIFFUSER TO SHIELD THE LIGHT SOURCE FROM SIGHT FROM ADJACENT RESIDENTIAL ZONING DISTRICTS.

K. MOTION-ACTIVATED SECURITY LIGHTING SHALL BE TIMED TO TURN OFF AFTER NOT MORE THAN FIVE MINUTES AFTER MOTION ACTIVATION.

L. WALL PACKS ON THE EXTERIOR OF THE BUILDING SHALL BE FULLY SHIELDED (E.G., TRUE CUT-OFF TYPE BULB OR LIGHT SOURCE NOT VISIBLE FROM OFF-SITE) TO DIRECT THE LIGHT VERTICALLY DOWNWARD.

M. LIGHT SPILLOVER FROM LEVEL 2 ONTO THE GROUND LEVEL IS REFLECTED IN THE CALCULATION POINTS ON THE SITE PLAN PHOTOMETRIC.



1 SITE PHOTOMETRIC PLAN

SCALE: 1" = 30'-0"

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CONSULTANT

No.	Date

MAIKER BOYERS

7295 WASHINGTON ST., ADAMS COUNTY, CO 80229

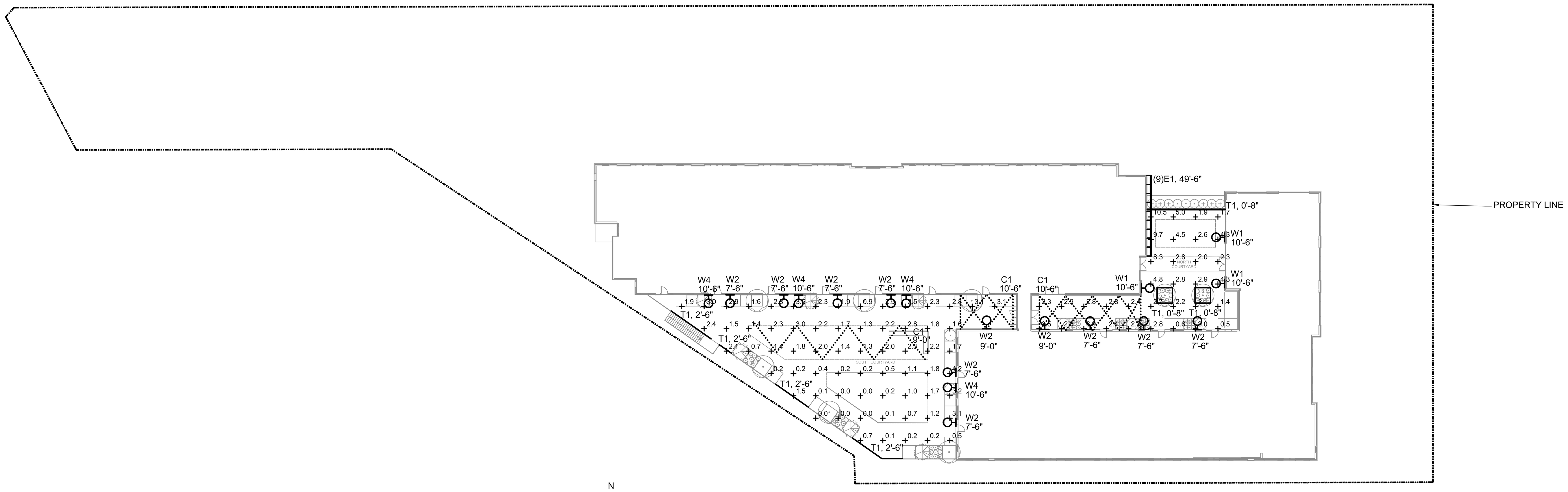
PDP & REZONING SUBMITTAL 02.07.2025

SITE PHOTOMETRIC PLAN E 1.10

CASE NO. PRC2024-00017

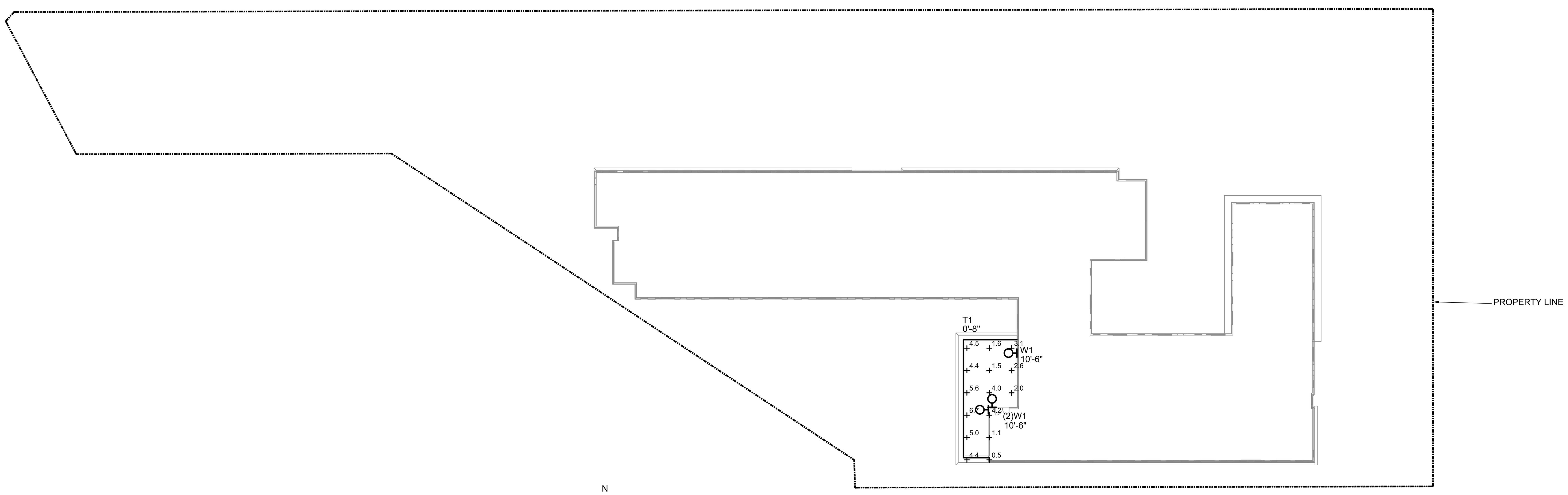
MAIKER BOYERS

LEVELS 2 & 5 PHOTOMETRIC PLANS



1 LEVEL 2 PHOTOMETRIC PLAN

SCALE: 1" = 30'-0"



2 LEVEL 5 PHOTOMETRIC PLAN

SCALE: 1" = 30'-0"

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MAIKER BOYERS

7295 WASHINGTON ST., ADAMS COUNTY, CO 80229

PDP & REZONING SUBMITTAL **02.07.2025**

LEVELS 2 & 5 PHOTOMETRIC PLANS

E 1.20

CASE NO. PRC2024-00017

MAIKER BOYERS
LIGHTING CUTSHEETS

System bollard head · Shielded · 360° **TYPE B1** **BEGA**

Type:
BEGA Product:
Project:
Modified:

Application
BEGA system bollard heads with shielded 360º light distribution. Simply order the bollard head and also the required bollard tube in various heights and options. Both modules can be joined together easily and quickly during the installation.

Materials
Borosilicate glass
Marine grade, copper free (≤0.3% copper content) A360.0 aluminum alloy
High temperature silicone gasket
Mechanically captive stainless steel fasteners
Interlocking stainless steel mounting mechanism for attachment of head and tube

NRTL listed to North American Standards, suitable for wet locations
Protection class IP 65

Weight: 13.0 lbs.

Electrical

Operating voltage	120-277V AC
Minimum start temperature	-30° C
LED module wattage	25.2 W
System wattage	30.0 W
Controllability	0-10V dimmable
Color rendering index	Ra > 80
Luminaire lumens	709 lm
LED service life (L70)	60000 hrs

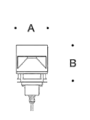
LED color temperature
☐ 4000K (K4)
☐ 3500K (K35)
☐ 3000K (K3)
☐ 2700K (K27)

BEGA can supply you with suitable LED replacement modules for up to 20 years after the purchase of LED luminaires - see website for details

Finish
All BEGA standard finishes are matte, textured powder coat with minimum 3 mil thickness. BEGA Unidure® finish provides superior fade protection in Black, Bronze, and Silver. BEGA standard White is a super durable polyester powder. Optionally available RAL and custom color finishes provided in either polyester powder or liquid paint.

Available colors
☐ Black (BLK) ☐ Bronze (BRZ)
☐ Silver (SLV) ☐ White (WHT)
☐ RAL: ☐ CUS:

Available options
☐ CUS Custom finish
☐ MGU Marine grade undercoat
☐ RAL RAL finish



System bollard head · Shielded · 360°

	LED	A	B
B84691	25.2 W	8 5/8	7 1/2

BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 info@bega-us.com

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System bollard tube · No access door **BEGA**

Type:
BEGA Product:
Project:
Modified:

Application
BEGA system bollard luminaire tube without components. BEGA system bollard tubes are designed for easy attachment to system bollard heads using an interlocking mechanism. An accompanying bollard head must be selected for proper installation. Mounting system allows for luminaire to be adjusted independent of anchor bolt orientation.

Materials
Die-cast aluminum
Extruded aluminum
Mechanically captive stainless steel fasteners
Galvanized steel anchorage

NRTL listed to North American Standards, suitable for wet locations
Protection class IP 65

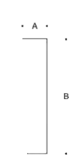
Weight: 23.4 lbs.

Finish
All BEGA standard finishes are matte, textured powder coat with minimum 3 mil thickness. BEGA Unidure® finish provides superior fade protection in Black, Bronze, and Silver. BEGA standard White is a super durable polyester powder. Optionally available RAL and custom color finishes provided in either polyester powder or liquid paint.

Available colors
☐ Black (BLK) ☐ Bronze (BRZ)
☐ Silver (SLV) ☐ White (WHT)
☐ RAL: ☐ CUS:

Available options
☐ 70896 Direct burial anchorage (replaces included anchorage kit, pre-shippable)
☐ CUS Custom finish
☐ MGU Marine grade undercoat
☐ RAL RAL finish

Included (available for pre-shipment)
☐ B79818 Anchorage kit



System bollard tube · No access door

	A	B
B84003	8 5/8	34 5/8

BEGA 1000 BEGA Way, Carpinteria, CA 93013 (805) 684-0533 info@bega-us.com

---

insight lighting **TYPE E1**

PILOT EXTERIOR (PEX)
LOW-PROFILE GRAZER | WHITE LIGHT AND STATIC COLORS

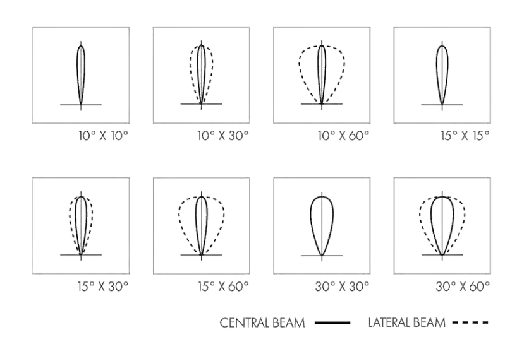
PROJECT: TYPE: CAT. #: PEX -

PROFILE

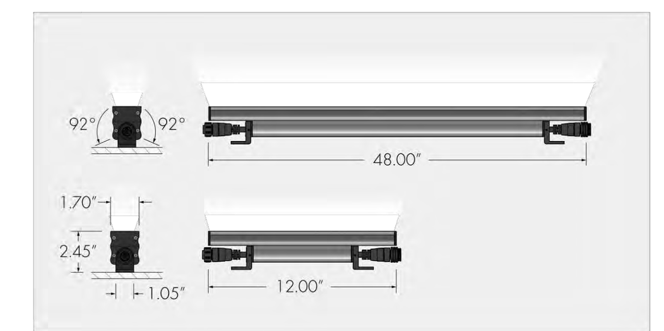
LIGHT SOURCE	4.0 W/FT, 7.0 W/FT, 10.0 W/FT
CCT	2200K, 2700K, 3000K, 3500K, 4000K, STATIC COLORS
CRI	82 CRI (90+ OPTION)
PERFORMANCE	UP TO 48038 PEAK CANDELA
VOLTAGE	LINE, 120V OR 277V
POWER	INTEGRATED POWER SUPPLY
DIMMING	FLICKER FREE DIMMABLE TO 1%. 0-10V, (SINK) DMX DIMMING, DALI
DIMENSIONS	2.50" X 1.75" X 12.00" OR 2.50" X 1.75" X 48.00"
WEIGHT	12.00": 1.65 LBS, 48.00": 6 LBS
HOUSING	EXTRUDED ALUMINUM HOUSING
LENS	TEMPERED GLASS
FINISH	METALLIC GRAY, CUSTOM
WARRANTY	5-YEAR LIMITED
OPERATING TEMP	-40° C TO 50° C
LUMEN MAINTENANCE	75,000 HOURS
CERTIFICATION	ETL AND cETL FOR WET LOCATION, IP67, 3G SUITABLE FOR NATATORIUM ENVIRONMENTS

Intertek RoHS IP67 3G ANSI C136.3

OPTICS Not all available optics shown



DIMENSIONS



PERFORMANCE SUMMARY

10.0 W/FT, 40K, 48.00"	LUMENS	PEAK CANDELA
10° X 10°	3688 LM	48038
10° X 30°	3410 LM	17591
10° X 60°	3389 LM	13007
15° X 15°	3936 LM	25267
15° X 30°	3596 LM	12226
15° X 60°	3584 LM	9350
30° X 30°	3381 LM	7850

ACCESSORIES / OPTIONS

LOUVER
TO BE INSTALLED IN
THE FIELD

Revised Rev.10/28/24
Specifications subject to change without notice

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P.: 505.345.0888 | insightlighting.com

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insight lighting

PILOT EXTERIOR (PEX)
LOW-PROFILE GRAZER | WHITE LIGHT AND STATIC COLORS

PROJECT: TYPE: CAT. #: PEX -

SPECIFICATION

PEX [1] [2] [3] [4] [5] [6] [7] [8] [9] [10] — Separate options with dashes

1 FIXTURE

PILOT EXTERIOR SERIES	PEX

2 WATTAGE

LOW OUTPUT (4.0 W/FT)	LO
MEDIUM OUTPUT (7.0 W/FT)	MO
HIGH OUTPUT (10.0 W/FT)	HO

3 CCT

2200K	22K
2700K	27K
3000K	30K
3500K	35K
4000K	40K
RED	R
GREEN	G
BLUE	B
AMBER	A

4 OPTICS

10° X 10° (10° X 10° optic is intended for a 6.00" fixture setback from the source)	10
10° X 30°	1030
10° X 60°	1060
15° X 15°	15
15° X 30°	1530
15° X 60°	1560
20° X 20°	20
20° X 60°	2060
30° X 30°	30
30° X 60°	3060
40° X 40°	40
40° X 60°	4060
60° X 60°	60
100° X 100°	100
ASYM. GRAZE UPLIGHT, LEFT POWER FEED	ASUL
ASYM. GRAZE UPLIGHT, RIGHT POWER FEED	ASUR
ASYM. GRAZE DOWNLIGHT, LEFT POWER FEED	ASDL
ASYM. GRAZE DOWNLIGHT, RIGHT POWER FEED	ASDR

Asym Graze and Wash: See page 3 for details.

5 MOUNTING

SURFACE (Wall, Ceiling, or Ground; 3G ANSI 136.31 rated)	SM
EXTENDED ARM (X = Specify 6", 12" or 18")	EXA-X
STAKE	STM

6 LENGTH

12.00"	12
48.00"	48

7 VOLTAGE

120V	120
277V	277

8 CONTROL

0-10V DIMMING (1%)	DIM
DMX DIMMING	DMXDM
DALI	DALI

0-10V dims down to 1% with compatible controls (by others)

DMX Dimming: Default factory setting is DMX System Resolution. Fixtures are not pre-addressed or labeled at the factory. A **DMXCAT** tool is required for on-site fixture resolution and addressing. Must be ordered separately. See control options below. Fixtures are shipped from the factory with default addressed channel 1. A **CDS/RDM** Distribution Kit is required. Must be ordered separately. See control options below. DMX controls are required. Must be ordered separately.

DALI: Controls and Dali bus by others.

9 FINISH

METALLIC GRAY	MG
CUSTOM COLOR	CC

Contact factory for custom color - additional charges will apply

10 OPTIONS

HIGH CRI 90+ (Available with 27K and 30K)	HCRI
LOUVER (Louver ships separate from the fixture and must be installed in the field)	LV

DMX TOOLS AND CABLE OPTIONS

DMX DISTRIBUTION KIT & ADDRESSING TOOL - REQUIRED FOR DMX DIMMING	
DMX/RDM DISTRIBUTION KIT - IP67	CDS-RDM
REMOTE DMX/RDM ADDRESSING AND MONITORING TOOL	DMXCAT

DMX/RDM Distribution Kit consists of four outputs
Each output is limited to (1) run per output - up to 32 fixtures max
Four terminators are included for end of line termination.

DMXCAT Remote Addressing and Monitoring Tool uses Bluetooth LE technology for communication with the smartphone/applications (up to 50' range). **Allows for on-site fixture resolution and addressing.**
Contact factory for Wireless DMX/RDM

LEADER CABLES - REQUIRED	See page 10 for details
5.0 FT LEADER CABLE	LC-5
10.0 FT LEADER CABLE	LC-10

EXTERIOR JUMPER CABLES (FOR LINE VOLTAGE ONLY) - OPTIONAL	
1.0 FT JUMPER CABLE	EL11898-1
2.0 FT JUMPER CABLE	EL11898-2
5.0 FT JUMPER CABLE	EL11898-5
10.0 FT JUMPER CABLE	EL11898-10
25.0 FT JUMPER CABLE	EL11898-25

Cables are not rated for direct burial. See local codes for installation.

Revised Rev.10/28/24
Specifications subject to change without notice

insight lighting
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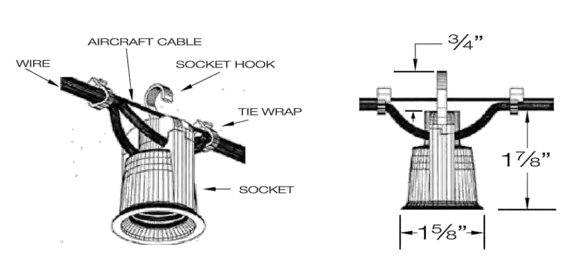
P.: 505.345.0888 | insightlighting.com

PRIMUS *Shining Brighter, Together!*

LED – DECOSTRING SERIES

SUSPENDED DECORATIVE STRINGLIGHT SYSTEMS

PROJECT: **TYPE C1**
TYPE:



SOCKET, WIRE & CABLE DETAILS

Decostrings are a perfect accent lighting solution to add a personal ambience to patios, courtyards, atriums, restaurants, amusement parks and any open area. The "festoon" lighting system is typically strung between two anchorage points with optional intermediary support and electrically fed from one end. The sockets can be either symmetrically spaced or randomly spaced to suit the application. Optional shades, guards and lenses complete the architectual design.

SPECIFICATIONS

LAMPHOLDER	Black phenolic, medium base UL weatherproof with hook for optional mounting.
POWER CORD	12/2 G. Black flexible duplex cable, UV rated for extended outdoor use.
SUPPORT CABLE	3/32" SS aircraft catenary cable supports the system, 980# test. Heavier cable available.
TERMINATION KITS	Heavy duty stainless steel hardware available.
LAMPS	Wet location rated LED and incandescent medium base A, G or S style lamps.
DIMMING	Dimmable to 10% with ELV trailing edge type dimmers.
VOLTAGE	120V system (1920 watts max load). No driver or transformer required.
ACCESSORIES	Optional brass, aluminum and acrylic shades. Consult factory for custom shades.
PHOTOMETRY	Bare lamp and shielded "BUG" rated .IES files available.
CERTIFICATION	ETL listed for permenant damp or wet installations. ETL 2001431 MADE IN THE USA

PART NUMBER

SERIES	SPACING	VOLTS	LAMP	SHADE-FINISH	TERMINATION KIT	LENGTH
DSD DAMP **DSW** WET	**12** 12"O/C **18** 18"O/C **24** 24"O/C **36** 36"O/C **48** 48"O/C (OTHER, SPECIFY)	**120** 120V	SELECT FROM LAMP PAGE 3	OPTIONAL SELECT FROM PAGE 4 & 5 OR LEAVE BLANK	OPTIONAL **STK** STANDARD TERMINATION KIT **LTK** LIGHTWEIGHT TERMINATION KIT **TBK** TURNBUCKLE KIT (*SEE PAGE 6*)	SPECIFY

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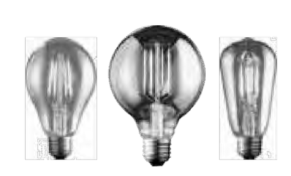
PRIMUS *Shining Brighter, Together!*

DECOSTRING LAMPS

LED FILAMENT STYLE LAMPS

S14
S14–24/150 – 24K,1.5W, 150L, CLEAR
S14–27/150 – 27K,1.5W, 150L, CLEAR
WHITE OR FROSTED – CONSULT FACTORY



VINTAGE LED LAMPS
CONSULT FACTORY

G16.5
G16.5F–24/325 – 24K, 3.5W, 325L, CLEAR
G16.5F–27/325 – 27K, 3.5W, 325L, CLEAR
G16.5F–24/200 – 24K, 2W, 200L, CLEAR
G16.5F–27/200 – 27K, 2W, 200L, CLEAR
WHITE OR FROSTED – CONSULT FACTORY

A15 & A19
CONSULT FACTORY

S14 VARIOUS COLORS
CONSULT FACTORY

G25
CONSULT FACTORY

* ADD "SC" SUFFIX FOR SILICONE COATING (FOOD SERVICE)
* SEE INDIVIDUAL DATA SHEETS FOR COMPLETE LAMP SPECIFICATIONS
* LED LAMPS SPECIFICALLY WET RATED AND DIM DOWN TO 10% WITH A TRAILING EDGE (ELV) DIMMER.

INCANDESCENT LAMPS (OPTIONAL)

LF A15 CLEAR 120V 25W
LS S14 CLEAR 120V 11W — COLORS AVAILABLE
LH–C G16.5 CLEAR 120V 25W; **LH–W** G16.5 WHITE 120V 25W
LG S11 CLEAR 120V 7.5W — COLORS AVAILABLE

FULL SPECIFICATION SHEETS AVAILABLE AT PRIMUSLIGHTING.COM.

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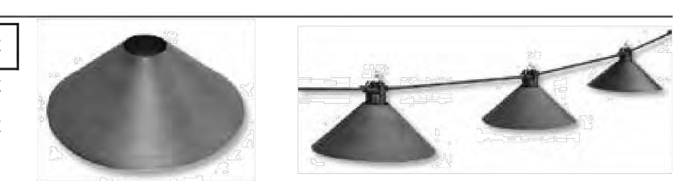
DECOSTRING SHADES & GUARDS

DSC7	7" W X 3" H	CONE SHADE	6 OZ
DSC10	10" W X 3" H	CONE SHADE	9 OZ
DSC12	12" W X 4" H	CONE SHADE	18 OZ

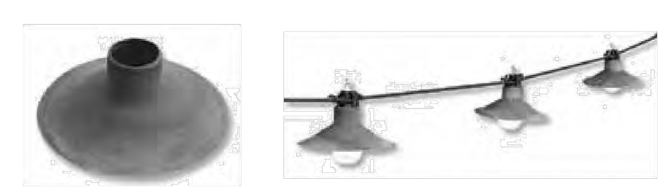
FINISH: ACID ETCHED BRASS OR POWDER COAT
PROVIDES 0/0/0 BUG RATING



SHOWN: AGED BRASS (AB)

DSH4	4" W X 1 7/8" H	HAT SHADE	2 OZ
DSH6	6" W X 2 1/4" H	HAT SHADE	4 OZ
DSH8	8" W X 2 3/4" H	HAT SHADE	6 OZ

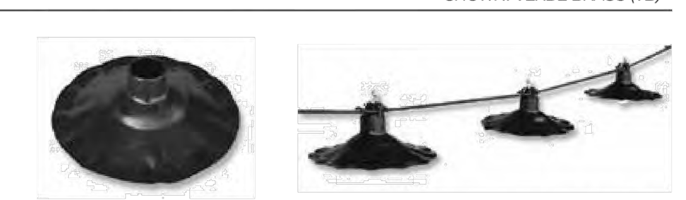
FINISH: ACID ETCHED BRASS OR POWDER COAT
FACTORY INSTALLED



SHOWN: VERDE BRASS (VB)

DSRW4	4" W X 1 7/8" H	RADIAL WAVE SHADE	2 OZ
DSRW6	6" W X 2 1/4" H	RADIAL WAVE SHADE	4 OZ
DSRW8	8" W X 2 3/4" H	RADIAL WAVE SHADE	6 OZ

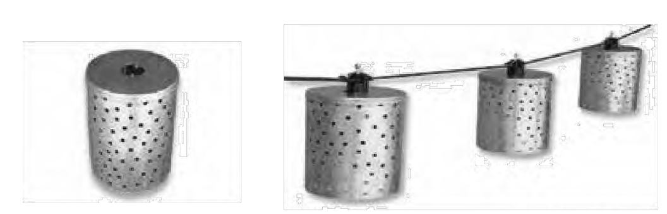
FINISH: ACID ETCHED BRASS OR POWDER COAT
FACTORY INSTALLED



SHOWN: POWDER COAT BLACK (PCB)

DST4P	4" W X 6" H	PERFORATED TUBE SHADE	11 OZ
DST6P	6" W X 8" H	PERFORATED TUBE SHADE	22 OZ

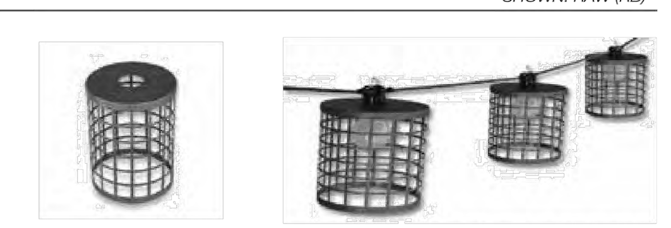
FINISH: ACID ETCHED BRASS OR POWDER COAT



SHOWN: RAW (RB)

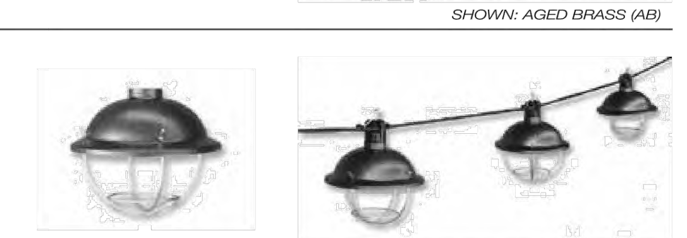
DST4C	4" W X 6" H	WIRE CAGE TUBE	9 OZ
DST6C	6" W X 8" H	WIRE CAGE TUBE	15 OZ

FINISH: ACID ETCHED BRASS OR POWDER COAT



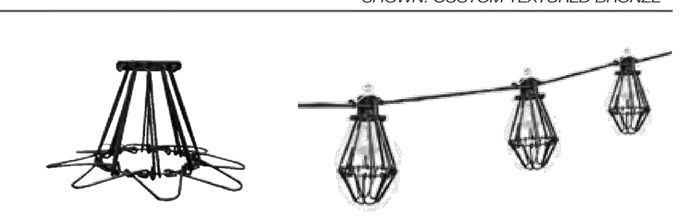
SHOWN: AGED BRASS (AB)

DSRG 6" W X 5 1/8" H ROUND SHADE WITH GUARD — 9 OZ
FINISH: ACID ETCHED BRASS OR POWDER COAT
* DELETE "G" FOR NO GUARD.
FACTORY INSTALLED



SHOWN: CUSTOM TEXTURED BRONZE

DSWG 3 7/8" W X 5 5/8" H WIRE GUARD — 6 OZ
FINISH: CAD PLATED OR POWDER COAT BLACK
CAN BE USED WITH CONE SHADE DSC10, DSC12



SHOWN: POWDER COAT BLACK (PCB)

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SOPHERSPARN ARCHITECTS LLC
2505 Walnut | Suite 200 | Boulder, CO 80302
303.442.4422 | www.sophersparn.com

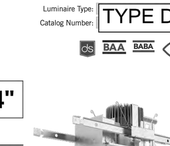
Maiker Housing Partners

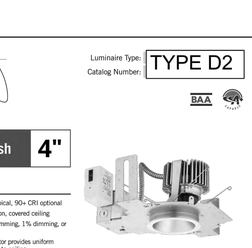
Ramirez, Johnson, & Associates
CONSULTANT

No.	Date

MAIKER BOYERS
7295 WASHINGTON ST., ADAMS COUNTY, CO 80229

PDP & REZONING SUBMITTAL **02.07.2025**
LIGHTING CUTSHEETS **E 2.10**





MAIKER BOYERS
LIGHTING CUTSHEETS

CASE NO. PRC2024-00017

TYPE D1

TYPE D2

TYPE P1

TYPE P4

SOPHERSPARN ARCHITECTS LLC

2505 Walnut | Suite 200 | Boulder, CO 80302
303.442.4422 | www.sophersparn.com

Maiker Housing Partners

NOTICE: DUTY OF COOPERATION
RELEASE OF THESE DOCUMENTS CONTEMPLATES FURTHER COOPERATION AMONG THE OWNER, HIS CONTRACTOR, AND THE ARCHITECT. DESIGN AND CONSTRUCTION ARE COMPLEX. ALTHOUGH THE ARCHITECT AND HIS CONSULTANTS HAVE PERFORMED THEIR SERVICES WITH DUE CARE AND DILIGENCE, THEY CANNOT GUARANTEE PERFECTION. COMMUNICATION IS IMPERFECT AND EVERY CONTINGENCY CANNOT BE ANTICIPATED. ANY ERRORS, OMISSIONS, OR DISCREPANCY DISCOVERED BY THE USE OF THESE DOCUMENTS SHALL BE REPORTED IMMEDIATELY TO THE ARCHITECT. FAILURE TO NOTIFY THE ARCHITECT COMPOUNDS MISUNDERSTANDING AND INCREASES CONSTRUCTION COSTS. A FAILURE TO COOPERATE BY SIMPLE NOTICE TO THE ARCHITECT SHALL RELIEVE THE ARCHITECT FROM RESPONSIBILITY FOR ALL CONSEQUENCES ARRIVING OUT OF SUCH CHANGES.

DO NOT SCALE FROM DRAWING. VERIFY ALL DIMENSIONS ON SITE.

Ramirez, Johnson, & Associates
3301 Lawrence St. Ste 2
Denver, CO 80205
720.598.0774
www.rja-eng.com

CONSULTANT

No.	Date

MAIKER BOYERS
7295 WASHINGTON ST., ADAMS COUNTY, CO 80229

PDP & REZONING SUBMITTAL 02.07.2025
LIGHTING CUTSHEETS E 2.20

MAIKER BOYERS
LIGHTING CUTSHEETS

CASE NO. PRC2024-00017

TYPE T1

12VAC LANDSCAPE OUTDOOR TAPE
Wet Rated LED Tape

WAC

Fixture Type: TYPE T1
Catalog Number:
Project:
Location:

1', 5', 10', 20' and 35' sections

PRODUCT DESCRIPTION

FEATURES

SPECIFICATIONS

ORDERING NUMBER

		Color Temp		Finish	
8012	1 foot	27	2700K	WT	White
8052	5 feet	30	3000K		
8102	10 feet				
8202	20 feet				
8352	35 feet				

Example: 8012-30WT

TYPE W1

WDGE1 LED
Architectural Wall Sconce

Specifications

Depth (D1): 5.5"
Depth (D2): 1.5"
Height: 8"
Width: 9"
Weight: 9 lbs (without options)

Introduction

The WDGE LED family is designed to meet specifier's every wall-mounted lighting need in a widely accepted shape that blends with any architecture. The clean rectilinear design comes in four sizes with lumen packages ranging from 1,200 to 25,000 lumens, providing true site-wide solution.

WDGE1 delivers up to 2,000 lumens with a soft, non-pixelated light source, creating a visually comfortable environment. The compact size of WDGE1, with its integrated emergency battery backup option, makes it an ideal over-the-door wall-mounted lighting solution.

WDGE LED Family Overview

Ordering Information

EXAMPLE: WDGE1 LED P2 40K 80CRI VF MVOLT SRM PE DDBXD

Accessories

Performance Data

Lumen Output

Electrical Load

Lumen Multiplier for 90CRI

Lumen Output in Emergency Mode (4000K, 80 CRI)

Lumen Ambient Temperature (LAT) Multipliers

Projected LED Lumen Maintenance

LITHONIA LIGHTING — COMMERCIAL OUTDOOR

TYPE W2

WAC LIGHTING

Slant
11" Outdoor Wall Sconce 3000K

Fixture Type: TYPE W2

Model & Size	Color Temp	Finish	LED Watts	LED Lumens	Delivered Lumens
WS-W14911 11"	3000K	BK Black	7W	441	353

Example: WS-W14911-BK
For custom requests please contact customs@waclighting.com

DESCRIPTION
Cleverly designed, minimalistic lighting.

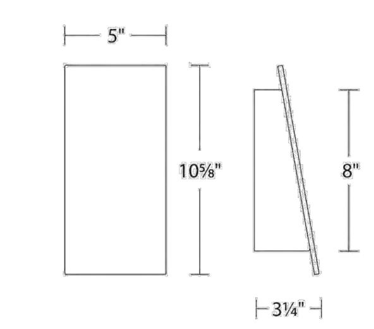
FEATURES
- ACLED driverless technology
- 5 year warranty

SPECIFICATIONS

Color Temp:	3000K
Input:	120 VAC,50/60Hz
CRI:	90
Dimming:	ELV: 100-10%
Rated Life:	50,000 Hours
Mounting:	Can be mounted on wall vertically or upside down
Standards:	ETL, cETL, IP65, Title 24 JA8 Compliant, ADA, Wet Location listed
Construction	Aluminum body with glass lens

FINISHES:
Black

LINE DRAWING:



TYPES L1 & L2

LITECONTROL

2L-R-D
MOD™ 2 LED RECESSED DIRECT

FEATURES

CONTROLS TECHNOLOGY

SERVICE PROGRAM

QS10

SPECIFICATIONS

ORDERING GUIDE

Example: 2L-DW-D-B-3-08-SOF-C1-27K9-D030-D01-1C-UNV

KEY DATA

Lumen Range Per Foot	D: 300–1000
Wattage Range Per Foot	2.8–11
Efficacy Range (LPW)	108–112
Rated Life (Hours)	L90>60,000

currentlighting.com/litecontrol

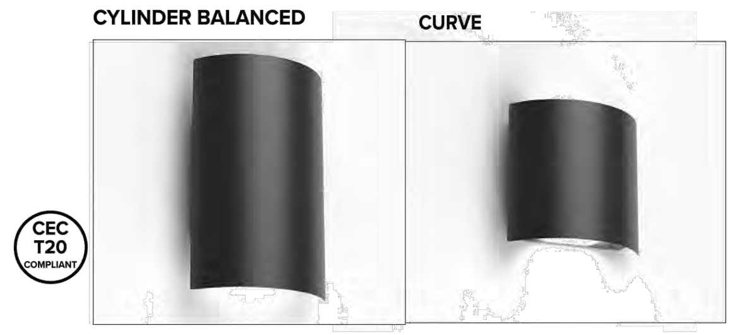
TYPES W3 & W4

KIM LIGHTING

CY1
ARCHITECTURAL AREA/SITE

CYPHER™

CYLINDER BALANCED — CURVE



TYPE W3 — TYPE W4

FEATURES
- Integral Battery Backup Option
- 360° Light Distribution
- RGBW or Static White Luminous Front Option
- Multiple Fascia Options and Finishes
- 4G Vibration Tested

CONTROL TECHNOLOGY

SPECIFICATIONS

KEY DATA

Lumen Range	1,353–2,752
Wattage Range	17–26
Efficacy Range (LPW)	75–116
Weight	Refer to page 6

ORDERING GUIDE

Example: CY1-15-3K7-1-2D-UNV-BLS-F-RGBW-FPP-PCU-SF

currentlighting.com/kimlighting

SOPHERSPARN ARCHITECTS LLC
2505 Walnut | Suite 200 | Boulder, CO 80302
303.442.4422 | www.sopherspam.com

Maiker Housing Partners

Ramirez, Johnson, & Associates
CONSULTANT

No.	Date

MAIKER BOYERS
7295 WASHINGTON ST., ADAMS COUNTY, CO 80229

PDP & REZONING SUBMITTAL — 02.07.2025

LIGHTING CUTSHEETS — E 2.30

LSC TRANSPORTATION CONSULTANTS, INC.

1889 York Street
Denver, CO 80206
(303) 333-1105
FAX (303) 333-1107
E-mail: lscdenver@lsctrans.com

February 7, 2025

Mr. Jacob Schneck
Sopher Sparn Architects, LLC
2505 Walnut Street, Suite 200
Boulder, CO 80302

Re: Maiker Boyers
Adams County, CO
LSC #240770

Dear Mr. Schneck:

In response to your request, LSC Transportation Consultants, Inc. has prepared this traffic impact analysis for the proposed Maiker-Boyers development. As shown on Figure 1, the site is located south of E. 73rd Avenue and west of Washington Street in Adams County, Colorado.

REPORT CONTENTS

The report contains the following: the existing roadway and traffic conditions in the vicinity of the site including the lane geometries, traffic controls, posted speed limits, etc.; the existing weekday peak-hour traffic volumes; the typical weekday site-generated traffic volume projections for the site; the assignment of the projected traffic volumes to the area roadways; the projected background and resulting total traffic volumes on the area roadways; the site's projected traffic impacts; and any recommended roadway improvements to mitigate growth in background traffic or from the impact of the site.

LAND USE AND ACCESS

The site is proposed to include about 117 apartment dwelling units, a 2,000 square-foot coffee shop, and about 1,622 square feet of retail space. Signalized access is proposed from Washington Street as shown in the conceptual site plan in Figure 2. A secondary right-out-only access is also proposed further south.

ROADWAY AND TRAFFIC CONDITIONS

Area Roadways

The major roadways in the site's vicinity are shown on Figure 1 and are described below.

- **Washington Street** is a north-south, six-lane major arterial roadway east of the site. The intersections with E. 78th Avenue, E. 76th Avenue, E. 73rd Avenue, E. 71st Avenue, and E.

70th Avenue are signalized with auxiliary lanes and the intersection with E. 74th Avenue is stop-sign controlled. The posted speed limit in the vicinity of the site is 40 mph.

- **E. 78th Avenue** is an east-west, two-lane collector roadway north of the site. The intersection with Washington Street is signalized with auxiliary lanes. The posted speed limit in the vicinity of the site is 35 mph.

- **E. 76th Avenue** is an east-west, two-lane local roadway north of the site. The intersection with Washington Street is signalized with auxiliary lanes. The posted speed limit in the vicinity of the site is 25 mph.

- **E. 74th Avenue** is an east-west, two-lane local north of the site. The intersection with Washington Street is stop-sign controlled. The posted speed limit in the vicinity of the site is 25 mph.

- **E. 73rd Avenue** is an east-west, two-lane local roadway south of the site. The intersection with Washington Street is signalized with auxiliary lanes. The posted speed limit in the vicinity of the site is 25 mph.

- **E. 71st Avenue** is an east-west, two-lane local roadway south of the site. The intersection with Washington Street is signalized with auxiliary lanes. No speed limit is posted.

- **E. 70th Avenue** is an east-west, two-lane collector roadway south of the site. The intersection with Washington Street is signalized with auxiliary lanes. The posted speed limit in the vicinity of the site is 50 mph.

Existing Traffic Conditions

Figure 3 shows the existing traffic volumes, existing traffic control, and lane geometry in the site's vicinity on a typical weekday. The weekday peak-hour traffic volumes and daily traffic counts are from the attached traffic counts conducted by Counter Measures in January, 2025.

2028 and 2045 Background Traffic

Figure 4 shows the estimated 2028 background traffic and Figure 5 shows the estimated 2045 background traffic. The background traffic assumes a one percent annual growth rate based on a comparison of 2020 (28,000 vpd) and 2050 (36,000 vpd) DRCOG projections.

Existing, 2028, and 2045 Background Levels of Service

Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection. Level of service is indicated on a scale from "A" to "F." LOS A is indicative of little congestion or delay and LOS F is indicative of a high level of congestion or delay. Attached are specific level of service definitions for signalized and unsignalized intersections.

The intersections in the study area were analyzed as appropriate to determine the existing, 2028, and 2045 background levels of service using Synchro. Table 1 shows the level of service analysis results. The level of service reports are attached.

1. **Washington Street/E. 78th Avenue:** This signalized intersection currently operates at an overall LOS "B" during the morning peak-hour and LOS "A" during the afternoon peak-hour and is expected to do so through 2045.

2. **Washington Street/E. 76th Avenue:** This signalized intersection currently operates at an overall LOS "A" during both morning and afternoon peak-hours and is expected to do so through 2045.

3. **Washington Street/E. 74th Avenue/Auto Nation Driveway:** All movements at this stop-sign controlled intersection currently operate at LOS "B" or better and are expected to operate at LOS "C" or better during both morning and afternoon peak-hours through 2045.

4. **Washington Street/E. 73rd Avenue:** This signalized intersection currently operates at an overall LOS "A" during both morning and afternoon peak-hours and is expected to do so through 2045.

5. **Washington Street/E. 71st Avenue:** This signalized intersection currently operates at an overall LOS "A" during both morning and afternoon peak-hours and is expected to do so through 2045.

6. **Washington Street/E. 70th Avenue:** This signalized intersection currently operates at an overall LOS "D" during both morning and afternoon peak-hours and is expected to do so through 2045.

7. **Washington Street/Right-Out-Only Site Access:** This unsignalized intersection was analyzed only in the total traffic scenarios.

TRIP GENERATION

Table 2 shows the estimated average weekday, morning peak-hour, and afternoon peak-hour trip generation for the proposed site for three separate scenarios based on the rates from *Trip Generation, 11th Edition, 2021* by the Institute of Transportation Engineers (ITE).

The site is projected to generate about 1,686 vehicle-trips on the average weekday, with about half entering and half exiting during a 24-hour period. During the morning peak-hour, which generally occurs for one hour between 6:30 and 8:30 a.m., about 107 vehicles would enter and about 126 vehicles would exit the site. During the afternoon peak-hour, which generally occurs for one hour between 4:00 and 6:00 p.m., about 65 vehicles would enter and about 55 vehicles would exit. These estimates are expected to be reduced due to pass-by traffic as shown in Table 2.

TRIP DISTRIBUTION

Figure 6 shows the estimated directional distribution of the site-generated traffic volumes on the area roadways. The estimates were based on the location of the site with respect to the regional population, employment, and activity centers; and the site's proposed land use.

TRIP ASSIGNMENT

Figure 7a shows the primary site-generated traffic volumes which are the directional distribution percentages (from Figure 6) applied to the trip generation estimate (from Table 2).

Figure 7b shows the passby site-generated traffic volumes from Table 2.

2028 AND 2045 TOTAL TRAFFIC

Figure 8 shows the 2028 total traffic which is the sum of the 2028 background traffic volumes (from Figure 4) and the site-generated traffic volumes (from Figures 7a and 7b). Figure 8 also shows the 2028 total traffic lane geometry and traffic control.

Figure 9 shows the 2045 total traffic which is the sum of the 2045 background traffic volumes (from Figure 5) and the site-generated traffic volumes (from Figures 7a and 7b). Figure 9 also shows the 2045 total traffic lane geometry and traffic control.

PROJECTED LEVELS OF SERVICE

The intersections in the study area were analyzed to determine the 2028 and 2045 total levels of service. Table 1 shows the level of service analysis results for each movement or lane group. The level of service reports are attached.

1. **Washington Street/E. 78th Avenue:** This signalized intersection is expected to operate at an overall LOS "B" during the morning peak-hour and LOS "A" during the afternoon peak-hour through 2045.

2. **Washington Street/E. 76th Avenue:** This signalized intersection is expected to operate at an overall LOS "A" during both morning and afternoon peak-hours through 2045.

3. **Washington Street/E. 74th Avenue/Auto Nation Driveway:** All movements at this stop-sign controlled intersection are expected to operate at LOS "C" or better during both morning and afternoon peak-hours through 2045.

4. **Washington Street/E. 73rd Avenue:** This signalized intersection is expected to operate at an overall LOS "A" during both morning and afternoon peak-hours through 2045. The existing traffic signal pole on the southeast corner should be replaced with a pole and mast arm combination.

5. **Washington Street/E. 71st Avenue:** This signalized intersection is expected to operate at an overall LOS "A" during both morning and afternoon peak-hours through 2045.

6. **Washington Street/E. 70th Avenue:** This signalized intersection is expected to operate at an overall LOS "D" during both morning and afternoon peak-hours through 2045.

7. **Washington Street/Right-Out-Only Site Access:** All movements at this stop-sign controlled intersection are expected to operate at LOS "B" or better during both morning and afternoon peak-hours through 2045.

95TH PERCENTILE QUEUE LENGTHS

Table 3 shows the existing and projected 95th percentile queue lengths for the signalized intersections. Table 3 also shows the existing and future turn lane lengths.

RECOMMENDED IMPROVEMENTS

Table 4 shows the recommended improvements at Intersections #4 and #6.

CONCLUSIONS AND RECOMMENDATIONS

Trip Generation

1. The site is projected to generate about 1,686 vehicle-trips on the average weekday, with about half entering and half exiting during a 24-hour period. During the morning peak-hour, about 107 vehicles would enter and about 126 vehicles would exit the site. During the afternoon peak-hour, about 65 vehicles would enter and about 55 vehicles would exit. These estimates are expected to be reduced by pass-by trips as shown in Table 2.

Projected Levels of Service

2. All of the signalized intersections are expected to operate at an overall LOS "D" or better through 2045 with the recommended improvements.

3. All movements at the unsignalized intersections analyzed are expected to operate at acceptable levels of service during both morning and afternoon peak-hours through 2045.

Conclusions

4. The impact of the Maiker-Boyers development can be accommodated by the existing and planned roadway network with the following recommendations.

Recommendations

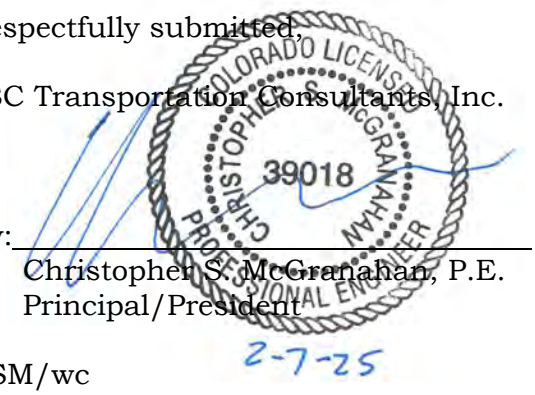
5. The recommended improvements are shown in Figures 8 and 9 and Tables 3 and 4.

* * * * *

We trust our findings will assist you in gaining approval of the proposed Maiker-Boyers development. Please contact me if you have any questions or need further assistance.

Respectfully submitted,

LSC Transportation Consultants, Inc.



By: _____
Christopher S. McGranahan, P.E.
Principal/President

CSM/wc

Enclosures: Tables 1 - 4
Figures 1 - 9
Traffic Count Reports
Level of Service Definitions
Level of Service Reports
Queuing Reports

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Table 1 (Page 1 of 2)
Intersection Levels of Service Analysis
Maiker-Boyers
Adams County, CO
LSC #240770; February, 2025

Intersection # and Location	Traffic Control	Existing Traffic Level of Service AM	Existing Traffic Level of Service PM	2028 Background Traffic Level of Service AM	2028 Background Traffic Level of Service PM	2028 Total Traffic Level of Service AM	2028 Total Traffic Level of Service PM	2045 Background Traffic Level of Service AM	2045 Background Traffic Level of Service PM	2045 Total Traffic Level of Service AM	2045 Total Traffic Level of Service PM
1) Washington Street/E. 78th Avenue	Signalized										
EB Left		D	D	D	D	D	D	D	D	D	D
EB Through		D	D	D	D	D	D	C	D	C	D
EB Right		D	D	D	D	D	D	C	D	C	D
WB Left		D	D	D	D	D	D	D	D	D	D
WB Through		D	D	D	D	D	D	C	D	C	D
WB Right		D	D	D	D	D	D	D	D	D	D
NB Left		A	A	A	A	A	A	A	A	A	A
NB Through		A	A	A	A	A	A	A	A	A	A
NB Right		A	A	A	A	A	A	A	A	A	A
SB Left		A	A	A	A	A	A	A	A	A	A
SB Through		A	A	A	A	A	A	A	A	A	A
SB Right		A	A	A	A	A	A	A	A	A	A
Entire Intersection Delay (sec /veh)		10.7	5.8	10.8	5.8	10.8	5.8	11.9	6.0	11.9	5.9
Entire Intersection LOS		B	A	B	A	B	A	B	A	B	A
2) Washington Street/E. 76th Avenue	Signalized										
EB Left		D	D	D	D	D	D	D	D	D	D
EB Right		D	D	D	D	D	D	D	D	D	D
NB Left		A	A	A	A	A	A	A	A	A	A
NB Through		A	A	A	A	A	A	A	A	A	A
SB Through/Right		A	A	A	A	A	A	A	A	A	A
Entire Intersection Delay (sec /veh)		1.0	1.2	1.1	1.4	1.1	1.4	1.2	1.2	1.2	1.2
Entire Intersection LOS		A	A	A	A	A	A	A	A	A	A
3) Washington Street/E. 74th Avenue/Auto Nation Driveway	TWSC										
NB Left		B	A	B	A	B	A	B	A	B	A
EB Approach		B	B	B	B	B	B	B	B	B	B
WB Approach		--	--	B	C	B	C	B	C	B	C
SB Left		A	A	A	A	A	A	A	B	A	B
Critical Movement Delay (sec./veh.)		11.7	10.0	12.0	17.1	12.0	17.4	13.4	23.3	13.5	23.8

Table 1 (Page 2 of 2)
Intersection Levels of Service Analysis
Maiker-Boyers
Adams County, CO
LSC #240770; February, 2025

Intersection # and Location	Traffic Control	Existing Traffic Level of Service AM	Existing Traffic Level of Service PM	2028 Background Traffic Level of Service AM	2028 Background Traffic Level of Service PM	2028 Total Traffic Level of Service AM	2028 Total Traffic Level of Service PM	2045 Background Traffic Level of Service AM	2045 Background Traffic Level of Service PM	2045 Total Traffic Level of Service AM	2045 Total Traffic Level of Service PM
4) Washington Street/E. 73rd Avenue/ Boyers Driveway	Signalized										
EB Left		A	A	A	A	D	D	A	A	D	D
EB Through/Right		D	A	A	A	D	D	A	A	D	D
WB Left		D	D	D	D	D	D	D	D	D	D
WB Through/Right		D	D	D	D	D	D	D	D	D	D
NB Left		A	A	A	A	A	A	A	A	A	A
NB Through		A	A	A	A	A	A	A	A	A	A
NB Right		A	A	A	A	A	A	A	A	A	A
SB Left		A	A	A	A	A	A	A	A	A	A
SB Through/Right		A	A	A	A	A	A	A	A	A	A
Entire Intersection Delay (sec /veh)		1.3	4.0	1.4	4.0	2.8	4.4	1.5	4.1	2.8	4.4
Entire Intersection LOS		A	A	A	A	A	A	A	A	A	A
5) Washington Street/E. 71st Avenue	Signalized										
WB Left		D	D	D	D	D	D	D	D	D	D
WB Right		D	D	D	D	D	D	D	D	D	D
NB Through		A	A	A	A	A	A	A	A	A	A
NB Right		A	A	A	A	A	A	A	A	A	A
SB Left		A	A	A	A	A	A	A	A	A	A
SB Through		A	A	A	A	A	A	A	A	A	A
Entire Intersection Delay (sec /veh)		1.1	2.0	1.1	2.0	1.1	2.0	1.2	2.0	1.2	2.0
Entire Intersection LOS		A	A	A	A	A	A	A	A	A	A
6) Washington Street/E. 70th Avenue	Signalized										
EB Left		E	E	D	E	E	E	E	E	E	E
EB Through		B	B	B	B	B	B	C	C	C	C
EB Right		A	A	A	A	A	A	A	A	A	A
WB Left		E	E	E	E	E	E	E	E	E	E
WB Through		B	C	B	C	C	C	C	C	C	C
WB Right		A	A	A	A	A	A	A	A	A	A
NB Left		D	D	D	E	D	E	D	D	D	D
NB Through/Right		D	D	D	D	D	D	D	D	D	D
SB Left		E	C	D	C	D	C	E	D	E	D
SB Through		D	D	D	D	D	C	D	C	D	C
SB Right		A	A	A	A	A	A	A	A	A	A
Entire Intersection Delay (sec /veh)		43.0	38.6	39.2	40.4	39.5	40.8	40.9	41.7	41.4	42.2
Entire Intersection LOS		D	D	D	D	D	D	D	D	D	D
7) Washington Street/Right-Out-Only Access	TWSC										
EB Right		--	--	--	--	B	A	--	--	B	B
Critical Movement Delay (sec./veh.)		--	--	--	--	11.9	9.7	--	--	13.5	10.0

Table 2
ESTIMATED TRAFFIC GENERATION
Maiker Boyers
Adams County, CO
LSC #240770; February, 2025

		Trip Generation Rates [1]					Vehicle-Trips Generated				
		Average	AM Peak-Hour		PM Peak-Hour		Average	AM Peak-Hour		PM Peak-Hour	
Trip Generating Category	Quantity	Weekday	In	Out	In	Out	Weekday	In	Out	In	Out
CURRENTLY PROPOSED LAND USE											
Apartments [2]	117 DU [3]	4.54	0.085	0.285	0.238	0.152	531	10	33	28	18
Coffee Shop [4]	2.000 KSF [5]	533.57	47.471	45.609	16.145	16.145	1,067	95	91	32	32
Retail [6]	1.622 KSF [5]	54.45	1.416	0.944	3.295	3.295	88	2	2	5	5
						Total =	**1,686**	**107**	**126**	**65**	**55**
						Passby Trips [7] =	980	83	83	30	30
						Primary Trips =	**706**	**24**	**43**	**35**	**25**

Notes:
(1) Source: *Trip Generation*, Institute of Transportation Engineers, 11th Edition, 2021
(2) ITE Land Use No. 221 - Multifamily Housing (Mid-Rise)
(3) DU = dwelling units
(4) ITE Land Use No. 936 - Coffee/Donut Shop w/o drive-through window - no daily rate given - the daily rate is based on the rates for with drive-through because the peak-hour rates are similar.
(5) KSF = 1,000 square feet
(6) ITE Land Use No. 822 - Strip Retail Plaza (<40k)
(7) Passby trips are assumed to be 34% for the retail land use and 89% for the coffee shop land use based on the *Trip Generation Handbook,* 3rd Edition.

Table 3
95th Percentile Queue Lengths
Maiker-Boyers
Adams County, CO
LSC #240770; February, 2025

Intersection No. & Location	Existing Lane Lengths (feet)	Future Lane Lengths if different (feet)	95th Percentile Queue Length Existing AM Peak (feet)	95th Percentile Queue Length Existing PM Peak (feet)	95th Percentile Queue Length 2028 Background AM Peak (feet)	95th Percentile Queue Length 2028 Background PM Peak (feet)	95th Percentile Queue Length 2028 Total AM Peak (feet)	95th Percentile Queue Length 2028 Total PM Peak (feet)	95th Percentile Queue Length 2045 Background AM Peak (feet)	95th Percentile Queue Length 2045 Background PM Peak (feet)	95th Percentile Queue Length 2045 Total AM Peak (feet)	95th Percentile Queue Length 2045 Total PM Peak (feet)
1) Washington Street/E. 78th Avenue												
EB Left	75		44	42	44	43	44	43	44	46	44	46
EB Through	--		28	12	28	12	28	12	29	13	29	13
EB Right	75		0	0	0	0	0	0	0	0	0	0
WB Left	225		162	80	165	82	165	82	192	91	192	91
WB Through	--		20	6	20	8	20	8	20	13	20	13
WB Right	215		42	45	43	45	43	45	46	48	46	48
NB Left	180		9	7	10	7	10	7	13	10	14	10
NB Through	--		73	222	75	234	78	235	88	322	92	326
NB Right	180		12	19	13	19	13	19	17	22	17	22
SB Left	200		38	27	39	29	39	29	45	35	45	35
SB Through	--		265	51	283	54	286	55	375	67	377	70
SB Right	175		8	7	8	7	8	7	8	7	8	7
2) Washington Street/E. 76th Avenue												
EB Left	50		27	44	31	47	31	47	31	47	31	47
EB Right	--		18	19	21	20	21	20	21	20	21	20
NB Left	70		11	1	12	2	13	2	18	2	19	2
NB Through	--		18	66	19	70	20	70	23	88	23	89
SB Through/Right	--		90	30	96	31	97	32	127	38	127	38
4) Washington Street/E. 73rd Avenue/Boyers Driveway												
EB Left	0	40	0	0	0	0	59	32	0	0	58	30
EB Through/Right	--		0	0	0	0	73	0	0	0	86	0
WB Left	60		34	51	36	53	35	53	42	60	40	60
WB Through/Right	--		0	73	0	80	0	78	0	116	0	115
NB Left	80		0	0	0	0	21	12	0	0	32	15
NB Through	--		34	147	36	160	43	157	45	253	56	250
NB Right	135		4	8	4	8	6	8	5	11	7	11
SB Left	175		8	7	9	8	11	7	10	11	14	11
SB Through/Right	--		89	41	94	45	121	44	127	64	166	64
5) Washington Street/E. 71st Avenue												
WB Left	75		24	48	25	50	25	50	31	53	31	53
WB Right	--		27	30	27	30	27	30	29	32	29	32
NB Through	--		21	69	21	73	22	75	26	93	27	96
SB Left	265		7	7	7	7	7	7	7	9	7	9
SB Through	--		81	32	84	34	87	35	110	42	113	43
6) Washington Street/E. 70th Avenue												
EB Left	2 @ 185	2 @ 325	164	252	161	265	164	271	191	308	195	313
EB Through	--		130	214	133	198	133	198	156	266	156	266
EB Right	Continuous		69	9	75	10	78	10	138	19	140	19
WB Left	230		203	74	201	76	201	76	232	85	232	85
WB Through	--		134	154	138	157	138	157	162	190	162	190
WB Right	200		0	58	0	59	0	60	0	72	0	76
NB Left	285	390	60	270	62	294	62	298	70	383	70	388
NB Through/Right	--		69	260	70	268	75	275	83	331	88	338
SB Left	220	480	340	127	327	144	338	154	466	217	481	224
SB Through	--		217	115	225	120	232	123	273	139	281	143
SB Right	Continuous		106	65	128	66	136	66	273	89	284	96
7) Washington Street/Right-Out-Only Access												
EB Right	--	--	--	--	--	--	<25	<25	--	--	<25	<25

Table 4
Recommended Improvements to Public Street Network
Maiker-Boyers
Adams County, CO
LSC #240770; February, 2025

Inter-section No.	Intersection Location	2028 Recommended Improvements	Responsibility	2045 Recommended Improvements	Responsibility
#4	Washington Street/E. 73rd Avenue	EB LT - provide 40-foot turn lane	Applicant		
		SE Corner - replace traffic signal post with pole/mast arm combination	Applicant		
#6	Washington Street/E. 70th Avenue			EB LT - increase 2 @ 185 feet to 2 @ 325 feet	Others
				NB LT - increase from 285 feet to 390 feet	Others
				SB LT - increase from 220 feet to 480 feet	Others
#7	Washington Street/Right-Out-Only Access	Construct Access	Applicant		

Approximate Scale
Scale: 1"=2,000'

Figure 1

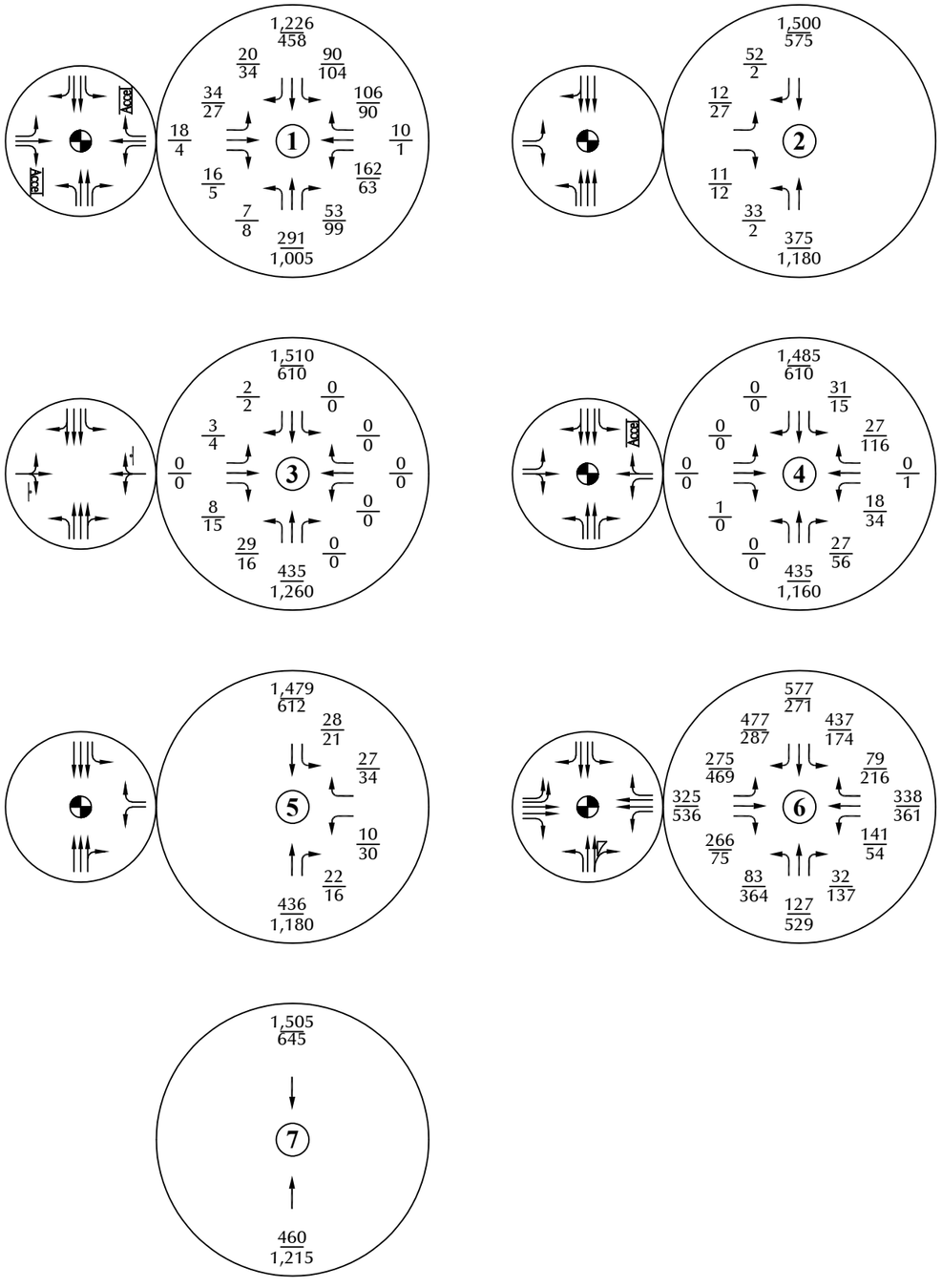
Vicinity Map

Maiker Boyers (LSC #240770)

Figure 2

Site Plan

Maiker Boyers (LSC #240770)



LEGEND:

= Stop Sign

= Traffic Signal

= Speed Limit

26/35 = AM Peak Hour Traffic / PM Peak Hour Traffic

1,000 = Average Daily Traffic

N

Approximate Scale
Scale: 1"=1,000'

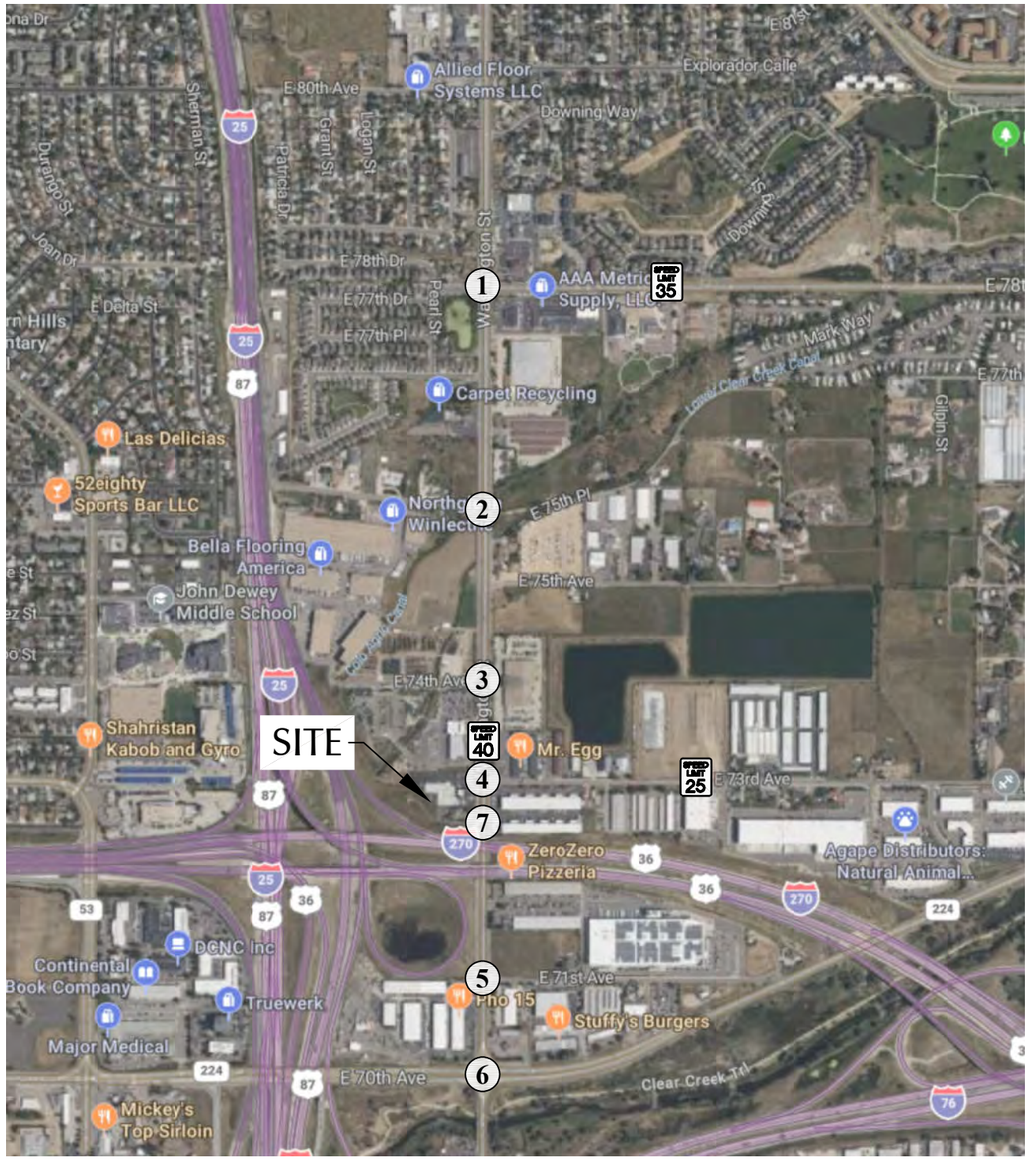
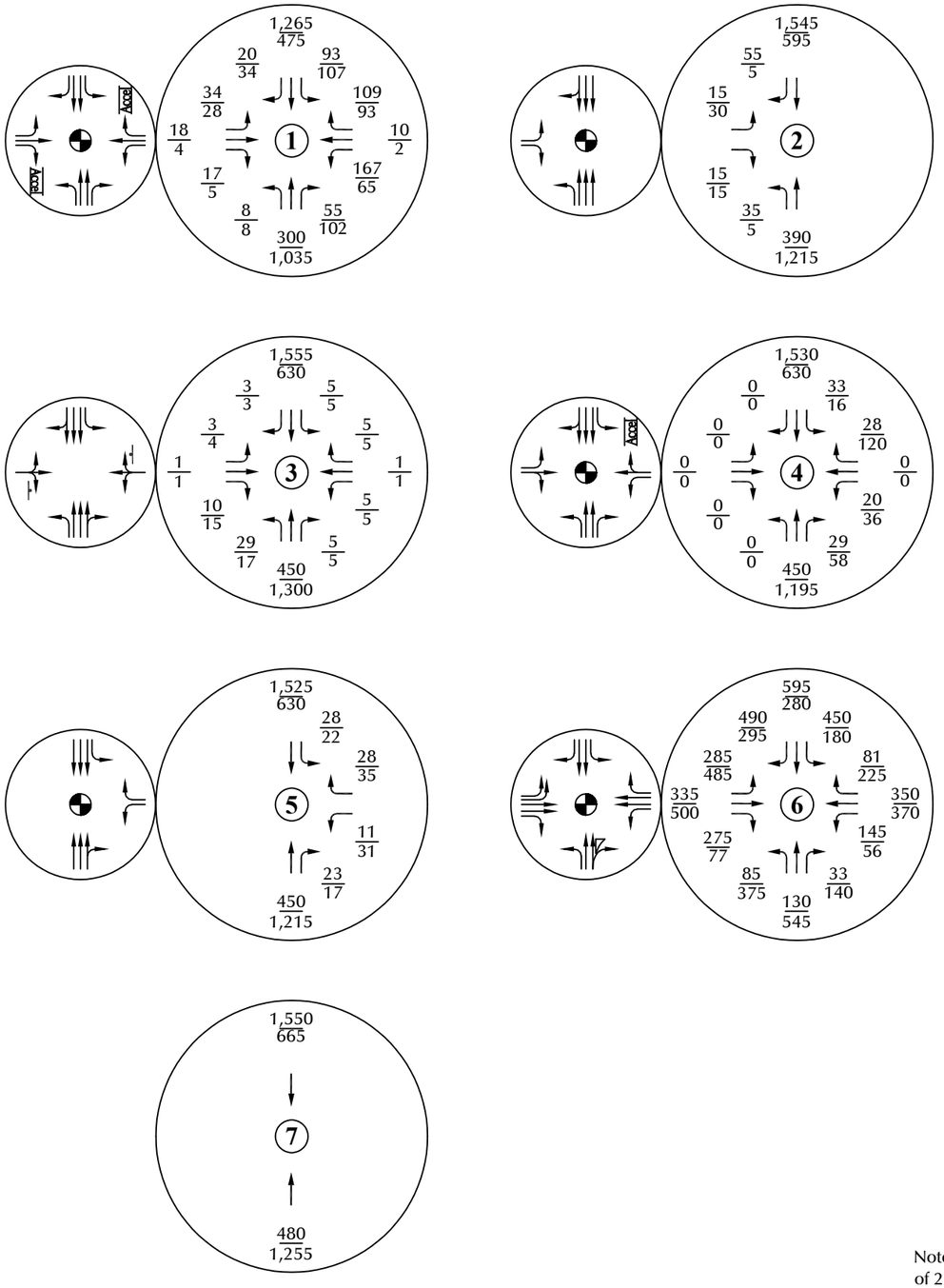


Figure 3

Existing Traffic, Lane Geometry and Traffic Control

Maiker Boyers (LSC #240770)

TRANSPORTATION CONSULTANTS, INC.



LEGEND:

= Stop Sign

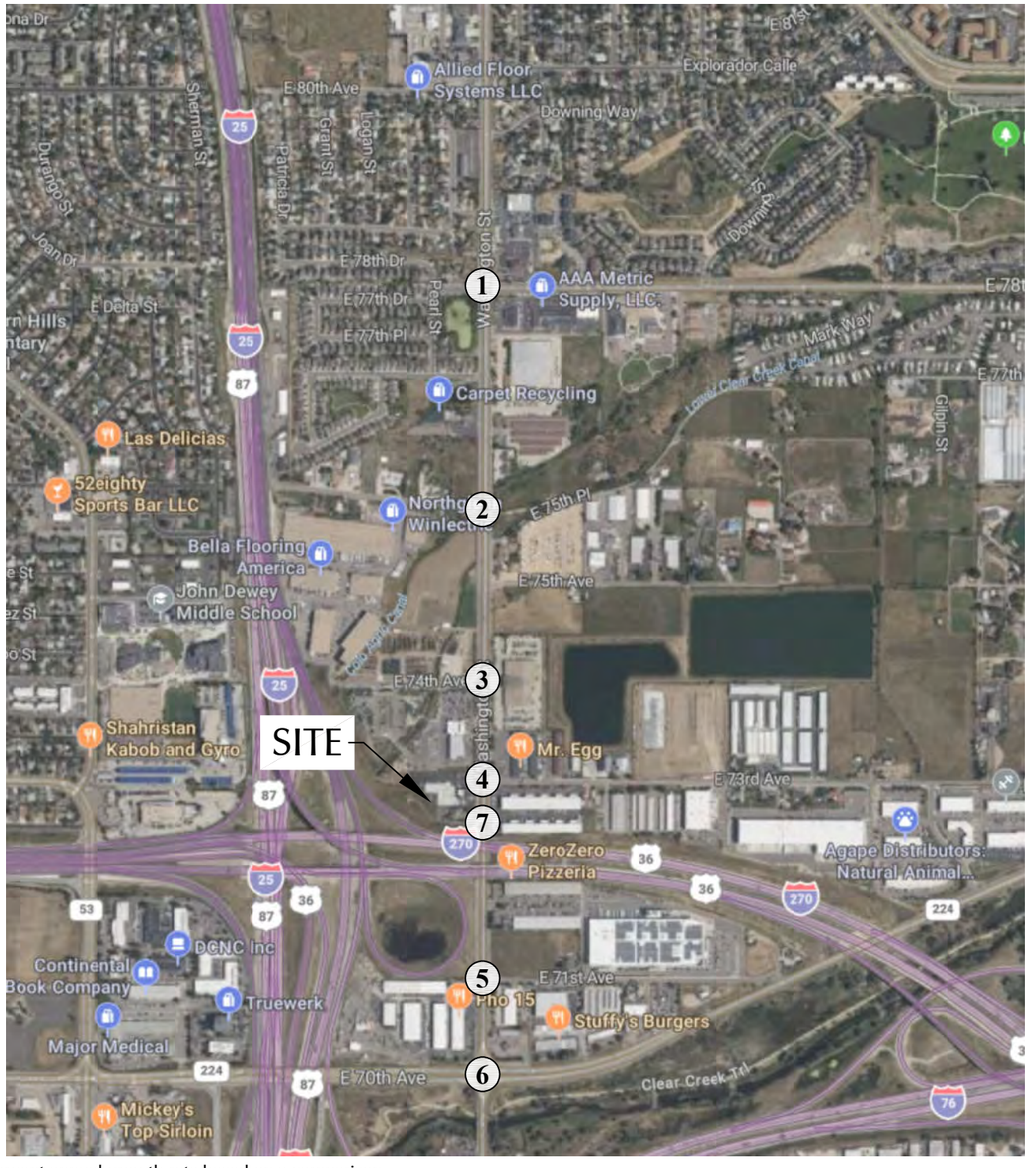
= Traffic Signal

$\frac{26}{35}$ = $\frac{\text{AM Peak Hour Traffic}}{\text{PM Peak Hour Traffic}}$

1,000 = Average Daily Traffic

N

Approximate Scale
Scale: 1"=1,000'



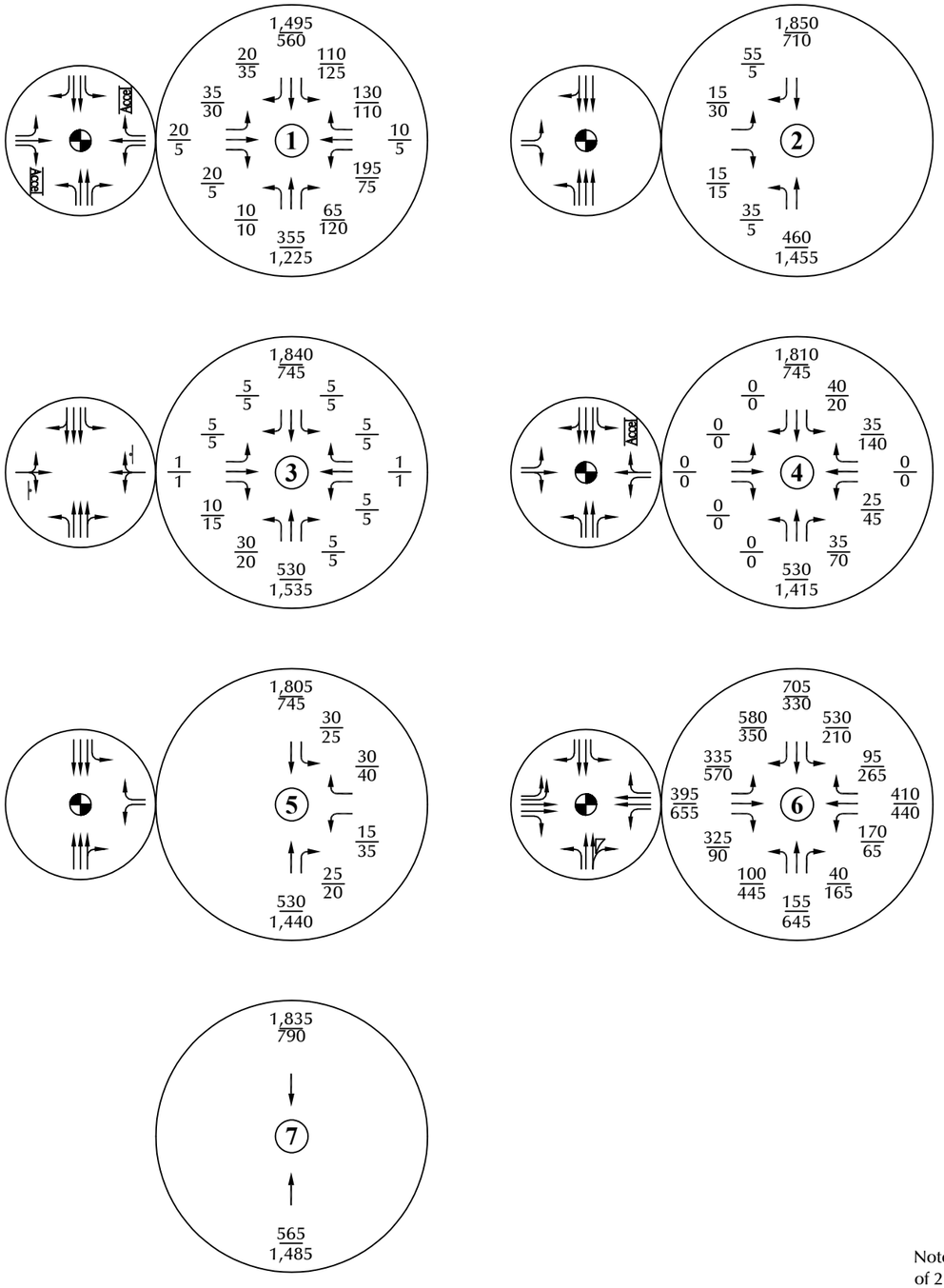
Note: Assumes one percent annual growth rate based on a comparison of 2020 and 2050 DRCOG projections.

Figure 4

Year 2028 Background Traffic, Lane Geometry and Traffic Control

Maiker Boyers (LSC #240770)

LSC TRANSPORTATION CONSULTANTS, INC.



LEGEND:

= Stop Sign

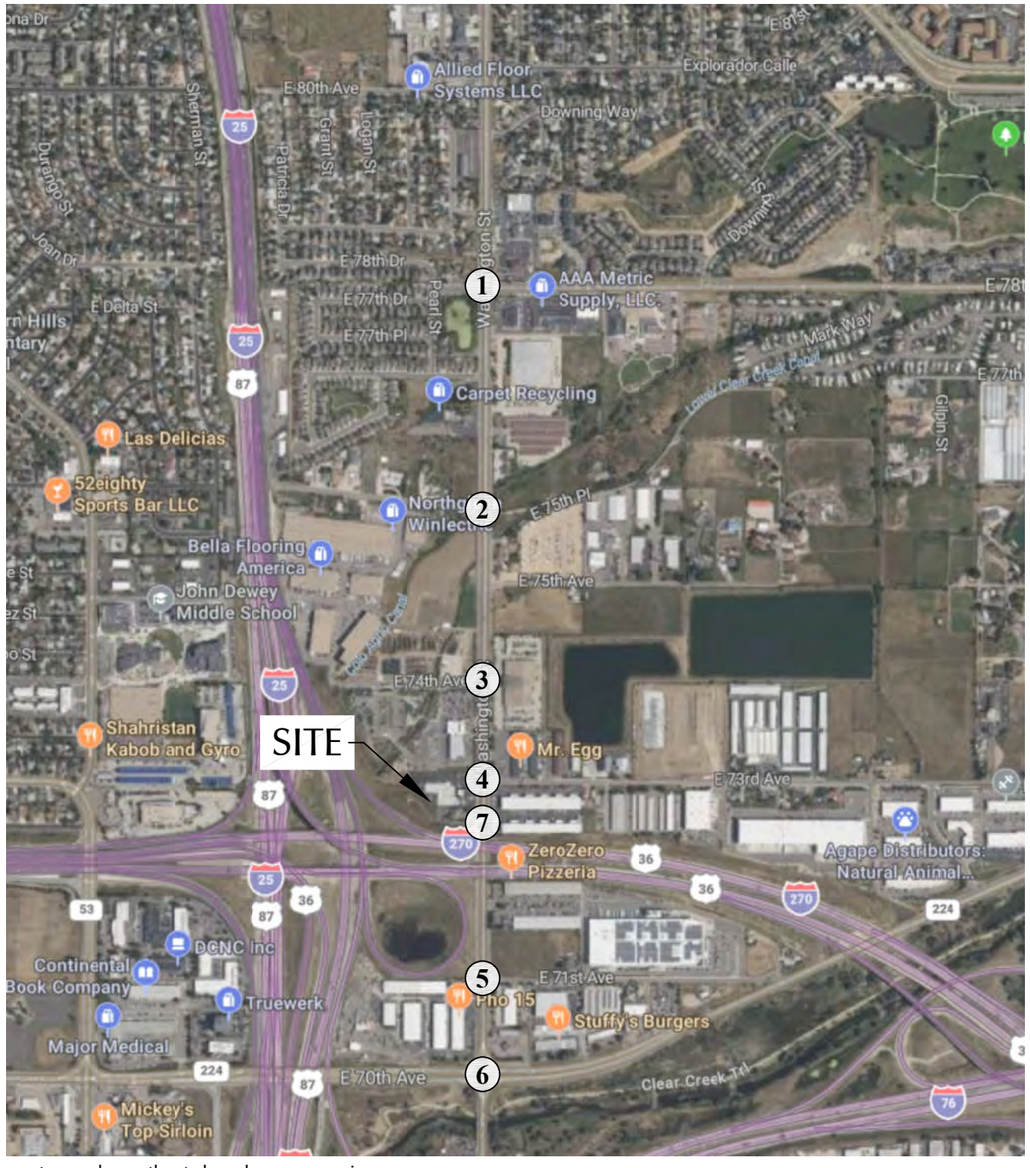
= Traffic Signal

$\frac{26}{35}$ = $\frac{\text{AM Peak Hour Traffic}}{\text{PM Peak Hour Traffic}}$

1,000 = Average Daily Traffic

N

Approximate Scale
Scale: 1"=1,000'



Note: Assumes one percent annual growth rate based on a comparison of 2020 and 2050 DRCOG projections.

Figure 5

Year 2045 Background Traffic, Lane Geometry and Traffic Control

Maiker Boyers (LSC #240770)

LSC TRANSPORTATION CONSULTANTS, INC.

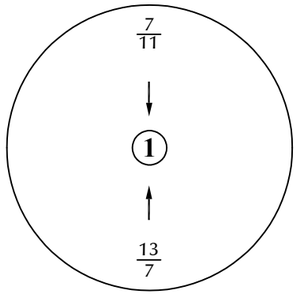
LEGEND:

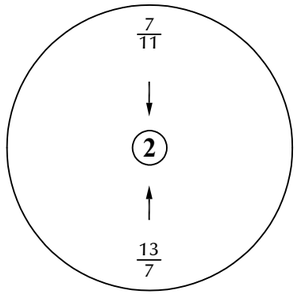
65% = Percent Directional Distribution

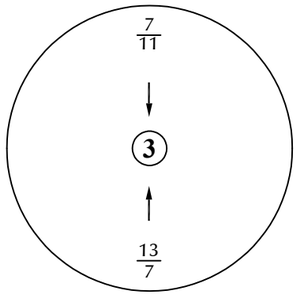
Figure 6

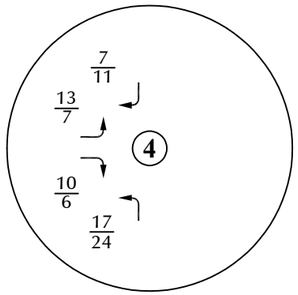
Directional Distribution of Primary Site-Generated Traffic

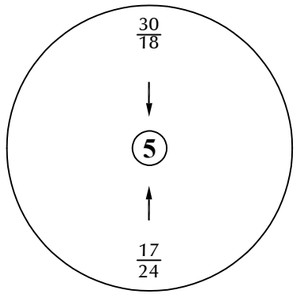
Maiker Boyers (LSC #240770)

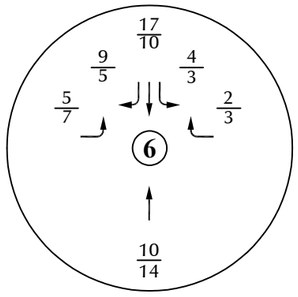


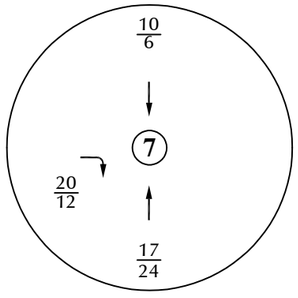












LEGEND:

26/35 = AM Peak Hour Traffic / PM Peak Hour Traffic

1,000 = Average Daily Traffic

Approximate Scale
Scale: 1"=1,000'

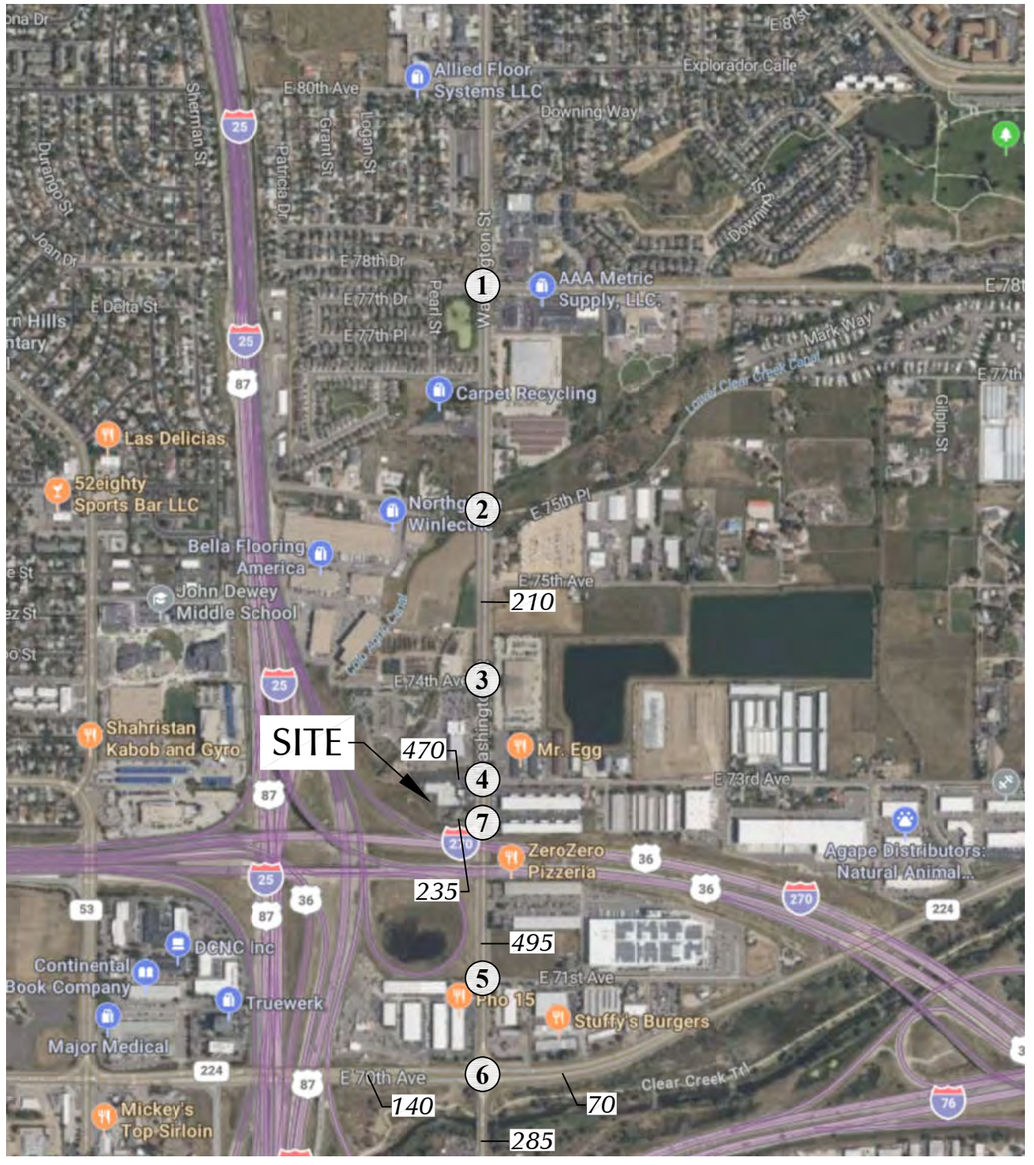
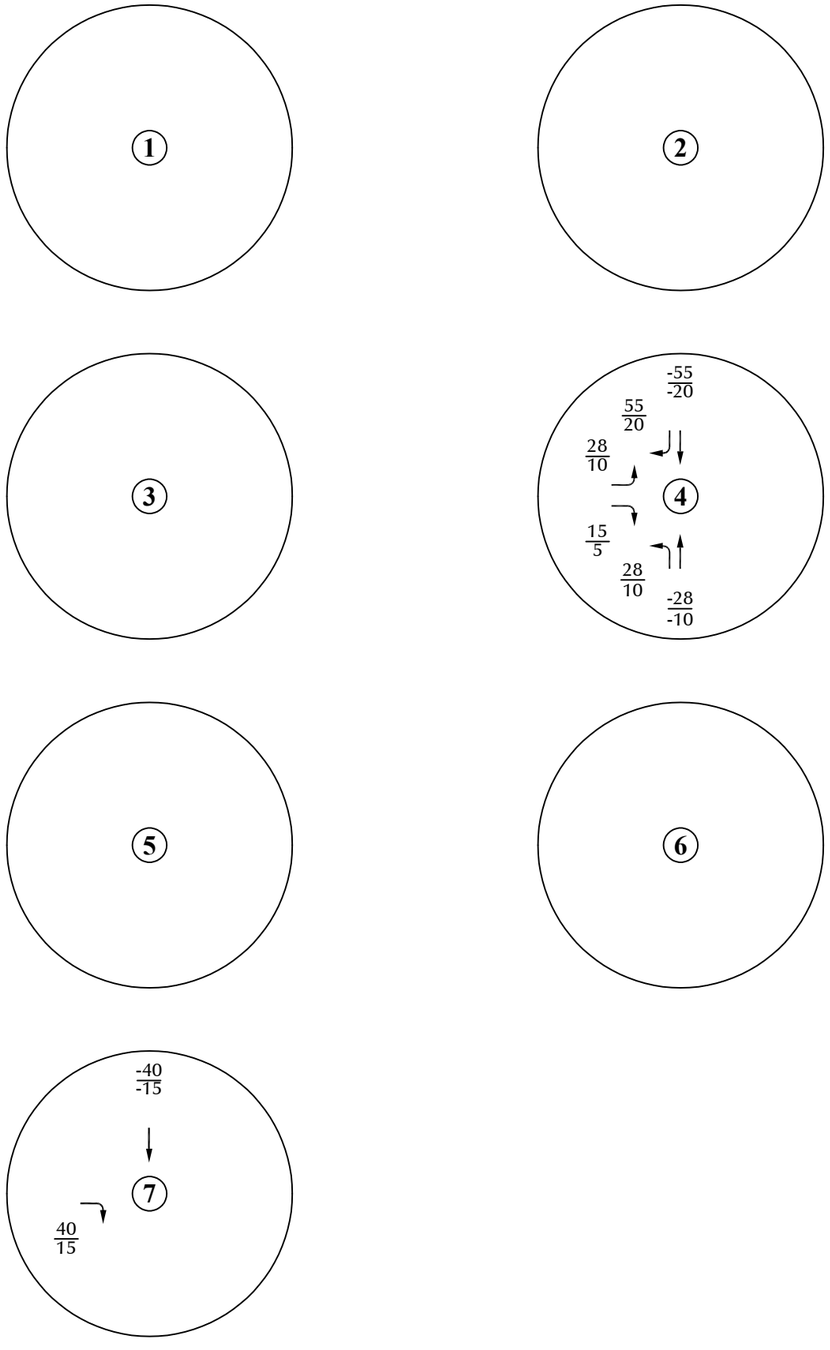


Figure 7a

Assignment of Primary Site-Generated Traffic

Maiker Boyers (LSC #240770)

LSC TRANSPORTATION CONSULTANTS, INC.



LEGEND:

$\frac{26}{35}$ = $\frac{\text{AM Peak Hour Traffic}}{\text{PM Peak Hour Traffic}}$

1,000 = Average Daily Traffic

Approximate Scale
Scale: 1"=1,000'

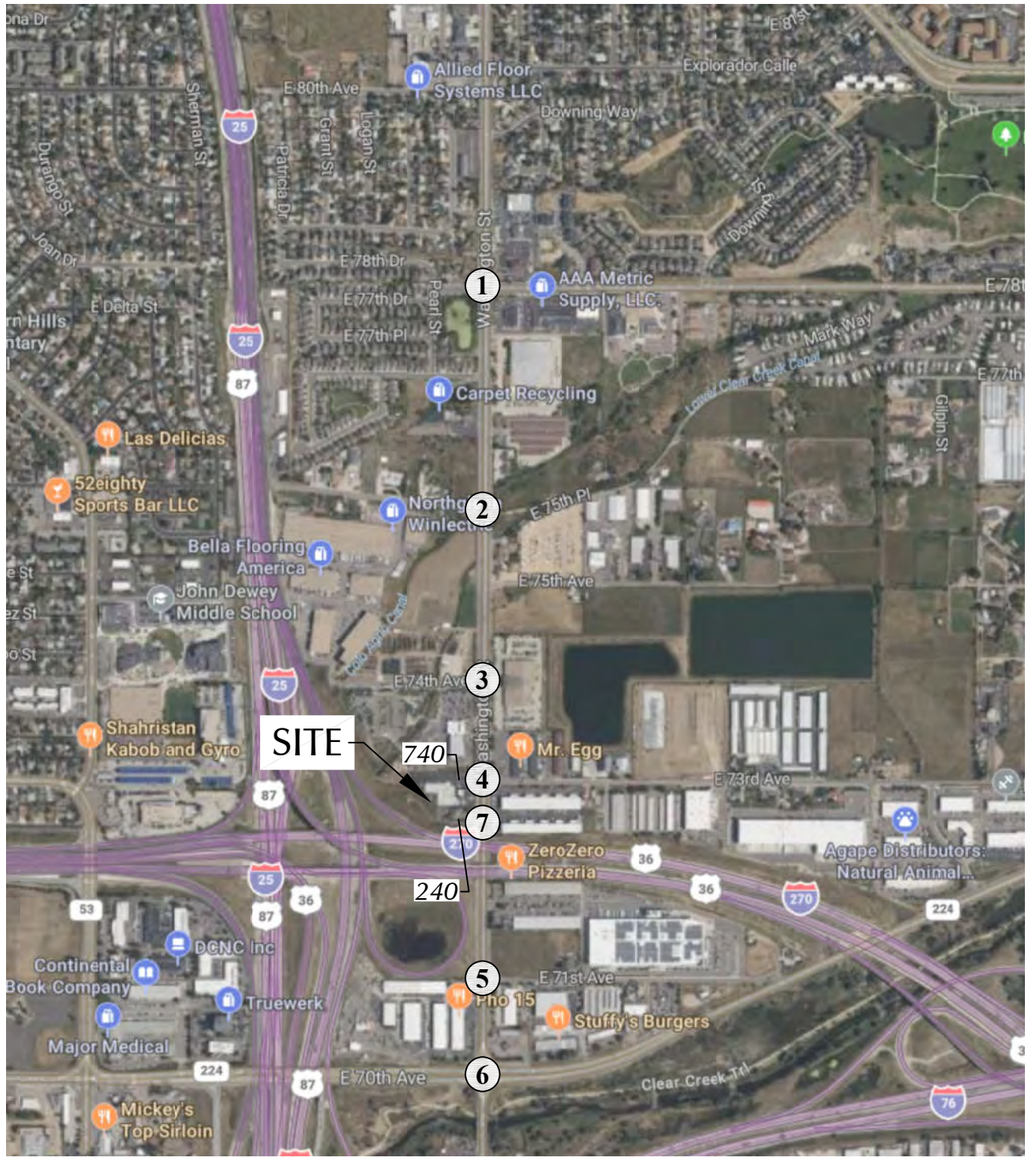
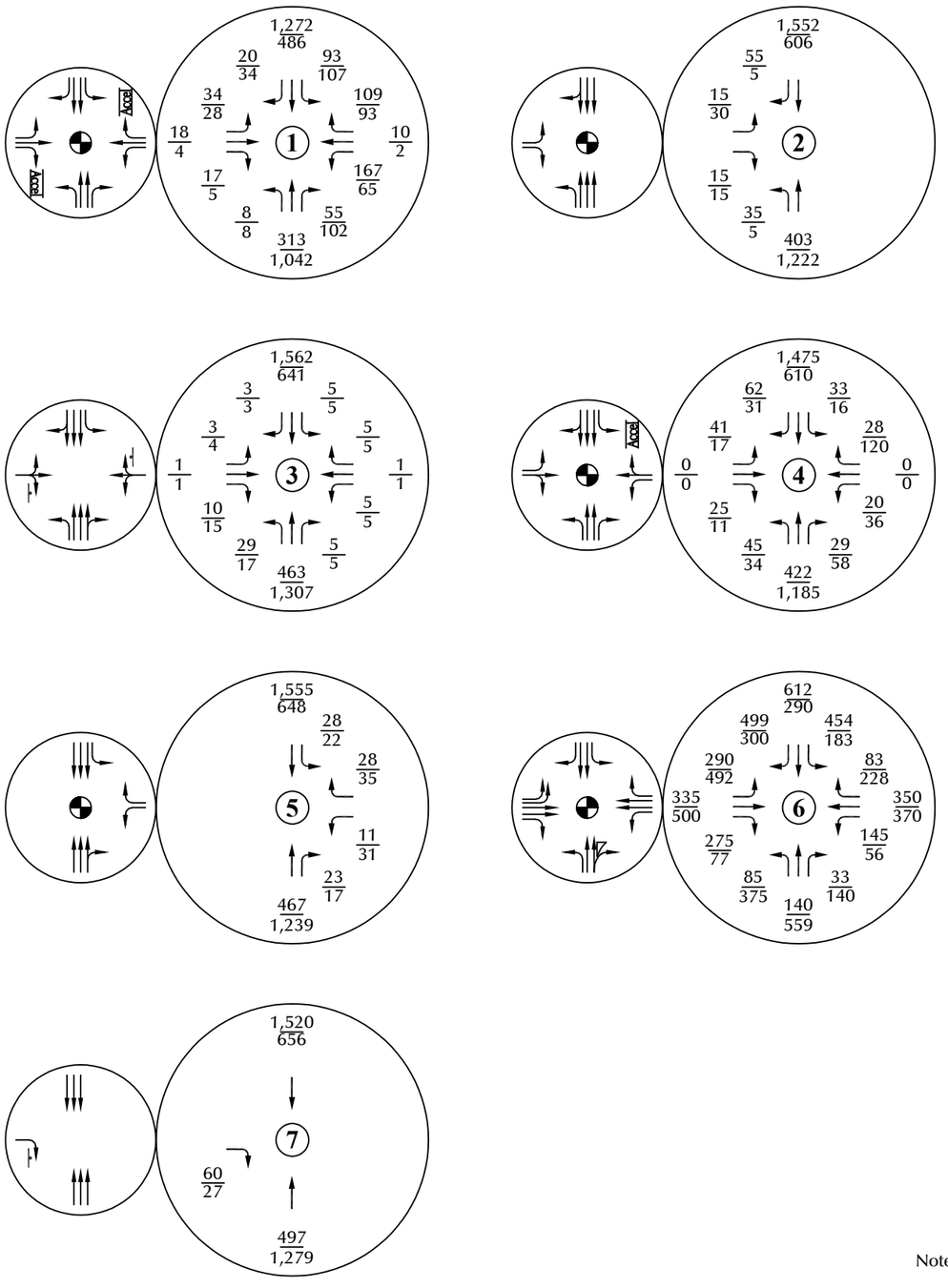


Figure 7b

Assignment of Passby Site-Generated Traffic

Maiker Boyers (LSC #240770)

LSC TRANSPORTATION CONSULTANTS, INC.



LEGEND:

= Stop Sign

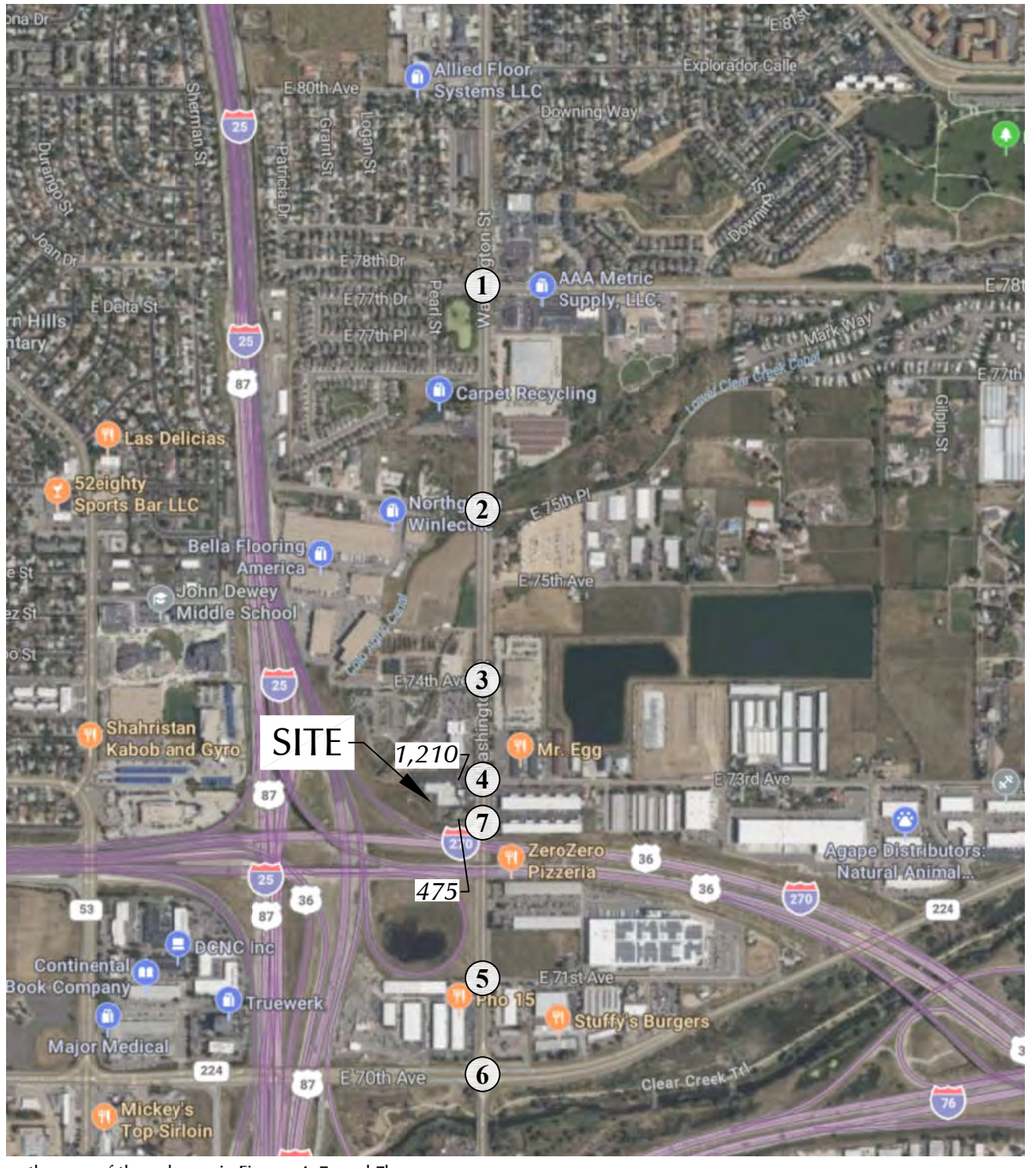
= Traffic Signal

$\frac{26}{35}$ = $\frac{\text{AM Peak Hour Traffic}}{\text{PM Peak Hour Traffic}}$

1,000 = Average Daily Traffic

N

Approximate Scale
Scale: 1"=1,000'



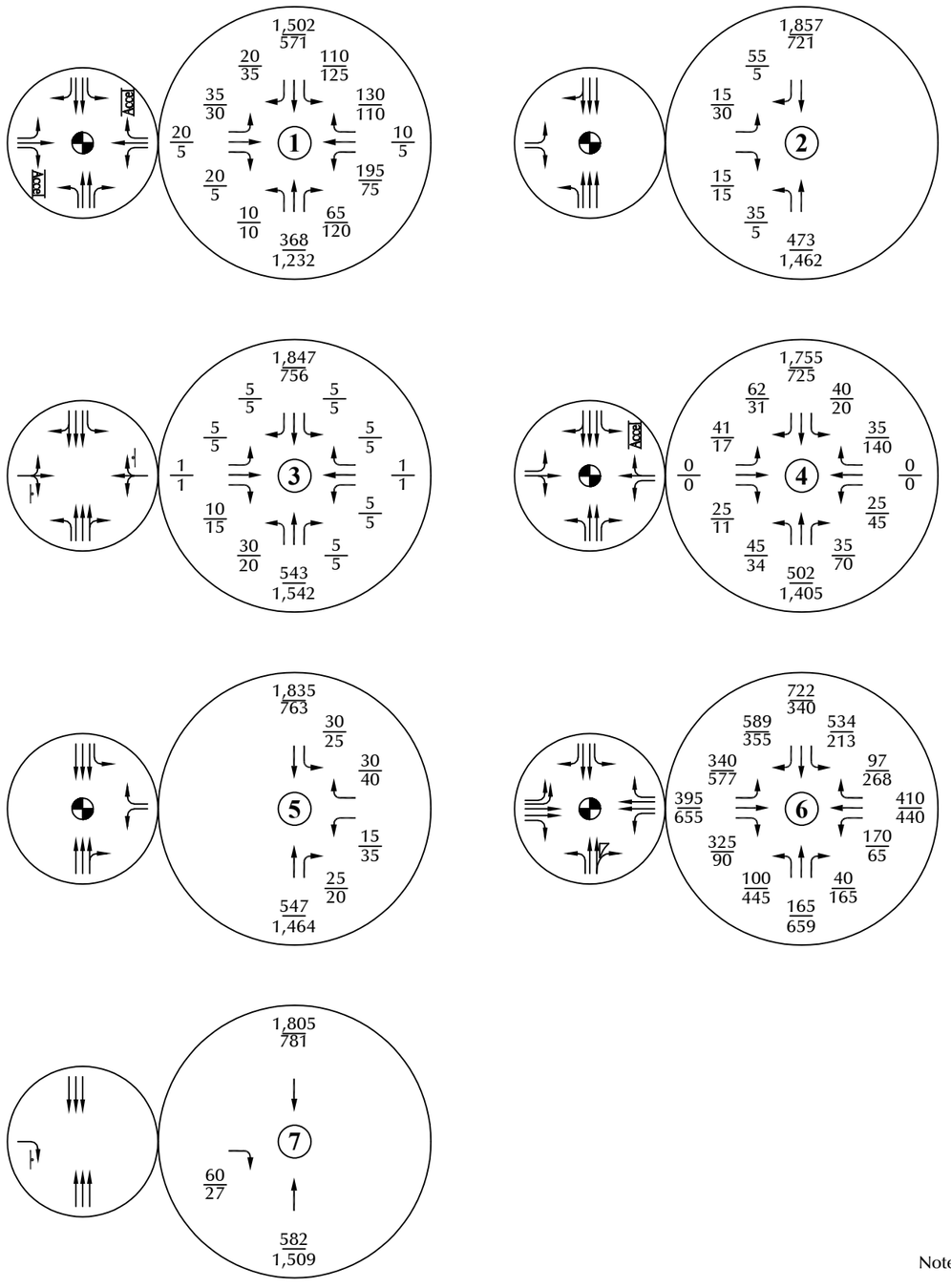
Note: These volumes are the sum of the volumes in Figures 4, 7a and 7b.

Figure 8

Year 2028 Total Traffic, Lane Geometry and Traffic Control

Maiker Boyers (LSC #240770)

LSC TRANSPORTATION CONSULTANTS, INC.



LEGEND:

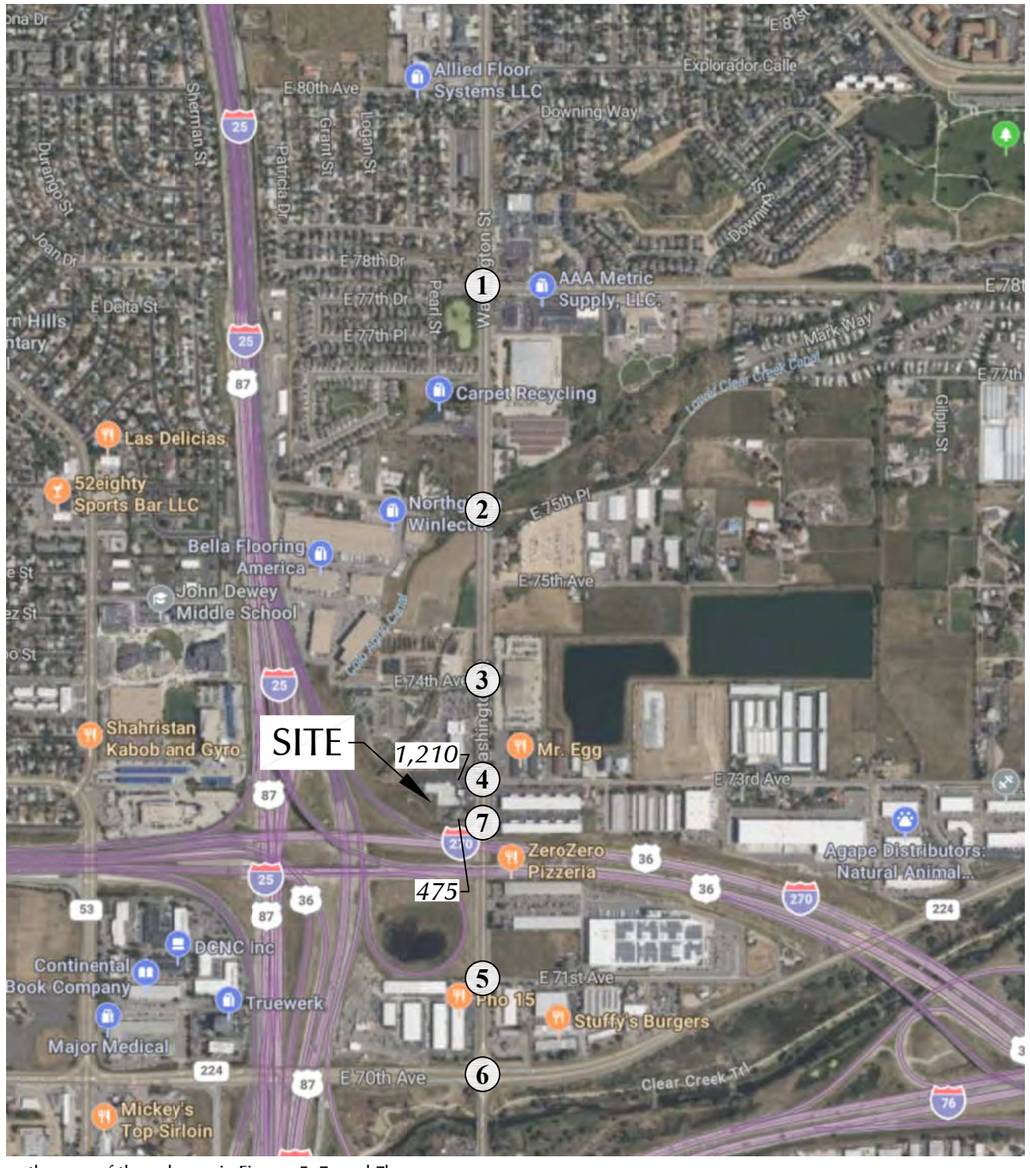
= Stop Sign

= Traffic Signal

$\frac{26}{35}$ = $\frac{\text{AM Peak Hour Traffic}}{\text{PM Peak Hour Traffic}}$

1,000 = Average Daily Traffic

Approximate Scale
Scale: 1"=1,000'



Note: These volumes are the sum of the volumes in Figures 5, 7a and 7b.

Figure 9

Year 2045 Total Traffic, Lane Geometry and Traffic Control

Maiker Boyers (LSC #240770)

TRANSPORTATION CONSULTANTS, INC.

COUNTER MEASURES INC

1889 YORK ST
DENVER COLORADO
303-333-7409

N/S STREET:
E/W STREET:
CITY:
COUNTY:

File Name : WASHINGTON ST 71ST AVE
Site Code : 00000016
Start Date : 1/22/2025
Page No : 1

Groups Printed- Unshifted

	WASHINGTON ST SOUTHBOUND				71ST AVE WESTBOUND				WASHINGTON ST NORTHBOUND				71ST AVE EASTBOUND				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
06:30 AM	6	356	0	0	4	0	0	1	0	55	13	0	0	0	0	0	435
06:45 AM	4	363	0	0	0	0	2	0	0	90	2	0	0	0	0	0	461
Total	10	719	0	0	4	0	2	1	0	145	15	0	0	0	0	0	896
07:00 AM	2	290	0	0	1	0	6	0	0	78	1	0	0	0	0	0	378
07:15 AM	6	360	0	0	6	0	4	1	0	106	2	1	1	0	1	0	488
07:30 AM	10	387	0	0	1	0	7	0	0	93	4	0	0	0	0	0	502
07:45 AM	8	380	0	0	2	0	8	0	0	115	9	0	0	0	0	0	522
Total	26	1417	0	0	10	0	25	1	0	392	16	1	1	0	1	0	1890
08:00 AM	4	352	0	0	1	0	8	0	0	122	7	0	0	0	0	0	494
08:15 AM	10	302	0	0	2	0	1	0	0	135	9	0	0	0	0	0	459
Total	14	654	0	0	3	0	9	0	0	257	16	0	0	0	0	0	953
04:00 PM	1	190	0	1	8	0	10	1	0	277	10	0	0	0	0	0	498
04:15 PM	2	150	0	0	4	0	8	0	0	277	3	1	0	0	0	2	447
04:30 PM	5	153	0	0	9	0	6	0	0	303	3	0	0	0	0	0	479
04:45 PM	4	146	0	1	9	0	7	0	0	304	4	0	0	0	0	1	476
Total	12	639	0	2	30	0	31	1	0	1161	20	1	0	0	0	3	1900
05:00 PM	10	163	0	0	8	3	13	0	0	296	6	0	0	0	0	0	499
05:15 PM	13	136	0	0	14	0	16	0	0	294	13	0	0	0	0	0	486
05:30 PM	2	156	0	0	40	0	40	0	0	281	6	0	0	0	0	0	525
05:45 PM	2	128	0	0	5	0	2	0	0	233	0	0	0	0	0	0	370
Total	27	583	0	0	67	3	71	0	0	1104	25	0	0	0	0	0	1880
Grand Total	89	4012	0	2	114	3	138	3	0	3059	92	2	1	0	1	3	7519
Apprch %	2.2	97.8	0	0	44.2	1.2	53.5	1.2	0	97	2.9	0.1	20	0	20	60	
Total %	1.2	53.4	0	0	1.5	0	1.8	0	0	40.7	1.2	0	0	0	0	0	

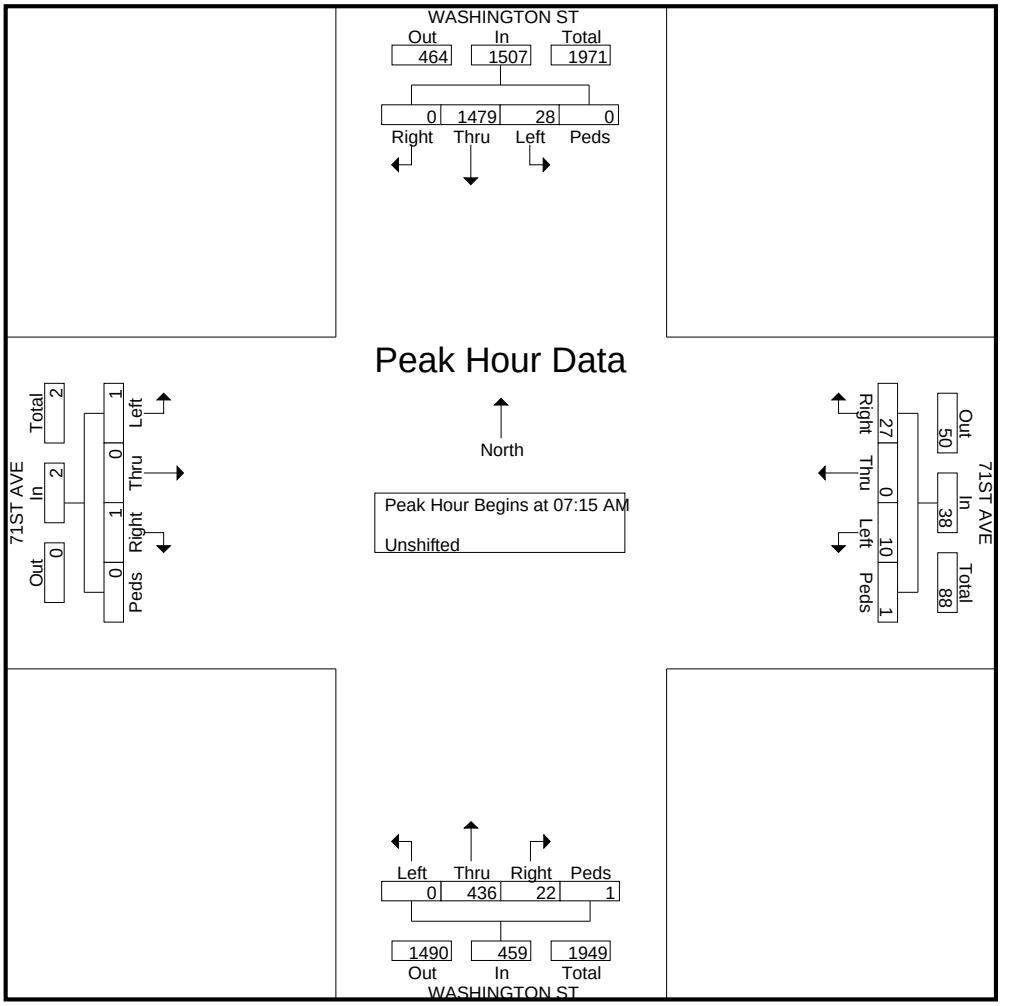
COUNTER MEASURES INC

1889 YORK ST
DENVER COLORADO
303-333-7409

N/S STREET:
E/W STREET:
CITY:
COUNTY:

File Name : WASHINGTON ST 71ST AVE
Site Code : 00000016
Start Date : 1/22/2025
Page No : 2

	WASHINGTON ST SOUTHBOUND					71ST AVE WESTBOUND					WASHINGTON ST NORTHBOUND					71ST AVE EASTBOUND					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	6	360	0	0	366	**6**	0	4	**1**	**11**	0	106	2	**1**	109	**1**	0	**1**	0	**2**	488
07:30 AM	**10**	**387**	0	0	**397**	1	0	7	0	8	0	93	4	0	97	0	0	0	0	0	502
07:45 AM	8	380	0	0	388	2	0	**8**	0	10	0	115	**9**	0	124	0	0	0	0	0	**522**
08:00 AM	4	352	0	0	356	1	0	8	0	9	0	**122**	7	0	**129**	0	0	0	0	0	494
Total Volume	28	1479	0	0	1507	10	0	27	1	38	0	436	22	1	459	1	0	1	0	2	2006
% App. Total	1.9	98.1	0	0		26.3	0	71.1	2.6		0	95	4.8	0.2		50	0	50	0		
PHF	.700	.955	.000	.000	.949	.417	.000	.844	.250	.864	.000	.893	.611	.250	.890	.250	.000	.250	.000	.250	.961



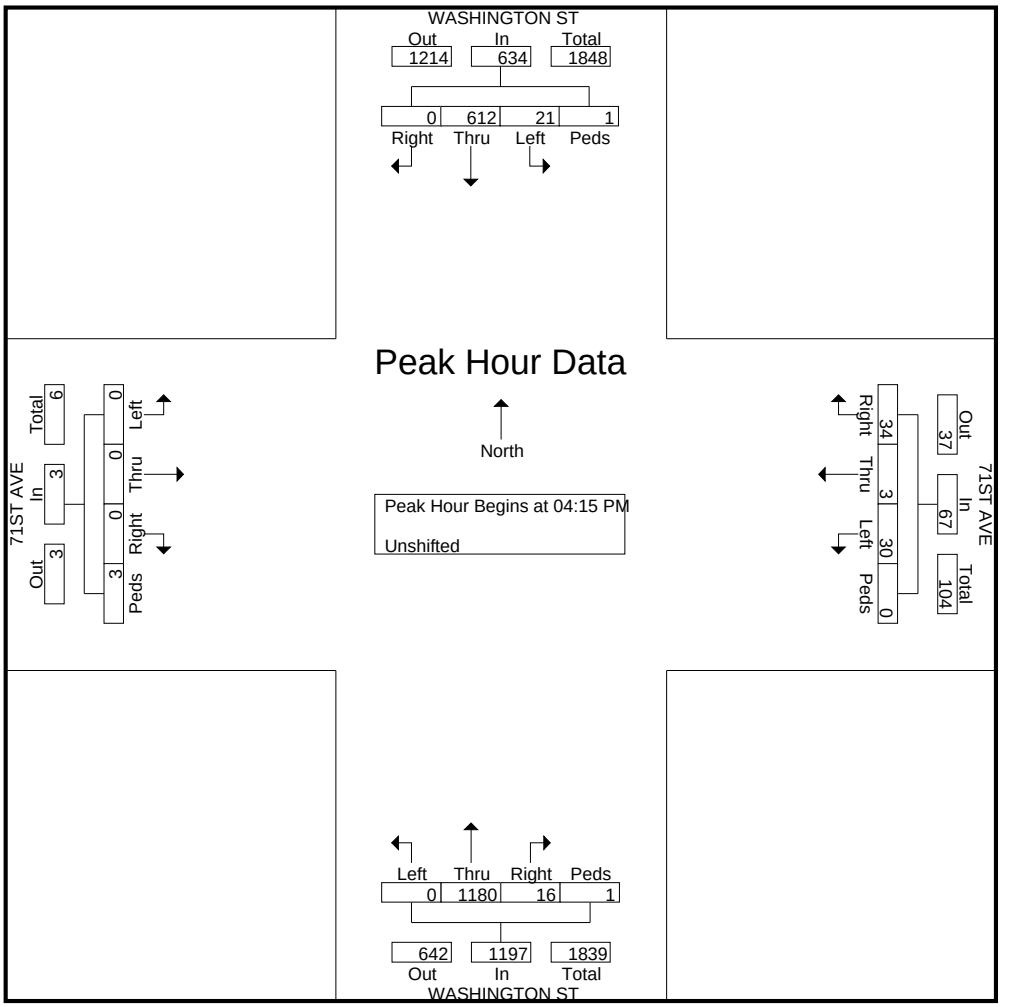
COUNTER MEASURES INC

1889 YORK ST
DENVER COLORADO
303-333-7409

N/S STREET:
E/W STREET:
CITY:
COUNTY:

File Name : WASHINGTON ST 71ST AVE
Site Code : 00000016
Start Date : 1/22/2025
Page No : 3

	WASHINGTON ST SOUTHBOUND					71ST AVE WESTBOUND					WASHINGTON ST NORTHBOUND					71ST AVE EASTBOUND					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	2	150	0	0	152	4	0	8	0	12	0	277	3	**1**	281	0	0	0	**2**	**2**	447
04:30 PM	5	153	0	0	158	**9**	0	6	0	15	0	303	3	0	306	0	0	0	0	0	479
04:45 PM	4	146	0	**1**	151	9	0	7	0	16	0	**304**	4	0	**308**	0	0	0	1	1	476
05:00 PM	**10**	**163**	0	0	**173**	8	**3**	**13**	0	**24**	0	296	**6**	0	302	0	0	0	0	0	**499**
Total Volume	21	612	0	1	634	30	3	34	0	67	0	1180	16	1	1197	0	0	0	3	3	1901
% App. Total	3.3	96.5	0	0.2		44.8	4.5	50.7	0		0	98.6	1.3	0.1		0	0	0	100		
PHF	.525	.939	.000	.250	.916	.833	.250	.654	.000	.698	.000	.970	.667	.250	.972	.000	.000	.000	.375	.375	.952



COUNTER MEASURES INC

1889 YORK ST
DENVER COLORADO
303-333-7409

N/S STREET: WASHINGTON ST
E/W STREET: 73RD AVE
CITY: DENVER
COUNTY: DENVER

File Name : WASHINGTON ST 73RD AVE
Site Code : 00000005
Start Date : 1/21/2025
Page No : 1

Groups Printed- Unshifted

	WASHINGTON ST SOUTHBOUND				73RD AVE WESTBOUND				WASHINGTON ST NORTHBOUND				PRIVATE DRIVE EASTBOUND				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
06:30 AM	8	240	0	0	4	0	4	0	0	48	3	0	2	0	0	0	309
06:45 AM	13	309	0	3	7	0	2	0	0	56	12	0	3	0	0	0	405
Total	21	549	0	3	11	0	6	0	0	104	15	0	5	0	0	0	714
07:00 AM	5	234	0	0	2	0	7	0	1	60	4	0	0	0	1	0	314
07:15 AM	2	252	0	0	6	0	6	0	0	71	6	0	0	0	1	0	344
07:30 AM	7	281	0	0	2	0	7	4	0	62	6	0	0	0	0	0	369
07:45 AM	8	240	0	0	5	0	8	0	0	76	12	0	0	0	0	0	349
Total	22	1007	0	0	15	0	28	4	1	269	28	0	0	0	2	0	1376
08:00 AM	14	217	0	0	5	0	6	0	0	89	3	0	0	0	0	0	334
08:15 AM	11	216	0	0	9	0	13	1	0	69	9	0	0	0	0	0	328
Total	25	433	0	0	14	0	19	1	0	158	12	0	0	0	0	0	662
04:00 PM	7	149	0	0	19	0	34	0	0	241	18	0	0	0	0	0	468
04:15 PM	3	128	0	0	6	0	32	0	0	245	12	0	0	0	0	0	426
04:30 PM	6	157	0	0	9	0	36	0	0	248	19	1	0	0	0	0	476
04:45 PM	0	130	0	0	10	0	27	0	0	265	12	0	0	0	0	0	444
Total	16	564	0	0	44	0	129	0	0	999	61	1	0	0	0	0	1814
05:00 PM	6	137	0	0	9	1	21	2	0	277	13	0	0	0	0	0	466
05:15 PM	4	150	0	0	15	0	26	0	0	267	19	0	0	0	0	0	481
05:30 PM	2	120	0	0	11	0	19	0	0	308	10	0	0	0	0	0	470
05:45 PM	6	120	0	0	8	0	16	0	0	217	14	0	0	0	0	0	381
Total	18	527	0	0	43	1	82	2	0	1069	56	0	0	0	0	0	1798
Grand Total	102	3080	0	3	127	1	264	7	1	2599	172	1	5	0	2	0	6364
Apprch %	3.2	96.7	0	0.1	31.8	0.3	66.2	1.8	0	93.7	6.2	0	71.4	0	28.6	0	
Total %	1.6	48.4	0	0	2	0	4.1	0.1	0	40.8	2.7	0	0.1	0	0	0	

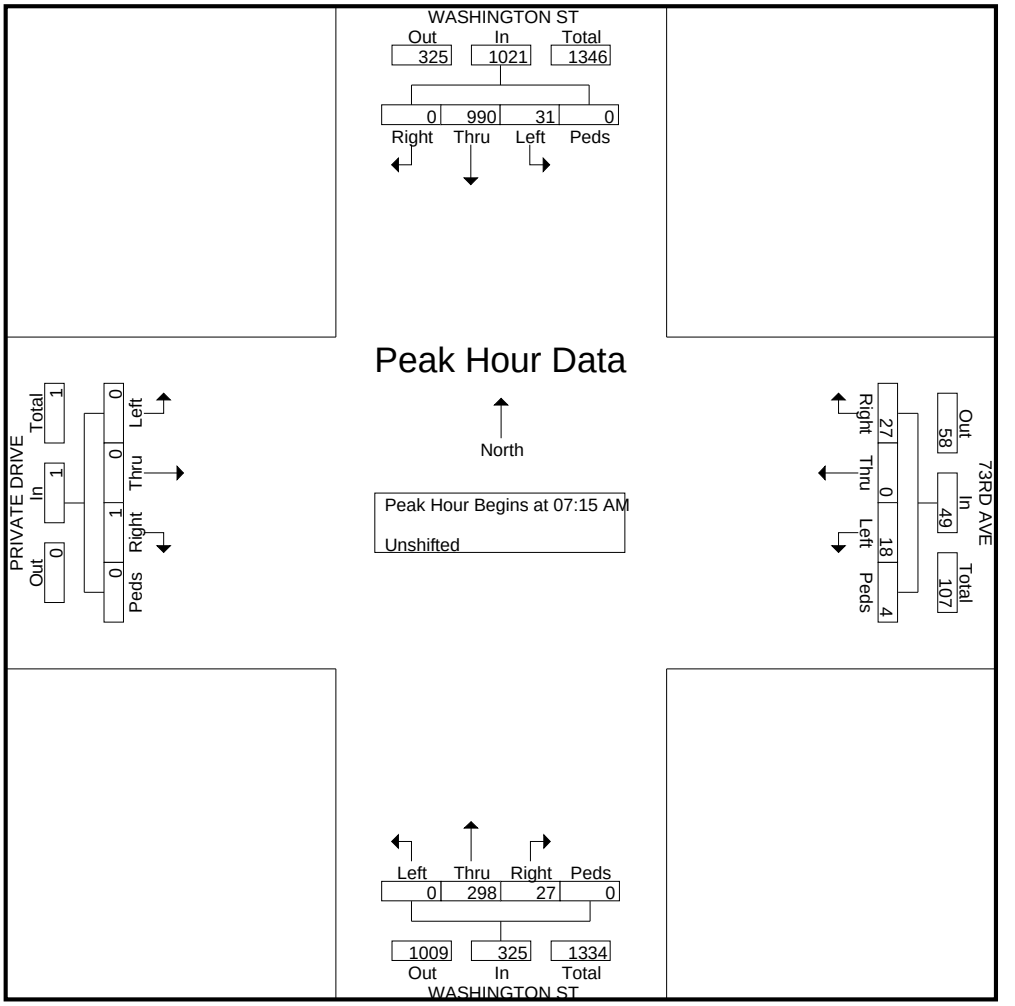
COUNTER MEASURES INC

1889 YORK ST
DENVER COLORADO
303-333-7409

N/S STREET: WASHINGTON ST
E/W STREET: 73RD AVE
CITY: DENVER
COUNTY: DENVER

File Name : WASHINGTON ST 73RD AVE
Site Code : 00000005
Start Date : 1/21/2025
Page No : 2

	WASHINGTON ST SOUTHBOUND					73RD AVE WESTBOUND					WASHINGTON ST NORTHBOUND					PRIVATE DRIVE EASTBOUND					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	2	252	0	0	254	**6**	0	6	0	12	0	71	6	0	77	0	0	**1**	0	**1**	344
07:30 AM	7	**281**	0	0	**288**	2	0	7	**4**	**13**	0	62	6	0	68	0	0	0	0	0	**369**
07:45 AM	8	240	0	0	248	5	0	**8**	0	13	0	76	**12**	0	88	0	0	0	0	0	349
08:00 AM	**14**	217	0	0	231	5	0	6	0	11	0	**89**	3	0	**92**	0	0	0	0	0	334
Total Volume	31	990	0	0	1021	18	0	27	4	49	0	298	27	0	325	0	0	1	0	1	1396
% App. Total	3	97	0	0		36.7	0	55.1	8.2		0	91.7	8.3	0		0	0	100	0		
PHF	.554	.881	.000	.000	.886	.750	.000	.844	.250	.942	.000	.837	.563	.000	.883	.000	.000	.250	.000	.250	.946



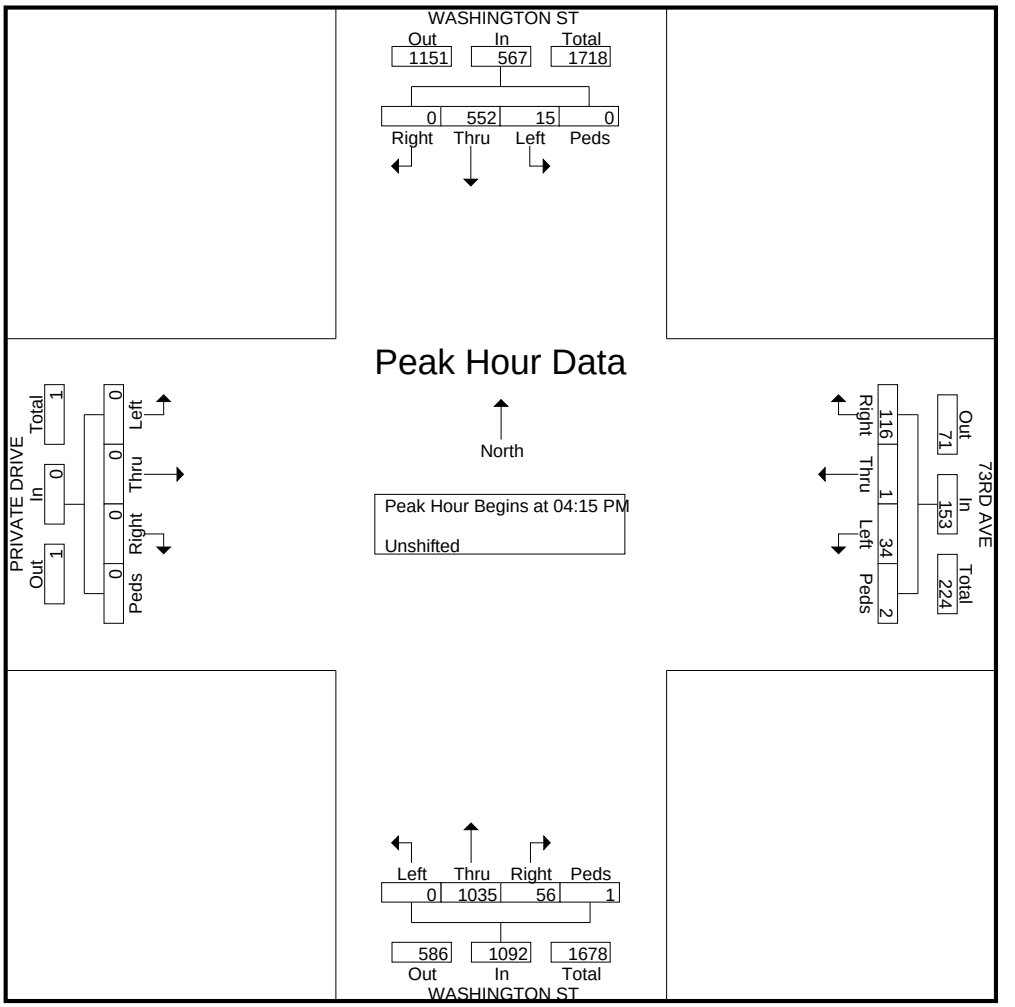
COUNTER MEASURES INC

1889 YORK ST
DENVER COLORADO
303-333-7409

N/S STREET: WASHINGTON ST
E/W STREET: 73RD AVE
CITY: DENVER
COUNTY: DENVER

File Name : WASHINGTON ST 73RD AVE
Site Code : 00000005
Start Date : 1/21/2025
Page No : 3

	WASHINGTON ST SOUTHBOUND					73RD AVE WESTBOUND					WASHINGTON ST NORTHBOUND					PRIVATE DRIVE EASTBOUND					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	3	128	0	0	131	6	0	32	0	38	0	245	12	0	257	0	0	0	0	0	426
04:30 PM	**6**	**157**	0	0	**163**	9	0	**36**	0	**45**	0	248	**19**	**1**	268	0	0	0	0	0	**476**
04:45 PM	0	130	0	0	130	**10**	0	27	0	37	0	265	12	0	277	0	0	0	0	0	444
05:00 PM	6	137	0	0	143	9	**1**	21	**2**	33	0	**277**	13	0	**290**	0	0	0	0	0	466
Total Volume	15	552	0	0	567	34	1	116	2	153	0	1035	56	1	1092	0	0	0	0	0	1812
% App. Total	2.6	97.4	0	0		22.2	0.7	75.8	1.3		0	94.8	5.1	0.1		0	0	0	0		
PHF	.625	.879	.000	.000	.870	.850	.250	.806	.250	.850	.000	.934	.737	.250	.941	.000	.000	.000	.000	.000	.952



COUNTER MEASURES INC

1889 YORK ST
DENVER COLORADO
303-333-7409

N/S STREET: WASHINGTON ST
E/W STREET: 74TH AVE
CITY: DENVER
COUNTY: DENVER

File Name : WASHINGTON ST 74TH AVE
Site Code : 00000005
Start Date : 1/21/2025
Page No : 1

Groups Printed- Bank 2

	WASHINGTON ST SOUTHBOUND				NO ACCESS WESTBOUND				WASHINGTON ST NORTHBOUND				74TH AVE EASTBOUND				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
06:30 AM	0	0	1	0	0	0	0	0	2	0	0	0	2	0	5	0	10
06:45 AM	0	0	0	0	0	0	0	0	5	0	0	0	1	0	7	0	13
Total	0	0	1	0	0	0	0	0	7	0	0	0	3	0	12	0	23
07:00 AM	0	0	2	0	0	0	0	0	4	0	0	0	1	0	9	0	16
07:15 AM	0	0	0	0	0	0	0	0	5	0	0	0	2	0	3	0	10
07:30 AM	0	0	1	0	0	0	0	0	2	0	0	0	0	0	3	0	6
07:45 AM	0	0	0	0	0	0	0	0	10	0	0	0	1	0	1	0	12
Total	0	0	3	0	0	0	0	0	21	0	0	0	4	0	16	0	44
08:00 AM	0	0	1	0	0	0	0	0	12	0	0	0	0	0	1	0	14
08:15 AM	0	0	0	0	0	0	0	0	5	0	0	0	0	0	1	0	6
Total	0	0	1	0	0	0	0	0	17	0	0	0	0	0	2	0	20
04:00 PM	0	0	0	0	0	0	0	0	3	0	0	0	0	0	4	0	7
04:15 PM	0	0	1	0	0	0	0	0	5	0	0	0	1	0	1	0	8
04:30 PM	0	0	0	0	0	0	0	0	3	0	0	0	0	0	5	0	8
04:45 PM	0	0	0	0	0	0	0	0	6	0	0	0	1	0	2	0	9
Total	0	0	1	0	0	0	0	0	17	0	0	0	2	0	12	0	32
05:00 PM	0	0	1	0	0	0	0	0	2	0	0	0	2	0	7	0	12
05:15 PM	0	0	0	0	0	0	0	0	4	0	0	0	1	0	3	0	8
05:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	4	0	5
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Total	0	0	1	0	0	0	0	0	7	0	0	0	3	0	15	0	26
Grand Total	0	0	7	0	0	0	0	0	69	0	0	0	12	0	57	0	145
Apprch %	0	0	100	0	0	0	0	0	100	0	0	0	17.4	0	82.6	0	
Total %	0	0	4.8	0	0	0	0	0	47.6	0	0	0	8.3	0	39.3	0	

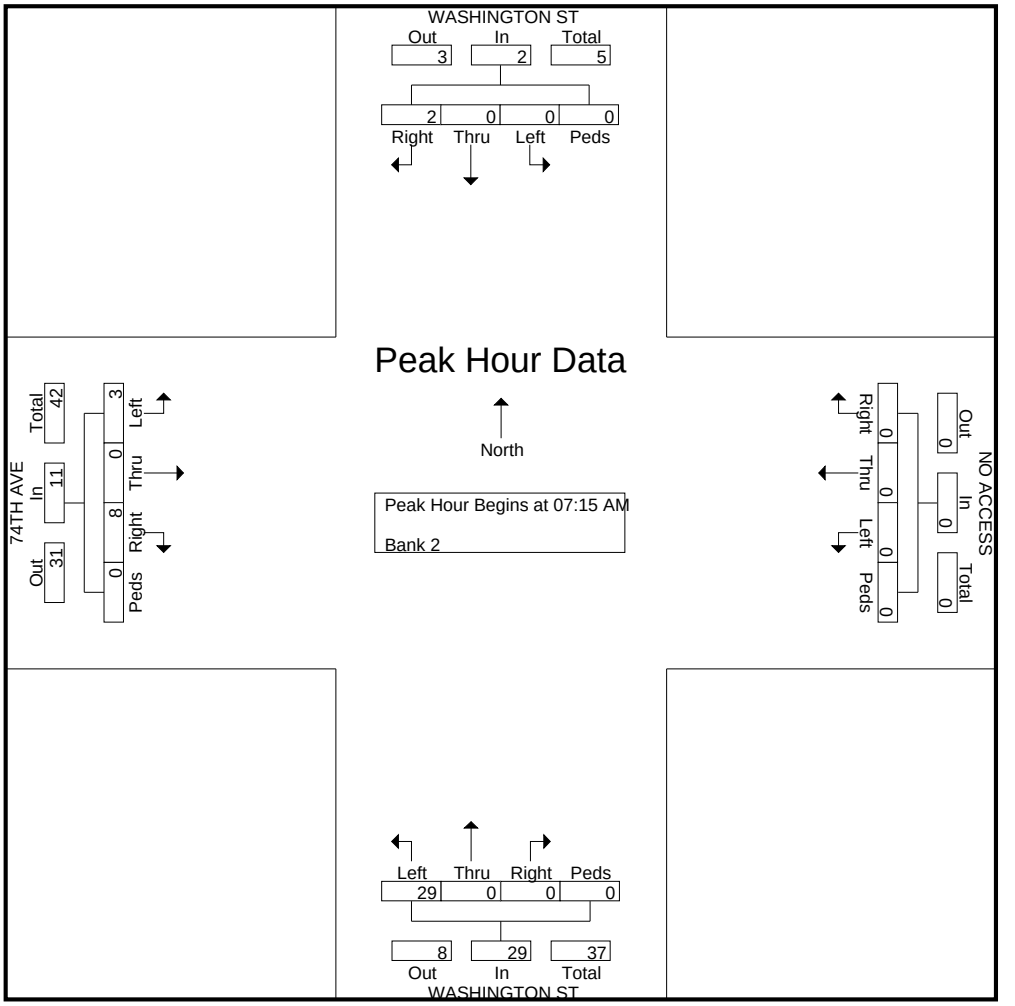
COUNTER MEASURES INC

1889 YORK ST
DENVER COLORADO
303-333-7409

N/S STREET: WASHINGTON ST
E/W STREET: 74TH AVE
CITY: DENVER
COUNTY: DENVER

File Name : WASHINGTON ST 74TH AVE
Site Code : 00000005
Start Date : 1/21/2025
Page No : 2

	WASHINGTON ST SOUTHBOUND					NO ACCESS WESTBOUND					WASHINGTON ST NORTHBOUND					74TH AVE EASTBOUND					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	**2**	0	**3**	0	**5**	10
07:30 AM	0	0	**1**	0	**1**	0	0	0	0	0	2	0	0	0	2	0	0	3	0	3	6
07:45 AM	0	0	0	0	0	0	0	0	0	0	10	0	0	0	10	1	0	1	0	2	12
08:00 AM	0	0	1	0	1	0	0	0	0	0	**12**	0	0	0	**12**	0	0	1	0	1	**14**
Total Volume	0	0	2	0	2	0	0	0	0	0	29	0	0	0	29	3	0	8	0	11	42
% App. Total	0	0	100	0		0	0	0	0		100	0	0	0		27.3	0	72.7	0		
PHF	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.604	.000	.000	.000	.604	.375	.000	.667	.000	.550	.750



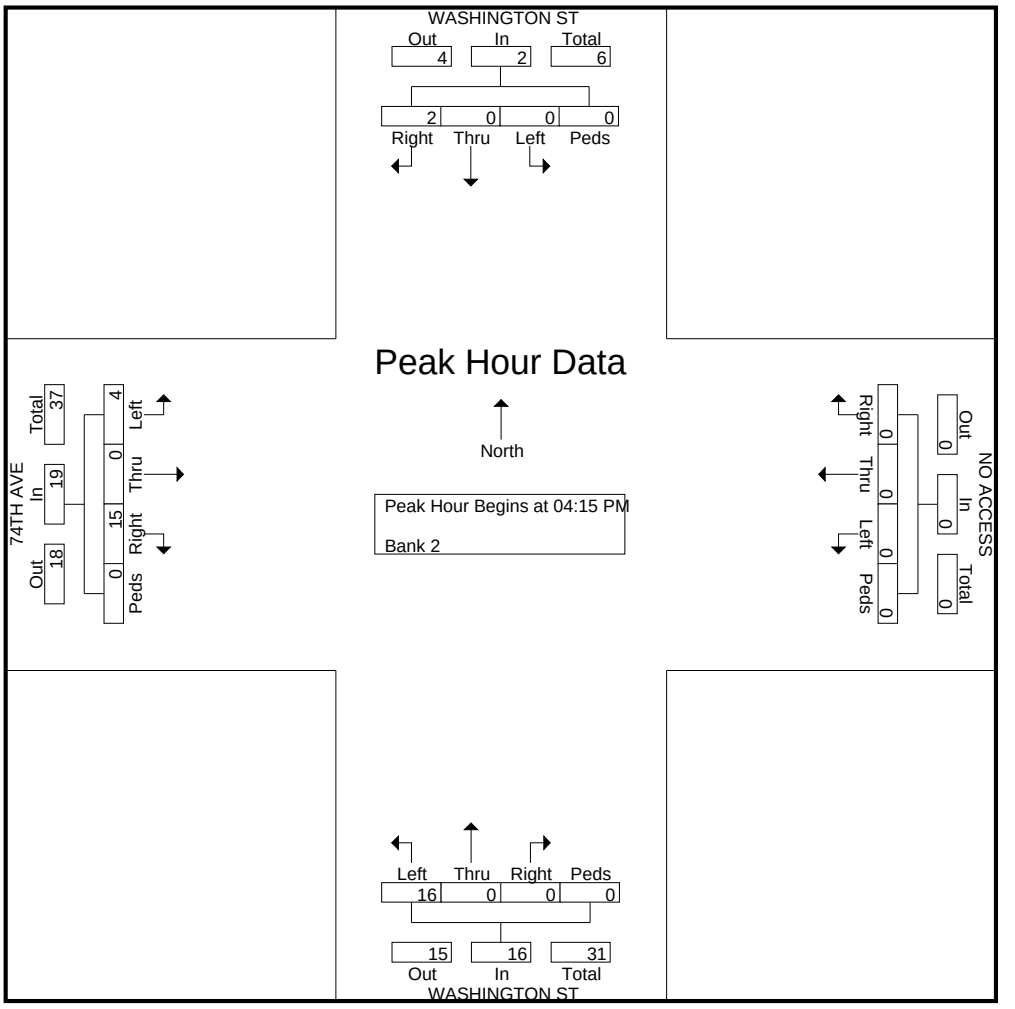
COUNTER MEASURES INC

1889 YORK ST
DENVER COLORADO
303-333-7409

N/S STREET: WASHINGTON ST
E/W STREET: 74TH AVE
CITY: DENVER
COUNTY: DENVER

File Name : WASHINGTON ST 74TH AVE
Site Code : 00000005
Start Date : 1/21/2025
Page No : 3

	WASHINGTON ST SOUTHBOUND					NO ACCESS WESTBOUND					WASHINGTON ST NORTHBOUND					74TH AVE EASTBOUND					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	0	**1**	0	**1**	0	0	0	0	0	5	0	0	0	5	1	0	1	0	2	8
04:30 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	0	5	0	5	8
04:45 PM	0	0	0	0	0	0	0	0	0	0	**6**	0	0	0	**6**	1	0	2	0	3	9
05:00 PM	0	0	1	0	1	0	0	0	0	0	2	0	0	0	2	**2**	0	**7**	0	**9**	**12**
Total Volume	0	0	2	0	2	0	0	0	0	0	16	0	0	0	16	4	0	15	0	19	37
% App. Total	0	0	100	0		0	0	0	0		100	0	0	0		21.1	0	78.9	0		
PHF	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.667	.000	.000	.000	.667	.500	.000	.536	.000	.528	.771



COUNTER MEASURES INC

1889 YORK ST
DENVER COLORADO
303-333-7409

N/S STREET: WASHINGOTN ST
E/W STREET: 75TH PL
CITY: DENVER
COUNTY: DENVER

File Name : WASHINGTON ST 75TH PL
Site Code : 00000008
Start Date : 1/21/2025

Groups Printed- Unshifted

	WASHINGTON ST SOUTHBOUND				7TH PL WESTBOUND				WASHINGTON ST NORTHBOUND				NO ACCESS EASTBOUND				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
06:30 AM	0	253	0	0	0	0	0	0	0	55	0	0	0	0	0	0	308
06:45 AM	1	333	0	0	0	0	0	0	0	47	1	0	0	0	0	0	382
Total	1	586	0	0	0	0	0	0	0	102	1	0	0	0	0	0	690
07:00 AM	0	228	0	0	0	0	0	0	0	53	0	0	0	0	0	0	281
07:15 AM	35	222	0	0	0	0	1	0	0	66	0	0	0	0	0	0	324
07:30 AM	0	275	0	0	0	0	1	0	0	60	2	0	0	0	0	0	338
07:45 AM	2	254	0	0	0	0	0	0	0	70	0	0	0	0	0	0	326
Total	37	979	0	0	0	0	2	0	0	249	2	0	0	0	0	0	1269
08:00 AM	1	234	0	0	0	0	1	0	0	88	1	0	0	0	0	0	325
08:15 AM	0	230	0	0	1	0	0	0	0	76	1	0	0	0	0	0	308
Total	1	464	0	0	1	0	1	0	0	164	2	0	0	0	0	0	633
04:00 PM	1	154	0	0	2	0	0	0	0	284	0	1	0	0	0	0	442
04:15 PM	0	132	0	0	0	0	0	0	0	275	0	0	0	0	0	0	407
04:30 PM	1	151	0	0	0	0	1	0	0	287	0	1	0	0	0	0	441
04:45 PM	0	118	0	0	0	0	0	0	0	286	1	0	0	0	0	0	405
Total	2	555	0	0	2	0	1	0	0	1132	1	2	0	0	0	0	1695
05:00 PM	0	135	0	0	0	0	1	0	0	313	0	0	0	0	0	0	449
05:15 PM	0	141	0	0	0	0	0	0	0	274	1	0	0	0	0	0	416
05:30 PM	0	120	0	0	0	0	3	0	0	309	0	0	0	0	0	0	432
05:45 PM	0	118	0	0	0	0	0	0	0	244	2	1	0	0	0	0	365
Total	0	514	0	0	0	0	4	0	0	1140	3	1	0	0	0	0	1662
Grand Total	41	3098	0	0	3	0	8	0	0	2787	9	3	0	0	0	0	5949
Apprch %	1.3	98.7	0	0	27.3	0	72.7	0	0	99.6	0.3	0.1	0	0	0	0	
Total %	0.7	52.1	0	0	0.1	0	0.1	0	0	46.8	0.2	0.1	0	0	0	0	

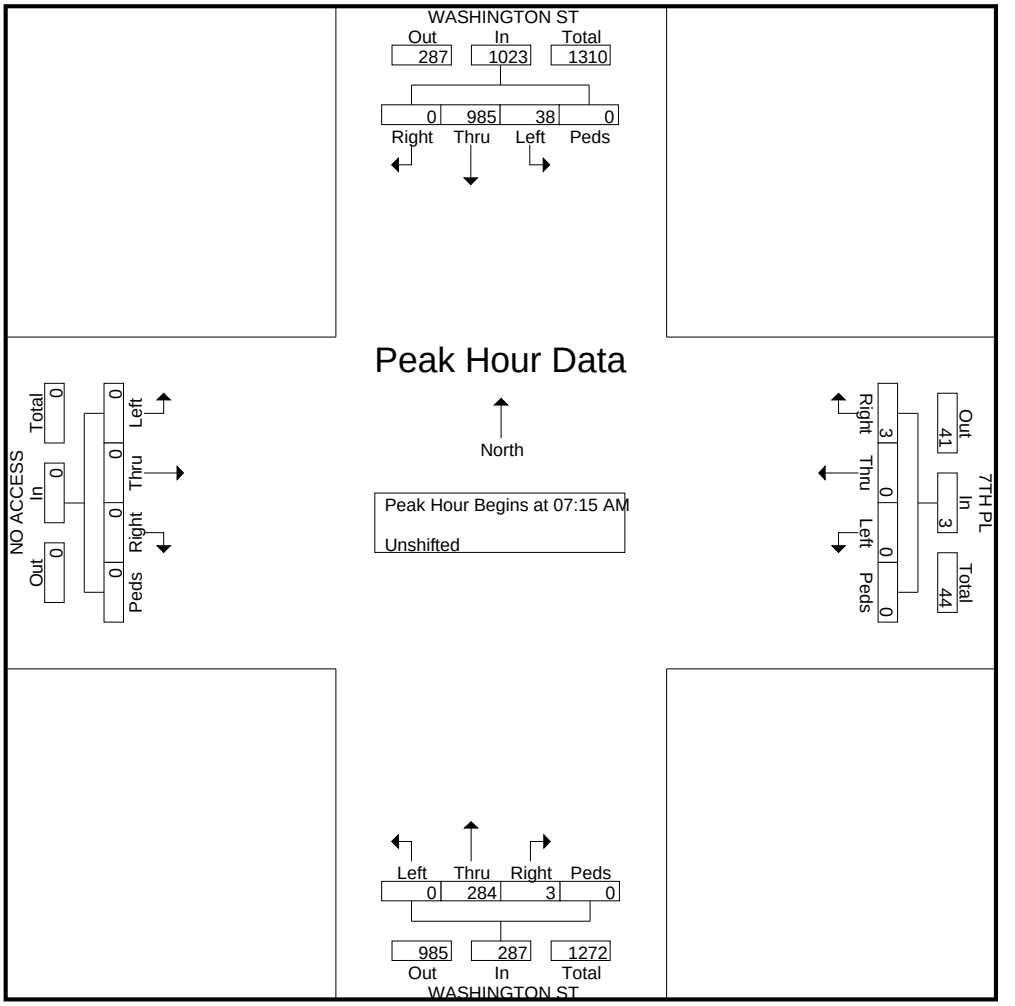
COUNTER MEASURES INC

1889 YORK ST
DENVER COLORADO
303-333-7409

N/S STREET: WASHINGOTN ST
E/W STREET: 75TH PL
CITY: DENVER
COUNTY: DENVER

File Name : WASHINGTON ST 75TH PL
Site Code : 00000008
Start Date : 1/21/2025
Page No : 2

	WASHINGTON ST SOUTHBOUND					7TH PL WESTBOUND					WASHINGTON ST NORTHBOUND					NO ACCESS EASTBOUND					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	**35**	222	0	0	257	0	0	**1**	0	**1**	0	66	0	0	66	0	0	0	0	0	324
07:30 AM	0	**275**	0	0	**275**	0	0	1	0	1	0	60	**2**	0	62	0	0	0	0	0	**338**
07:45 AM	2	254	0	0	256	0	0	0	0	0	0	70	0	0	70	0	0	0	0	0	326
08:00 AM	1	234	0	0	235	0	0	1	0	1	0	**88**	1	0	**89**	0	0	0	0	0	325
Total Volume	38	985	0	0	1023	0	0	3	0	3	0	284	3	0	287	0	0	0	0	0	1313
% App. Total	3.7	96.3	0	0		0	0	100	0		0	99	1	0		0	0	0	0		
PHF	.271	.895	.000	.000	.930	.000	.000	.750	.000	.750	.000	.807	.375	.000	.806	.000	.000	.000	.000	.000	.971



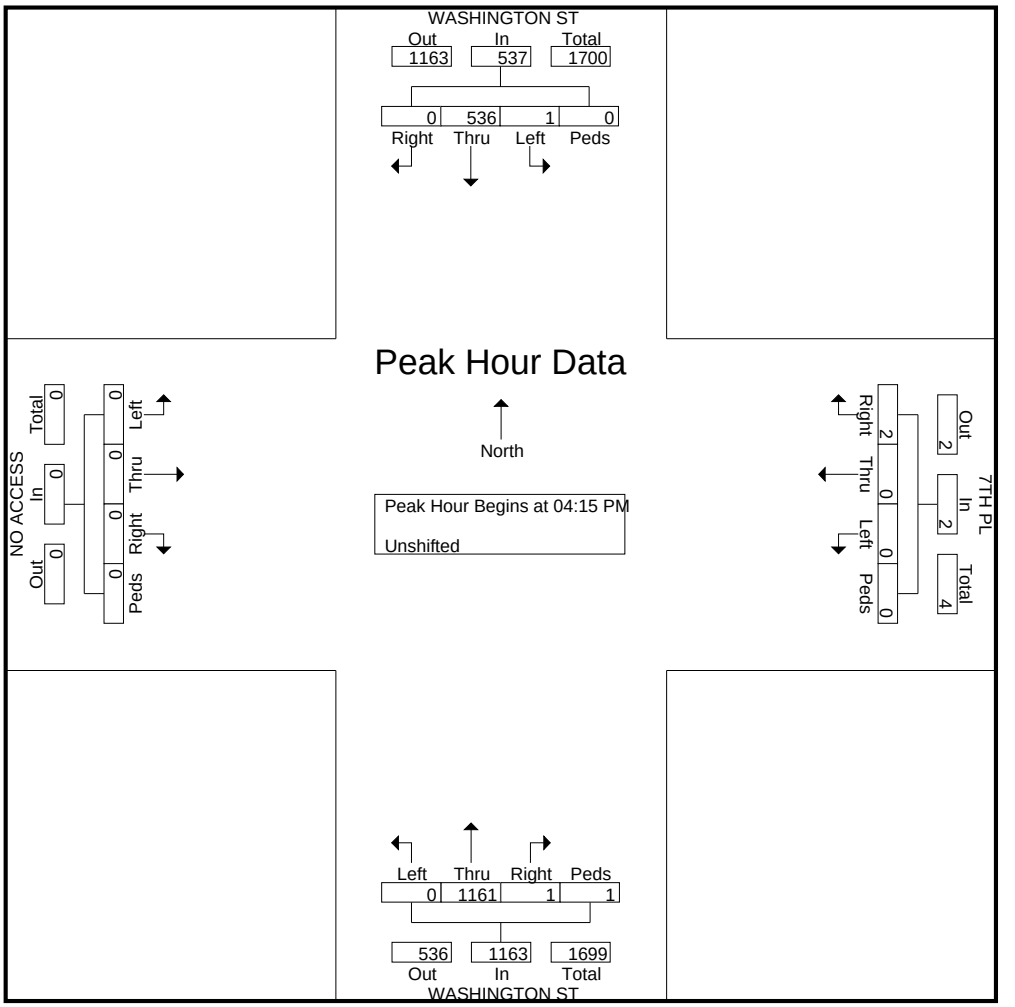
COUNTER MEASURES INC

1889 YORK ST
DENVER COLORADO
303-333-7409

N/S STREET: WASHINGOTN ST
E/W STREET: 75TH PL
CITY: DENVER
COUNTY: DENVER

File Name : WASHINGTON ST 75TH PL
Site Code : 00000008
Start Date : 1/21/2025
Page No : 3

	WASHINGTON ST SOUTHBOUND					7TH PL WESTBOUND					WASHINGTON ST NORTHBOUND					NO ACCESS EASTBOUND					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	132	0	0	132	0	0	0	0	0	0	275	0	0	275	0	0	0	0	0	407
04:30 PM	**1**	**151**	0	0	**152**	0	0	**1**	0	**1**	0	287	0	**1**	288	0	0	0	0	0	441
04:45 PM	0	118	0	0	118	0	0	0	0	0	0	286	**1**	0	287	0	0	0	0	0	405
05:00 PM	0	135	0	0	135	0	0	1	0	1	0	**313**	0	0	**313**	0	0	0	0	0	**449**
Total Volume	1	536	0	0	537	0	0	2	0	2	0	1161	1	1	1163	0	0	0	0	0	1702
% App. Total	0.2	99.8	0	0		0	0	100	0		0	99.8	0.1	0.1		0	0	0	0		
PHF	.250	.887	.000	.000	.883	.000	.000	.500	.000	.500	.000	.927	.250	.250	.929	.000	.000	.000	.000	.000	.948



COUNTER MEASURES INC

1889 YORK ST
DENVER COLORADO
303-333-7409

N/S STREET: WASHINIGTON ST
E/W STREET: 76TH AVE
CITY: DENVER
COUNTY: DENVER

File Name : WASHINGTON ST 76TH AVE
Site Code : 00000016
Start Date : 1/28/2025
Page No : 1

Groups Printed- Unshifted

	WASHINGTON ST SOUTHBOUND				NO ACCESS WESTBOUND				WASHINGTON ST NORTHBOUND				76TH AVE EASTBOUND				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
06:30 AM	0	309	5	0	0	0	0	0	5	61	0	0	2	1	4	0	387
06:45 AM	0	297	11	0	0	0	0	0	8	39	0	0	2	0	3	0	360
Total	0	606	16	0	0	0	0	0	13	100	0	0	4	1	7	0	747
07:00 AM	0	296	10	0	0	0	0	0	1	66	0	0	1	0	2	0	376
07:15 AM	0	347	6	0	0	0	0	0	6	92	0	0	3	0	4	0	458
07:30 AM	0	385	11	0	0	0	0	0	5	71	0	0	6	0	3	0	481
07:45 AM	0	394	17	0	0	0	0	0	15	117	0	0	0	0	1	0	544
Total	0	1422	44	0	0	0	0	0	27	346	0	0	10	0	10	0	1859
08:00 AM	0	377	18	0	0	0	0	0	7	92	0	0	3	0	3	0	500
08:15 AM	0	324	7	0	0	0	0	0	6	110	0	1	3	0	4	0	455
Total	0	701	25	0	0	0	0	0	13	202	0	1	6	0	7	0	955
04:00 PM	0	150	0	0	0	0	0	0	4	300	0	1	13	0	10	1	479
04:15 PM	0	135	0	0	0	0	0	0	1	315	0	0	6	0	0	0	457
04:30 PM	0	128	0	0	0	0	0	0	1	280	0	1	12	0	6	0	428
04:45 PM	0	147	1	0	0	0	0	0	0	283	0	0	4	0	5	0	440
Total	0	560	1	0	0	0	0	0	6	1178	0	2	35	0	21	1	1804
05:00 PM	0	129	1	0	0	0	0	0	0	303	0	1	5	0	1	0	440
05:15 PM	0	113	0	0	0	0	0	0	0	324	0	2	3	0	2	0	444
05:30 PM	0	141	0	1	0	0	0	0	2	294	0	0	2	0	5	0	445
05:45 PM	0	104	2	0	0	0	0	0	0	252	0	0	4	0	6	0	368
Total	0	487	3	1	0	0	0	0	2	1173	0	3	14	0	14	0	1697
Grand Total	0	3776	89	1	0	0	0	0	61	2999	0	6	69	1	59	1	7062
Apprch %	0	97.7	2.3	0	0	0	0	0	2	97.8	0	0.2	53.1	0.8	45.4	0.8	
Total %	0	53.5	1.3	0	0	0	0	0	0.9	42.5	0	0.1	1	0	0.8	0	

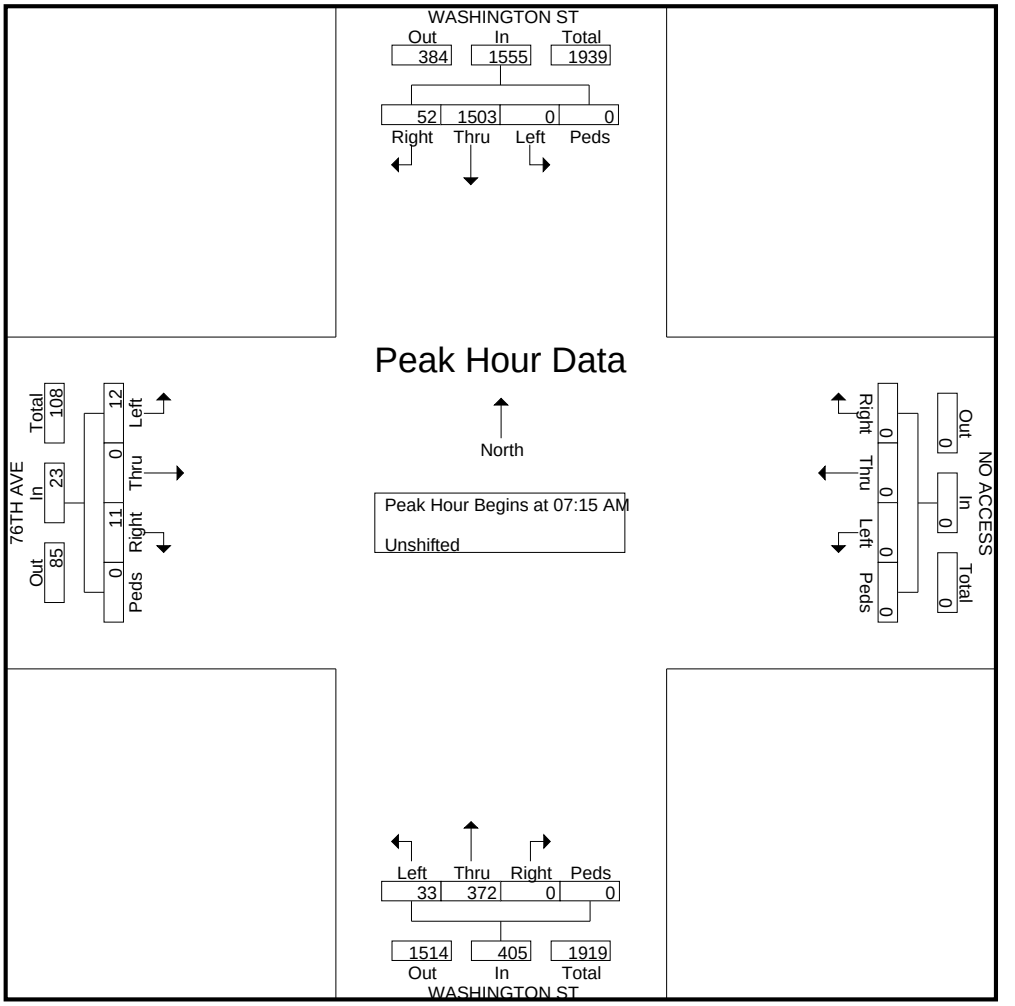
COUNTER MEASURES INC

1889 YORK ST
DENVER COLORADO
303-333-7409

N/S STREET: WASHINIGTON ST
E/W STREET: 76TH AVE
CITY: DENVER
COUNTY: DENVER

File Name : WASHINGTON ST 76TH AVE
Site Code : 00000016
Start Date : 1/28/2025
Page No : 2

	WASHINGTON ST SOUTHBOUND					NO ACCESS WESTBOUND					WASHINGTON ST NORTHBOUND					76TH AVE EASTBOUND					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	347	6	0	353	0	0	0	0	0	6	92	0	0	98	3	0	**4**	0	7	458
07:30 AM	0	385	11	0	396	0	0	0	0	0	5	71	0	0	76	**6**	0	3	0	**9**	481
07:45 AM	0	**394**	17	0	**411**	0	0	0	0	0	**15**	**117**	0	0	**132**	0	0	1	0	1	**544**
08:00 AM	0	377	**18**	0	395	0	0	0	0	0	7	92	0	0	99	3	0	3	0	6	500
Total Volume	0	1503	52	0	1555	0	0	0	0	0	33	372	0	0	405	12	0	11	0	23	1983
% App. Total	0	96.7	3.3	0		0	0	0	0		8.1	91.9	0	0		52.2	0	47.8	0		
PHF	.000	.954	.722	.000	.946	.000	.000	.000	.000	.000	.550	.795	.000	.000	.767	.500	.000	.688	.000	.639	.911



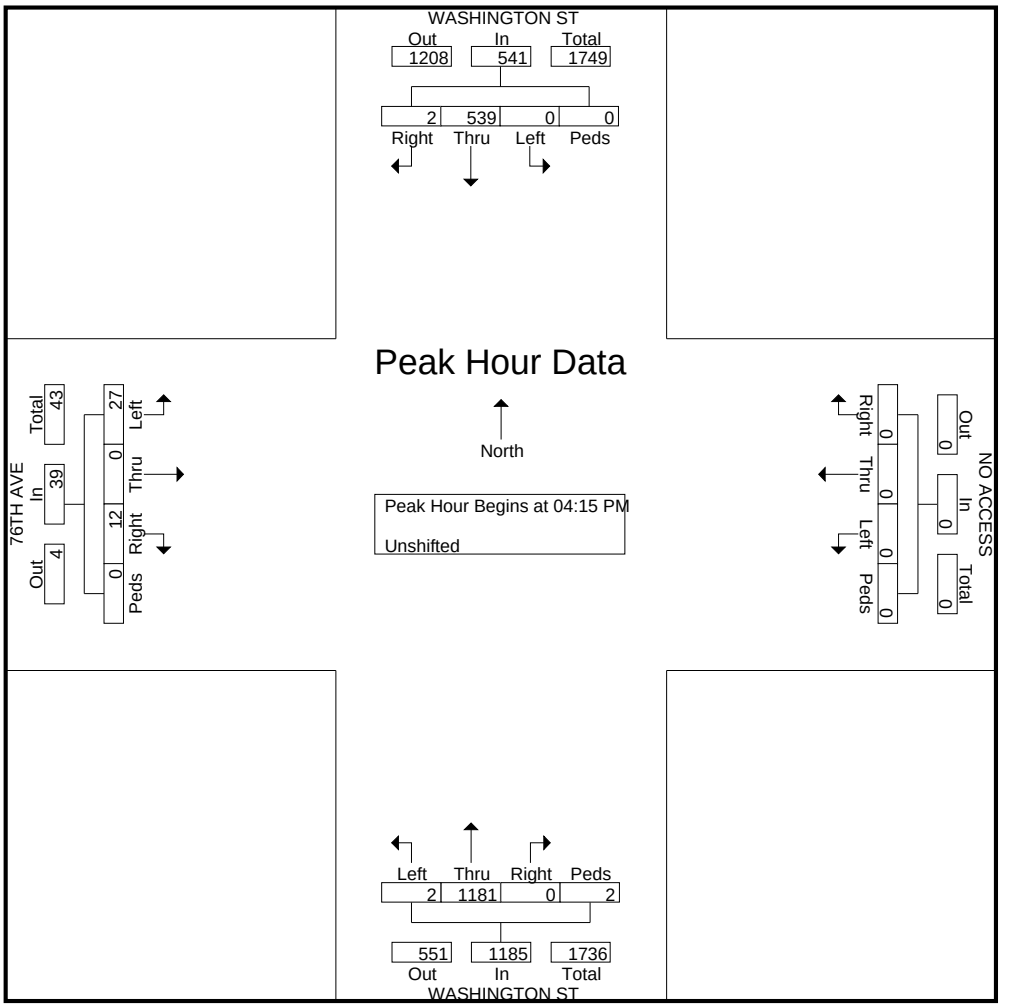
COUNTER MEASURES INC

1889 YORK ST
DENVER COLORADO
303-333-7409

N/S STREET: WASHINIGTON ST
E/W STREET: 76TH AVE
CITY: DENVER
COUNTY: DENVER

File Name : WASHINGTON ST 76TH AVE
Site Code : 00000016
Start Date : 1/28/2025
Page No : 3

	WASHINGTON ST SOUTHBOUND					NO ACCESS WESTBOUND					WASHINGTON ST NORTHBOUND					76TH AVE EASTBOUND					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	0	135	0	0	135	0	0	0	0	0	**1**	**315**	0	0	**316**	6	0	0	0	6	**457**
04:30 PM	0	128	0	0	128	0	0	0	0	0	1	280	0	**1**	282	**12**	0	**6**	0	**18**	428
04:45 PM	0	**147**	**1**	0	**148**	0	0	0	0	0	0	283	0	0	283	4	0	5	0	9	440
05:00 PM	0	129	1	0	130	0	0	0	0	0	0	303	0	1	304	5	0	1	0	6	440
Total Volume	0	539	2	0	541	0	0	0	0	0	2	1181	0	2	1185	27	0	12	0	39	1765
% App. Total	0	99.6	0.4	0		0	0	0	0		0.2	99.7	0	0.2		69.2	0	30.8	0		
PHF	.000	.917	.500	.000	.914	.000	.000	.000	.000	.000	.500	.937	.000	.500	.938	.563	.000	.500	.000	.542	.966



COUNTER MEASURES INC

1889 YORK ST
DENVER COLORADO
303-333-7409

N/S STREET: WASHINGTON ST
E/W STREET: 78TH AVE
CITY: DENVER
COUNTY: DENVER

File Name : WASHINGTON ST 78TH AVE
Site Code : 00000011
Start Date : 1/23/2025
Page No : 1

Groups Printed- Unshifted

	WASHINGTON ST SOUTHBOUND				78TH AVE WESTBOUND				WASHINGTON ST NORTHBOUND				78TH AVE EASTBOUND				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
06:30 AM	13	289	1	0	34	0	18	1	0	38	4	2	3	1	3	0	407
06:45 AM	28	322	1	0	37	0	15	0	0	36	4	0	5	1	6	1	456
Total	41	611	2	0	71	0	33	1	0	74	8	2	8	2	9	1	863
07:00 AM	16	259	2	0	44	1	9	0	0	46	13	0	2	1	5	0	398
07:15 AM	15	287	0	0	39	0	15	0	4	74	14	0	8	4	6	1	467
07:30 AM	28	287	2	0	41	3	31	0	1	59	13	0	6	5	4	0	480
07:45 AM	29	324	9	1	54	7	43	0	1	73	17	0	13	8	4	0	583
Total	88	1157	13	1	178	11	98	0	6	252	57	0	29	18	19	1	1928
08:00 AM	18	328	9	0	28	0	17	0	1	85	9	0	7	1	2	0	505
08:15 AM	22	285	6	0	28	0	14	0	4	81	10	0	5	0	3	0	458
Total	40	613	15	0	56	0	31	0	5	166	19	0	12	1	5	0	963
04:00 PM	34	133	3	0	20	2	17	0	3	273	24	0	6	0	3	0	518
04:15 PM	23	95	7	0	14	1	17	1	3	257	26	1	3	2	1	1	452
04:30 PM	28	126	8	0	17	0	29	0	1	266	21	0	7	0	1	0	504
04:45 PM	28	110	7	0	22	0	24	0	2	225	24	1	9	2	3	0	457
Total	113	464	25	0	73	3	87	1	9	1021	95	2	25	4	8	1	1931
05:00 PM	25	127	12	0	10	0	20	0	2	257	28	0	8	0	0	0	489
05:15 PM	31	105	8	0	14	0	25	0	0	284	25	2	4	1	2	0	501
05:30 PM	34	112	7	0	26	3	28	0	2	251	25	0	8	1	2	0	499
05:45 PM	27	81	8	0	14	1	15	0	1	222	20	0	8	1	1	0	399
Total	117	425	35	0	64	4	88	0	5	1014	98	2	28	3	5	0	1888
Grand Total	399	3270	90	1	442	18	337	2	25	2527	277	6	102	28	46	3	7573
Apprch %	10.6	87	2.4	0	55.3	2.3	42.2	0.3	0.9	89.1	9.8	0.2	57	15.6	25.7	1.7	
Total %	5.3	43.2	1.2	0	5.8	0.2	4.5	0	0.3	33.4	3.7	0.1	1.3	0.4	0.6	0	

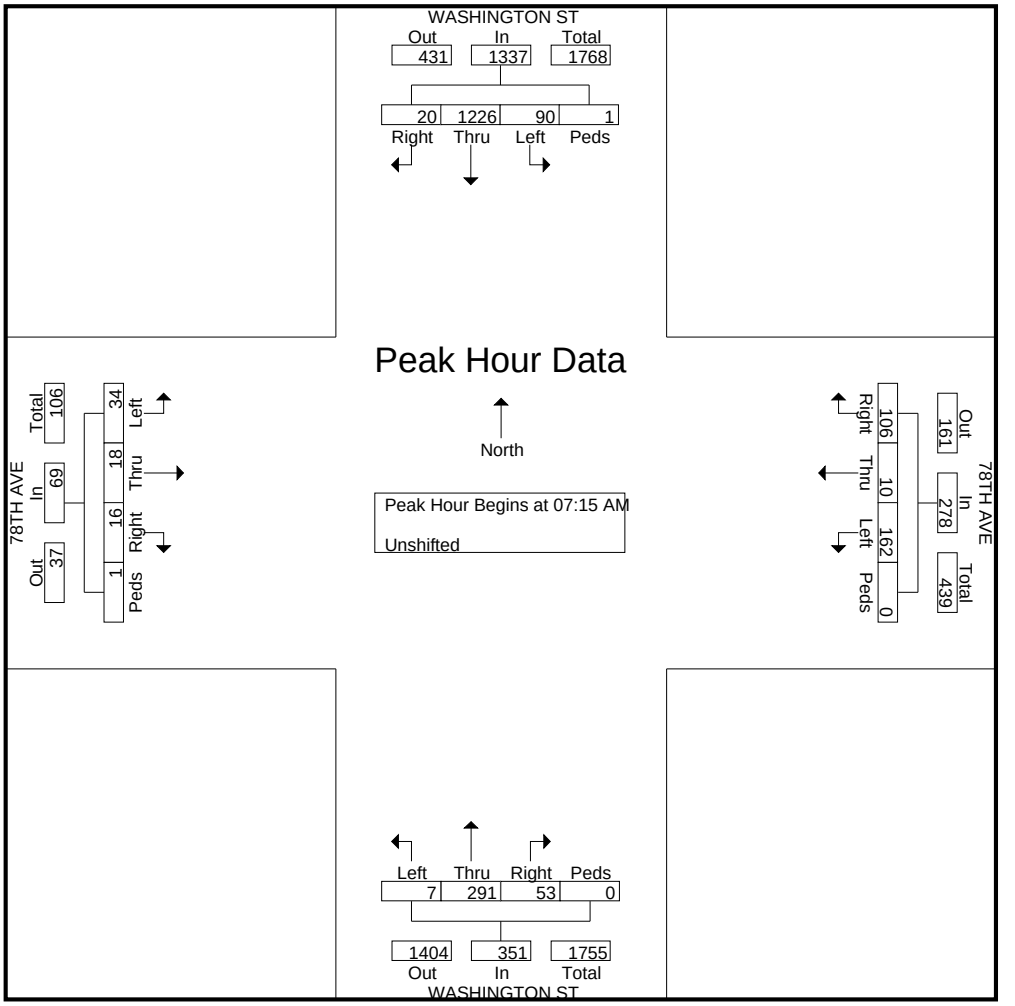
COUNTER MEASURES INC

1889 YORK ST
DENVER COLORADO
303-333-7409

N/S STREET: WASHINGTON ST
E/W STREET: 78TH AVE
CITY: DENVER
COUNTY: DENVER

File Name : WASHINGTON ST 78TH AVE
Site Code : 00000011
Start Date : 1/23/2025
Page No : 2

	WASHINGTON ST SOUTHBOUND					78TH AVE WESTBOUND					WASHINGTON ST NORTHBOUND					78TH AVE EASTBOUND					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	15	287	0	0	302	39	0	15	0	54	**4**	74	14	0	92	8	4	**6**	**1**	19	467
07:30 AM	28	287	2	0	317	41	3	31	0	75	1	59	13	0	73	6	5	4	0	15	480
07:45 AM	**29**	324	**9**	**1**	**363**	**54**	**7**	**43**	0	**104**	1	73	**17**	0	91	**13**	**8**	4	0	**25**	**583**
08:00 AM	18	**328**	9	0	355	28	0	17	0	45	1	**85**	9	0	**95**	7	1	2	0	10	505
Total Volume	90	1226	20	1	1337	162	10	106	0	278	7	291	53	0	351	34	18	16	1	69	2035
% App. Total	6.7	91.7	1.5	0.1		58.3	3.6	38.1	0		2	82.9	15.1	0		49.3	26.1	23.2	1.4		
PHF	.776	.934	.556	.250	.921	.750	.357	.616	.000	.668	.438	.856	.779	.000	.924	.654	.563	.667	.250	.690	.873



COUNTER MEASURES INC

1889 YORK ST
DENVER COLORADO
303-333-7409

N/S STREET: WASHINGTON ST
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CITY: DENVER
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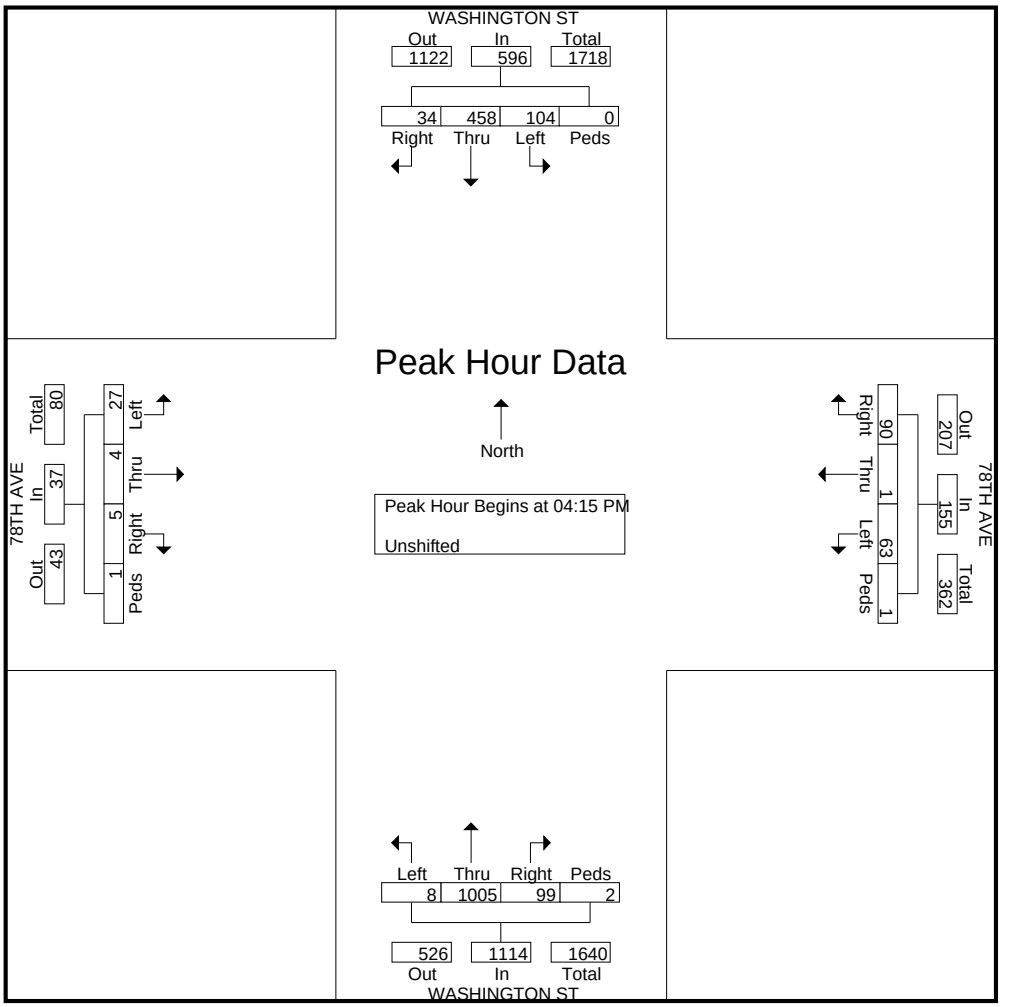
File Name : WASHINGTON ST 78TH AVE
Site Code : 00000011
Start Date : 1/23/2025
Page No : 3

	WASHINGTON ST SOUTHBOUND					78TH AVE WESTBOUND					WASHINGTON ST NORTHBOUND					78TH AVE EASTBOUND					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	23	95	7	0	125	14	**1**	17	**1**	33	**3**	257	26	**1**	287	3	**2**	1	**1**	7	452
04:30 PM	**28**	126	8	0	162	17	0	**29**	0	**46**	1	**266**	21	0	**288**	7	0	1	0	8	**504**
04:45 PM	28	110	7	0	145	**22**	0	24	0	46	2	225	24	1	252	**9**	2	**3**	0	**14**	457
05:00 PM	25	**127**	**12**	0	**164**	10	0	20	0	30	2	257	**28**	0	287	8	0	0	0	8	489
Total Volume	104	458	34	0	596	63	1	90	1	155	8	1005	99	2	1114	27	4	5	1	37	1902
% App. Total	17.4	76.8	5.7	0		40.6	0.6	58.1	0.6		0.7	90.2	8.9	0.2		73	10.8	13.5	2.7		
PHF	.929	.902	.708	.000	.909	.716	.250	.776	.250	.842	.667	.945	.884	.500	.967	.750	.500	.417	.250	.661	.943



COUNTER MEASURES INC

1889 YORK ST
DENVER COLORADO
303-333-7409

N/S STREET: WASHINGTON ST
E/W STREET: HWY 224
CITY: DENVER
COUNTY: DENVER

File Name : WASHINGTON ST HWY 224
Site Code : 00000020
Start Date : 1/23/2025
Page No : 1

Groups Printed- Unshifted

	WASHINGTON ST SOUTHBOUND				HWY 224 WESTBOUND				WASHINGTON ST NORTHBOUND				HWY 224 EASTBOUND				
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Int. Total
06:30 AM	92	154	131	0	19	62	12	0	15	24	12	0	53	77	87	0	738
06:45 AM	98	171	96	0	40	67	22	1	14	21	9	0	54	92	122	0	807
Total	190	325	227	0	59	129	34	1	29	45	21	0	107	169	209	0	1545
07:00 AM	91	133	119	0	26	74	37	0	17	26	3	0	68	71	109	1	775
07:15 AM	114	121	115	0	33	71	19	0	18	31	12	0	77	59	64	0	734
07:30 AM	91	133	124	0	41	76	19	0	18	29	4	0	53	72	76	1	737
07:45 AM	119	164	132	0	34	96	17	1	24	30	10	0	85	91	65	0	868
Total	415	551	490	0	134	317	92	1	77	116	29	0	283	293	314	2	3114
08:00 AM	113	159	106	0	33	95	24	0	23	37	6	0	60	103	61	0	820
08:15 AM	75	86	103	0	37	75	16	0	22	29	9	0	66	97	59	0	674
Total	188	245	209	0	70	170	40	0	45	66	15	0	126	200	120	0	1494
04:00 PM	65	63	51	0	12	85	45	0	131	115	18	0	114	96	19	0	814
04:15 PM	45	62	80	1	17	70	59	1	90	146	28	0	121	123	19	1	863
04:30 PM	51	79	68	5	13	91	50	0	100	133	37	0	119	130	26	0	902
04:45 PM	44	69	58	0	9	95	69	7	76	130	41	0	127	124	18	0	867
Total	205	273	257	6	51	341	223	8	397	524	124	0	481	473	82	1	3446
05:00 PM	34	61	81	0	15	105	38	2	98	120	31	2	102	159	12	0	860
05:15 PM	51	63	76	1	8	78	50	0	64	113	29	0	110	123	17	0	783
05:30 PM	56	45	61	0	13	103	35	0	47	93	17	0	119	109	20	0	718
05:45 PM	37	40	47	0	11	90	36	0	35	109	6	0	103	93	19	0	626
Total	178	209	265	1	47	376	159	2	244	435	83	2	434	484	68	0	2987
Grand Total	1176	1603	1448	7	361	1333	548	12	792	1186	272	2	1431	1619	793	3	12586
Apprch %	27.8	37.9	34.2	0.2	16	59.1	24.3	0.5	35.2	52.7	12.1	0.1	37.2	42.1	20.6	0.1	
Total %	9.3	12.7	11.5	0.1	2.9	10.6	4.4	0.1	6.3	9.4	2.2	0	11.4	12.9	6.3	0	

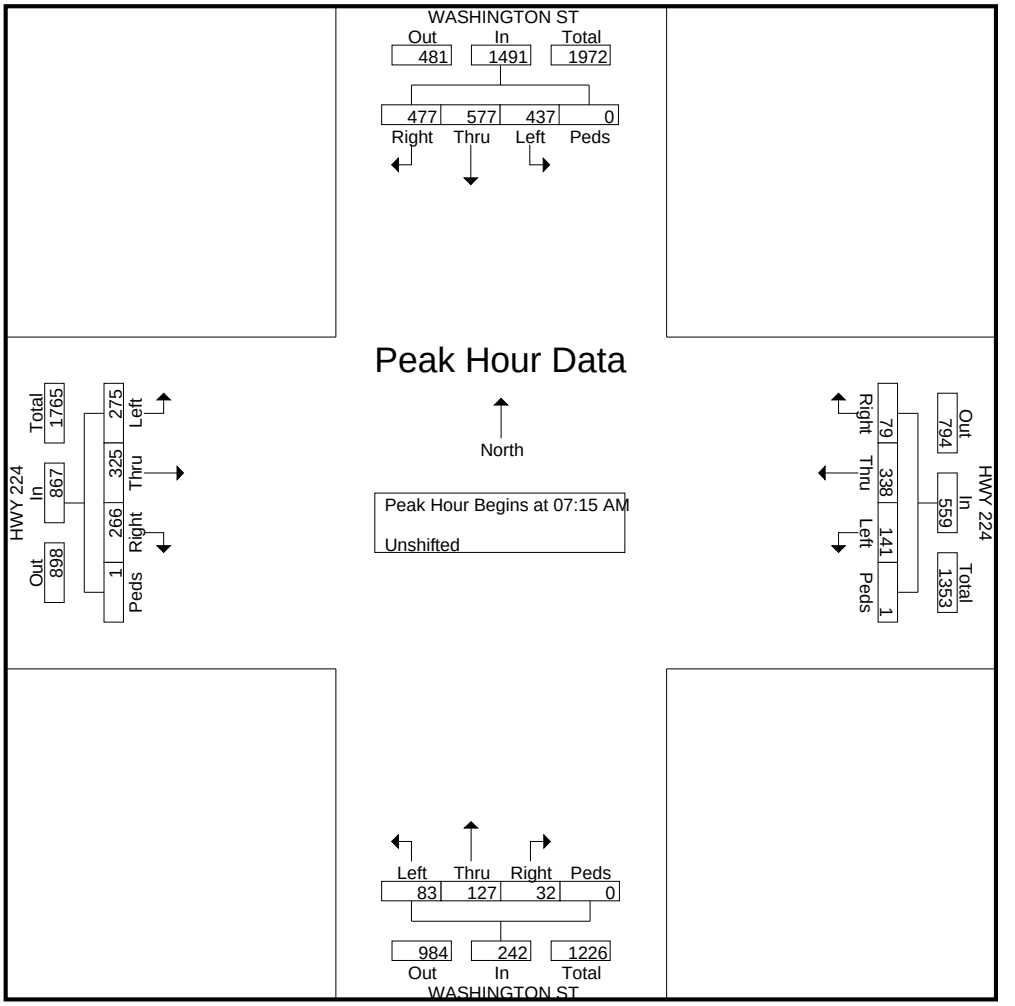
COUNTER MEASURES INC

1889 YORK ST
DENVER COLORADO
303-333-7409

N/S STREET: WASHINGTON ST
E/W STREET: HWY 224
CITY: DENVER
COUNTY: DENVER

File Name : WASHINGTON ST HWY 224
Site Code : 00000020
Start Date : 1/23/2025
Page No : 2

	WASHINGTON ST SOUTHBOUND					HWY 224 WESTBOUND					WASHINGTON ST NORTHBOUND					HWY 224 EASTBOUND					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 06:30 AM to 08:15 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	114	121	115	0	350	33	71	19	0	123	18	31	**12**	0	61	77	59	64	0	200	734
07:30 AM	91	133	124	0	348	**41**	76	19	0	136	18	29	4	0	51	53	72	**76**	**1**	202	737
07:45 AM	**119**	**164**	**132**	0	**415**	34	**96**	17	**1**	148	**24**	30	10	0	64	**85**	91	65	0	**241**	**868**
08:00 AM	113	159	106	0	378	33	95	**24**	0	**152**	23	**37**	6	0	**66**	60	**103**	61	0	224	820
Total Volume	437	577	477	0	1491	141	338	79	1	559	83	127	32	0	242	275	325	266	1	867	3159
% App. Total	29.3	38.7	32	0		25.2	60.5	14.1	0.2		34.3	52.5	13.2	0		31.7	37.5	30.7	0.1		
PHF	.918	.880	.903	.000	.898	.860	.880	.823	.250	.919	.865	.858	.667	.000	.917	.809	.789	.875	.250	.899	.910



COUNTER MEASURES INC

1889 YORK ST
DENVER COLORADO
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N/S STREET: WASHINGTON ST
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File Name : WASHINGTON ST HWY 224
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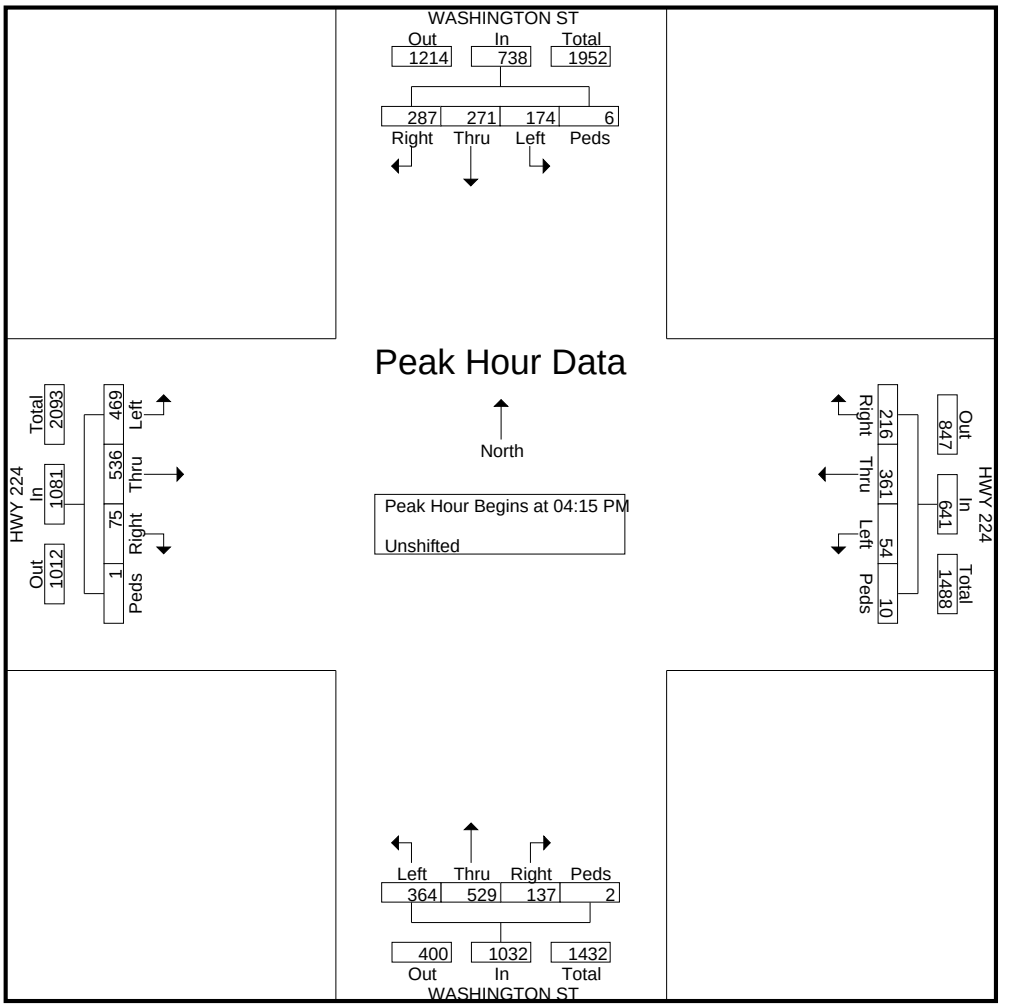
Page No : 3

	WASHINGTON ST SOUTHBOUND					HWY 224 WESTBOUND					WASHINGTON ST NORTHBOUND					HWY 224 EASTBOUND					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	45	62	80	1	188	**17**	70	59	1	147	90	**146**	28	0	264	121	123	19	**1**	264	863
04:30 PM	**51**	**79**	68	**5**	**203**	13	91	50	0	154	**100**	133	37	0	**270**	119	130	**26**	0	**275**	**902**
04:45 PM	44	69	58	0	171	9	95	**69**	**7**	**180**	76	130	**41**	0	247	**127**	124	18	0	269	867
05:00 PM	34	61	**81**	0	176	15	**105**	38	2	160	98	120	31	**2**	251	102	**159**	12	0	273	860
Total Volume	174	271	287	6	738	54	361	216	10	641	364	529	137	2	1032	469	536	75	1	1081	3492
% App. Total	23.6	36.7	38.9	0.8		8.4	56.3	33.7	1.6		35.3	51.3	13.3	0.2		43.4	49.6	6.9	0.1		
PHF	.853	.858	.886	.300	.909	.794	.860	.783	.357	.890	.910	.906	.835	.250	.956	.923	.843	.721	.250	.983	.968



LEVEL OF SERVICE DEFINITIONS

From *Highway Capacity Manual*, Transportation Research Board

SIGNALIZED INTERSECTION LEVEL OF SERVICE (LOS)

LOS	Average Vehicle Delay sec/vehicle	Operational Characteristics
A	<10 seconds	Describes operations with low control delay, up to 10 sec/veh. This LOS occurs when progression is extremely favorable and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.
B	10 to 20 seconds	Describes operations with control delay greater than 10 seconds and up to 20 sec/veh. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of delay.
C	20 to 35 seconds	Describes operations with control delay greater than 20 and up to 35 sec/veh. These higher delays may result from only fair progression, longer cycle length, or both. Individual cycle failures may begin to appear at this level. Cycle failure occurs when a given green phase does not serve queued vehicles, and overflows occur. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.
D	35 to 55 seconds	Describes operations with control delay greater than 35 and up to 55 sec/veh. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, and high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	55 to 80 seconds	Describes operations with control delay greater than 55 and up to 80 sec/veh. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent.
F	>80 seconds	Describes operations with control delay in excess of 80 sec/veh. This level, considered unacceptable to most drivers, often occurs with over-saturation, that is, when arrival flow rates exceed the capacity of lane groups. It may also occur at high v/c ratios with many individual cycle failures. Poor progression and long cycle lengths may also contribute significantly to high delay levels.

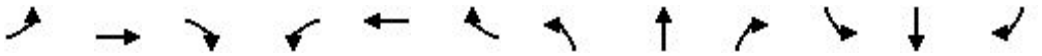
LEVEL OF SERVICE DEFINITIONS

From *Highway Capacity Manual*, Transportation Research Board

UNSIGNALIZED INTERSECTION LEVEL OF SERVICE (LOS)

Applicable to Two-Way Stop Control, All-Way Stop Control, and Roundabouts

LOS	Average Vehicle Control Delay	Operational Characteristics
A	<10 seconds	Normally, vehicles on the stop-controlled approach only have to wait up to 10 seconds before being able to clear the intersection. Left-turning vehicles on the uncontrolled street do not have to wait to make their turn.
B	10 to 15 seconds	Vehicles on the stop-controlled approach will experience delays before being able to clear the intersection. The delay could be up to 15 seconds. Left-turning vehicles on the uncontrolled street may have to wait to make their turn.
C	15 to 25 seconds	Vehicles on the stop-controlled approach can expect delays in the range of 15 to 25 seconds before clearing the intersection. Motorists may begin to take chances due to the long delays, thereby posing a safety risk to through traffic. Left-turning vehicles on the uncontrolled street will now be required to wait to make their turn causing a queue to be created in the turn lane.
D	25 to 35 seconds	This is the point at which a traffic signal may be warranted for this intersection. The delays for the stop-controlled intersection are not considered to be excessive. The length of the queue may begin to block other public and private access points.
E	35 to 50 seconds	The delays for all critical traffic movements are considered to be unacceptable. The length of the queues for the stop-controlled approaches as well as the left-turn movements are extremely long. There is a high probability that this intersection will meet traffic signal warrants. The ability to install a traffic signal is affected by the location of other existing traffic signals. Consideration may be given to restricting the accesses by eliminating the left-turn movements from and to the stop-controlled approach.
F	>50 seconds	The delay for the critical traffic movements are probably in excess of 100 seconds. The length of the queues are extremely long. Motorists are selecting alternative routes due to the long delays. The only remedy for these long delays is installing a traffic signal or restricting the accesses. The potential for accidents at this intersection are extremely high due to motorist taking more risky chances. If the median permits, motorists begin making two-stage left-turns.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	18	16	162	10	106	7	291	53	90	1226	20
Future Volume (veh/h)	34	18	16	162	10	106	7	291	53	90	1226	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	19	17	171	11	112	7	306	56	95	1291	21
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	264	293	248	275	293	248	322	2300	1026	815	2642	1179
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	1.00	1.00	1.00	0.05	0.74	0.74
Sat Flow, veh/h	1268	1870	1585	1372	1870	1585	419	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	36	19	17	171	11	112	7	306	56	95	1291	21
Grp Sat Flow(s),veh/h/ln	1268	1870	1585	1372	1870	1585	419	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.5	0.9	0.9	12.1	0.5	6.4	0.1	0.0	0.0	1.6	14.6	0.3
Cycle Q Clear(g_c), s	3.0	0.9	0.9	13.0	0.5	6.4	5.1	0.0	0.0	1.6	14.6	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	264	293	248	275	293	248	322	2300	1026	815	2642	1179
V/C Ratio(X)	0.14	0.06	0.07	0.62	0.04	0.45	0.02	0.13	0.05	0.12	0.49	0.02
Avail Cap(c_a), veh/h	383	468	396	403	468	396	322	2300	1026	857	2642	1179
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.1	35.9	36.0	41.5	35.8	38.3	0.2	0.0	0.0	4.4	5.2	3.3
Incr Delay (d2), s/veh	0.2	0.1	0.1	2.3	0.1	1.3	0.1	0.1	0.1	0.1	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.4	0.4	4.2	0.2	2.5	0.0	0.0	0.0	0.5	4.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.3	36.0	36.1	43.8	35.8	39.6	0.3	0.1	0.1	4.4	5.8	3.4
LnGrp LOS	D	D	D	D	D	D	A	A	A	A	A	A
Approach Vol, veh/h		72			294			369			1407	
Approach Delay, s/veh		36.7			41.9			0.1			5.7	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.6	69.7		20.6		79.4		20.6				
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s	7.0	53.0		25.0		65.0		25.0				
Max Q Clear Time (g_c+I1), s	3.6	7.1		5.0		16.6		15.0				
Green Ext Time (p_c), s	0.1	2.3		0.2		12.6		0.6				

Intersection Summary												
HCM 6th Ctrl Delay			10.7									
HCM 6th LOS			B									

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	12	11	33	375	1500	52
Future Volume (veh/h)	12	11	33	375	1500	52
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	13	12	36	412	1648	57
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	45	40	323	4468	4434	153
Arrive On Green	0.03	0.03	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1781	1585	287	5274	5236	175
Grp Volume(v), veh/h	13	12	36	412	1107	598
Grp Sat Flow(s),veh/h/ln	1781	1585	287	1702	1702	1839
Q Serve(g_s), s	0.7	0.7	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.7	0.7	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00	1.00			0.10
Lane Grp Cap(c), veh/h	45	40	323	4468	2978	1609
V/C Ratio(X)	0.29	0.30	0.11	0.09	0.37	0.37
Avail Cap(c_a), veh/h	445	396	323	4468	2978	1609
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.9	47.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	3.5	4.2	0.7	0.0	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.3	0.1	0.0	0.1	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	51.4	52.1	0.7	0.0	0.4	0.7
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	25			448	1705	
Approach Delay, s/veh	51.7			0.1	0.5	
Approach LOS	D			A	A	

Timer - Assigned Phs	2		4		6
Phs Duration (G+Y+Rc), s	92.5		7.5		92.5
Change Period (Y+Rc), s	5.0		5.0		5.0
Max Green Setting (Gmax), s	65.0		25.0		65.0
Max Q Clear Time (g_c+I1), s	2.0		2.7		2.0
Green Ext Time (p_c), s	4.1		0.0		18.4

Intersection Summary	
HCM 6th Ctrl Delay	1.0
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	0.2

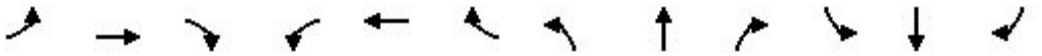
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	8	0	0	0	29	435	0	0	1510	2
Future Vol, veh/h	3	0	8	0	0	0	29	435	0	0	1510	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	0	8	0	0	0	31	458	0	0	1589	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1835	2110	796	1156	2111	229	1591	0	0	458	0	0
Stage 1	1590	1590	-	520	520	-	-	-	-	-	-	-
Stage 2	245	520	-	636	1591	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	*504	*458	*575	*504	*457	*834	*722	-	-	992	-	-
Stage 1	*590	*561	-	*713	*722	-	-	-	-	-	-	-
Stage 2	*855	*722	-	*590	*561	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1	1	1	-	-	1	-	-
Mov Cap-1 Maneuver	*487	*438	*575	*480	*437	*834	*722	-	-	992	-	-
Mov Cap-2 Maneuver	*487	*438	-	*480	*437	-	-	-	-	-	-	-
Stage 1	*564	*561	-	*682	*691	-	-	-	-	-	-	-
Stage 2	*819	*691	-	*581	*561	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.7	0	0.6	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	* 722	-	-	548	-	992	-	-
HCM Lane V/C Ratio	0.042	-	-	0.021	-	-	-	-
HCM Control Delay (s)	10.2	-	-	11.7	0	0	-	-
HCM Lane LOS	B	-	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-	0	-	-

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	1	18	0	27	0	435	27	31	1485	0
Future Volume (veh/h)	0	0	1	18	0	27	0	435	27	31	1485	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	1	19	0	28	0	458	28	33	1563	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	72	0	58	123	0	58	72	3067	1368	857	4407	0
Arrive On Green	0.00	0.00	0.04	0.04	0.00	0.04	0.00	1.00	1.00	1.00	1.00	0.00
Sat Flow, veh/h	1382	0	1585	1416	0	1585	329	3554	1585	910	5274	0
Grp Volume(v), veh/h	0	0	1	19	0	28	0	458	28	33	1563	0
Grp Sat Flow(s),veh/h/ln	1382	0	1585	1416	0	1585	329	1777	1585	910	1702	0
Q Serve(g_s), s	0.0	0.0	0.1	1.3	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.1	1.4	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	72	0	58	123	0	58	72	3067	1368	857	4407	0
V/C Ratio(X)	0.00	0.00	0.02	0.15	0.00	0.48	0.00	0.15	0.02	0.04	0.35	0.00
Avail Cap(c_a), veh/h	367	0	396	425	0	396	72	3067	1368	857	4407	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	46.4	47.1	0.0	47.2	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.1	0.6	0.0	6.0	0.0	0.1	0.0	0.1	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.5	0.0	0.8	0.0	0.0	0.0	0.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	46.5	47.6	0.0	53.2	0.0	0.1	0.0	0.1	0.2	0.0
LnGrp LOS	A	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		1			47			486			1596	
Approach Delay, s/veh		46.5			51.0			0.1			0.2	
Approach LOS		D			D			A			A	

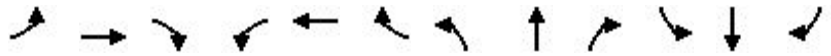
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		91.3		8.7		91.3		8.7				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		65.0		25.0		65.0		25.0				
Max Q Clear Time (g_c+I1), s		2.0		2.1		2.0		3.7				
Green Ext Time (p_c), s		3.2		0.0		17.5		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			1.3									
HCM 6th LOS			A									

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	10	27	436	22	28	1479
Future Volume (veh/h)	10	27	436	22	28	1479
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	28	459	23	29	1557
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	59	68	4319	215	864	4427
Arrive On Green	0.03	0.04	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1781	1585	5150	248	913	5274
Grp Volume(v), veh/h	11	28	313	169	29	1557
Grp Sat Flow(s),veh/h/ln	1781	1585	1702	1826	913	1702
Q Serve(g_s), s	0.6	1.7	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.6	1.7	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00		0.14	1.00	
Lane Grp Cap(c), veh/h	59	68	2951	1583	864	4427
V/C Ratio(X)	0.19	0.41	0.11	0.11	0.03	0.35
Avail Cap(c_a), veh/h	445	412	2951	1583	864	4427
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.0	46.6	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.5	3.9	0.1	0.1	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.8	0.0	0.1	0.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	48.5	50.5	0.1	0.1	0.1	0.2
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	39		482			1586
Approach Delay, s/veh	50.0		0.1			0.2
Approach LOS	D		A			A

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	91.7			91.7	8.3
Change Period (Y+Rc), s	5.0			5.0	5.0
Max Green Setting (Gmax), s	65.0			65.0	25.0
Max Q Clear Time (g_c+I1), s	2.0			2.0	3.7
Green Ext Time (p_c), s	3.1			17.3	0.1

Intersection Summary	
HCM 6th Ctrl Delay	1.1
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	275	325	266	141	338	79	83	127	32	437	577	477
Future Volume (veh/h)	275	325	266	141	338	79	83	127	32	437	577	477
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	289	342	0	148	356	0	87	134	0	460	607	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	1488		178	1488		221	253		472	754	
Arrive On Green	0.10	0.42	0.00	0.10	0.42	0.00	0.06	0.07	0.00	0.27	0.28	0.00
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	1781	3647	0	1781	3554	1585
Grp Volume(v), veh/h	289	342	0	148	356	0	87	134	0	460	607	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1781	1777	0	1781	1777	1585
Q Serve(g_s), s	8.2	6.2	0.0	8.2	6.5	0.0	4.5	3.6	0.0	20.0	15.9	0.0
Cycle Q Clear(g_c), s	8.2	6.2	0.0	8.2	6.5	0.0	4.5	3.6	0.0	20.0	15.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	346	1488		178	1488		221	253		472	754	
V/C Ratio(X)	0.84	0.23		0.83	0.24		0.39	0.53		0.97	0.80	
Avail Cap(c_a), veh/h	346	1488		178	1488		240	711		472	1173	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	44.2	18.7	0.0	44.2	18.8	0.0	39.8	44.8	0.0	32.5	34.0	0.0
Incr Delay (d2), s/veh	16.2	0.4	0.0	27.1	0.4	0.0	1.1	1.7	0.0	34.7	2.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	2.5	0.0	4.8	2.6	0.0	2.0	1.6	0.0	14.1	6.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.4	19.0	0.0	71.2	19.2	0.0	40.9	46.5	0.0	67.2	36.3	0.0
LnGrp LOS	E	B		E	B		D	D		E	D	
Approach Vol, veh/h		631			504			221			1067	
Approach Delay, s/veh		38.0			34.5			44.3			49.6	
Approach LOS		D			C			D			D	

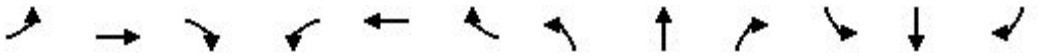
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	12.1	15.0	47.9	10.9	26.2	15.0	47.9
Change Period (Y+Rc), s	5.0	5.0	5.0	6.0	5.0	5.0	5.0	6.0
Max Green Setting (Gmax), s	20.0	20.0	10.0	29.0	7.0	33.0	10.0	29.0
Max Q Clear Time (g_c+I1), s	22.0	5.6	10.2	8.2	6.5	17.9	10.2	8.5
Green Ext Time (p_c), s	0.0	0.5	0.0	2.0	0.0	3.4	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	43.0
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	4	5	63	1	90	8	1005	99	104	458	34
Future Volume (veh/h)	27	4	5	63	1	90	8	1005	99	104	458	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	4	5	66	1	95	8	1058	104	109	482	36
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	154	130	185	154	130	708	2560	1142	505	2906	1296
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	1.00	1.00	1.00	0.05	0.82	0.82
Sat Flow, veh/h	1300	1870	1585	1406	1870	1585	883	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	28	4	5	66	1	95	8	1058	104	109	482	36
Grp Sat Flow(s),veh/h/ln	1300	1870	1585	1406	1870	1585	883	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.0	0.2	0.3	4.5	0.0	5.9	0.0	0.0	0.0	1.4	2.9	0.4
Cycle Q Clear(g_c), s	2.1	0.2	0.3	4.7	0.0	5.9	0.0	0.0	0.0	1.4	2.9	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	178	154	130	185	154	130	708	2560	1142	505	2906	1296
V/C Ratio(X)	0.16	0.03	0.04	0.36	0.01	0.73	0.01	0.41	0.09	0.22	0.17	0.03
Avail Cap(c_a), veh/h	396	468	396	421	468	396	708	2560	1142	545	2906	1296
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.1	42.2	42.3	44.4	42.1	44.8	0.0	0.0	0.0	2.4	1.9	1.7
Incr Delay (d2), s/veh	0.4	0.1	0.1	1.2	0.0	7.6	0.0	0.5	0.2	0.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.1	0.1	1.6	0.0	2.5	0.0	0.2	0.1	0.3	0.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.5	42.3	42.4	45.6	42.2	52.4	0.0	0.5	0.2	2.6	2.0	1.7
LnGrp LOS	D	D	D	D	D	D	A	A	A	A	A	A
Approach Vol, veh/h		37			162			1170			627	
Approach Delay, s/veh		43.2			49.6			0.5			2.1	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.8	77.0		13.2		86.8		13.2				
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s	7.0	53.0		25.0		65.0		25.0				
Max Q Clear Time (g_c+I1), s	3.4	2.0		4.1		4.9		7.9				
Green Ext Time (p_c), s	0.1	9.8		0.1		3.5		0.4				

Intersection Summary												
HCM 6th Ctrl Delay			5.8									
HCM 6th LOS			A									

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	27	12	2	1180	575	2
Future Volume (veh/h)	27	12	2	1180	575	2
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	12	2	1229	599	2
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	60	53	781	4424	4552	15
Arrive On Green	0.03	0.03	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1781	1585	818	5274	5422	18
Grp Volume(v), veh/h	28	12	2	1229	388	213
Grp Sat Flow(s),veh/h/ln	1781	1585	818	1702	1702	1867
Q Serve(g_s), s	1.5	0.7	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.5	0.7	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00	1.00			0.01
Lane Grp Cap(c), veh/h	60	53	781	4424	2949	1618
V/C Ratio(X)	0.47	0.23	0.00	0.28	0.13	0.13
Avail Cap(c_a), veh/h	445	396	781	4424	2949	1618
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.4	47.1	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	5.6	2.1	0.0	0.2	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.3	0.0	0.1	0.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	53.1	49.2	0.0	0.2	0.1	0.2
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	40			1231	601	
Approach Delay, s/veh	51.9			0.2	0.1	
Approach LOS	D			A	A	

Timer - Assigned Phs	2		4		6
Phs Duration (G+Y+Rc), s	91.6		8.4		91.6
Change Period (Y+Rc), s	5.0		5.0		5.0
Max Green Setting (Gmax), s	65.0		25.0		65.0
Max Q Clear Time (g_c+I1), s	2.0		3.5		2.0
Green Ext Time (p_c), s	11.4		0.1		4.0

Intersection Summary	
HCM 6th Ctrl Delay	1.2
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	0.2

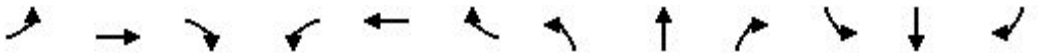
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	0	15	0	0	0	16	1260	0	0	610	2
Future Vol, veh/h	4	0	15	0	0	0	16	1260	0	0	610	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	0	16	0	0	0	17	1326	0	0	642	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1207	2003	322	1617	2004	663	644	0	0	1326	0	0
Stage 1	643	643	-	1360	1360	-	-	-	-	-	-	-
Stage 2	564	1360	-	257	644	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	*616	*143	*782	*304	*143	*626	*983	-	-	*787	-	-
Stage 1	*802	*763	-	*643	*611	-	-	-	-	-	-	-
Stage 2	*643	*611	-	*802	*763	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1	1	1	-	-	1	-	-
Mov Cap-1 Maneuver	*608	*141	*782	*294	*141	*626	*983	-	-	*787	-	-
Mov Cap-2 Maneuver	*608	*141	-	*294	*141	-	-	-	-	-	-	-
Stage 1	*789	*763	-	*632	*601	-	-	-	-	-	-	-
Stage 2	*632	*601	-	*786	*763	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10	0	0.1	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	* 983	-	-	738	-	* 787	-	-
HCM Lane V/C Ratio	0.017	-	-	0.027	-	-	-	-
HCM Control Delay (s)	8.7	-	-	10	0	0	-	-
HCM Lane LOS	A	-	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-	0	-	-

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	34	1	116	0	1160	56	15	610	0
Future Volume (veh/h)	0	0	0	34	1	116	0	1160	56	15	610	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	36	1	122	0	1221	59	16	642	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	72	189	0	252	1	159	72	2839	1266	417	4079	0
Arrive On Green	0.00	0.00	0.00	0.10	0.10	0.10	0.00	1.00	1.00	1.00	1.00	0.00
Sat Flow, veh/h	1268	1870	0	1781	13	1574	787	3554	1585	432	5274	0
Grp Volume(v), veh/h	0	0	0	36	0	123	0	1221	59	16	642	0
Grp Sat Flow(s),veh/h/ln	1268	1870	0	1781	0	1587	787	1777	1585	432	1702	0
Q Serve(g_s), s	0.0	0.0	0.0	1.9	0.0	7.6	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	1.9	0.0	7.6	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.00	1.00		0.99	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	72	189	0	252	0	160	72	2839	1266	417	4079	0
V/C Ratio(X)	0.00	0.00	0.00	0.14	0.00	0.77	0.00	0.43	0.05	0.04	0.16	0.00
Avail Cap(c_a), veh/h	261	468	0	517	0	397	72	2839	1266	417	4079	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	41.2	0.0	43.8	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	7.4	0.0	0.5	0.1	0.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.8	0.0	3.3	0.0	0.2	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	41.5	0.0	51.2	0.0	0.5	0.1	0.2	0.1	0.0
LnGrp LOS	A	A	A	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		0			159			1280			658	
Approach Delay, s/veh		0.0			49.0			0.5			0.1	
Approach LOS					D			A			A	

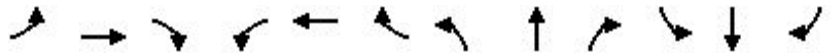
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		84.9		15.1		84.9		15.1				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		65.0		25.0		65.0		25.0				
Max Q Clear Time (g_c+I1), s		2.0		0.0		2.0		9.6				
Green Ext Time (p_c), s		12.1		0.0		5.1		0.7				

Intersection Summary												
HCM 6th Ctrl Delay			4.0									
HCM 6th LOS			A									

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	30	34	1180	16	21	612
Future Volume (veh/h)	30	34	1180	16	21	612
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	36	1242	17	22	644
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	76	67	4451	61	450	4379
Arrive On Green	0.04	0.04	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1781	1585	5359	71	441	5274
Grp Volume(v), veh/h	32	36	814	445	22	644
Grp Sat Flow(s),veh/h/ln	1781	1585	1702	1858	441	1702
Q Serve(g_s), s	1.8	2.2	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.8	2.2	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00		0.04	1.00	
Lane Grp Cap(c), veh/h	76	67	2919	1593	450	4379
V/C Ratio(X)	0.42	0.54	0.28	0.28	0.05	0.15
Avail Cap(c_a), veh/h	445	396	2919	1593	450	4379
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.7	46.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	3.7	6.5	0.2	0.4	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.0	0.1	0.2	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	50.4	53.4	0.2	0.4	0.2	0.1
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	68		1259			666
Approach Delay, s/veh	52.0		0.3			0.1
Approach LOS	D		A			A

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	90.8			90.8	9.2
Change Period (Y+Rc), s	5.0			5.0	5.0
Max Green Setting (Gmax), s	65.0			65.0	25.0
Max Q Clear Time (g_c+I1), s	2.0			2.0	4.2
Green Ext Time (p_c), s	10.8			5.2	0.1

Intersection Summary	
HCM 6th Ctrl Delay	2.0
HCM 6th LOS	A



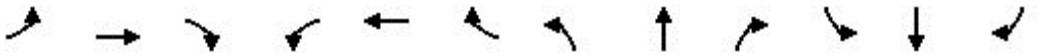
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	469	536	75	54	361	216	364	529	137	174	271	287
Future Volume (veh/h)	469	536	75	54	361	216	364	529	137	174	271	287
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	494	564	0	57	380	0	383	557	0	183	285	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	553	1603		74	1217		424	702		291	525	
Arrive On Green	0.16	0.45	0.00	0.04	0.34	0.00	0.15	0.20	0.00	0.17	0.25	0.00
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	1781	3647	0	1781	3554	1585
Grp Volume(v), veh/h	494	564	0	57	380	0	383	557	0	183	285	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1781	1777	0	1781	1777	1585
Q Serve(g_s), s	14.0	10.4	0.0	3.2	7.9	0.0	15.0	14.9	0.0	8.6	7.0	0.0
Cycle Q Clear(g_c), s	14.0	10.4	0.0	3.2	7.9	0.0	15.0	14.9	0.0	8.6	7.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	553	1603		74	1217		424	702		291	525	
V/C Ratio(X)	0.89	0.35		0.77	0.31		0.90	0.79		0.63	0.54	
Avail Cap(c_a), veh/h	553	1603		178	1217		424	1066		291	888	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.2	17.9	0.0	47.5	24.2	0.0	32.2	38.2	0.0	29.8	34.7	0.0
Incr Delay (d2), s/veh	16.8	0.6	0.0	15.7	0.7	0.0	22.1	2.4	0.0	4.2	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	4.1	0.0	1.7	3.3	0.0	4.3	6.5	0.0	3.6	2.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.0	18.5	0.0	63.2	24.9	0.0	54.3	40.6	0.0	34.0	35.6	0.0
LnGrp LOS	E	B		E	C		D	D		C	D	
Approach Vol, veh/h		1058			437			940			468	
Approach Delay, s/veh		37.0			29.9			46.2			35.0	
Approach LOS		D			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	24.8	9.1	51.1	20.0	19.8	20.0	40.2
Change Period (Y+Rc), s	5.0	5.0	5.0	6.0	5.0	5.0	5.0	6.0
Max Green Setting (Gmax), s	10.0	30.0	10.0	29.0	15.0	25.0	15.0	24.0
Max Q Clear Time (g_c+I1), s	10.0	16.9	5.2	12.4	17.0	9.0	16.0	9.9
Green Ext Time (p_c), s	0.0	2.9	0.0	3.2	0.0	1.4	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	38.6
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	18	17	167	10	109	8	300	55	93	1265	20
Future Volume (veh/h)	34	18	17	167	10	109	8	300	55	93	1265	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	19	18	176	11	115	8	316	58	98	1332	21
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	268	300	254	280	300	254	307	2285	1019	804	2629	1173
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	1.00	1.00	1.00	0.05	0.74	0.74
Sat Flow, veh/h	1265	1870	1585	1371	1870	1585	403	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	36	19	18	176	11	115	8	316	58	98	1332	21
Grp Sat Flow(s),veh/h/ln	1265	1870	1585	1371	1870	1585	403	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.5	0.9	1.0	12.5	0.5	6.6	0.2	0.0	0.0	1.7	15.6	0.3
Cycle Q Clear(g_c), s	3.0	0.9	1.0	13.4	0.5	6.6	6.1	0.0	0.0	1.7	15.6	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	268	300	254	280	300	254	307	2285	1019	804	2629	1173
V/C Ratio(X)	0.13	0.06	0.07	0.63	0.04	0.45	0.03	0.14	0.06	0.12	0.51	0.02
Avail Cap(c_a), veh/h	382	468	396	403	468	396	307	2285	1019	845	2629	1173
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.7	35.6	35.7	41.3	35.5	38.0	0.3	0.0	0.0	4.5	5.4	3.4
Incr Delay (d2), s/veh	0.2	0.1	0.1	2.3	0.0	1.3	0.2	0.1	0.1	0.1	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.4	0.4	4.3	0.2	0.1	0.0	0.0	0.0	0.5	4.4	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.0	35.7	35.8	43.6	35.5	39.3	0.4	0.1	0.1	4.5	6.1	3.5
LnGrp LOS	D	D	D	D	D	D	A	A	A	A	A	A
Approach Vol, veh/h		73			302			382			1451	
Approach Delay, s/veh		36.3			41.7			0.1			6.0	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.7	69.3		21.0		79.0		21.0				
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s	7.0	53.0		25.0		65.0		25.0				
Max Q Clear Time (g_c+I1), s	3.7	8.1		5.0		17.6		15.4				
Green Ext Time (p_c), s	0.1	2.4		0.2		13.2		0.7				

Intersection Summary												
HCM 6th Ctrl Delay			10.8									
HCM 6th LOS			B									

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	15	35	390	1545	55
Future Volume (veh/h)	15	15	35	390	1545	55
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	16	38	429	1698	60
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	52	47	309	4445	4408	156
Arrive On Green	0.03	0.03	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1781	1585	273	5274	5232	179
Grp Volume(v), veh/h	16	16	38	429	1141	617
Grp Sat Flow(s),veh/h/ln	1781	1585	273	1702	1702	1838
Q Serve(g_s), s	0.9	1.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.9	1.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00	1.00			0.10
Lane Grp Cap(c), veh/h	52	47	309	4445	2963	1600
V/C Ratio(X)	0.31	0.34	0.12	0.10	0.39	0.39
Avail Cap(c_a), veh/h	445	396	309	4445	2963	1600
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.5	47.6	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	3.2	4.3	0.8	0.0	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.4	0.1	0.0	0.2	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	50.7	51.9	0.8	0.0	0.4	0.7
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	32			467	1758	
Approach Delay, s/veh	51.3			0.1	0.5	
Approach LOS	D			A	A	

Timer - Assigned Phs	2		4		6
Phs Duration (G+Y+Rc), s	92.1		7.9		92.1
Change Period (Y+Rc), s	5.0		5.0		5.0
Max Green Setting (Gmax), s	65.0		25.0		65.0
Max Q Clear Time (g_c+I1), s	2.0		3.0		2.0
Green Ext Time (p_c), s	4.4		0.1		19.5

Intersection Summary	
HCM 6th Ctrl Delay	1.1
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	0.3

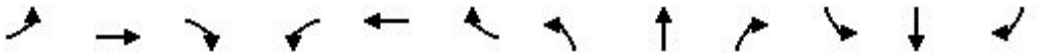
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	1	10	5	1	5	29	450	5	5	1555	3
Future Vol, veh/h	3	1	10	5	1	5	29	450	5	5	1555	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	1	11	5	1	5	31	474	5	5	1637	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1901	2190	820	1204	2189	240	1640	0	0	479	0	0
Stage 1	1649	1649	-	539	539	-	-	-	-	-	-	-
Stage 2	252	541	-	665	1650	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	*504	*379	*575	*504	*380	*834	*722	-	-	968	-	-
Stage 1	*590	*561	-	*690	*707	-	-	-	-	-	-	-
Stage 2	*855	*705	-	*590	*561	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1	1	1	-	-	1	-	-
Mov Cap-1 Maneuver	*481	*360	*575	*476	*361	*834	*722	-	-	968	-	-
Mov Cap-2 Maneuver	*481	*360	-	*476	*361	-	-	-	-	-	-	-
Stage 1	*564	*558	-	*660	*677	-	-	-	-	-	-	-
Stage 2	*812	*675	-	*575	*558	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12	11.4	0.6	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	* 722	-	-	530	571	968	-	-
HCM Lane V/C Ratio	0.042	-	-	0.028	0.02	0.005	-	-
HCM Control Delay (s)	10.2	-	-	12	11.4	8.7	-	-
HCM Lane LOS	B	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.1	0	-	-

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	20	0	28	0	450	29	33	1530	0
Future Volume (veh/h)	0	0	0	20	0	28	0	450	29	33	1530	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	21	0	29	0	474	31	35	1611	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	72	70	0	139	0	59	72	3065	1367	843	4404	0
Arrive On Green	0.00	0.00	0.00	0.04	0.00	0.04	0.00	1.00	1.00	1.00	1.00	0.00
Sat Flow, veh/h	1381	1870	0	1781	0	1585	314	3554	1585	894	5274	0
Grp Volume(v), veh/h	0	0	0	21	0	29	0	474	31	35	1611	0
Grp Sat Flow(s),veh/h/ln	1381	1870	0	1781	0	1585	314	1777	1585	894	1702	0
Q Serve(g_s), s	0.0	0.0	0.0	1.1	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	1.1	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	72	70	0	139	0	59	72	3065	1367	843	4404	0
V/C Ratio(X)	0.00	0.00	0.00	0.15	0.00	0.49	0.00	0.15	0.02	0.04	0.37	0.00
Avail Cap(c_a), veh/h	365	468	0	517	0	396	72	3065	1367	843	4404	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	46.9	0.0	47.2	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.5	0.0	6.1	0.0	0.1	0.0	0.1	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.5	0.0	0.8	0.0	0.0	0.0	0.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	47.4	0.0	53.2	0.0	0.1	0.0	0.1	0.2	0.0
LnGrp LOS	A	A	A	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		0			50			505			1646	
Approach Delay, s/veh		0.0			50.8			0.1			0.2	
Approach LOS					D			A			A	

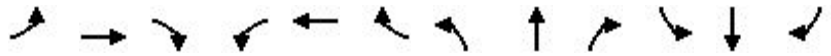
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		91.2		8.8		91.2		8.8				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		65.0		25.0		65.0		25.0				
Max Q Clear Time (g_c+I1), s		2.0		0.0		2.0		3.8				
Green Ext Time (p_c), s		3.4		0.0		18.5		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			1.4									
HCM 6th LOS			A									

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	28	450	23	28	1525
Future Volume (veh/h)	11	28	450	23	28	1525
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	29	474	24	29	1605
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	61	70	4312	217	851	4422
Arrive On Green	0.03	0.04	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1781	1585	5147	250	900	5274
Grp Volume(v), veh/h	12	29	323	175	29	1605
Grp Sat Flow(s),veh/h/ln	1781	1585	1702	1825	900	1702
Q Serve(g_s), s	0.7	1.8	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.7	1.8	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00		0.14	1.00	
Lane Grp Cap(c), veh/h	61	70	2948	1581	851	4422
V/C Ratio(X)	0.20	0.42	0.11	0.11	0.03	0.36
Avail Cap(c_a), veh/h	445	412	2948	1581	851	4422
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.0	46.5	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.6	3.9	0.1	0.1	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.8	0.0	0.1	0.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	48.6	50.5	0.1	0.1	0.1	0.2
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	41		498			1634
Approach Delay, s/veh	49.9		0.1			0.2
Approach LOS	D		A			A

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	91.6			91.6	8.4
Change Period (Y+Rc), s	5.0			5.0	5.0
Max Green Setting (Gmax), s	65.0			65.0	25.0
Max Q Clear Time (g_c+I1), s	2.0			2.0	3.8
Green Ext Time (p_c), s	3.2			18.3	0.1

Intersection Summary	
HCM 6th Ctrl Delay	1.1
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	285	335	275	145	350	81	85	130	33	450	595	490
Future Volume (veh/h)	285	335	275	145	350	81	85	130	33	450	595	490
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	300	353	0	153	368	0	89	137	0	474	626	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	380	1465		196	1465		222	276		510	774	
Arrive On Green	0.11	0.41	0.00	0.11	0.41	0.00	0.06	0.08	0.00	0.28	0.29	0.00
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	1781	3647	0	1781	3554	1585
Grp Volume(v), veh/h	300	353	0	153	368	0	89	137	0	474	626	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1781	1777	0	1781	1777	1585
Q Serve(g_s), s	8.5	6.5	0.0	8.4	6.8	0.0	4.5	3.7	0.0	21.0	16.3	0.0
Cycle Q Clear(g_c), s	8.5	6.5	0.0	8.4	6.8	0.0	4.5	3.7	0.0	21.0	16.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	380	1465		196	1465		222	276		510	774	
V/C Ratio(X)	0.79	0.24		0.78	0.25		0.40	0.50		0.93	0.81	
Avail Cap(c_a), veh/h	380	1465		196	1465		240	711		510	1173	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	43.4	19.2	0.0	43.3	19.3	0.0	39.2	44.2	0.0	30.4	33.6	0.0
Incr Delay (d2), s/veh	10.7	0.4	0.0	18.1	0.4	0.0	1.2	1.4	0.0	23.8	2.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	2.6	0.0	4.6	2.8	0.0	2.0	1.6	0.0	12.8	6.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.0	19.6	0.0	61.5	19.7	0.0	40.3	45.6	0.0	54.2	36.2	0.0
LnGrp LOS	D	B		E	B		D	D		D	D	
Approach Vol, veh/h		653			521			226			1100	
Approach Delay, s/veh		35.4			32.0			43.5			43.9	
Approach LOS		D			C			D			D	

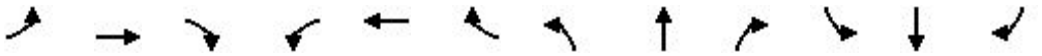
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	12.8	15.0	47.2	11.0	26.8	15.0	47.2
Change Period (Y+Rc), s	5.0	5.0	5.0	6.0	5.0	5.0	5.0	6.0
Max Green Setting (Gmax), s	20.0	20.0	10.0	29.0	7.0	33.0	10.0	29.0
Max Q Clear Time (g_c+I1), s	23.0	5.7	10.4	8.5	6.5	18.3	10.5	8.8
Green Ext Time (p_c), s	0.0	0.5	0.0	2.0	0.0	3.4	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	39.2
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	4	5	65	2	93	8	1035	102	107	475	34
Future Volume (veh/h)	28	4	5	65	2	93	8	1035	102	107	475	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	4	5	68	2	98	8	1089	107	113	500	36
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	180	157	133	188	157	133	696	2551	1138	493	2899	1293
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	1.00	1.00	1.00	0.05	0.82	0.82
Sat Flow, veh/h	1295	1870	1585	1406	1870	1585	869	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	29	4	5	68	2	98	8	1089	107	113	500	36
Grp Sat Flow(s),veh/h/ln	1295	1870	1585	1406	1870	1585	869	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.1	0.2	0.3	4.7	0.1	6.0	0.0	0.0	0.0	1.5	3.0	0.4
Cycle Q Clear(g_c), s	2.2	0.2	0.3	4.9	0.1	6.0	0.0	0.0	0.0	1.5	3.0	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	180	157	133	188	157	133	696	2551	1138	493	2899	1293
V/C Ratio(X)	0.16	0.03	0.04	0.36	0.01	0.73	0.01	0.43	0.09	0.23	0.17	0.03
Avail Cap(c_a), veh/h	394	468	396	421	468	396	696	2551	1138	533	2899	1293
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.0	42.0	42.1	44.3	42.0	44.7	0.0	0.0	0.0	2.5	2.0	1.7
Incr Delay (d2), s/veh	0.4	0.1	0.1	1.2	0.0	7.6	0.0	0.5	0.2	0.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.1	0.1	1.7	0.0	2.6	0.0	0.2	0.1	0.3	0.6	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.4	42.1	42.2	45.4	42.0	52.3	0.0	0.5	0.2	2.7	2.1	1.8
LnGrp LOS	D	D	D	D	D	D	A	A	A	A	A	A
Approach Vol, veh/h		38			168			1204			649	
Approach Delay, s/veh		43.1			49.4			0.5			2.2	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.8	76.8		13.4		86.6		13.4				
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s	7.0	53.0		25.0		65.0		25.0				
Max Q Clear Time (g_c+I1), s	3.5	2.0		4.2		5.0		8.0				
Green Ext Time (p_c), s	0.1	10.2		0.1		3.6		0.4				

Intersection Summary												
HCM 6th Ctrl Delay			5.8									
HCM 6th LOS			A									

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	30	15	5	1215	595	5
Future Volume (veh/h)	30	15	5	1215	595	5
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	31	16	5	1266	620	5
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	65	58	763	4409	4512	36
Arrive On Green	0.04	0.04	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1781	1585	800	5274	5393	42
Grp Volume(v), veh/h	31	16	5	1266	404	221
Grp Sat Flow(s),veh/h/ln	1781	1585	800	1702	1702	1863
Q Serve(g_s), s	1.7	1.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.7	1.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00	1.00			0.02
Lane Grp Cap(c), veh/h	65	58	763	4409	2940	1609
V/C Ratio(X)	0.48	0.28	0.01	0.29	0.14	0.14
Avail Cap(c_a), veh/h	445	396	763	4409	2940	1609
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.2	46.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	5.4	2.6	0.0	0.2	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.4	0.0	0.1	0.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	52.6	49.5	0.0	0.2	0.1	0.2
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	47			1271	625	
Approach Delay, s/veh	51.5			0.2	0.1	
Approach LOS	D			A	A	

Timer - Assigned Phs	2		4		6
Phs Duration (G+Y+Rc), s	91.4		8.6		91.4
Change Period (Y+Rc), s	5.0		5.0		5.0
Max Green Setting (Gmax), s	65.0		25.0		65.0
Max Q Clear Time (g_c+I1), s	2.0		3.7		2.0
Green Ext Time (p_c), s	12.0		0.1		4.2

Intersection Summary	
HCM 6th Ctrl Delay	1.4
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	0.3

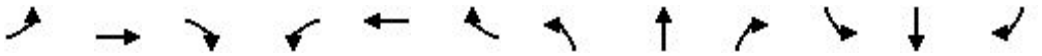
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	1	15	5	1	5	17	1300	5	5	630	3
Future Vol, veh/h	4	1	15	5	1	5	17	1300	5	5	630	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	1	16	5	1	5	18	1368	5	5	663	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1259	2084	333	1683	2083	687	666	0	0	1373	0	0
Stage 1	675	675	-	1407	1407	-	-	-	-	-	-	-
Stage 2	584	1409	-	276	676	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	*564	*124	*782	*270	*124	*626	981	-	-	*787	-	-
Stage 1	*788	*754	-	*643	*611	-	-	-	-	-	-	-
Stage 2	*643	*611	-	*802	*753	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1	1	1	-	-	1	-	-
Mov Cap-1 Maneuver	*545	*121	*782	*258	*121	*626	981	-	-	*787	-	-
Mov Cap-2 Maneuver	*545	*121	-	*258	*121	-	-	-	-	-	-	-
Stage 1	*774	*749	-	*631	*600	-	-	-	-	-	-	-
Stage 2	*625	*600	-	*780	*748	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.5	17.1	0.1	0.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	981	-	-	575	309	* 787	-	-
HCM Lane V/C Ratio	0.018	-	-	0.037	0.037	0.007	-	-
HCM Control Delay (s)	8.7	-	-	11.5	17.1	9.6	-	-
HCM Lane LOS	A	-	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.1	0	-	-

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	36	0	120	0	1195	58	16	630	0
Future Volume (veh/h)	0	0	0	36	0	120	0	1195	58	16	630	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	38	0	126	0	1258	61	17	663	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	72	193	0	256	0	164	72	2831	1263	404	4068	0
Arrive On Green	0.00	0.00	0.00	0.10	0.00	0.10	0.00	1.00	1.00	1.00	1.00	0.00
Sat Flow, veh/h	1265	1870	0	1781	0	1585	772	3554	1585	416	5274	0
Grp Volume(v), veh/h	0	0	0	38	0	126	0	1258	61	17	663	0
Grp Sat Flow(s),veh/h/ln	1265	1870	0	1781	0	1585	772	1777	1585	416	1702	0
Q Serve(g_s), s	0.0	0.0	0.0	2.0	0.0	7.7	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	2.0	0.0	7.7	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	72	193	0	256	0	164	72	2831	1263	404	4068	0
V/C Ratio(X)	0.00	0.00	0.00	0.15	0.00	0.77	0.00	0.44	0.05	0.04	0.16	0.00
Avail Cap(c_a), veh/h	257	468	0	517	0	396	72	2831	1263	404	4068	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	41.1	0.0	43.7	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	7.4	0.0	0.5	0.1	0.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.9	0.0	3.4	0.0	0.2	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	41.3	0.0	51.1	0.0	0.5	0.1	0.2	0.1	0.0
LnGrp LOS	A	A	A	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		0			164			1319			680	
Approach Delay, s/veh		0.0			48.8			0.5			0.1	
Approach LOS					D			A			A	

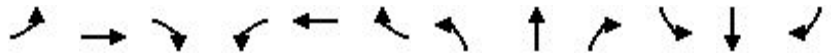
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		84.7		15.3		84.7		15.3				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		65.0		25.0		65.0		25.0				
Max Q Clear Time (g_c+I1), s		2.0		0.0		2.0		9.7				
Green Ext Time (p_c), s		12.8		0.0		5.3		0.7				

Intersection Summary												
HCM 6th Ctrl Delay			4.0									
HCM 6th LOS			A									

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	31	35	1215	17	22	630
Future Volume (veh/h)	31	35	1215	17	22	630
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	37	1279	18	23	663
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	76	68	4447	63	436	4377
Arrive On Green	0.04	0.04	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1781	1585	5357	73	425	5274
Grp Volume(v), veh/h	33	37	839	458	23	663
Grp Sat Flow(s),veh/h/ln	1781	1585	1702	1857	425	1702
Q Serve(g_s), s	1.8	2.3	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.8	2.3	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00		0.04	1.00	
Lane Grp Cap(c), veh/h	76	68	2918	1592	436	4377
V/C Ratio(X)	0.43	0.54	0.29	0.29	0.05	0.15
Avail Cap(c_a), veh/h	445	396	2918	1592	436	4377
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.7	46.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	3.8	6.6	0.2	0.5	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.0	0.1	0.2	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	50.5	53.5	0.2	0.5	0.2	0.1
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	70		1297			686
Approach Delay, s/veh	52.1		0.3			0.1
Approach LOS	D		A			A

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	90.7			90.7	9.3
Change Period (Y+Rc), s	5.0			5.0	5.0
Max Green Setting (Gmax), s	65.0			65.0	25.0
Max Q Clear Time (g_c+I1), s	2.0			2.0	4.3
Green Ext Time (p_c), s	11.3			5.4	0.2

Intersection Summary	
HCM 6th Ctrl Delay	2.0
HCM 6th LOS	A



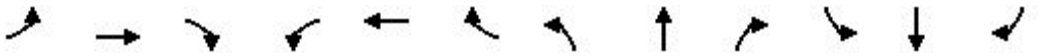
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	485	500	77	56	370	225	375	545	140	180	280	295
Future Volume (veh/h)	485	500	77	56	370	225	375	545	140	180	280	295
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	511	526	0	59	389	0	395	574	0	189	295	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	553	1580		76	1199		427	720		291	542	
Arrive On Green	0.16	0.44	0.00	0.04	0.34	0.00	0.15	0.20	0.00	0.17	0.25	0.00
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	1781	3647	0	1781	3554	1585
Grp Volume(v), veh/h	511	526	0	59	389	0	395	574	0	189	295	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1781	1777	0	1781	1777	1585
Q Serve(g_s), s	14.6	9.6	0.0	3.3	8.1	0.0	15.0	15.4	0.0	8.9	7.2	0.0
Cycle Q Clear(g_c), s	14.6	9.6	0.0	3.3	8.1	0.0	15.0	15.4	0.0	8.9	7.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	553	1580		76	1199		427	720		291	542	
V/C Ratio(X)	0.92	0.33		0.77	0.32		0.93	0.80		0.65	0.54	
Avail Cap(c_a), veh/h	553	1580		178	1199		427	1066		291	888	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.4	18.1	0.0	47.4	24.7	0.0	32.4	37.9	0.0	29.6	34.2	0.0
Incr Delay (d2), s/veh	21.5	0.6	0.0	15.2	0.7	0.0	26.0	2.6	0.0	5.0	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	3.9	0.0	1.7	3.4	0.0	5.2	6.7	0.0	3.8	2.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.9	18.7	0.0	62.6	25.4	0.0	58.4	40.6	0.0	34.5	35.1	0.0
LnGrp LOS	E	B		E	C		E	D		C	D	
Approach Vol, veh/h		1037			448			969			484	
Approach Delay, s/veh		40.5			30.3			47.8			34.9	
Approach LOS		D			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	25.3	9.3	50.5	20.0	20.3	20.0	39.7
Change Period (Y+Rc), s	5.0	5.0	5.0	6.0	5.0	5.0	5.0	6.0
Max Green Setting (Gmax), s	10.0	30.0	10.0	29.0	15.0	25.0	15.0	24.0
Max Q Clear Time (g_c+I1), s	10.9	17.4	5.3	11.6	17.0	9.2	16.6	10.1
Green Ext Time (p_c), s	0.0	2.9	0.0	3.0	0.0	1.5	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	40.4
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	18	17	167	10	109	8	313	55	93	1272	20
Future Volume (veh/h)	34	18	17	167	10	109	8	313	55	93	1272	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	19	18	176	11	115	8	329	58	98	1339	21
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	268	300	254	280	300	254	305	2285	1019	796	2629	1173
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	1.00	1.00	1.00	0.05	0.74	0.74
Sat Flow, veh/h	1265	1870	1585	1371	1870	1585	400	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	36	19	18	176	11	115	8	329	58	98	1339	21
Grp Sat Flow(s),veh/h/ln	1265	1870	1585	1371	1870	1585	400	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.5	0.9	1.0	12.5	0.5	6.6	0.2	0.0	0.0	1.7	15.7	0.3
Cycle Q Clear(g_c), s	3.0	0.9	1.0	13.4	0.5	6.6	6.3	0.0	0.0	1.7	15.7	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	268	300	254	280	300	254	305	2285	1019	796	2629	1173
V/C Ratio(X)	0.13	0.06	0.07	0.63	0.04	0.45	0.03	0.14	0.06	0.12	0.51	0.02
Avail Cap(c_a), veh/h	382	468	396	403	468	396	305	2285	1019	838	2629	1173
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.7	35.6	35.7	41.3	35.5	38.0	0.3	0.0	0.0	4.5	5.4	3.4
Incr Delay (d2), s/veh	0.2	0.1	0.1	2.3	0.0	1.3	0.2	0.1	0.1	0.1	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.4	0.4	4.3	0.2	0.1	0.0	0.0	0.0	0.5	4.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.0	35.7	35.8	43.6	35.5	39.3	0.5	0.1	0.1	4.5	6.1	3.5
LnGrp LOS	D	D	D	D	D	D	A	A	A	A	A	A
Approach Vol, veh/h		73			302			395			1458	
Approach Delay, s/veh		36.3			41.7			0.1			6.0	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.7	69.3		21.0		79.0		21.0				
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s	7.0	53.0		25.0		65.0		25.0				
Max Q Clear Time (g_c+I1), s	3.7	8.3		5.0		17.7		15.4				
Green Ext Time (p_c), s	0.1	2.5		0.2		13.4		0.7				

Intersection Summary												
HCM 6th Ctrl Delay			10.8									
HCM 6th LOS			B									

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	15	35	403	1552	55
Future Volume (veh/h)	15	15	35	403	1552	55
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	16	38	443	1705	60
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	52	47	308	4445	4409	155
Arrive On Green	0.03	0.03	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1781	1585	271	5274	5233	178
Grp Volume(v), veh/h	16	16	38	443	1146	619
Grp Sat Flow(s),veh/h/ln	1781	1585	271	1702	1702	1838
Q Serve(g_s), s	0.9	1.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.9	1.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00	1.00			0.10
Lane Grp Cap(c), veh/h	52	47	308	4445	2963	1600
V/C Ratio(X)	0.31	0.34	0.12	0.10	0.39	0.39
Avail Cap(c_a), veh/h	445	396	308	4445	2963	1600
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.5	47.6	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	3.2	4.3	0.8	0.0	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.4	0.1	0.0	0.2	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	50.7	51.9	0.8	0.0	0.4	0.7
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	32			481	1765	
Approach Delay, s/veh	51.3			0.1	0.5	
Approach LOS	D			A	A	

Timer - Assigned Phs	2		4		6
Phs Duration (G+Y+Rc), s	92.1		7.9		92.1
Change Period (Y+Rc), s	5.0		5.0		5.0
Max Green Setting (Gmax), s	65.0		25.0		65.0
Max Q Clear Time (g_c+I1), s	2.0		3.0		2.0
Green Ext Time (p_c), s	4.5		0.1		19.7

Intersection Summary	
HCM 6th Ctrl Delay	1.1
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	0.3

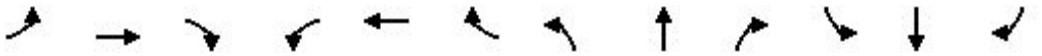
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	1	10	5	1	5	29	463	5	5	1562	3
Future Vol, veh/h	3	1	10	5	1	5	29	463	5	5	1562	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	1	11	5	1	5	31	487	5	5	1644	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1913	2210	824	1220	2209	246	1647	0	0	492	0	0
Stage 1	1656	1656	-	552	552	-	-	-	-	-	-	-
Stage 2	257	554	-	668	1657	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	*504	*361	*575	*504	*362	*834	*722	-	-	954	-	-
Stage 1	*590	*561	-	*675	*697	-	-	-	-	-	-	-
Stage 2	*855	*695	-	*590	*561	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1	1	1	-	-	1	-	-
Mov Cap-1 Maneuver	*481	*344	*575	*476	*345	*834	*722	-	-	954	-	-
Mov Cap-2 Maneuver	*481	*344	-	*476	*345	-	-	-	-	-	-	-
Stage 1	*564	*558	-	*646	*667	-	-	-	-	-	-	-
Stage 2	*812	*665	-	*575	*558	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12	11.5	0.6	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	* 722	-	-	528	567	954	-	-
HCM Lane V/C Ratio	0.042	-	-	0.028	0.02	0.006	-	-
HCM Control Delay (s)	10.2	-	-	12	11.5	8.8	-	-
HCM Lane LOS	B	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.1	0	-	-

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	0	25	20	0	28	45	422	29	33	1475	62
Future Volume (veh/h)	41	0	25	20	0	28	45	422	29	33	1475	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	0	26	21	0	29	47	444	31	35	1553	65
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	141	0	106	143	0	106	332	2960	1320	837	4186	175
Arrive On Green	0.07	0.00	0.07	0.07	0.00	0.07	1.00	1.00	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1381	0	1585	1385	0	1585	312	3554	1585	919	5026	210
Grp Volume(v), veh/h	43	0	26	21	0	29	47	444	31	35	1052	566
Grp Sat Flow(s),veh/h/ln	1381	0	1585	1385	0	1585	312	1777	1585	919	1702	1832
Q Serve(g_s), s	3.1	0.0	1.6	1.5	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.8	0.0	1.6	3.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.11
Lane Grp Cap(c), veh/h	141	0	106	143	0	106	332	2960	1320	837	2835	1526
V/C Ratio(X)	0.31	0.00	0.24	0.15	0.00	0.27	0.14	0.15	0.02	0.04	0.37	0.37
Avail Cap(c_a), veh/h	393	0	396	397	0	396	332	2960	1320	837	2835	1526
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.6	0.0	44.2	45.7	0.0	44.3	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	1.2	0.5	0.0	1.4	0.9	0.1	0.0	0.1	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.6	0.5	0.0	0.7	0.1	0.0	0.0	0.0	0.1	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.8	0.0	45.4	46.1	0.0	45.7	0.9	0.1	0.0	0.1	0.4	0.7
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		69			50			522			1653	
Approach Delay, s/veh		46.9			45.9			0.2			0.5	
Approach LOS		D			D			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		88.3		11.7		88.3		11.7				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		65.0		25.0		65.0		25.0				
Max Q Clear Time (g_c+I1), s		2.0		6.8		2.0		5.0				
Green Ext Time (p_c), s		4.5		0.2		17.2		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			2.8									
HCM 6th LOS			A									

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	11	28	467	23	28	1555
Future Volume (veh/h)	11	28	467	23	28	1555
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	12	29	492	24	29	1637
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	61	70	4321	209	838	4422
Arrive On Green	0.03	0.04	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1781	1585	5157	242	885	5274
Grp Volume(v), veh/h	12	29	335	181	29	1637
Grp Sat Flow(s),veh/h/ln	1781	1585	1702	1827	885	1702
Q Serve(g_s), s	0.7	1.8	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.7	1.8	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00		0.13	1.00	
Lane Grp Cap(c), veh/h	61	70	2948	1582	838	4422
V/C Ratio(X)	0.20	0.42	0.11	0.11	0.03	0.37
Avail Cap(c_a), veh/h	445	412	2948	1582	838	4422
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.0	46.5	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.6	3.9	0.1	0.1	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.8	0.0	0.1	0.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	48.6	50.5	0.1	0.1	0.1	0.2
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	41		516			1666
Approach Delay, s/veh	49.9		0.1			0.2
Approach LOS	D		A			A

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	91.6			91.6	8.4
Change Period (Y+Rc), s	5.0			5.0	5.0
Max Green Setting (Gmax), s	65.0			65.0	25.0
Max Q Clear Time (g_c+I1), s	2.0			2.0	3.8
Green Ext Time (p_c), s	3.4			19.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	1.1
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	290	335	275	145	350	83	85	140	33	454	612	499
Future Volume (veh/h)	290	335	275	145	350	83	85	140	33	454	612	499
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	305	353	0	153	368	0	89	147	0	478	644	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	380	1448		196	1448		222	294		512	792	
Arrive On Green	0.11	0.41	0.00	0.11	0.41	0.00	0.06	0.08	0.00	0.28	0.30	0.00
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	1781	3647	0	1781	3554	1585
Grp Volume(v), veh/h	305	353	0	153	368	0	89	147	0	478	644	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1781	1777	0	1781	1777	1585
Q Serve(g_s), s	8.6	6.5	0.0	8.4	6.8	0.0	4.5	4.0	0.0	21.0	16.8	0.0
Cycle Q Clear(g_c), s	8.6	6.5	0.0	8.4	6.8	0.0	4.5	4.0	0.0	21.0	16.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	380	1448		196	1448		222	294		512	792	
V/C Ratio(X)	0.80	0.24		0.78	0.25		0.40	0.50		0.93	0.81	
Avail Cap(c_a), veh/h	380	1448		196	1448		240	711		512	1173	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	43.4	19.5	0.0	43.3	19.6	0.0	38.8	43.9	0.0	30.1	33.2	0.0
Incr Delay (d2), s/veh	11.7	0.4	0.0	18.1	0.4	0.0	1.2	1.3	0.0	24.4	2.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	2.7	0.0	4.6	2.8	0.0	2.0	1.8	0.0	12.9	6.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.2	19.9	0.0	61.5	20.0	0.0	39.9	45.2	0.0	54.5	36.0	0.0
LnGrp LOS	E	B		E	C		D	D		D	D	
Approach Vol, veh/h		658			521			236			1122	
Approach Delay, s/veh		36.2			32.2			43.2			43.9	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	13.3	15.0	46.7	11.0	27.3	15.0	46.7
Change Period (Y+Rc), s	5.0	5.0	5.0	6.0	5.0	5.0	5.0	6.0
Max Green Setting (Gmax), s	20.0	20.0	10.0	29.0	7.0	33.0	10.0	29.0
Max Q Clear Time (g_c+I1), s	23.0	6.0	10.4	8.5	6.5	18.8	10.6	8.8
Green Ext Time (p_c), s	0.0	0.6	0.0	2.0	0.0	3.5	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	39.5
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.3

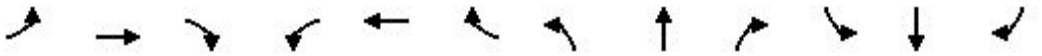
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	60	0	497	1520	0
Future Vol, veh/h	0	60	0	497	1520	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	63	0	523	1600	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	800	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	*588	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %		1		-	-	
Mov Cap-1 Maneuver	-	*588	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	588	-
HCM Lane V/C Ratio	-	0.107	-
HCM Control Delay (s)	-	11.9	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	0.4	-

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	4	5	65	2	93	8	1042	102	107	486	34
Future Volume (veh/h)	28	4	5	65	2	93	8	1042	102	107	486	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	4	5	68	2	98	8	1097	107	113	512	36
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	180	157	133	188	157	133	689	2551	1138	491	2899	1293
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	1.00	1.00	1.00	0.05	0.82	0.82
Sat Flow, veh/h	1295	1870	1585	1406	1870	1585	859	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	29	4	5	68	2	98	8	1097	107	113	512	36
Grp Sat Flow(s),veh/h/ln	1295	1870	1585	1406	1870	1585	859	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.1	0.2	0.3	4.7	0.1	6.0	0.0	0.0	0.0	1.5	3.1	0.4
Cycle Q Clear(g_c), s	2.2	0.2	0.3	4.9	0.1	6.0	0.0	0.0	0.0	1.5	3.1	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	180	157	133	188	157	133	689	2551	1138	491	2899	1293
V/C Ratio(X)	0.16	0.03	0.04	0.36	0.01	0.73	0.01	0.43	0.09	0.23	0.18	0.03
Avail Cap(c_a), veh/h	394	468	396	421	468	396	689	2551	1138	530	2899	1293
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.0	42.0	42.1	44.3	42.0	44.7	0.0	0.0	0.0	2.5	2.0	1.7
Incr Delay (d2), s/veh	0.4	0.1	0.1	1.2	0.0	7.6	0.0	0.5	0.2	0.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.1	0.1	1.7	0.0	2.6	0.0	0.2	0.1	0.3	0.6	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.4	42.1	42.2	45.4	42.0	52.3	0.0	0.5	0.2	2.7	2.1	1.8
LnGrp LOS	D	D	D	D	D	D	A	A	A	A	A	A
Approach Vol, veh/h		38			168			1212			661	
Approach Delay, s/veh		43.1			49.4			0.5			2.2	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.8	76.8		13.4		86.6		13.4				
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s	7.0	53.0		25.0		65.0		25.0				
Max Q Clear Time (g_c+I1), s	3.5	2.0		4.2		5.1		8.0				
Green Ext Time (p_c), s	0.1	10.4		0.1		3.7		0.4				

Intersection Summary												
HCM 6th Ctrl Delay			5.8									
HCM 6th LOS			A									

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	30	15	5	1222	606	5
Future Volume (veh/h)	30	15	5	1222	606	5
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	31	16	5	1273	631	5
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	65	58	756	4409	4513	36
Arrive On Green	0.04	0.04	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1781	1585	792	5274	5394	41
Grp Volume(v), veh/h	31	16	5	1273	411	225
Grp Sat Flow(s),veh/h/ln	1781	1585	792	1702	1702	1863
Q Serve(g_s), s	1.7	1.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.7	1.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00	1.00			0.02
Lane Grp Cap(c), veh/h	65	58	756	4409	2940	1609
V/C Ratio(X)	0.48	0.28	0.01	0.29	0.14	0.14
Avail Cap(c_a), veh/h	445	396	756	4409	2940	1609
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.2	46.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	5.4	2.6	0.0	0.2	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.4	0.0	0.1	0.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	52.6	49.5	0.0	0.2	0.1	0.2
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	47			1278	636	
Approach Delay, s/veh	51.5			0.2	0.1	
Approach LOS	D			A	A	

Timer - Assigned Phs	2		4		6
Phs Duration (G+Y+Rc), s	91.4		8.6		91.4
Change Period (Y+Rc), s	5.0		5.0		5.0
Max Green Setting (Gmax), s	65.0		25.0		65.0
Max Q Clear Time (g_c+I1), s	2.0		3.7		2.0
Green Ext Time (p_c), s	12.1		0.1		4.3

Intersection Summary	
HCM 6th Ctrl Delay	1.4
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	0.3

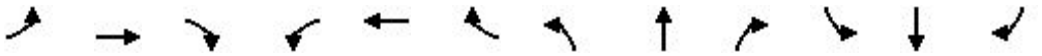
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	1	15	5	1	5	17	1307	5	5	641	3
Future Vol, veh/h	4	1	15	5	1	5	17	1307	5	5	641	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	1	16	5	1	5	18	1376	5	5	675	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1274	2104	339	1696	2103	691	678	0	0	1381	0	0
Stage 1	687	687	-	1415	1415	-	-	-	-	-	-	-
Stage 2	587	1417	-	281	688	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	*550	*119	*782	*264	*119	*626	967	-	-	*787	-	-
Stage 1	*771	*743	-	*643	*611	-	-	-	-	-	-	-
Stage 2	*643	*611	-	*802	*743	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1	1	1	-	-	1	-	-
Mov Cap-1 Maneuver	*531	*116	*782	*252	*116	*626	967	-	-	*787	-	-
Mov Cap-2 Maneuver	*531	*116	-	*252	*116	-	-	-	-	-	-	-
Stage 1	*756	*739	-	*630	*600	-	-	-	-	-	-	-
Stage 2	*624	*600	-	*780	*738	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.6	17.4	0.1	0.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	967	-	-	566	302	* 787	-	-
HCM Lane V/C Ratio	0.019	-	-	0.037	0.038	0.007	-	-
HCM Control Delay (s)	8.8	-	-	11.6	17.4	9.6	-	-
HCM Lane LOS	A	-	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.1	0	-	-

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	0	11	36	0	120	34	1185	58	16	610	31
Future Volume (veh/h)	17	0	11	36	0	120	34	1185	58	16	610	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	0	12	38	0	126	36	1247	61	17	642	33
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	115	0	175	218	0	175	675	2805	1251	404	3926	201
Arrive On Green	0.11	0.00	0.11	0.11	0.00	0.11	1.00	1.00	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1265	0	1585	1402	0	1585	764	3554	1585	421	4974	254
Grp Volume(v), veh/h	18	0	12	38	0	126	36	1247	61	17	438	237
Grp Sat Flow(s),veh/h/ln	1265	0	1585	1402	0	1585	764	1777	1585	421	1702	1825
Q Serve(g_s), s	1.4	0.0	0.7	2.5	0.0	7.7	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	9.1	0.0	0.7	3.2	0.0	7.7	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	115	0	175	218	0	175	675	2805	1251	404	2687	1440
V/C Ratio(X)	0.16	0.00	0.07	0.17	0.00	0.72	0.05	0.44	0.05	0.04	0.16	0.16
Avail Cap(c_a), veh/h	291	0	396	413	0	396	675	2805	1251	404	2687	1440
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.3	0.0	39.8	41.3	0.0	43.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.2	0.4	0.0	5.4	0.2	0.5	0.1	0.2	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.3	0.9	0.0	3.3	0.0	0.2	0.0	0.0	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.0	0.0	40.0	41.6	0.0	48.4	0.2	0.5	0.1	0.2	0.1	0.2
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		30			164			1344			692	
Approach Delay, s/veh		44.8			46.8			0.5			0.2	
Approach LOS		D			D			A			A	

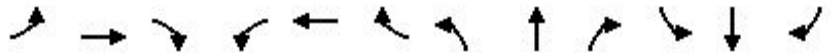
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		83.9		16.1		83.9		16.1				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		65.0		25.0		65.0		25.0				
Max Q Clear Time (g_c+I1), s		2.0		11.1		2.0		9.7				
Green Ext Time (p_c), s		13.1		0.0		5.0		0.7				

Intersection Summary												
HCM 6th Ctrl Delay			4.4									
HCM 6th LOS			A									

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	31	35	1239	17	22	648
Future Volume (veh/h)	31	35	1239	17	22	648
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	37	1304	18	23	682
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	76	68	4449	61	428	4377
Arrive On Green	0.04	0.04	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1781	1585	5358	72	415	5274
Grp Volume(v), veh/h	33	37	855	467	23	682
Grp Sat Flow(s),veh/h/ln	1781	1585	1702	1857	415	1702
Q Serve(g_s), s	1.8	2.3	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.8	2.3	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00		0.04	1.00	
Lane Grp Cap(c), veh/h	76	68	2918	1592	428	4377
V/C Ratio(X)	0.43	0.54	0.29	0.29	0.05	0.16
Avail Cap(c_a), veh/h	445	396	2918	1592	428	4377
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.7	46.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	3.8	6.6	0.3	0.5	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.0	0.1	0.2	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	50.5	53.5	0.3	0.5	0.2	0.1
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	70		1322			705
Approach Delay, s/veh	52.1		0.3			0.1
Approach LOS	D		A			A

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	90.7			90.7	9.3
Change Period (Y+Rc), s	5.0			5.0	5.0
Max Green Setting (Gmax), s	65.0			65.0	25.0
Max Q Clear Time (g_c+I1), s	2.0			2.0	4.3
Green Ext Time (p_c), s	11.7			5.6	0.2

Intersection Summary	
HCM 6th Ctrl Delay	2.0
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	492	500	77	56	370	228	375	559	140	183	290	300
Future Volume (veh/h)	492	500	77	56	370	228	375	559	140	183	290	300
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	518	526	0	59	389	0	395	588	0	193	305	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	553	1566		76	1185		428	734		291	557	
Arrive On Green	0.16	0.44	0.00	0.04	0.33	0.00	0.15	0.21	0.00	0.17	0.26	0.00
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	1781	3647	0	1781	3554	1585
Grp Volume(v), veh/h	518	526	0	59	389	0	395	588	0	193	305	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1781	1777	0	1781	1777	1585
Q Serve(g_s), s	14.8	9.7	0.0	3.3	8.2	0.0	15.0	15.7	0.0	9.1	7.4	0.0
Cycle Q Clear(g_c), s	14.8	9.7	0.0	3.3	8.2	0.0	15.0	15.7	0.0	9.1	7.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	553	1566		76	1185		428	734		291	557	
V/C Ratio(X)	0.94	0.34		0.77	0.33		0.92	0.80		0.66	0.55	
Avail Cap(c_a), veh/h	553	1566		178	1185		428	1066		291	888	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.5	18.4	0.0	47.4	25.0	0.0	32.0	37.7	0.0	29.4	33.9	0.0
Incr Delay (d2), s/veh	23.7	0.6	0.0	15.2	0.7	0.0	25.5	2.8	0.0	5.5	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	3.9	0.0	1.7	3.4	0.0	5.1	6.9	0.0	3.9	3.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.2	18.9	0.0	62.6	25.7	0.0	57.5	40.5	0.0	34.9	34.7	0.0
LnGrp LOS	E	B		E	C		E	D		C	C	
Approach Vol, veh/h		1044			448			983			498	
Approach Delay, s/veh		41.9			30.5			47.4			34.8	
Approach LOS		D			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	25.7	9.3	50.1	20.0	20.7	20.0	39.3
Change Period (Y+Rc), s	5.0	5.0	5.0	6.0	5.0	5.0	5.0	6.0
Max Green Setting (Gmax), s	10.0	30.0	10.0	29.0	15.0	25.0	15.0	24.0
Max Q Clear Time (g_c+I1), s	11.1	17.7	5.3	11.7	17.0	9.4	16.8	10.2
Green Ext Time (p_c), s	0.0	2.9	0.0	3.0	0.0	1.5	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	40.8
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.1

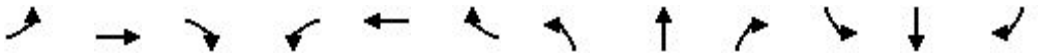
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	27	0	1279	656	0
Future Vol, veh/h	0	27	0	1279	656	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	28	0	1346	691	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	346	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	*801	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %		1		-	-	
Mov Cap-1 Maneuver	-	*801	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	801	-
HCM Lane V/C Ratio	-	0.035	-
HCM Control Delay (s)	-	9.7	-
HCM Lane LOS	-	A	-
HCM 95th %tile Q(veh)	-	0.1	-

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	20	20	195	10	130	10	355	65	110	1495	20
Future Volume (veh/h)	35	20	20	195	10	130	10	355	65	110	1495	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	21	21	205	11	137	11	374	68	116	1574	21
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	292	341	289	308	341	289	229	2202	982	745	2550	1137
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	1.00	1.00	1.00	0.05	0.72	0.72
Sat Flow, veh/h	1240	1870	1585	1365	1870	1585	319	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	37	21	21	205	11	137	11	374	68	116	1574	21
Grp Sat Flow(s),veh/h/ln	1240	1870	1585	1365	1870	1585	319	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.5	0.9	1.1	14.6	0.5	7.7	0.7	0.0	0.0	2.2	22.5	0.4
Cycle Q Clear(g_c), s	3.0	0.9	1.1	15.5	0.5	7.7	13.4	0.0	0.0	2.2	22.5	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	292	341	289	308	341	289	229	2202	982	745	2550	1137
V/C Ratio(X)	0.13	0.06	0.07	0.67	0.03	0.47	0.05	0.17	0.07	0.16	0.62	0.02
Avail Cap(c_a), veh/h	376	468	396	401	468	396	229	2202	982	784	2550	1137
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.9	33.8	33.9	40.2	33.6	36.6	1.4	0.0	0.0	5.2	7.2	4.0
Incr Delay (d2), s/veh	0.2	0.1	0.1	2.7	0.0	1.2	0.4	0.2	0.1	0.1	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.4	0.4	5.0	0.2	3.0	0.0	0.1	0.0	0.7	6.8	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.1	33.9	34.0	42.9	33.7	37.8	1.8	0.2	0.1	5.3	8.3	4.1
LnGrp LOS	D	C	C	D	C	D	A	A	A	A	A	A
Approach Vol, veh/h		79			353			453			1711	
Approach Delay, s/veh		34.5			40.6			0.2			8.0	
Approach LOS		C			D			A			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.8	67.0		23.2		76.8		23.2				
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s	7.0	53.0		25.0		65.0		25.0				
Max Q Clear Time (g_c+I1), s	4.2	15.4		5.0		24.5		17.5				
Green Ext Time (p_c), s	0.1	2.9		0.2		16.7		0.7				

Intersection Summary												
HCM 6th Ctrl Delay			11.9									
HCM 6th LOS			B									

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	15	35	460	1850	55
Future Volume (veh/h)	15	15	35	460	1850	55
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	16	38	505	2033	60
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	52	47	243	4445	4437	131
Arrive On Green	0.03	0.03	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1781	1585	196	5274	5266	150
Grp Volume(v), veh/h	16	16	38	505	1356	737
Grp Sat Flow(s),veh/h/ln	1781	1585	196	1702	1702	1843
Q Serve(g_s), s	0.9	1.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.9	1.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00	1.00			0.08
Lane Grp Cap(c), veh/h	52	47	243	4445	2963	1605
V/C Ratio(X)	0.31	0.34	0.16	0.11	0.46	0.46
Avail Cap(c_a), veh/h	445	396	243	4445	2963	1605
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.5	47.6	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	3.2	4.3	1.4	0.1	0.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.4	0.1	0.0	0.2	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	50.7	51.9	1.4	0.1	0.5	0.9
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	32			543	2093	
Approach Delay, s/veh	51.3			0.1	0.7	
Approach LOS	D			A	A	

Timer - Assigned Phs	2		4		6
Phs Duration (G+Y+Rc), s	92.1		7.9		92.1
Change Period (Y+Rc), s	5.0		5.0		5.0
Max Green Setting (Gmax), s	65.0		25.0		65.0
Max Q Clear Time (g_c+I1), s	2.0		3.0		2.0
Green Ext Time (p_c), s	5.7		0.1		27.3

Intersection Summary	
HCM 6th Ctrl Delay	1.2
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	0.3

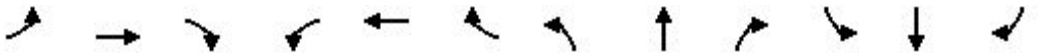
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	1	10	5	1	5	30	530	5	5	1840	5
Future Vol, veh/h	5	1	10	5	1	5	30	530	5	5	1840	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	1	11	5	1	5	32	558	5	5	1937	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2238	2577	971	1410	2577	282	1942	0	0	563	0	0
Stage 1	1950	1950	-	625	625	-	-	-	-	-	-	-
Stage 2	288	627	-	785	1952	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	*413	*337	*497	*413	*337	*808	*625	-	-	985	-	-
Stage 1	*510	*485	-	*713	*714	-	-	-	-	-	-	-
Stage 2	*829	*713	-	*510	*485	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1	1	1	-	-	1	-	-
Mov Cap-1 Maneuver	*392	*318	*497	*386	*318	*808	*625	-	-	985	-	-
Mov Cap-2 Maneuver	*392	*318	-	*386	*318	-	-	-	-	-	-	-
Stage 1	*484	*482	-	*677	*678	-	-	-	-	-	-	-
Stage 2	*780	*676	-	*495	*482	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.4	12.5	0.6	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	* 625	-	-	444	494	985	-	-
HCM Lane V/C Ratio	0.051	-	-	0.038	0.023	0.005	-	-
HCM Control Delay (s)	11.1	-	-	13.4	12.5	8.7	-	-
HCM Lane LOS	B	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	0.1	0	-	-

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	25	0	35	0	530	35	40	1810	0
Future Volume (veh/h)	0	0	0	25	0	35	0	530	35	40	1810	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	26	0	37	0	558	37	42	1905	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	72	77	0	146	0	65	72	3052	1361	778	4385	0
Arrive On Green	0.00	0.00	0.00	0.04	0.00	0.04	0.00	1.00	1.00	1.00	1.00	0.00
Sat Flow, veh/h	1371	1870	0	1781	0	1585	236	3554	1585	823	5274	0
Grp Volume(v), veh/h	0	0	0	26	0	37	0	558	37	42	1905	0
Grp Sat Flow(s),veh/h/ln	1371	1870	0	1781	0	1585	236	1777	1585	823	1702	0
Q Serve(g_s), s	0.0	0.0	0.0	1.4	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	1.4	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	72	77	0	146	0	65	72	3052	1361	778	4385	0
V/C Ratio(X)	0.00	0.00	0.00	0.18	0.00	0.57	0.00	0.18	0.03	0.05	0.43	0.00
Avail Cap(c_a), veh/h	358	468	0	517	0	396	72	3052	1361	778	4385	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	46.6	0.0	47.1	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	7.4	0.0	0.1	0.0	0.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.7	0.0	1.0	0.0	0.1	0.0	0.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	47.2	0.0	54.5	0.0	0.1	0.0	0.1	0.3	0.0
LnGrp LOS	A	A	A	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		0			63			595			1947	
Approach Delay, s/veh		0.0			51.5			0.1			0.3	
Approach LOS					D			A			A	

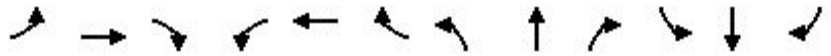
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		90.9		9.1		90.9		9.1				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		65.0		25.0		65.0		25.0				
Max Q Clear Time (g_c+I1), s		2.0		0.0		2.0		4.3				
Green Ext Time (p_c), s		4.1		0.0		25.5		0.2				

Intersection Summary												
HCM 6th Ctrl Delay			1.5									
HCM 6th LOS			A									

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	15	30	530	25	30	1805
Future Volume (veh/h)	15	30	530	25	30	1805
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	32	558	26	32	1900
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	66	74	4317	200	789	4407
Arrive On Green	0.04	0.05	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1781	1585	5169	232	831	5274
Grp Volume(v), veh/h	16	32	379	205	32	1900
Grp Sat Flow(s),veh/h/ln	1781	1585	1702	1829	831	1702
Q Serve(g_s), s	0.9	2.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.9	2.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00		0.13	1.00	
Lane Grp Cap(c), veh/h	66	74	2938	1578	789	4407
V/C Ratio(X)	0.24	0.43	0.13	0.13	0.04	0.43
Avail Cap(c_a), veh/h	445	412	2938	1578	789	4407
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.8	46.4	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.9	3.9	0.1	0.2	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.9	0.0	0.1	0.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	48.7	50.3	0.1	0.2	0.1	0.3
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	48		584			1932
Approach Delay, s/veh	49.8		0.1			0.3
Approach LOS	D		A			A

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	91.3			91.3	8.7
Change Period (Y+Rc), s	5.0			5.0	5.0
Max Green Setting (Gmax), s	65.0			65.0	25.0
Max Q Clear Time (g_c+I1), s	2.0			2.0	4.0
Green Ext Time (p_c), s	3.9			25.2	0.1

Intersection Summary	
HCM 6th Ctrl Delay	1.2
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	335	395	325	170	410	95	100	155	40	530	705	580
Future Volume (veh/h)	335	395	325	170	410	95	100	155	40	530	705	580
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	353	416	0	179	432	0	105	163	0	558	742	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	415	1325		214	1325		233	417		580	888	
Arrive On Green	0.12	0.37	0.00	0.12	0.37	0.00	0.07	0.12	0.00	0.29	0.33	0.00
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	1781	3647	0	1781	3554	1585
Grp Volume(v), veh/h	353	416	0	179	432	0	105	163	0	558	742	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1781	1777	0	1781	1777	1585
Q Serve(g_s), s	10.0	8.3	0.0	9.8	8.7	0.0	5.1	4.2	0.0	22.0	19.3	0.0
Cycle Q Clear(g_c), s	10.0	8.3	0.0	9.8	8.7	0.0	5.1	4.2	0.0	22.0	19.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	415	1325		214	1325		233	417		580	888	
V/C Ratio(X)	0.85	0.31		0.84	0.33		0.45	0.39		0.96	0.84	
Avail Cap(c_a), veh/h	415	1325		214	1325		238	711		580	1173	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	43.1	22.3	0.0	43.0	22.4	0.0	35.5	40.8	0.0	28.1	31.5	0.0
Incr Delay (d2), s/veh	15.5	0.6	0.0	24.3	0.7	0.0	1.4	0.6	0.0	28.1	4.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	3.4	0.0	5.6	3.6	0.0	2.2	1.8	0.0	15.2	7.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.6	22.9	0.0	67.3	23.1	0.0	36.9	41.4	0.0	56.2	35.6	0.0
LnGrp LOS	E	C		E	C		D	D		E	D	
Approach Vol, veh/h		769			611			268			1300	
Approach Delay, s/veh		39.3			36.0			39.7			44.4	
Approach LOS		D			D			D			D	

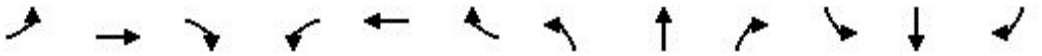
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	16.7	15.0	43.3	11.7	30.0	15.0	43.3
Change Period (Y+Rc), s	5.0	5.0	5.0	6.0	5.0	5.0	5.0	6.0
Max Green Setting (Gmax), s	20.0	20.0	10.0	29.0	7.0	33.0	10.0	29.0
Max Q Clear Time (g_c+I1), s	24.0	6.2	11.8	10.3	7.1	21.3	12.0	10.7
Green Ext Time (p_c), s	0.0	0.7	0.0	2.4	0.0	3.7	0.0	2.5

Intersection Summary	
HCM 6th Ctrl Delay	40.9
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	5	5	75	5	110	10	1225	120	125	560	35
Future Volume (veh/h)	30	5	5	75	5	110	10	1225	120	125	560	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	5	5	79	5	116	11	1289	126	132	589	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	191	180	153	204	180	153	635	2505	1117	426	2856	1274
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	1.00	1.00	1.00	0.05	0.80	0.80
Sat Flow, veh/h	1270	1870	1585	1405	1870	1585	799	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	32	5	5	79	5	116	11	1289	126	132	589	37
Grp Sat Flow(s),veh/h/ln	1270	1870	1585	1405	1870	1585	799	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.3	0.2	0.3	5.4	0.2	7.1	0.0	0.0	0.0	1.8	3.9	0.5
Cycle Q Clear(g_c), s	2.6	0.2	0.3	5.6	0.2	7.1	0.0	0.0	0.0	1.8	3.9	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	191	180	153	204	180	153	635	2505	1117	426	2856	1274
V/C Ratio(X)	0.17	0.03	0.03	0.39	0.03	0.76	0.02	0.51	0.11	0.31	0.21	0.03
Avail Cap(c_a), veh/h	387	468	396	420	468	396	635	2505	1117	464	2856	1274
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.1	40.9	41.0	43.5	40.9	44.1	0.0	0.0	0.0	2.8	2.3	2.0
Incr Delay (d2), s/veh	0.4	0.1	0.1	1.2	0.1	7.6	0.0	0.8	0.2	0.4	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.1	0.1	1.9	0.1	3.1	0.0	0.3	0.1	0.5	0.8	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.5	41.0	41.1	44.7	41.0	51.6	0.0	0.8	0.2	3.2	2.5	2.0
LnGrp LOS	D	D	D	D	D	D	A	A	A	A	A	A
Approach Vol, veh/h		42			200			1426			758	
Approach Delay, s/veh		42.2			48.6			0.7			2.6	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.9	75.5		14.6		85.4		14.6				
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s	7.0	53.0		25.0		65.0		25.0				
Max Q Clear Time (g_c+I1), s	3.8	2.0		4.6		5.9		9.1				
Green Ext Time (p_c), s	0.1	13.5		0.1		4.4		0.5				

Intersection Summary												
HCM 6th Ctrl Delay			6.0									
HCM 6th LOS			A									

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	30	15	5	1455	710	5
Future Volume (veh/h)	30	15	5	1455	710	5
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	31	16	5	1516	740	5
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	65	58	690	4409	4519	31
Arrive On Green	0.04	0.04	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1781	1585	715	5274	5401	35
Grp Volume(v), veh/h	31	16	5	1516	481	264
Grp Sat Flow(s),veh/h/ln	1781	1585	715	1702	1702	1864
Q Serve(g_s), s	1.7	1.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.7	1.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00	1.00			0.02
Lane Grp Cap(c), veh/h	65	58	690	4409	2940	1610
V/C Ratio(X)	0.48	0.28	0.01	0.34	0.16	0.16
Avail Cap(c_a), veh/h	445	396	690	4409	2940	1610
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.2	46.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	5.4	2.6	0.0	0.2	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.4	0.0	0.1	0.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	52.6	49.5	0.0	0.2	0.1	0.2
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	47			1521	745	
Approach Delay, s/veh	51.5			0.2	0.2	
Approach LOS	D			A	A	

Timer - Assigned Phs	2		4		6
Phs Duration (G+Y+Rc), s	91.4		8.6		91.4
Change Period (Y+Rc), s	5.0		5.0		5.0
Max Green Setting (Gmax), s	65.0		25.0		65.0
Max Q Clear Time (g_c+I1), s	2.0		3.7		2.0
Green Ext Time (p_c), s	16.3		0.1		5.2

Intersection Summary		
HCM 6th Ctrl Delay		1.2
HCM 6th LOS		A

Intersection	
Int Delay, s/veh	0.3

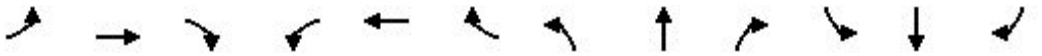
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	1	15	5	1	5	20	1535	5	5	745	5
Future Vol, veh/h	5	1	15	5	1	5	20	1535	5	5	745	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	1	16	5	1	5	21	1616	5	5	784	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1486	2460	395	1985	2460	811	789	0	0	1621	0	0
Stage 1	797	797	-	1661	1661	-	-	-	-	-	-	-
Stage 2	689	1663	-	324	799	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	*450	*69	*756	*180	*69	*575	*950	-	-	*722	-	-
Stage 1	*768	*733	-	*590	*561	-	-	-	-	-	-	-
Stage 2	*590	*561	-	*776	*731	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1	1	1	-	-	1	-	-
Mov Cap-1 Maneuver	*431	*67	*756	*171	*67	*575	*950	-	-	*722	-	-
Mov Cap-2 Maneuver	*431	*67	-	*171	*67	-	-	-	-	-	-	-
Stage 1	*751	*728	-	*577	*548	-	-	-	-	-	-	-
Stage 2	*570	*548	-	*753	*726	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.4	23.3	0.1	0.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	* 950	-	-	453	208	* 722	-	-
HCM Lane V/C Ratio	0.022	-	-	0.049	0.056	0.007	-	-
HCM Control Delay (s)	8.9	-	-	13.4	23.3	10	-	-
HCM Lane LOS	A	-	-	B	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.2	0	-	-

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	45	0	140	0	1415	70	20	745	0
Future Volume (veh/h)	0	0	0	45	0	140	0	1415	70	20	745	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	0	47	0	147	0	1489	74	21	784	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	72	220	0	282	0	187	72	2780	1240	330	3994	0
Arrive On Green	0.00	0.00	0.00	0.12	0.00	0.12	0.00	1.00	1.00	1.00	1.00	0.00
Sat Flow, veh/h	1241	1870	0	1781	0	1585	690	3554	1585	329	5274	0
Grp Volume(v), veh/h	0	0	0	47	0	147	0	1489	74	21	784	0
Grp Sat Flow(s),veh/h/ln	1241	1870	0	1781	0	1585	690	1777	1585	329	1702	0
Q Serve(g_s), s	0.0	0.0	0.0	2.4	0.0	9.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	2.4	0.0	9.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		0.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	72	220	0	282	0	187	72	2780	1240	330	3994	0
V/C Ratio(X)	0.00	0.00	0.00	0.17	0.00	0.79	0.00	0.54	0.06	0.06	0.20	0.00
Avail Cap(c_a), veh/h	236	468	0	517	0	396	72	2780	1240	330	3994	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	40.0	0.0	42.9	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	7.2	0.0	0.7	0.1	0.4	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	1.1	0.0	3.9	0.0	0.3	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	0.0	40.2	0.0	50.0	0.0	0.7	0.1	0.4	0.1	0.0
LnGrp LOS	A	A	A	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		0			194			1563			805	
Approach Delay, s/veh		0.0			47.7			0.7			0.1	
Approach LOS					D			A			A	

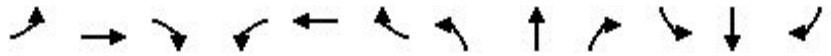
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		83.2		16.8		83.2		16.8				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		65.0		25.0		65.0		25.0				
Max Q Clear Time (g_c+I1), s		2.0		0.0		2.0		11.0				
Green Ext Time (p_c), s		17.4		0.0		6.7		0.8				

Intersection Summary												
HCM 6th Ctrl Delay			4.1									
HCM 6th LOS			A									

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	35	40	1440	20	25	745
Future Volume (veh/h)	35	40	1440	20	25	745
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	42	1516	21	26	784
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	79	70	4440	62	361	4369
Arrive On Green	0.04	0.04	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1781	1585	5358	72	338	5274
Grp Volume(v), veh/h	37	42	994	543	26	784
Grp Sat Flow(s),veh/h/ln	1781	1585	1702	1857	338	1702
Q Serve(g_s), s	2.0	2.6	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.0	2.6	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00		0.04	1.00	
Lane Grp Cap(c), veh/h	79	70	2912	1589	361	4369
V/C Ratio(X)	0.47	0.60	0.34	0.34	0.07	0.18
Avail Cap(c_a), veh/h	445	396	2912	1589	361	4369
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.6	46.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	4.2	7.8	0.3	0.6	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	1.2	0.1	0.3	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	50.9	54.7	0.3	0.6	0.4	0.1
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	79		1537			810
Approach Delay, s/veh	52.9		0.4			0.1
Approach LOS	D		A			A

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	90.6			90.6	9.4
Change Period (Y+Rc), s	5.0			5.0	5.0
Max Green Setting (Gmax), s	65.0			65.0	25.0
Max Q Clear Time (g_c+I1), s	2.0			2.0	4.6
Green Ext Time (p_c), s	15.1			6.9	0.2

Intersection Summary	
HCM 6th Ctrl Delay	2.0
HCM 6th LOS	A



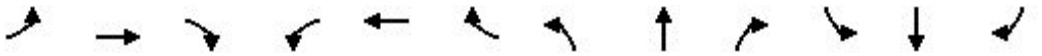
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	570	655	90	65	440	265	445	645	165	210	330	350
Future Volume (veh/h)	570	655	90	65	440	265	445	645	165	210	330	350
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	600	689	0	68	463	0	468	679	0	221	347	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	622	1453		88	1060		500	824		288	646	
Arrive On Green	0.18	0.41	0.00	0.05	0.30	0.00	0.17	0.23	0.00	0.17	0.30	0.00
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	1781	3647	0	1781	3554	1585
Grp Volume(v), veh/h	600	689	0	68	463	0	468	679	0	221	347	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1781	1777	0	1781	1777	1585
Q Serve(g_s), s	17.2	14.2	0.0	3.8	10.5	0.0	17.0	18.1	0.0	10.0	8.1	0.0
Cycle Q Clear(g_c), s	17.2	14.2	0.0	3.8	10.5	0.0	17.0	18.1	0.0	10.0	8.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	622	1453		88	1060		500	824		288	646	
V/C Ratio(X)	0.96	0.47		0.77	0.44		0.94	0.82		0.77	0.54	
Avail Cap(c_a), veh/h	622	1453		178	1060		500	1066		288	888	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	40.7	21.7	0.0	47.0	28.3	0.0	28.5	36.5	0.0	28.9	31.3	0.0
Incr Delay (d2), s/veh	27.4	1.1	0.0	13.4	1.3	0.0	25.4	4.2	0.0	11.6	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.4	5.8	0.0	2.0	4.5	0.0	6.2	8.0	0.0	4.8	3.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.1	22.8	0.0	60.4	29.6	0.0	54.0	40.7	0.0	40.5	32.0	0.0
LnGrp LOS	E	C		E	C		D	D		D	C	
Approach Vol, veh/h		1289			531			1147			568	
Approach Delay, s/veh		43.9			33.6			46.1			35.3	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	28.2	9.9	46.9	20.0	23.2	21.0	35.8
Change Period (Y+Rc), s	5.0	5.0	5.0	6.0	5.0	5.0	5.0	6.0
Max Green Setting (Gmax), s	10.0	30.0	10.0	29.0	15.0	25.0	16.0	23.0
Max Q Clear Time (g_c+I1), s	12.0	20.1	5.8	16.2	19.0	10.1	19.2	12.5
Green Ext Time (p_c), s	0.0	3.0	0.0	3.6	0.0	1.8	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	41.7
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	20	20	195	10	130	10	368	65	110	1502	20
Future Volume (veh/h)	35	20	20	195	10	130	10	368	65	110	1502	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	21	21	205	11	137	11	387	68	116	1581	21
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	292	341	289	308	341	289	228	2202	982	738	2550	1137
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	1.00	1.00	1.00	0.05	0.72	0.72
Sat Flow, veh/h	1240	1870	1585	1365	1870	1585	317	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	37	21	21	205	11	137	11	387	68	116	1581	21
Grp Sat Flow(s),veh/h/ln	1240	1870	1585	1365	1870	1585	317	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.5	0.9	1.1	14.6	0.5	7.7	0.8	0.0	0.0	2.2	22.6	0.4
Cycle Q Clear(g_c), s	3.0	0.9	1.1	15.5	0.5	7.7	13.6	0.0	0.0	2.2	22.6	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	292	341	289	308	341	289	228	2202	982	738	2550	1137
V/C Ratio(X)	0.13	0.06	0.07	0.67	0.03	0.47	0.05	0.18	0.07	0.16	0.62	0.02
Avail Cap(c_a), veh/h	376	468	396	401	468	396	228	2202	982	777	2550	1137
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.9	33.8	33.9	40.2	33.6	36.6	1.4	0.0	0.0	5.2	7.2	4.0
Incr Delay (d2), s/veh	0.2	0.1	0.1	2.7	0.0	1.2	0.4	0.2	0.1	0.1	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.4	0.4	5.0	0.2	3.0	0.0	0.1	0.0	0.7	6.8	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.1	33.9	34.0	42.9	33.7	37.8	1.8	0.2	0.1	5.3	8.3	4.1
LnGrp LOS	D	C	C	D	C	D	A	A	A	A	A	A
Approach Vol, veh/h		79			353			466			1718	
Approach Delay, s/veh		34.5			40.6			0.2			8.1	
Approach LOS		C			D			A			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.8	67.0		23.2		76.8		23.2				
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s	7.0	53.0		25.0		65.0		25.0				
Max Q Clear Time (g_c+I1), s	4.2	15.6		5.0		24.6		17.5				
Green Ext Time (p_c), s	0.1	3.0		0.2		16.8		0.7				

Intersection Summary			
HCM 6th Ctrl Delay		11.9	
HCM 6th LOS		B	

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	15	35	473	1857	55
Future Volume (veh/h)	15	15	35	473	1857	55
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	16	38	520	2041	60
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	52	47	242	4445	4438	130
Arrive On Green	0.03	0.03	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1781	1585	195	5274	5266	150
Grp Volume(v), veh/h	16	16	38	520	1362	739
Grp Sat Flow(s),veh/h/ln	1781	1585	195	1702	1702	1843
Q Serve(g_s), s	0.9	1.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.9	1.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00	1.00			0.08
Lane Grp Cap(c), veh/h	52	47	242	4445	2963	1605
V/C Ratio(X)	0.31	0.34	0.16	0.12	0.46	0.46
Avail Cap(c_a), veh/h	445	396	242	4445	2963	1605
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.5	47.6	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	3.2	4.3	1.4	0.1	0.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.4	0.1	0.0	0.2	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	50.7	51.9	1.4	0.1	0.5	1.0
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	32			558	2101	
Approach Delay, s/veh	51.3			0.1	0.7	
Approach LOS	D			A	A	

Timer - Assigned Phs	2		4		6
Phs Duration (G+Y+Rc), s	92.1		7.9		92.1
Change Period (Y+Rc), s	5.0		5.0		5.0
Max Green Setting (Gmax), s	65.0		25.0		65.0
Max Q Clear Time (g_c+I1), s	2.0		3.0		2.0
Green Ext Time (p_c), s	5.8		0.1		27.5

Intersection Summary	
HCM 6th Ctrl Delay	1.2
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	0.3

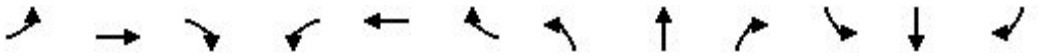
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	1	10	5	1	5	30	543	5	5	1847	5
Future Vol, veh/h	5	1	10	5	1	5	30	543	5	5	1847	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	1	11	5	1	5	32	572	5	5	1944	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	2250	2598	975	1427	2598	289	1949	0	0	577	0	0
Stage 1	1957	1957	-	639	639	-	-	-	-	-	-	-
Stage 2	293	641	-	788	1959	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	*413	*317	*497	*413	*317	*808	*625	-	-	969	-	-
Stage 1	*510	*485	-	*696	*703	-	-	-	-	-	-	-
Stage 2	*829	*702	-	*510	*485	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1	1	1	-	-	1	-	-
Mov Cap-1 Maneuver	*392	*299	*497	*386	*299	*808	*625	-	-	969	-	-
Mov Cap-2 Maneuver	*392	*299	-	*386	*299	-	-	-	-	-	-	-
Stage 1	*484	*482	-	*660	*667	-	-	-	-	-	-	-
Stage 2	*780	*666	-	*495	*482	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.5	12.5	0.6	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	* 625	-	-	442	489	969	-	-
HCM Lane V/C Ratio	0.051	-	-	0.038	0.024	0.005	-	-
HCM Control Delay (s)	11.1	-	-	13.5	12.5	8.7	-	-
HCM Lane LOS	B	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	0.1	0	-	-

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	0	25	25	0	35	45	502	35	40	1755	62
Future Volume (veh/h)	41	0	25	25	0	35	45	502	35	40	1755	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	0	26	26	0	37	47	528	37	42	1847	65
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	141	0	115	151	0	115	266	2940	1311	772	4190	147
Arrive On Green	0.07	0.00	0.07	0.07	0.00	0.07	1.00	1.00	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1371	0	1585	1385	0	1585	235	3554	1585	846	5064	178
Grp Volume(v), veh/h	43	0	26	26	0	37	47	528	37	42	1241	671
Grp Sat Flow(s),veh/h/ln	1371	0	1585	1385	0	1585	235	1777	1585	846	1702	1838
Q Serve(g_s), s	3.1	0.0	1.5	1.8	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.3	0.0	1.5	3.4	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.10
Lane Grp Cap(c), veh/h	141	0	115	151	0	115	266	2940	1311	772	2816	1521
V/C Ratio(X)	0.30	0.00	0.23	0.17	0.00	0.32	0.18	0.18	0.03	0.05	0.44	0.44
Avail Cap(c_a), veh/h	384	0	396	397	0	396	266	2940	1311	772	2816	1521
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.5	0.0	43.7	45.3	0.0	44.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	1.0	0.5	0.0	1.6	1.4	0.1	0.0	0.1	0.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.6	0.6	0.0	0.9	0.1	0.1	0.0	0.0	0.2	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.7	0.0	44.7	45.8	0.0	45.6	1.4	0.1	0.0	0.1	0.5	0.9
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		69			63			612			1954	
Approach Delay, s/veh		46.6			45.7			0.2			0.6	
Approach LOS		D			D			A			A	

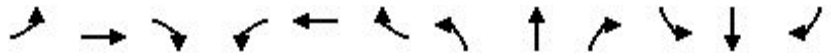
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		87.7		12.3		87.7		12.3				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		65.0		25.0		65.0		25.0				
Max Q Clear Time (g_c+I1), s		2.0		7.3		2.0		5.4				
Green Ext Time (p_c), s		5.9		0.2		23.7		0.2				

Intersection Summary												
HCM 6th Ctrl Delay			2.8									
HCM 6th LOS			A									

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	15	30	547	25	30	1835
Future Volume (veh/h)	15	30	547	25	30	1835
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	16	32	576	26	32	1932
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	66	74	4324	194	777	4407
Arrive On Green	0.04	0.05	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1781	1585	5177	225	817	5274
Grp Volume(v), veh/h	16	32	391	211	32	1932
Grp Sat Flow(s),veh/h/ln	1781	1585	1702	1830	817	1702
Q Serve(g_s), s	0.9	2.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.9	2.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00		0.12	1.00	
Lane Grp Cap(c), veh/h	66	74	2938	1580	777	4407
V/C Ratio(X)	0.24	0.43	0.13	0.13	0.04	0.44
Avail Cap(c_a), veh/h	445	412	2938	1580	777	4407
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.8	46.4	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.9	3.9	0.1	0.2	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.9	0.0	0.1	0.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	48.7	50.3	0.1	0.2	0.1	0.3
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	48		602			1964
Approach Delay, s/veh	49.8		0.1			0.3
Approach LOS	D		A			A

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	91.3			91.3	8.7
Change Period (Y+Rc), s	5.0			5.0	5.0
Max Green Setting (Gmax), s	65.0			65.0	25.0
Max Q Clear Time (g_c+I1), s	2.0			2.0	4.0
Green Ext Time (p_c), s	4.0			26.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	1.2
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	340	395	325	170	410	97	100	165	40	534	722	589
Future Volume (veh/h)	340	395	325	170	410	97	100	165	40	534	722	589
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	358	416	0	179	432	0	105	174	0	562	760	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	415	1309		214	1309		232	433		581	905	
Arrive On Green	0.12	0.37	0.00	0.12	0.37	0.00	0.07	0.12	0.00	0.29	0.34	0.00
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	1781	3647	0	1781	3554	1585
Grp Volume(v), veh/h	358	416	0	179	432	0	105	174	0	562	760	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1781	1777	0	1781	1777	1585
Q Serve(g_s), s	10.2	8.4	0.0	9.8	8.7	0.0	5.1	4.5	0.0	22.0	19.8	0.0
Cycle Q Clear(g_c), s	10.2	8.4	0.0	9.8	8.7	0.0	5.1	4.5	0.0	22.0	19.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	415	1309		214	1309		232	433		581	905	
V/C Ratio(X)	0.86	0.32		0.84	0.33		0.45	0.40		0.97	0.84	
Avail Cap(c_a), veh/h	415	1309		214	1309		237	711		581	1173	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	43.2	22.6	0.0	43.0	22.7	0.0	35.2	40.6	0.0	27.9	31.2	0.0
Incr Delay (d2), s/veh	16.9	0.6	0.0	24.3	0.7	0.0	1.4	0.6	0.0	29.3	4.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	3.5	0.0	5.6	3.6	0.0	2.2	2.0	0.0	15.5	8.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.1	23.2	0.0	67.3	23.4	0.0	36.6	41.2	0.0	57.2	35.6	0.0
LnGrp LOS	E	C		E	C		D	D		E	D	
Approach Vol, veh/h		774			611			279			1322	
Approach Delay, s/veh		40.3			36.3			39.4			44.8	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	35.0	17.2	15.0	42.8	11.7	30.5	15.0	42.8
Change Period (Y+Rc), s	5.0	5.0	5.0	6.0	5.0	5.0	5.0	6.0
Max Green Setting (Gmax), s	30.0	20.0	10.0	29.0	7.0	33.0	10.0	29.0
Max Q Clear Time (g_c+I1), s	24.0	6.5	11.8	10.4	7.1	21.8	12.2	10.7
Green Ext Time (p_c), s	0.0	0.7	0.0	2.4	0.0	3.7	0.0	2.5

Intersection Summary	
HCM 6th Ctrl Delay	41.4
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.3

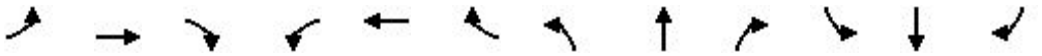
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	60	0	582	1805	0
Future Vol, veh/h	0	60	0	582	1805	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	63	0	613	1900	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	950	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	*486	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %		1		-	-	
Mov Cap-1 Maneuver	-	*486	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	486	-
HCM Lane V/C Ratio	-	0.13	-
HCM Control Delay (s)	-	13.5	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	0.4	-

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	5	5	75	5	110	10	1232	120	125	571	35
Future Volume (veh/h)	30	5	5	75	5	110	10	1232	120	125	571	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	5	5	79	5	116	11	1297	126	132	601	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	191	180	153	204	180	153	629	2505	1117	424	2856	1274
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	1.00	1.00	1.00	0.05	0.80	0.80
Sat Flow, veh/h	1270	1870	1585	1405	1870	1585	790	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	32	5	5	79	5	116	11	1297	126	132	601	37
Grp Sat Flow(s),veh/h/ln	1270	1870	1585	1405	1870	1585	790	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.3	0.2	0.3	5.4	0.2	7.1	0.0	0.0	0.0	1.8	4.0	0.5
Cycle Q Clear(g_c), s	2.6	0.2	0.3	5.6	0.2	7.1	0.0	0.0	0.0	1.8	4.0	0.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	191	180	153	204	180	153	629	2505	1117	424	2856	1274
V/C Ratio(X)	0.17	0.03	0.03	0.39	0.03	0.76	0.02	0.52	0.11	0.31	0.21	0.03
Avail Cap(c_a), veh/h	387	468	396	420	468	396	629	2505	1117	462	2856	1274
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.1	40.9	41.0	43.5	40.9	44.1	0.0	0.0	0.0	2.8	2.3	2.0
Incr Delay (d2), s/veh	0.4	0.1	0.1	1.2	0.1	7.6	0.1	0.8	0.2	0.4	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.1	0.1	1.9	0.1	3.1	0.0	0.3	0.1	0.5	0.8	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.5	41.0	41.1	44.7	41.0	51.6	0.1	0.8	0.2	3.2	2.5	2.0
LnGrp LOS	D	D	D	D	D	D	A	A	A	A	A	A
Approach Vol, veh/h		42			200			1434			770	
Approach Delay, s/veh		42.2			48.6			0.7			2.6	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.9	75.5		14.6		85.4		14.6				
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s	7.0	53.0		25.0		65.0		25.0				
Max Q Clear Time (g_c+I1), s	3.8	2.0		4.6		6.0		9.1				
Green Ext Time (p_c), s	0.1	13.7		0.1		4.5		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		5.9	
HCM 6th LOS		A	

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	30	15	5	1462	721	5
Future Volume (veh/h)	30	15	5	1462	721	5
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	31	16	5	1523	751	5
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	65	58	684	4409	4519	30
Arrive On Green	0.04	0.04	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1781	1585	708	5274	5402	35
Grp Volume(v), veh/h	31	16	5	1523	488	268
Grp Sat Flow(s),veh/h/ln	1781	1585	708	1702	1702	1864
Q Serve(g_s), s	1.7	1.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.7	1.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00	1.00			0.02
Lane Grp Cap(c), veh/h	65	58	684	4409	2940	1610
V/C Ratio(X)	0.48	0.28	0.01	0.35	0.17	0.17
Avail Cap(c_a), veh/h	445	396	684	4409	2940	1610
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.2	46.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	5.4	2.6	0.0	0.2	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.4	0.0	0.1	0.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	52.6	49.5	0.0	0.2	0.1	0.2
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	47			1528	756	
Approach Delay, s/veh	51.5			0.2	0.2	
Approach LOS	D			A	A	

Timer - Assigned Phs	2		4		6
Phs Duration (G+Y+Rc), s	91.4		8.6		91.4
Change Period (Y+Rc), s	5.0		5.0		5.0
Max Green Setting (Gmax), s	65.0		25.0		65.0
Max Q Clear Time (g_c+I1), s	2.0		3.7		2.0
Green Ext Time (p_c), s	16.4		0.1		5.3

Intersection Summary		
HCM 6th Ctrl Delay		1.2
HCM 6th LOS		A

Intersection	
Int Delay, s/veh	0.3

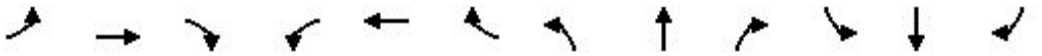
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	1	15	5	1	5	20	1542	5	5	756	5
Future Vol, veh/h	5	1	15	5	1	5	20	1542	5	5	756	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	50	-	-	50	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	1	16	5	1	5	21	1623	5	5	796	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1501	2479	401	1997	2479	814	801	0	0	1628	0	0
Stage 1	809	809	-	1668	1668	-	-	-	-	-	-	-
Stage 2	692	1670	-	329	811	-	-	-	-	-	-	-
Critical Hdwy	6.44	6.54	7.14	6.44	6.54	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	7.34	5.54	-	7.34	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.54	-	6.74	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.82	4.02	3.92	3.82	4.02	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	*438	*66	*756	*177	*66	*575	939	-	-	*722	-	-
Stage 1	*752	*722	-	*590	*561	-	-	-	-	-	-	-
Stage 2	*590	*561	-	*776	*720	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1	1	1	-	-	1	-	-
Mov Cap-1 Maneuver	*419	*64	*756	*167	*64	*575	939	-	-	*722	-	-
Mov Cap-2 Maneuver	*419	*64	-	*167	*64	-	-	-	-	-	-	-
Stage 1	*735	*717	-	*577	*548	-	-	-	-	-	-	-
Stage 2	*570	*548	-	*753	*715	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.6	23.8	0.1	0.1
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	939	-	-	443	203	* 722	-	-
HCM Lane V/C Ratio	0.022	-	-	0.05	0.057	0.007	-	-
HCM Control Delay (s)	8.9	-	-	13.6	23.8	10	-	-
HCM Lane LOS	A	-	-	B	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.2	0	-	-

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	0	11	45	0	140	34	1405	70	20	725	31
Future Volume (veh/h)	17	0	11	45	0	140	34	1405	70	20	725	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	0	12	47	0	147	36	1479	74	21	763	33
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	115	0	196	236	0	196	601	2758	1230	330	3895	168
Arrive On Green	0.12	0.00	0.12	0.12	0.00	0.12	1.00	1.00	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1241	0	1585	1402	0	1585	682	3554	1585	333	5019	216
Grp Volume(v), veh/h	18	0	12	47	0	147	36	1479	74	21	517	279
Grp Sat Flow(s),veh/h/ln	1241	0	1585	1402	0	1585	682	1777	1585	333	1702	1831
Q Serve(g_s), s	1.4	0.0	0.7	3.1	0.0	9.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	10.4	0.0	0.7	3.7	0.0	9.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	115	0	196	236	0	196	601	2758	1230	330	2642	1421
V/C Ratio(X)	0.16	0.00	0.06	0.20	0.00	0.75	0.06	0.54	0.06	0.06	0.20	0.20
Avail Cap(c_a), veh/h	271	0	396	413	0	396	601	2758	1230	330	2642	1421
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.3	0.0	38.7	40.3	0.0	42.3	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.1	0.4	0.0	5.6	0.2	0.8	0.1	0.4	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.3	1.1	0.0	3.8	0.0	0.3	0.0	0.0	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.9	0.0	38.8	40.7	0.0	47.9	0.2	0.8	0.1	0.4	0.2	0.3
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		30			194			1589			817	
Approach Delay, s/veh		44.3			46.2			0.7			0.2	
Approach LOS		D			D			A			A	

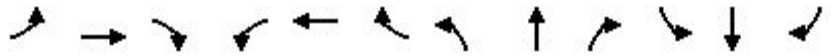
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		82.6		17.4		82.6		17.4				
Change Period (Y+Rc), s		5.0		5.0		5.0		5.0				
Max Green Setting (Gmax), s		65.0		25.0		65.0		25.0				
Max Q Clear Time (g_c+I1), s		2.0		12.4		2.0		11.0				
Green Ext Time (p_c), s		17.9		0.0		6.3		0.8				

Intersection Summary												
HCM 6th Ctrl Delay			4.4									
HCM 6th LOS			A									

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	35	40	1464	20	25	763
Future Volume (veh/h)	35	40	1464	20	25	763
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	42	1541	21	26	803
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	79	70	4441	61	354	4369
Arrive On Green	0.04	0.04	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1781	1585	5359	71	330	5274
Grp Volume(v), veh/h	37	42	1011	551	26	803
Grp Sat Flow(s),veh/h/ln	1781	1585	1702	1858	330	1702
Q Serve(g_s), s	2.0	2.6	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.0	2.6	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00		0.04	1.00	
Lane Grp Cap(c), veh/h	79	70	2912	1589	354	4369
V/C Ratio(X)	0.47	0.60	0.35	0.35	0.07	0.18
Avail Cap(c_a), veh/h	445	396	2912	1589	354	4369
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.6	46.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	4.2	7.8	0.3	0.6	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	1.2	0.1	0.3	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	50.9	54.7	0.3	0.6	0.4	0.1
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	79		1562			829
Approach Delay, s/veh	52.9		0.4			0.1
Approach LOS	D		A			A

Timer - Assigned Phs	2			6	8
Phs Duration (G+Y+Rc), s	90.6			90.6	9.4
Change Period (Y+Rc), s	5.0			5.0	5.0
Max Green Setting (Gmax), s	65.0			65.0	25.0
Max Q Clear Time (g_c+I1), s	2.0			2.0	4.6
Green Ext Time (p_c), s	15.6			7.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	2.0
HCM 6th LOS	A



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	577	655	90	65	440	268	445	659	165	213	340	355
Future Volume (veh/h)	577	655	90	65	440	268	445	659	165	213	340	355
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	607	689	0	68	463	0	468	694	0	224	358	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	622	1439		88	1045		500	838		288	660	
Arrive On Green	0.18	0.40	0.00	0.05	0.29	0.00	0.17	0.24	0.00	0.17	0.31	0.00
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	1781	3647	0	1781	3554	1585
Grp Volume(v), veh/h	607	689	0	68	463	0	468	694	0	224	358	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1781	1777	0	1781	1777	1585
Q Serve(g_s), s	17.5	14.3	0.0	3.8	10.6	0.0	17.0	18.5	0.0	10.0	8.4	0.0
Cycle Q Clear(g_c), s	17.5	14.3	0.0	3.8	10.6	0.0	17.0	18.5	0.0	10.0	8.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	622	1439		88	1045		500	838		288	660	
V/C Ratio(X)	0.98	0.48		0.77	0.44		0.94	0.83		0.78	0.54	
Avail Cap(c_a), veh/h	622	1439		178	1045		500	1066		288	888	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	40.8	22.0	0.0	47.0	28.6	0.0	28.3	36.3	0.0	28.9	31.0	0.0
Incr Delay (d2), s/veh	29.9	1.1	0.0	13.4	1.4	0.0	25.3	4.4	0.0	12.7	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	5.9	0.0	2.0	4.5	0.0	6.2	8.2	0.0	4.9	3.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.7	23.1	0.0	60.4	30.0	0.0	53.5	40.7	0.0	41.5	31.7	0.0
LnGrp LOS	E	C		E	C		D	D		D	C	
Approach Vol, veh/h		1296			531			1162			582	
Approach Delay, s/veh		45.4			33.9			45.9			35.5	
Approach LOS		D			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	28.6	9.9	46.5	20.0	23.6	21.0	35.4
Change Period (Y+Rc), s	5.0	5.0	5.0	6.0	5.0	5.0	5.0	6.0
Max Green Setting (Gmax), s	10.0	30.0	10.0	29.0	15.0	25.0	16.0	23.0
Max Q Clear Time (g_c+I1), s	12.0	20.5	5.8	16.3	19.0	10.4	19.5	12.6
Green Ext Time (p_c), s	0.0	3.0	0.0	3.6	0.0	1.8	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	42.2
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.1

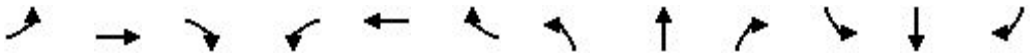
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	27	0	1509	781	0
Future Vol, veh/h	0	27	0	1509	781	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	28	0	1588	822	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	411	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	-	-
Pot Cap-1 Maneuver	0	*751	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %		1		-	-	
Mov Cap-1 Maneuver	-	*751	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	EBLn1	SBT
Capacity (veh/h)	-	751	-
HCM Lane V/C Ratio	-	0.038	-
HCM Control Delay (s)	-	10	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	0.1	-

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



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	36	19	17	171	11	112	7	306	56	95	1291	21
v/c Ratio	0.15	0.06	0.05	0.70	0.03	0.30	0.03	0.14	0.05	0.12	0.50	0.02
Control Delay	33.8	31.7	0.2	53.7	31.0	8.4	10.9	9.3	1.8	5.3	7.4	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.8	31.7	0.2	53.7	31.0	8.4	10.9	9.3	1.8	5.3	7.4	2.2
Queue Length 50th (ft)	20	10	0	104	6	0	2	41	0	15	160	0
Queue Length 95th (ft)	44	28	0	162	20	42	9	73	12	38	265	8
Internal Link Dist (ft)		268			1785			876			418	
Turn Bay Length (ft)	75			125		125	180			135		
Base Capacity (vph)	349	465	452	347	465	479	246	2221	1021	763	2566	1153
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.04	0.04	0.49	0.02	0.23	0.03	0.14	0.05	0.12	0.50	0.02

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	13	12	36	412	1705
v/c Ratio	0.12	0.11	0.16	0.09	0.36
Control Delay	45.9	24.0	3.2	0.9	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	45.9	24.0	3.2	0.9	1.3
Queue Length 50th (ft)	8	0	0	0	0
Queue Length 95th (ft)	27	18	11	18	90
Internal Link Dist (ft)	1107			1070	450
Turn Bay Length (ft)	50		50		
Base Capacity (vph)	442	404	221	4734	4711
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.03	0.03	0.16	0.09	0.36

Intersection Summary

Lane Group	EBT	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1	19	28	458	28	33	1563
v/c Ratio	0.01	0.17	0.05	0.14	0.02	0.04	0.34
Control Delay	0.0	46.6	0.2	1.4	0.7	1.7	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	0.0	46.6	0.2	1.4	0.7	1.7	1.8
Queue Length 50th (ft)	0	12	0	21	0	3	62
Queue Length 95th (ft)	0	34	0	34	4	8	89
Internal Link Dist (ft)	101		1179	750			300
Turn Bay Length (ft)						175	
Base Capacity (vph)	428	396	725	3159	1416	811	4539
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.05	0.04	0.14	0.02	0.04	0.34

Intersection Summary

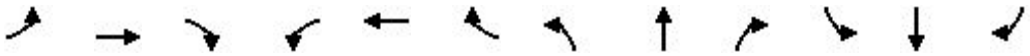
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	11	28	482	29	1557
v/c Ratio	0.10	0.20	0.11	0.04	0.34
Control Delay	45.4	19.3	1.2	1.5	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	45.4	19.3	1.2	1.5	1.6
Queue Length 50th (ft)	7	0	13	2	57
Queue Length 95th (ft)	24	27	21	7	81
Internal Link Dist (ft)	928		170		420
Turn Bay Length (ft)	75			265	
Base Capacity (vph)	442	432	4539	781	4569
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.02	0.06	0.11	0.04	0.34

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	289	342	280	148	356	83	87	168	460	607	502
v/c Ratio	0.68	0.29	0.40	0.68	0.30	0.13	0.39	0.36	0.89	0.60	0.65
Control Delay	51.6	26.4	6.2	59.6	26.5	0.4	25.8	33.5	47.2	33.7	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.6	26.4	6.2	59.6	26.5	0.4	25.8	33.5	47.2	33.7	8.3
Queue Length 50th (ft)	90	86	8	89	90	0	36	43	243	183	21
Queue Length 95th (ft)	#164	130	69	#203	134	0	60	69	#340	217	106
Internal Link Dist (ft)		216			267			1225		310	
Turn Bay Length (ft)	160			215		215	280		215		
Base Capacity (vph)	422	1191	707	217	1189	654	226	709	514	1167	829
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.29	0.40	0.68	0.30	0.13	0.38	0.24	0.89	0.52	0.61

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	28	4	5	66	1	95	8	1058	104	109	482	36
v/c Ratio	0.20	0.02	0.02	0.47	0.01	0.39	0.01	0.43	0.09	0.25	0.16	0.03
Control Delay	42.9	38.2	0.2	52.3	38.0	13.3	6.6	8.0	1.7	3.9	2.5	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.9	38.2	0.2	52.3	38.0	13.3	6.6	8.0	1.7	3.9	2.5	1.0
Queue Length 50th (ft)	17	2	0	40	1	0	1	142	0	11	28	0
Queue Length 95th (ft)	42	12	0	80	6	45	7	222	19	27	51	7
Internal Link Dist (ft)		268			1785			876			418	
Turn Bay Length (ft)	75			125		125	180			135		
Base Capacity (vph)	352	465	452	351	465	467	624	2485	1142	436	2940	1321
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.01	0.01	0.19	0.00	0.20	0.01	0.43	0.09	0.25	0.16	0.03

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	28	13	2	1229	601
v/c Ratio	0.22	0.10	0.00	0.27	0.13
Control Delay	47.3	22.2	2.0	1.6	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	47.3	22.2	2.0	1.6	1.4
Queue Length 50th (ft)	17	0	0	45	19
Queue Length 95th (ft)	44	19	1	66	30
Internal Link Dist (ft)	1107			1070	450
Turn Bay Length (ft)	50		50		
Base Capacity (vph)	442	405	687	4533	4533
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.06	0.03	0.00	0.27	0.13

Intersection Summary

Lane Group	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	36	123	1221	59	16	642
v/c Ratio	0.30	0.56	0.42	0.05	0.05	0.16
Control Delay	47.8	24.9	3.4	0.8	2.8	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.8	24.9	3.4	0.8	2.8	2.3
Queue Length 50th (ft)	22	20	81	0	1	22
Queue Length 95th (ft)	51	73	147	8	7	41
Internal Link Dist (ft)		1179	750			300
Turn Bay Length (ft)					175	
Base Capacity (vph)	352	463	2879	1299	325	4138
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.27	0.42	0.05	0.05	0.16

Intersection Summary

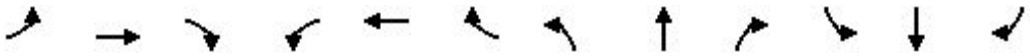
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	32	36	1259	22	644
v/c Ratio	0.25	0.24	0.29	0.07	0.15
Control Delay	47.7	18.3	2.0	2.3	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	47.7	18.3	2.0	2.3	1.7
Queue Length 50th (ft)	20	0	47	2	21
Queue Length 95th (ft)	48	30	69	7	32
Internal Link Dist (ft)	928		170		420
Turn Bay Length (ft)	75			265	
Base Capacity (vph)	442	422	4353	332	4361
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.07	0.09	0.29	0.07	0.15

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	494	564	79	57	380	227	383	701	183	285	302
v/c Ratio	0.80	0.42	0.12	0.39	0.40	0.38	0.84	0.79	0.73	0.40	0.54
Control Delay	50.5	26.4	1.4	50.8	32.4	6.3	40.6	39.6	37.8	35.6	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.5	26.4	1.4	50.8	32.4	6.3	40.6	39.6	37.8	35.6	7.6
Queue Length 50th (ft)	152	145	0	35	108	0	182	208	76	83	0
Queue Length 95th (ft)	#252	214	9	74	154	58	#270	260	#127	115	65
Internal Link Dist (ft)		216			267			1225		310	
Turn Bay Length (ft)	160			215		215	280		215		
Base Capacity (vph)	619	1337	679	177	952	592	456	1051	256	884	622
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.42	0.12	0.32	0.40	0.38	0.84	0.67	0.71	0.32	0.49

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	36	19	18	176	11	115	8	316	58	98	1332	21
v/c Ratio	0.14	0.06	0.05	0.71	0.03	0.31	0.03	0.14	0.06	0.13	0.52	0.02
Control Delay	33.4	31.3	0.3	53.6	30.7	8.2	11.1	9.4	1.9	5.5	7.8	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.4	31.3	0.3	53.6	30.7	8.2	11.1	9.4	1.9	5.5	7.8	2.4
Queue Length 50th (ft)	20	10	0	107	6	0	2	43	0	16	171	0
Queue Length 95th (ft)	44	28	0	165	20	43	10	75	13	39	283	8
Internal Link Dist (ft)		268			1785			876			418	
Turn Bay Length (ft)	75			125		125	180			135		
Base Capacity (vph)	349	465	452	347	465	482	230	2210	1017	754	2552	1148
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.04	0.04	0.51	0.02	0.24	0.03	0.14	0.06	0.13	0.52	0.02

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	16	16	38	429	1758
v/c Ratio	0.14	0.14	0.19	0.09	0.39
Control Delay	46.3	22.5	4.1	1.2	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	46.3	22.5	4.1	1.2	1.8
Queue Length 50th (ft)	10	0	3	12	69
Queue Length 95th (ft)	31	21	12	19	96
Internal Link Dist (ft)	1107			1070	450
Turn Bay Length (ft)	50		50		
Base Capacity (vph)	442	407	199	4563	4542
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.04	0.04	0.19	0.09	0.39

Intersection Summary

Lane Group	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	21	29	474	31	35	1611
v/c Ratio	0.19	0.06	0.15	0.02	0.04	0.36
Control Delay	47.0	0.2	1.5	0.7	1.8	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.0	0.2	1.5	0.7	1.8	1.9
Queue Length 50th (ft)	13	0	22	0	3	65
Queue Length 95th (ft)	36	0	36	4	9	94
Internal Link Dist (ft)		1179	750			300
Turn Bay Length (ft)					175	
Base Capacity (vph)	388	715	3156	1415	799	4534
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.04	0.15	0.02	0.04	0.36

Intersection Summary

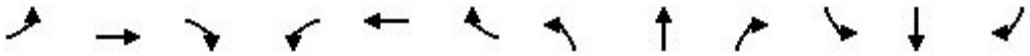
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	12	29	498	29	1605
v/c Ratio	0.11	0.20	0.11	0.04	0.35
Control Delay	45.6	18.9	1.2	1.6	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	45.6	18.9	1.2	1.6	1.7
Queue Length 50th (ft)	7	0	13	2	60
Queue Length 95th (ft)	25	27	21	7	84
Internal Link Dist (ft)	928		170		420
Turn Bay Length (ft)	75			265	
Base Capacity (vph)	442	433	4538	770	4568
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.03	0.07	0.11	0.04	0.35

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	300	353	289	153	368	85	89	172	474	626	516
v/c Ratio	0.66	0.30	0.41	0.66	0.31	0.13	0.40	0.35	0.86	0.61	0.66
Control Delay	49.6	26.8	6.8	56.8	26.9	0.4	25.6	33.3	41.8	33.5	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.6	26.8	6.8	56.8	26.9	0.4	25.6	33.3	41.8	33.5	9.4
Queue Length 50th (ft)	92	91	12	91	95	0	36	44	243	186	33
Queue Length 95th (ft)	#161	133	75	#201	138	0	62	70	#327	225	128
Internal Link Dist (ft)		216			267			1225		310	
Turn Bay Length (ft)	160			215		215	280		215		
Base Capacity (vph)	452	1181	703	232	1177	649	228	708	548	1167	822
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.66	0.30	0.41	0.66	0.31	0.13	0.39	0.24	0.86	0.54	0.63

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	29	4	5	68	2	98	8	1089	107	113	500	36
v/c Ratio	0.20	0.02	0.02	0.48	0.01	0.39	0.01	0.45	0.10	0.28	0.18	0.03
Control Delay	42.8	38.0	0.2	52.3	38.0	13.1	6.8	8.7	1.7	4.3	2.8	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.8	38.0	0.2	52.3	38.0	13.1	6.8	8.7	1.7	4.3	2.8	1.0
Queue Length 50th (ft)	17	2	0	42	1	0	2	149	0	12	30	0
Queue Length 95th (ft)	43	12	0	82	8	45	7	234	19	29	54	7
Internal Link Dist (ft)		268			1785			876			418	
Turn Bay Length (ft)	75			125		125	180			135		
Base Capacity (vph)	352	465	452	351	465	469	593	2401	1108	410	2824	1270
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.01	0.01	0.19	0.00	0.21	0.01	0.45	0.10	0.28	0.18	0.03

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	31	16	5	1266	625
v/c Ratio	0.24	0.12	0.01	0.28	0.14
Control Delay	47.6	21.4	1.8	1.7	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	47.6	21.4	1.8	1.7	1.4
Queue Length 50th (ft)	19	0	0	47	20
Queue Length 95th (ft)	47	20	2	70	31
Internal Link Dist (ft)	1107			1070	450
Turn Bay Length (ft)	50		50		
Base Capacity (vph)	442	407	670	4527	4523
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.07	0.04	0.01	0.28	0.14

Intersection Summary

Lane Group	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	38	126	1258	61	17	663
v/c Ratio	0.30	0.58	0.44	0.05	0.06	0.16
Control Delay	47.3	27.8	3.6	0.8	3.0	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.3	27.8	3.6	0.8	3.0	2.4
Queue Length 50th (ft)	23	26	87	0	2	23
Queue Length 95th (ft)	53	80	160	8	8	45
Internal Link Dist (ft)		1179	750			300
Turn Bay Length (ft)					175	
Base Capacity (vph)	352	458	2867	1294	309	4119
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.28	0.44	0.05	0.06	0.16

Intersection Summary

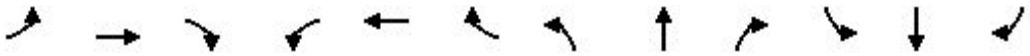
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	33	37	1297	23	663
v/c Ratio	0.25	0.25	0.30	0.07	0.15
Control Delay	47.7	18.1	2.1	2.5	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	47.7	18.1	2.1	2.5	1.7
Queue Length 50th (ft)	20	0	50	2	21
Queue Length 95th (ft)	50	30	73	7	34
Internal Link Dist (ft)	928		170		420
Turn Bay Length (ft)	75			265	
Base Capacity (vph)	442	423	4349	317	4357
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.07	0.09	0.30	0.07	0.15

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	511	526	81	59	389	237	395	721	189	295	311
v/c Ratio	0.82	0.40	0.12	0.40	0.42	0.40	0.86	0.79	0.75	0.40	0.54
Control Delay	52.3	26.5	1.6	51.1	33.0	6.4	42.7	39.5	40.0	35.2	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.3	26.5	1.6	51.1	33.0	6.4	42.7	39.5	40.0	35.2	7.5
Queue Length 50th (ft)	160	136	0	36	112	0	184	212	77	84	0
Queue Length 95th (ft)	#265	198	10	76	157	59	#294	268	#144	120	66
Internal Link Dist (ft)		216			267			1225		310	
Turn Bay Length (ft)	160			215		215	280		215		
Base Capacity (vph)	621	1313	669	177	928	590	458	1051	255	884	629
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.40	0.12	0.33	0.42	0.40	0.86	0.69	0.74	0.33	0.49

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	36	19	18	176	11	115	8	329	58	98	1339	21
v/c Ratio	0.14	0.06	0.05	0.71	0.03	0.31	0.03	0.15	0.06	0.13	0.52	0.02
Control Delay	33.4	31.3	0.3	53.6	30.7	8.2	11.1	9.5	1.9	5.5	7.8	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.4	31.3	0.3	53.6	30.7	8.2	11.1	9.5	1.9	5.5	7.8	2.4
Queue Length 50th (ft)	20	10	0	107	6	0	2	45	0	16	172	0
Queue Length 95th (ft)	44	28	0	165	20	43	10	78	13	39	286	8
Internal Link Dist (ft)		268			1785			876			418	
Turn Bay Length (ft)	75			125		125	180			135		
Base Capacity (vph)	349	465	452	347	465	482	229	2210	1017	745	2552	1148
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.04	0.04	0.51	0.02	0.24	0.03	0.15	0.06	0.13	0.52	0.02

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	16	16	38	443	1765
v/c Ratio	0.14	0.14	0.19	0.10	0.39
Control Delay	46.3	22.5	4.1	1.2	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	46.3	22.5	4.1	1.2	1.8
Queue Length 50th (ft)	10	0	3	12	70
Queue Length 95th (ft)	31	21	13	20	97
Internal Link Dist (ft)	1107			1070	450
Turn Bay Length (ft)	50		50		
Base Capacity (vph)	442	407	197	4563	4542
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.04	0.04	0.19	0.10	0.39

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	43	89	21	29	47	444	31	35	1618
v/c Ratio	0.36	0.50	0.18	0.05	0.22	0.15	0.02	0.05	0.38
Control Delay	49.9	33.3	44.4	0.2	5.5	2.2	1.0	2.5	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.9	33.3	44.4	0.2	5.5	2.2	1.0	2.5	2.8
Queue Length 50th (ft)	26	28	13	0	5	23	0	3	75
Queue Length 95th (ft)	59	73	35	0	21	43	6	11	121
Internal Link Dist (ft)		101		1179		750			300
Turn Bay Length (ft)	40				60			175	
Base Capacity (vph)	343	428	325	735	214	2982	1338	776	4261
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.21	0.06	0.04	0.22	0.15	0.02	0.05	0.38

Intersection Summary

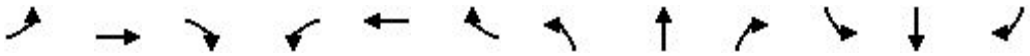
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	12	29	516	29	1637
v/c Ratio	0.11	0.20	0.11	0.04	0.36
Control Delay	45.6	18.9	1.2	1.6	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	45.6	18.9	1.2	1.6	1.7
Queue Length 50th (ft)	7	0	14	2	62
Queue Length 95th (ft)	25	27	22	7	87
Internal Link Dist (ft)	928		170		420
Turn Bay Length (ft)	75			265	
Base Capacity (vph)	442	433	4538	754	4568
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.03	0.07	0.11	0.04	0.36

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	305	353	289	153	368	87	89	182	478	644	525
v/c Ratio	0.67	0.30	0.41	0.67	0.32	0.13	0.39	0.36	0.87	0.62	0.67
Control Delay	50.1	26.9	7.1	57.3	27.1	0.4	25.4	34.1	42.0	33.5	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.1	26.9	7.1	57.3	27.1	0.4	25.4	34.1	42.0	33.5	9.9
Queue Length 50th (ft)	94	92	14	91	96	0	36	47	244	191	37
Queue Length 95th (ft)	#164	133	78	#201	138	0	62	75	#338	232	136
Internal Link Dist (ft)		216			267			1225		310	
Turn Bay Length (ft)	160			215		215	280		215		
Base Capacity (vph)	452	1173	697	230	1165	645	229	708	550	1167	822
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.30	0.41	0.67	0.32	0.13	0.39	0.26	0.87	0.55	0.64

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	29	4	5	68	2	98	8	1097	107	113	512	36
v/c Ratio	0.20	0.02	0.02	0.48	0.01	0.39	0.01	0.46	0.10	0.28	0.18	0.03
Control Delay	42.8	38.0	0.2	52.3	38.0	13.1	6.8	8.8	1.7	4.3	2.8	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.8	38.0	0.2	52.3	38.0	13.1	6.8	8.8	1.7	4.3	2.8	1.0
Queue Length 50th (ft)	17	2	0	42	1	0	2	151	0	12	31	0
Queue Length 95th (ft)	43	12	0	82	8	45	7	235	19	29	55	7
Internal Link Dist (ft)		268			1785			876			418	
Turn Bay Length (ft)	75			125		125	180			135		
Base Capacity (vph)	352	465	452	351	465	469	584	2401	1108	408	2824	1270
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.01	0.01	0.19	0.00	0.21	0.01	0.46	0.10	0.28	0.18	0.03

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	31	16	5	1273	636
v/c Ratio	0.24	0.12	0.01	0.28	0.14
Control Delay	47.6	21.4	1.8	1.7	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	47.6	21.4	1.8	1.7	1.4
Queue Length 50th (ft)	19	0	0	48	20
Queue Length 95th (ft)	47	20	2	70	32
Internal Link Dist (ft)	1107			1070	450
Turn Bay Length (ft)	50		50		
Base Capacity (vph)	442	407	661	4527	4523
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.07	0.04	0.01	0.28	0.14

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	18	40	38	126	36	1247	61	17	675
v/c Ratio	0.20	0.10	0.31	0.58	0.06	0.43	0.05	0.05	0.16
Control Delay	45.8	0.4	48.1	27.2	2.7	3.6	0.8	2.9	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.8	0.4	48.1	27.2	2.7	3.6	0.8	2.9	2.3
Queue Length 50th (ft)	11	0	23	25	3	86	0	2	23
Queue Length 95th (ft)	32	0	53	78	12	157	8	7	44
Internal Link Dist (ft)		101		1179		750			300
Turn Bay Length (ft)	40				60			175	
Base Capacity (vph)	249	623	340	459	579	2868	1294	313	4096
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.06	0.11	0.27	0.06	0.43	0.05	0.05	0.16

Intersection Summary

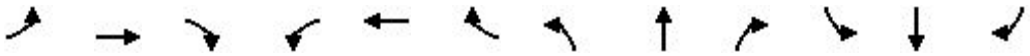
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	33	37	1322	23	682
v/c Ratio	0.25	0.25	0.30	0.07	0.16
Control Delay	47.7	18.1	2.1	2.5	1.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	47.7	18.1	2.1	2.5	1.7
Queue Length 50th (ft)	20	0	51	2	22
Queue Length 95th (ft)	50	30	75	7	35
Internal Link Dist (ft)	928		170		420
Turn Bay Length (ft)	75			265	
Base Capacity (vph)	442	423	4349	308	4357
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.07	0.09	0.30	0.07	0.16

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	518	526	81	59	389	240	395	735	193	305	316
v/c Ratio	0.83	0.40	0.12	0.40	0.43	0.41	0.86	0.80	0.77	0.41	0.54
Control Delay	53.0	26.8	1.6	51.1	33.3	6.5	42.7	39.7	42.2	35.1	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.0	26.8	1.6	51.1	33.3	6.5	42.7	39.7	42.2	35.1	7.4
Queue Length 50th (ft)	164	137	0	36	112	0	183	217	78	87	0
Queue Length 95th (ft)	#271	198	10	76	157	60	#298	275	#154	123	66
Internal Link Dist (ft)		216			267			1225		310	
Turn Bay Length (ft)	160			215		215	280		215		
Base Capacity (vph)	623	1301	665	177	914	587	458	1052	252	884	632
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.40	0.12	0.33	0.43	0.41	0.86	0.70	0.77	0.35	0.50

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	37	21	21	205	11	137	11	374	68	116	1574	21
v/c Ratio	0.14	0.06	0.06	0.76	0.03	0.33	0.07	0.18	0.07	0.17	0.63	0.02
Control Delay	32.2	30.6	0.3	55.8	29.8	7.7	12.9	10.8	2.6	6.1	10.0	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.2	30.6	0.3	55.8	29.8	7.7	12.9	10.8	2.6	6.1	10.0	2.4
Queue Length 50th (ft)	20	11	0	124	6	0	3	55	0	21	249	0
Queue Length 95th (ft)	44	29	0	192	20	46	13	88	17	45	375	8
Internal Link Dist (ft)		268			1785			876			418	
Turn Bay Length (ft)	75			125		125	180			135		
Base Capacity (vph)	349	465	452	346	465	498	151	2067	956	704	2497	1123
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.05	0.05	0.59	0.02	0.28	0.07	0.18	0.07	0.16	0.63	0.02

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	16	16	38	505	2093
v/c Ratio	0.14	0.14	0.29	0.11	0.46
Control Delay	46.3	23.9	7.9	1.2	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	46.3	23.9	7.9	1.2	2.1
Queue Length 50th (ft)	10	1	4	14	93
Queue Length 95th (ft)	31	21	18	23	127
Internal Link Dist (ft)	1107			1070	450
Turn Bay Length (ft)	50		50		
Base Capacity (vph)	442	407	133	4563	4546
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.04	0.04	0.29	0.11	0.46

Intersection Summary

Lane Group	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	26	37	558	37	42	1905
v/c Ratio	0.25	0.08	0.18	0.03	0.06	0.44
Control Delay	48.7	0.4	1.9	0.7	2.0	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.7	0.4	1.9	0.7	2.0	2.6
Queue Length 50th (ft)	16	0	27	0	3	87
Queue Length 95th (ft)	42	0	45	5	10	127
Internal Link Dist (ft)		1179	750			300
Turn Bay Length (ft)					175	
Base Capacity (vph)	352	665	3031	1361	707	4356
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.06	0.18	0.03	0.06	0.44

Intersection Summary

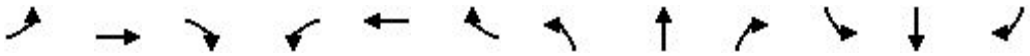
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	16	32	584	32	1900
v/c Ratio	0.14	0.22	0.13	0.05	0.42
Control Delay	46.2	18.6	1.2	1.6	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	46.2	18.6	1.2	1.6	1.9
Queue Length 50th (ft)	10	0	16	2	79
Queue Length 95th (ft)	31	29	26	7	110
Internal Link Dist (ft)	928		170		420
Turn Bay Length (ft)	75			265	
Base Capacity (vph)	442	435	4531	703	4561
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.04	0.07	0.13	0.05	0.42

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	353	416	342	179	432	100	105	205	558	742	611
v/c Ratio	0.75	0.37	0.52	0.76	0.39	0.16	0.45	0.36	0.93	0.67	0.79
Control Delay	53.4	28.7	12.5	63.4	29.0	0.6	25.6	32.5	48.5	33.0	18.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.4	28.7	12.5	63.4	29.0	0.6	25.6	32.5	48.5	33.0	18.8
Queue Length 50th (ft)	113	112	51	111	116	0	39	51	275	214	122
Queue Length 95th (ft)	#191	156	138	#232	162	0	70	83	#466	273	273
Internal Link Dist (ft)		216			267			1225		310	
Turn Bay Length (ft)	160			215		215	280		215		
Base Capacity (vph)	469	1114	660	237	1104	621	234	709	598	1167	790
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.37	0.52	0.76	0.39	0.16	0.45	0.29	0.93	0.64	0.77

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	32	5	5	79	5	116	11	1289	126	132	589	37
v/c Ratio	0.21	0.02	0.02	0.51	0.02	0.42	0.02	0.55	0.12	0.39	0.21	0.03
Control Delay	42.0	37.4	0.2	52.8	37.4	12.3	7.6	10.6	1.8	6.2	3.1	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.0	37.4	0.2	52.8	37.4	12.3	7.6	10.6	1.8	6.2	3.1	1.1
Queue Length 50th (ft)	19	3	0	48	3	0	2	201	0	15	38	0
Queue Length 95th (ft)	46	13	0	91	13	48	10	322	22	35	67	7
Internal Link Dist (ft)		268			1785			876			418	
Turn Bay Length (ft)	75			125		125	180			135		
Base Capacity (vph)	351	465	452	351	465	482	532	2355	1095	342	2797	1258
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.01	0.01	0.23	0.01	0.24	0.02	0.55	0.12	0.39	0.21	0.03

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	31	16	5	1516	745
v/c Ratio	0.24	0.12	0.01	0.33	0.16
Control Delay	47.6	21.4	1.8	1.9	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	47.6	21.4	1.8	1.9	1.5
Queue Length 50th (ft)	19	0	0	61	24
Queue Length 95th (ft)	47	20	2	88	38
Internal Link Dist (ft)	1107			1070	450
Turn Bay Length (ft)	50		50		
Base Capacity (vph)	442	407	592	4527	4523
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.07	0.04	0.01	0.33	0.16

Intersection Summary

Lane Group	WBL	WBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	47	147	1489	74	21	784
v/c Ratio	0.29	0.64	0.54	0.06	0.10	0.20
Control Delay	42.8	39.8	5.4	1.0	4.7	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.8	39.8	5.4	1.0	4.7	3.2
Queue Length 50th (ft)	28	59	147	0	2	36
Queue Length 95th (ft)	60	116	253	11	11	64
Internal Link Dist (ft)		1179	750			300
Turn Bay Length (ft)					175	
Base Capacity (vph)	352	433	2772	1256	217	3983
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.34	0.54	0.06	0.10	0.20

Intersection Summary

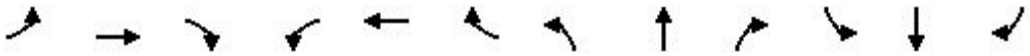
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	37	42	1537	26	784
v/c Ratio	0.28	0.27	0.35	0.11	0.18
Control Delay	48.1	17.5	2.3	3.1	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	48.1	17.5	2.3	3.1	1.8
Queue Length 50th (ft)	23	0	64	2	27
Queue Length 95th (ft)	53	32	93	9	42
Internal Link Dist (ft)	928		170		420
Turn Bay Length (ft)	75			265	
Base Capacity (vph)	442	427	4339	240	4347
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.08	0.10	0.35	0.11	0.18

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	600	689	95	68	463	279	468	853	221	347	368
v/c Ratio	0.91	0.57	0.15	0.45	0.56	0.49	0.90	0.86	0.88	0.42	0.58
Control Delay	59.5	30.8	2.6	52.7	37.0	7.9	43.5	42.0	56.9	33.9	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.5	30.8	2.6	52.7	37.0	7.9	43.5	42.0	56.9	33.9	8.7
Queue Length 50th (ft)	197	201	0	42	138	6	208	254	86	96	12
Queue Length 95th (ft)	#308	266	19	85	190	72	#383	331	#217	139	89
Internal Link Dist (ft)		216			267			1225		310	
Turn Bay Length (ft)	160			215		215	280		215		
Base Capacity (vph)	660	1210	627	177	825	574	521	1051	251	884	653
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.91	0.57	0.15	0.38	0.56	0.49	0.90	0.81	0.88	0.39	0.56

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	37	21	21	205	11	137	11	387	68	116	1581	21
v/c Ratio	0.14	0.06	0.06	0.76	0.03	0.33	0.07	0.19	0.07	0.17	0.63	0.02
Control Delay	32.2	30.6	0.3	55.8	29.8	7.7	12.9	10.8	2.6	6.1	10.0	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.2	30.6	0.3	55.8	29.8	7.7	12.9	10.8	2.6	6.1	10.0	2.4
Queue Length 50th (ft)	20	11	0	124	6	0	3	58	0	21	251	0
Queue Length 95th (ft)	44	29	0	192	20	46	14	92	17	45	377	8
Internal Link Dist (ft)		268			1785			876			418	
Turn Bay Length (ft)	75			125		125	180			135		
Base Capacity (vph)	349	465	452	346	465	498	150	2067	956	694	2497	1123
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.05	0.05	0.59	0.02	0.28	0.07	0.19	0.07	0.17	0.63	0.02

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	16	16	38	520	2101
v/c Ratio	0.14	0.14	0.29	0.11	0.46
Control Delay	46.3	23.9	8.1	1.2	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	46.3	23.9	8.1	1.2	2.1
Queue Length 50th (ft)	10	1	4	15	94
Queue Length 95th (ft)	31	21	19	23	127
Internal Link Dist (ft)	1107			1070	450
Turn Bay Length (ft)	50		50		
Base Capacity (vph)	442	407	132	4563	4546
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.04	0.04	0.29	0.11	0.46

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	43	89	26	37	47	528	37	42	1912
v/c Ratio	0.33	0.51	0.21	0.07	0.32	0.18	0.03	0.06	0.45
Control Delay	47.3	41.8	43.8	0.3	10.2	2.5	1.0	2.8	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.3	41.8	43.8	0.3	10.2	2.5	1.0	2.8	3.5
Queue Length 50th (ft)	26	40	16	0	6	31	0	4	105
Queue Length 95th (ft)	58	86	40	0	32	56	7	14	166
Internal Link Dist (ft)		101		1179		750			300
Turn Bay Length (ft)	40				60			175	
Base Capacity (vph)	341	413	325	682	147	2951	1326	708	4222
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.22	0.08	0.05	0.32	0.18	0.03	0.06	0.45

Intersection Summary

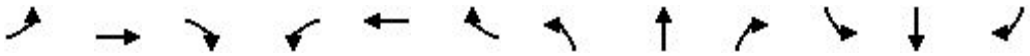
Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	16	32	602	32	1932
v/c Ratio	0.14	0.22	0.13	0.05	0.42
Control Delay	46.2	18.6	1.2	1.6	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	46.2	18.6	1.2	1.6	1.9
Queue Length 50th (ft)	10	0	17	2	81
Queue Length 95th (ft)	31	29	27	7	113
Internal Link Dist (ft)	928		170		420
Turn Bay Length (ft)	75			265	
Base Capacity (vph)	442	435	4536	690	4561
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.04	0.07	0.13	0.05	0.42

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	358	416	342	179	432	102	105	216	562	760	620
v/c Ratio	0.76	0.38	0.52	0.76	0.39	0.17	0.45	0.37	0.94	0.68	0.80
Control Delay	54.2	28.8	12.7	64.1	29.1	0.6	25.6	33.4	50.4	33.2	19.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.2	28.8	12.7	64.1	29.1	0.6	25.6	33.4	50.4	33.2	19.6
Queue Length 50th (ft)	115	112	52	112	116	0	39	55	275	220	129
Queue Length 95th (ft)	#195	156	140	#232	162	0	70	88	#481	281	284
Internal Link Dist (ft)		216			267			1225		310	
Turn Bay Length (ft)	160			215		215	280		215		
Base Capacity (vph)	468	1109	656	235	1097	618	233	708	595	1167	790
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.38	0.52	0.76	0.39	0.17	0.45	0.31	0.94	0.65	0.78

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	32	5	5	79	5	116	11	1297	126	132	601	37
v/c Ratio	0.21	0.02	0.02	0.51	0.02	0.42	0.02	0.55	0.12	0.39	0.21	0.03
Control Delay	42.0	37.4	0.2	52.8	37.4	12.3	7.6	10.7	1.8	6.3	3.1	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.0	37.4	0.2	52.8	37.4	12.3	7.6	10.7	1.8	6.3	3.1	1.1
Queue Length 50th (ft)	19	3	0	48	3	0	2	203	0	15	39	0
Queue Length 95th (ft)	46	13	0	91	13	48	10	326	22	35	70	7
Internal Link Dist (ft)		268			1785			876			418	
Turn Bay Length (ft)	75			125		125	180			135		
Base Capacity (vph)	351	465	452	351	465	482	526	2354	1095	340	2797	1258
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.01	0.01	0.23	0.01	0.24	0.02	0.55	0.12	0.39	0.21	0.03

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	31	16	5	1523	756
v/c Ratio	0.24	0.12	0.01	0.34	0.17
Control Delay	47.6	21.4	1.8	1.9	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	47.6	21.4	1.8	1.9	1.5
Queue Length 50th (ft)	19	0	0	62	25
Queue Length 95th (ft)	47	20	2	89	38
Internal Link Dist (ft)	1107			1070	450
Turn Bay Length (ft)	50		50		
Base Capacity (vph)	442	407	585	4527	4523
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.07	0.04	0.01	0.34	0.17

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	18	40	47	147	36	1479	74	21	796
v/c Ratio	0.17	0.10	0.30	0.64	0.07	0.53	0.06	0.10	0.20
Control Delay	41.0	0.5	43.5	39.3	3.7	5.3	1.0	4.6	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.0	0.5	43.5	39.3	3.7	5.3	1.0	4.6	3.2
Queue Length 50th (ft)	11	0	28	58	4	144	0	2	36
Queue Length 95th (ft)	30	0	60	115	15	250	11	11	64
Internal Link Dist (ft)		101		1179		750			300
Turn Bay Length (ft)	40				60			175	
Base Capacity (vph)	232	572	340	434	495	2776	1257	220	3968
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.07	0.14	0.34	0.07	0.53	0.06	0.10	0.20

Intersection Summary

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	37	42	1562	26	803
v/c Ratio	0.28	0.27	0.36	0.11	0.18
Control Delay	48.1	17.5	2.3	3.2	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	48.1	17.5	2.3	3.2	1.8
Queue Length 50th (ft)	23	0	65	2	27
Queue Length 95th (ft)	53	32	96	9	43
Internal Link Dist (ft)	928		170		420
Turn Bay Length (ft)	75			265	
Base Capacity (vph)	442	427	4339	234	4347
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.08	0.10	0.36	0.11	0.18

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	607	689	95	68	463	282	468	868	224	358	374
v/c Ratio	0.91	0.57	0.15	0.45	0.57	0.50	0.91	0.86	0.89	0.43	0.59
Control Delay	60.3	30.9	2.6	52.7	37.3	8.4	44.3	42.6	59.3	33.9	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.3	30.9	2.6	52.7	37.3	8.4	44.3	42.6	59.3	33.9	9.1
Queue Length 50th (ft)	200	201	0	42	138	8	208	261	87	100	15
Queue Length 95th (ft)	#313	266	19	85	190	76	#388	338	#224	143	96
Internal Link Dist (ft)		216			267			1225		310	
Turn Bay Length (ft)	160			215		215	280		215		
Base Capacity (vph)	664	1203	624	177	815	569	517	1052	251	884	653
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.91	0.57	0.15	0.38	0.57	0.50	0.91	0.83	0.89	0.40	0.57

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.