

CASE SUMMARY

CASE SUMMARY
Regular Agenda

PC Hearing Date: July 10, 2024

BCC Hearing Date: July 30, 2024

23-119953RZ Rezoning

Case Name: South Golden Road / Mt. Vernon Mixed-Use ODP

Owner/Applicant: Petrified Tree, LLC, a Colorado limited liability company, and Talk to the Hand, LLC, a Colorado limited liability company

Location: 16129 W 10th Ave, 16005 Mt Vernon Rd, and 16100 S Golden Rd, Golden Section 1, Township 4 South, Range 70 West

Approximate Area: 5.5 Acres

Purpose: Rezone from Planned Development (PD), Commercial – One (C-1), and Residential – Three (R-3) to Planned Development (PD) to allow for a mixed-use project with ground-floor retail and up to 200 multi-family residential dwelling units above, and to preserve the Rock Rest Lodge.

Case Manager: Sara Hutchinson

Representative: Joel Weikert, Ripley Design, Inc.

Issues:

- None

Recommendations:

- **Staff:** Recommends APPROVAL

Interested Parties:

- None

Level of Community Interest: Moderate

General Location: Southwest of the intersection of S Golden Road and Mt Vernon Road. North of the intersection of Mt Vernon Road and W 10th Avenue.

Case Manager Information: Phone: 303-271-8732 e-mail: shutchin@jeffco.us

PC RESOLUTION

It was moved by Commissioner **Spencer** that the following Resolution be adopted:

BEFORE THE PLANNING COMMISSION
COUNTY OF JEFFERSON
STATE OF COLORADO

July 10, 2024

RESOLUTION

23-119953RZ Rezoning
Case Name: South Golden Road / Mt. Vernon Mixed-Use ODP
Owner/Applicant: Petrified Tree, LLC, a Colorado limited liability company, and Talk to the Hand, LLC, a Colorado limited liability company
Location: 16129 W 10th Ave, 16005 Mt Vernon Rd, and 16100 S Golden Rd, Golden
Section 1, Township 4 South, Range 70 West
Approximate Area: 5.5 Acres
Purpose: **Rezone from Planned Development (PD), Commercial–One (C-1), and Residential–Two (R-2) to Planned Development (PD) to allow for a mixed-use project with ground-floor retail and up to 200 multi-family residential dwelling units above, and to preserve the Rock Rest Lodge.**
Case Manager: Sara Hutchinson

The Jefferson County Planning Commission hereby recommends **APPROVAL**, of the above application, on the basis of the following facts:

1. That the factors upon which this decision is based include evidence and testimony and staff findings presented in this case.

2. The Planning Commission finds that:
 - A. The Rezoning to allow for a mixed-use project with ground-floor retail, office and service uses, and up to 200 multi-family residential dwelling units above, and to preserve the Rock Rest Lodge, is compatible with the existing and allowable commercial and residential land uses in the surrounding South Golden Road Corridor area.
 - B. The proposal is in general conformance with the Comprehensive Master Plan (Plan). The Plan recommends mixed-use buildings and the rezoning would allow for a mixed-use building and preservation of the existing Rock Rest Lodge. The proposal meets the Plan's land use recommendation, and all other applicable sections of the Plan goals and policies are met.
 - C. The ability to mitigate the negative impacts of the proposed land use upon the surrounding area has been considered. Restrictions to mitigate potential impacts have been provided through requirements in the Official Development Plan (ODP). Standards for building height and massing, architectural design, and landscape buffers address visual, architectural, and shading impacts. Traffic from the proposed development can be absorbed in the surrounding transportation network with some mitigation.
 - D. The subject property is served by Pleasant View Metropolitan District Fire Department and the Jefferson County Sheriff's Office. Water and wastewater services will be provided by Consolidated Mutual Water and Pleasant View Sanitation District. Services are available and adequate to service the property.
 - E. The proposed land use will not result in significant impacts to the health, safety, and welfare of the residents and landowners in the surrounding area.

Commissioner **Duncan** seconded the adoption of the foregoing Resolution, and upon a vote of the Planning Commission as follows:

Commissioner	Rogers	aye
Commissioner	Spencer	aye
Commissioner	Duncan	aye
Commissioner	Liles	aye
Commissioner	Carpenter	aye

Jefferson County Planning Commission Resolution
Case #23-119953RZ
July 10, 2024
3 of 3

The Resolution was adopted by **majority** vote of the Planning Commission of the County of Jefferson, State of Colorado.

I, Kimi Schillinger, Executive Secretary for the Jefferson County Planning Commission, do hereby certify that the foregoing is a true copy of a Resolution duly adopted by the Jefferson County Planning Commission at a regular hearing held in Jefferson County, Colorado, July 10, 2024.



Kimi Schillinger
Executive Secretary

STAFF REPORT

Case Number:
23-11953RZ

Summary of Process

- The Staff evaluation of an application will be presented at the required Planning Commission and Board of County Commissioners' Hearings.
- The Planning Commission will review the evidence and will make a recommendation to the Board of County Commissioners.
- The final decision on the request will be made by the Board of County Commissioners.

Case Summary

Rezone from Planned Development (PD), Commercial – One (C-1), and Residential – Three (R-3) to Planned Development (PD) to allow for a mixed-use project with ground-floor retail and up to 200 multi-family residential dwelling units above, and to preserve the Rock Rest Lodge +

Purpose

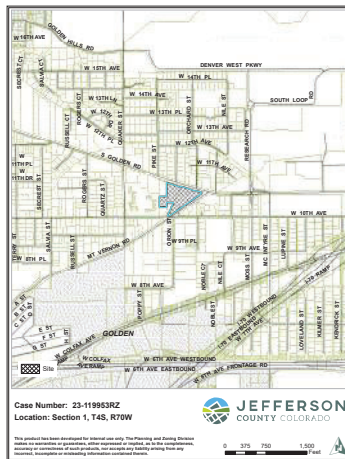
South Golden Road / Mt. Vernon Mixed-Use ODP		Sara Hutchinson	November 27, 2023			
Case Name		Case Manager	Formal Submittal Date			
March 2, 2023	July 19, 2023	July 10, 2024	July 30, 2024	Site Development Plan		
Pre-Application Date		Community Meeting Date	PC Hearing Date	BCC Hearing Date	Next Process	
Joel Weikert, Ripley Design, Inc. (Representative)		Petrified Tree, LLC, and Talk to the Hand, LLC				
Applicant/Representative, check if same as owner: <input type="checkbox"/>		Owner				
16129 W 10th Ave, 16005 Mt Vernon Rd, and	Golden	80401	5.5 acres	1	4 South	70 West
Property Address	City	Zip	Area ≈	Section	Township	Range
40-012-17-174	Southwest of the intersection of S Golden Rd and Mt Vernon Rd. North of the intersection of Mt Vernon Rd and W 10th Ave.					
Pin	General Location					

Land Use and Zoning

Vicinity



Detail



Surrounding Zoning



Existing Land Use:	Existing Zoning:	CMP Recommended Land Use:	Requested Zoning:
Warehouse, Residential, Restaurant	PD, C-1, and R-3	Neighborhood commercial, R&D, tight industrial, and mixed-use buildings	Planned Development (PD)
Plan Area: Central Plains		Number of citizens at Community Meetings: 21	
PC Recommendations: Approval		Level of Community Interest: Moderate	
Key Issues: None			

Criteria for Rezoning:

- The compatibility with existing and allowable land uses in the surrounding area.
- The degree of conformance with applicable land use plans.
- The ability to mitigate negative impacts upon the surrounding area.
- The availability of infrastructure and services.
- The effect upon the health, safety, and welfare of the residents and landowners in the surrounding area.

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1. SUBJECT REQUEST



Figure 1: Location of subject property.

The applicant is requesting to Rezone the existing Planned Development (PD), Commercial – One (C-1), and Residential – Two (R-2) zone districts to create a new Planned Development (PD) zone district to allow for a mixed-use project with ground-floor retail and up to 200 multi-family residential dwelling units above, and to preserve the Rock Rest Lodge.

The proposed new Planned Development would be governed by the South Golden Road / Mt. Vernon Mixed-Use Official Development Plan (ODP). The ODP would include two planning areas: the first to allow mixed-use development with ground-floor retail and up to 200 multi-family residential units on the upper levels, and the second to allow restaurant and tavern uses primarily to preserve the ongoing use of the Rock Rest Lodge. Additional modifications defined by the ODP would be landscaping and communal amenity standards, modified setbacks, parking requirements, architecture standards, and architecture exemptions for preservation of the Rock Rest Lodge.

2. CONTEXT

The subject property is in central Jefferson County and is made up of three parcels. It is located southwest of the intersection of S Golden Road and Mt Vernon Road, and north of the intersection of Mt Vernon Road and W 10th Avenue. This property is adjacent to brewery, commercial, auto service, and single-family residential uses to the north. It is adjacent to single-family residential uses to the south, single-family residential and auto service uses to the east, and multi-family and single-family residential and commercial retail uses to the west. The lots to the north are zoned Commercial – One (C-1), Planned Development (PD), and Residential – One (R-1). The lots to the south and east are zoned Planned Development (PD) and Residential – Two (R-2). The lots to the west are zoned Planned Development (PD) and Residential – Three (R-3). This area is characterized by a mix of residential and commercial land uses.

The South Golden Road Corridor is intended to become a hub for research and development, primarily due to the National Renewable Energy Laboratory (NREL) and existing commercial activity, and it currently provides employment and services for the surrounding area. This Corridor is also home to a former low-security federal prison and several State of Colorado agency offices. Currently, commercial uses along South Golden Road cater to primarily auto-oriented needs like repair shops, and a car dealership. There are also several bars, restaurants, and tap rooms in this area, some of which are long-standing staples of the community while others are new additions. The Corridor is currently undergoing a period of change with several recently approved or ongoing development applications along the roughly mile-long stretch of South Golden Road and its peripheries.

There are a variety of existing structures on the property. In Planning Area 2, the Rock Rest Lodge was built in 1910 according to the Jefferson County Assessor, with zoning that went into effect in 1983. In Planning Area 1, there is a mobile home park with structures built in 1926, 1940, 1941, and 1949 according to the Jefferson County Assessor, with C-1 zoning that went into effect in 1946 and 1955 and R-2 zoning that went into effect in 1941, as well as a warehouse/garage that was built in 1990 according to the Jefferson County Assessor, with PD zoning that went into effect in 1991. This Rezoning has been requested to create a unified zone district for the properties, to preserve the Rock Rest Lodge, and to allow for a mixed-use project with ground-floor retail, office and service uses, and up to 200 multi-family residential dwelling units above.

3. SURROUNDING ZONING/LAND USE

	Adjacent Zoning	Land Use
North:	Commercial – One (C-1), Planned Development (PD), Residential – One (R-1)	Brewery, Auto Service, Commercial Retail, Single-Family Residential
South:	Planned Development (PD), Residential – Two (R-2)	Single-Family Residential
East:	Planned Development (PD), Residential – Two (R-2)	Auto Service, Single-Family Residential
West:	Planned Development (PD), Residential – Three (R-3)	Multi-Family Residential, Single-Family Residential, Commercial Retail

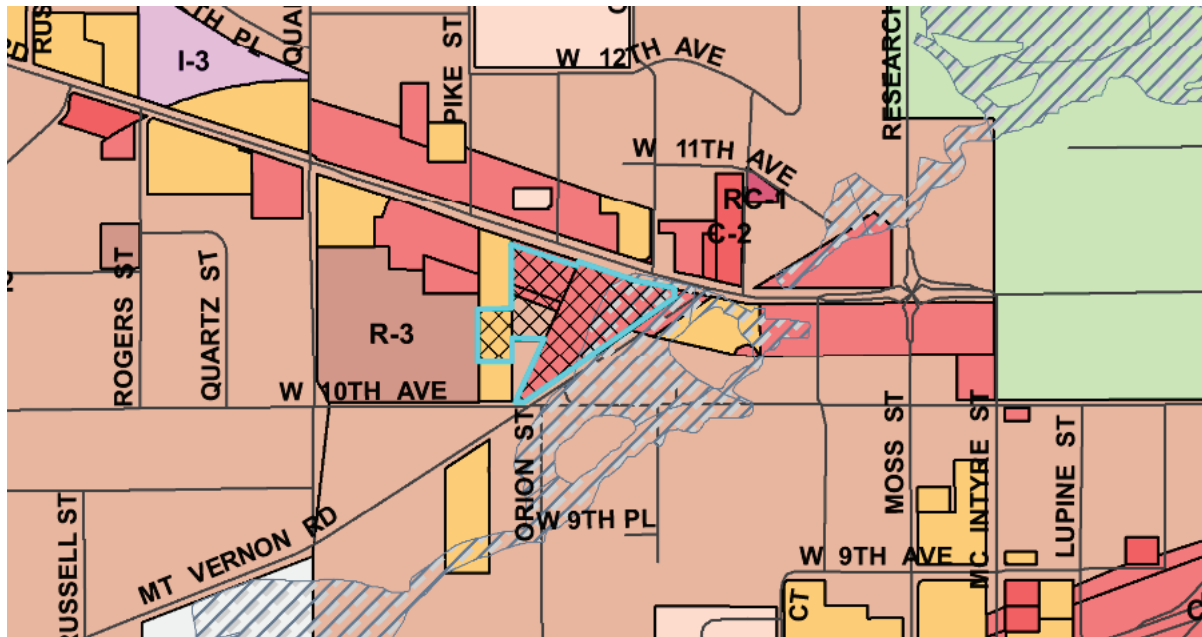


Figure 2: Zoning map of subject property and surrounding area with floodplain designation.

4. SUMMARY OF PROPOSED CHANGES

	Current Zoning (Planned Development – Bettinger Official Development Plan)
Uses	<p>Use Area 1: one single-family dwelling and residential accessory uses.</p> <p>Use Area 2: A maximum of two storage buildings, with a maximum 3,000 sf GLA.</p> <p>Storage uses limited to the storage of antique automobiles, parts for antique automobiles, and collectible items. Restoration and repair of antique automobiles and collectibles limited to occur within the building and done by the building owner or leaseholder on their own antiques and collectables. No off-site employees.</p>
Setbacks	<p>Front: 20 feet Rear: 20 feet Side: 10 feet</p>
Number of Lots	Maximum of two
Lot Size	Minimum of 12,500 sf
Height	<p>Residential structures: 35 feet Accessory structures and storage buildings: 20 feet</p>
Parking	<p>Residential Uses: Minimum of two on-site parking spaces for each dwelling unit.</p> <p>Storage Uses: Minimum of one space per 2,000 sf GLA on site.</p>

Architecture	All buildings shall be residential in scale, character, and finish. All buildings must have sloped gable-style roofs and painted or stained siding on the walls.
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	Current Zoning (Commercial – One, Convenience Level)
Primary Uses	Medical and Dental Offices/Clinics and Small Veterinary Clinics, Business and Professional Offices, Laboratory (except those involved in any hazardous process that emit noxious noise, dust, fumes, odor), State Licensed Day-Care Center or Preschool or Nursery, Grocery Store, Supermarket, Gas Station/Service Station/Car Wash, Auto Repair Facility, Convenience Retail Shopping Facility, Specialty Restaurant with no drive-thru, Restaurants, Convenience Service Establishments, Outdoor Vending Machines, Low Intensity Specialty Goods and Services, Taverns and Lounges, Banks and Other Financial Institutions, Craft Brewery and Craft Distillery under 10,000 sf GLA, Arcades/Pool Halls and Dance and Other Similar Studios, Fitness Centers/Martial Arts Studios and Other Similar Uses, Department Stores/Discount Stores under 75,000 sf GLA, Nightclubs and Discotheques, Entertainment Facilities, Building Material Retail Stores, Building Material Sales, Recreational Facilities, Hotels and Motels, Private College and Schools, Rental Stores (excluding automobiles, campers, trailers, and heavy equipment), Shops for Custom Work, Telecommunications Land Uses, Energy Conversion Systems, Mini-Storage and Mini-Warehousing
Accessory Uses	Construction Trailers during construction only, Customer and Employee Parking of Operable Motor Vehicles, Living Quarters for not more than one family in a commercial building, Retail Sale of Permissible Fireworks
Setbacks	<p style="text-align: center;">Structural:</p> <p style="text-align: center;">Front, side, and rear: 50 feet From common wall/interior lot line: 0 feet Side and rear adjacent to separate Commercial, Industrial, or comparable PD Zone District: 10 feet</p> <p style="text-align: center;">Gas Pump:</p> <p style="text-align: center;">Front and side: 18 feet Rear: 20 feet</p>
Height	35 feet

	Current Zoning (Residential - Two)
Uses	Single-Family Dwelling, Two-Family Dwelling Group Home for up to 8 Elderly or Developmentally Disabled Persons, Public Park, Class I Public Recreation Facility, Telecommunications Land Uses, Energy Conversion Systems
Setbacks	Front: 20 feet Rear: 5 feet

	<p style="text-align: center;">Side: All Structures: 5 feet minimum, 15 feet total Adjacent to local/collector: 20 feet Adjacent to arterial: 30 feet</p> <p style="text-align: center;">Building Separation from Building on Adjacent Lot: 15 feet</p>
Lot Size	<p style="text-align: center;">Single-Family Dwelling: 9,000 sf Two-Family Dwelling: 12,500 sf minimum develop area and 5,000 sf minimum lot area per unit</p>
Height	<p style="text-align: center;">Primary structure: 35 feet Accessory structures: 25 feet</p>

Proposed Zoning	
Primary Uses	<p>Planning Area #1: Multi-Family Dwellings, Townhomes, General Retail, Business and Professional Office, Service Establishment</p> <p>Building(s) shall be Mixed-Use, with ground floor Commercial facing South Golden Road; maximum Commercial GLA is 8,400 sf. Remaining ground floor area may be used for residential dwellings and/or uses that support Multi-Family Residential.</p> <p style="text-align: center;">Maximum of 200 dwelling units.</p> <p>Planning Area #2: Restaurants and Taverns, excluding Drive-Thru and Fast Food</p>
Accessory Uses	<p>Planning Area #1: Private Garage, Mini Structure, Storage Shed, Existing Stone Arch</p> <p>Planning Area #2: Private Garage, Mini Structure, Storage Shed</p>
Setbacks	<p style="text-align: center;">Planning Area #1: North PD Boundary: 25 feet West PD Boundary: 10 feet South PD Boundary: 10 feet From any Principal Building in Planning Area #2: 50 feet</p> <p style="text-align: center;"><i>For Accessory Structures:</i> North PD Boundary: 40 feet West PD Boundary: 10 feet South PD Boundary: 10 feet East PD Boundary: 40 feet</p> <p style="text-align: center;">Existing Stone Arch on Mt Vernon Rd is exempt from these setbacks.</p> <p style="text-align: center;">Planning Area #2: North PD Boundary: 25 feet East PD Boundary: 25 feet</p> <p style="text-align: center;">Existing decks and patios at or below 2'6" from the ground are exempt from these setbacks.</p>

<p>Building Step Backs</p>	<p>Planning Area #1:</p> <p><i>Floors above the second story: 5 feet minimum from first two stories, maintain step back at each floor (excludes balconies and decks for units)</i></p> <p><i>Floor above 60 feet in height: 25 feet minimum from immediate story below when fronting Northern PD Boundary, Western PD Boundary, or Planning Area #2, and when located at predominant corners of the building’s massing. Step Back shall span horizontal lengths no fewer than 20 feet and no larger than 80 feet in length.</i></p> <p><i>Adjacent to R-2 Zone District: Transitional Height Setback required 75 feet from PD Boundary</i></p>
<p>Height</p>	<p>Planning Area #1:</p> <p>Principal buildings: 75 feet Within transitional height setback: 35 feet</p> <p>Planning Area #2: 35 feet</p>

	<p>Current Zoning (Standard Zoning Resolution)</p>	<p>Proposed Zoning</p>
<p>Parking</p>	<p>Multi-Family Residential/Townhomes:</p> <p>One Bedroom Units: 1.25 spaces/unit Two Bedroom Units: 2 spaces/unit Three Bedroom Units or Larger: 2.5 spaces/unit Guest Parking: 0.25 spaces/unit</p> <p>Commercial:</p> <p>Restaurant (Carry-Out, Specialty, Sit-down, and All Other): 10 spaces/1,000 sf GFA General Retail: 4 spaces/1,000 sf GFA Business/Professional Office: 4 spaces/1,000 sf GFA Service Establishment: 4 spaces/1,000 sf GFA</p> <p>Shared parking for mixed-use developments may be approved by the Director of Planning and Zoning.</p>	<p>Residential:</p> <p>Studio Units: 1 parking space/unit One Bedroom Units: 1.25 spaces/unit Two Bedroom Units: 2 spaces/unit Three Bedroom Units or Larger: 2.5 spaces/unit Guest Parking: 0.25 spaces/unit</p> <p>Commercial:</p> <p>Existing Commercial (Rock Rest Lodge): 10 spaces/1,000 sf GFA General Retail: 4 spaces/1,000 sf GFA Business/Professional Office: 4 spaces/1,000 sf GFA Service Establishment: 4 spaces/1,000 sf GFA</p> <p>Motorcycle: standard vehicular parking spaces may be substituted for motorcycle parking stalls as long as the total motorcycle parking does not exceed more than 7% of total spaces provided on site</p> <p>Shared vehicular parking may be proposed.</p>

		On-street parking along the Eastern PD Boundary may count toward parking requirements.
Architecture	<ul style="list-style-type: none"> - Building mass reduction through variation in horizontal façade, massive materials on the lower portion of the building - Exterior wall finish materials and colors that resemble or are natural materials - 360-degree architecture 	<ul style="list-style-type: none"> - Greater building mass reduction through variation in horizontal façade, massive materials on the lower portion of the building, and a variety of step backs - Exterior wall finish materials and colors that resemble or are natural materials - 360-degree architecture - Emphasis on ground floor transparency, building articulation for human-scale architecture, and additional horizontal façade features for visual interest with mixed-use building(s) - Preservation of existing Rock Rest Lounge architectural design and features
Landscaping	<ul style="list-style-type: none"> - Landscape buffers required along S Golden Road and Mt Vernon - Dissimilar use screening required between residential and commercial uses - Perimeter landscape buffers with 5 shrubs per 1000 sf of landscape area - 15% minimum landscape coverage for a mixed-use zone district 	<p>Proposes requirements beyond those of the ZR, including:</p> <ul style="list-style-type: none"> - Perimeter landscape buffers and dissimilar use screening with 8 shrubs per 500 sf of landscape area - Columnar evergreen trees with a minimum height of 10 feet to provide additional buffering - 20% total landscape coverage - Emphasis on vibrant streetscapes and pedestrian experience - Communal Amenities make up 40% of Common Useable Area

5. TRANSPORTATION

The proposed Rezoning to allow for the mixed uses on the subject property is anticipated to have impacts to the existing transportation network; however, the transportation study shows that the surrounding transportation network can absorb the trips generated from this development with some mitigation. Access to this property is from Mt Vernon Road and S Golden Road, which are paved County-maintained streets. Staff determined that the transportation study and its findings were adequate for the purpose of this Rezoning application and analysis. The provided transportation analysis incorporated the proposed traffic generation from recently approved Rezoning cases along the S Golden Road Corridor. However, a revised transportation study for the final development will be required with the Site Development Plan (SDP) application, if this Rezoning is approved.

The analyzed build-out scenario would result in approximately 1,005 new daily vehicle trips with 85 new trips occurring during the AM peak hour and 95 new trips during the PM peak hour. The addition of the

project trips is estimated to have little impact on the performance of the study intersections compared to the Year 2028 background scenario (overall LOS B or better in both peak hours, all movements operating at LOS C or better). The addition of the project generated trips is estimated to have little impact on the performance of the study intersections compared to the Year 2048 background scenario. The proposed accesses are anticipated to operate overall at LOS A in both peak hours with all the movements operating at LOS C or better. The transportation study submitted with this Rezoning application recommends restricting the access from South Golden Road to a right-in/right-out access, and an additional eastbound lane is recommended by restriping the approach on S Golden Road at the Moss Street roundabout in the 2048 scenario. All other study intersections can adequately accommodate the projected traffic volumes in the near-term and long-term scenarios.

A Regional Transportation District (RTD) high frequency bus route operates along South Golden Road with a stop adjacent to the subject property. The presence of this bus line in addition to the future development of additional bike and pedestrian infrastructure along this corridor support the use of multi-modal and public transportation by future residents and users. Staff finds that the proposed parking ratios, which meet the standard ZR requirements, will provide sufficient off-street parking for these uses due to existing infrastructure and multi-modal options on South Golden Road.

6. CRITERIA FOR DECISIONS FOR PLANNED DEVELOPMENT REZONING APPLICATIONS

Section 6 of the Zoning Resolution states, *In reviewing Rezoning and Special Use applications, the Planning Commission and the Board of County Commissioners may consider the following criteria:*

- ✓ a. *The compatibility with existing and allowable land uses in the surrounding area.*
 - ✓ b. *The degree of conformance with applicable land use plans.*
 - ✓ c. *The ability to mitigate negative impacts upon the surrounding area.*
 - ✓ d. *The availability of infrastructure and services.*
 - ✓ e. *The effect upon the health, safety, and welfare of the residents and landowners in the surrounding area.*
-

a. The compatibility with existing and allowable land uses in the surrounding area.

The proposed mixed-use development with commercial and residential uses is compatible with the existing and allowable land uses in the area. The proposed zoning pairs well with existing residential and commercial uses surrounding the subject property. The proposed allowed uses in the ODP are restricted to prohibit more intensive land uses. The CMP identifies the South Golden Road Corridor as an area that should provide employment and services to surrounding residential neighborhoods, especially jobs in the research and development industries. The Community Level of C-1 zoning and comparable PD zone districts along the length of South Golden Road allow for intense land uses such as gas stations and restaurants. These factors ensure this development's compatibility with allowable land uses.

Staff found that a mixed-use development is also compatible with existing and allowable land uses for several reasons. Properties adjacent to South Golden Road are predominantly zoned commercial or a comparable PD, while residential neighborhoods make up the peripheries of this Corridor. The CMP recommends that special care is taken to ensure compatibility while transitioning from lower intensity

uses to higher intensity uses. Furthermore, the CMP advises that proposed development should strive to maintain or enhance existing buffers, separations, and screening if compatibility cannot be achieved through other methods. Staff finds that revisions and additions to the proposed ODP satisfy these policies of the CMP by mitigating impacts and creating adequate buffers between residential uses and the proposed development by reducing building height to 35 feet within 75 feet of Residential zoning and requiring floors above the second floor to be stepped back at least 5 feet among other mitigation listed in the ODP. For these reasons, the proposed ODP would result in a development that is compatible with existing and allowable land uses of the surrounding area.

b. The degree of conformance with applicable land use plans.

The Comprehensive Master Plan (CMP), an advisory document required by State statute, contains Goals and Policies that are used to guide land use decisions. The Area Plans section of the CMP contains supplementary policies and land use recommendations for evaluation.

	Summary	Conforms with CMP? ✓ ○ ✗
Land Use	The CMP discusses the need for a variety of uses to create a vibrant, enduring community. The Plan encourages diverse communities in which to live, work, and enjoy outdoor recreation.	✓
Physical Constraints	The CMP describes physical constraints as those physical features that due to safety concerns may potentially restrict where and how development occurs. Physical Constraints include geologic hazards and constraints, floodplains, wetlands, wildfire, radiation, landfills, abandoned mines, and wildlife habitat	✓
Community Resources	The CMP contains policies that relate to historic structures or sites, scenic corridors, natural features, air quality, light, odor and noise pollution, open space and trails.	✓
Infrastructure Water and Services	The CMP describes the importance of new developments having adequate Transportation, Water and Wastewater, and Services.	✓

Staff concludes that the subject request is in general conformance with the applicable goals and policies of the Comprehensive Master Plan (CMP).

Land Use: The subject property is located in Area 2 of the South Golden Road Corridor Area of the Central Plains Area Plan. The CMP recommends neighborhood commercial, research & development, light industrial, and mixed-use buildings for the subject area. The Central Plains Area Plan advocates for the revitalization of the unincorporated portion of the South Golden Road Corridor in a way that provides employment opportunities and services for nearby communities. Land use policies of the CMP also discuss the need to mitigate potential impacts of development, even if the use is recommended on a property. Since the PD zone district would allow a mixed-use development while addressing impacts

through written restrictions, staff finds that this Rezoning application is in conformance with the land use recommendations of the CMP. The proposal also meets CMP goals related to infill development and redevelopment.

Furthermore, the Central Plains Area Plan specifically encourages strategies to attract desirable development along the South Golden Road Corridor. Cited methods include allowing reduced parking standards, a flexibility of uses through mixed-use zone districts, taller building heights for residential above commercial, greater densities, and reduced setbacks near sidewalks. Considering this policy of the Central Plains Area Plan together with this proposal's proposed uses and mitigation measures, staff concludes that this Rezoning request is consistent with the land use recommendation and policies of the CMP. These uses on the subject site are supported by the CMP. This proposal is in conformance with the recommendation within the CMP.

Physical Constraints: The CMP describes physical constraints as those physical features that due to safety concerns may potentially restrict where and how development occurs. There are no geologic hazards on the property. A portion of the property is within the FEMA 100-year floodplain. Any structures placed on this property would need to first obtain a floodplain permit through the Planning and Zoning office. This property is within a Maximum Wildlife Quality Area. If approved, an SDP for this property would be required. Through that process, the applicant should work with CPW and US Fish & Wildlife Service to ensure that impacts to the native wildlife can be properly mitigated where necessary. Therefore, the request is consistent with the Physical Constraints goals and policies of the CMP.

Community Resources: The Community Resources section contains policies that relate to historic structures or sites, scenic corridors, natural features, air quality, light, odor and noise pollution, open space and trails. There are no historic resources identified on this property on the Historic Resources map. However, the Jefferson County Assessor does identify structures on the property that are more than 50 years old and therefore may be eligible for identification as a local, state, and/or national landmark. The applicant has worked with the Jefferson County Historical Commission (JCHC) to document the existing structures on the property and will be preserving the existing stone arch on the southeast corner of the property as well as the Rock Rest Lodge. The applicants are also working with the JCHC to properly document any historic structures that will not remain on site.

Air, light, odor, and noise impacts of this proposal on adjacent properties is expected to be minimal. Staff do not have concerns related to shade cast or to the sidewalk and road maintenance due to ice on S Golden Road. The subject property is not in an identified visual corridor. Visual impacts to residences to the south were considered and will be mitigated through transitional height restrictions that the ODP discusses. Impacts from noise, smoke, glare, fumes, vibration, and other environmental impacts should be kept at levels associated with adjacent commercial land uses. Therefore, the request is consistent with the Community Resources goals and policies of the CMP.

Infrastructure, Water and Services: Existing infrastructure and services are available and adequate to support the uses proposed by this Rezoning. The existing access streets are maintained by the County. The property is within the Pleasant View Metropolitan District Fire Department and the Jefferson County Sheriff's Office provides law enforcement to the area. Water and wastewater services are provided by Consolidated Mutual Water and Pleasant View Sanitation District. The applicable agencies have reviewed the proposed zoning and there are no unmitigated concerns. Therefore, the request is consistent with the Infrastructure, Water and Services goals and policies of the CMP.

c. The ability to mitigate negative impacts upon the surrounding area.

Staff identified potential negative impacts that this development could have on the surrounding area: building massing, shade, and visual impacts.

First, impacts related to building massing have been adequately mitigated by the proposed ODP in various ways through architecture requirements. A future building must have higher-quality design elements than required by architecture standards of the ZR. To help address this issue, the applicant has added a required 5-foot step back for each floor above the second story, a required 25-foot step back for any floor above 60-feet in height. A transitional height setback is also required where the property is adjacent to Residential-Two (R-2) zoning. The transitional height setback shall be 75-feet from the PD boundary and the maximum building height within the transitional height setback is 35-feet matching what is allowed in the R-2 zone district. These requirements help break up the building both vertically and horizontally at a street-level view and from a distance.

Second, a 75-foot-tall structure could affect sun exposure of adjacent properties and streets. The structure would cast a constant shadow over South Golden Road during the winter. Jefferson County Road and Bridge maintains the Right-of-Way of South Golden Road and has cited they do not have concerns about snow and ice build-up due to shading. To help address this issue, the applicant has added a required 5-foot step back for each floor above the second story, a required 25-foot step back for any floor above 60-feet in height. This would result in a decrease in the amount of shade cast by the building. Staff finds that this application has mitigated impacts related to shade to the greatest extent possible.

Third, a development of this size and scale could have negative visual impacts on surrounding properties. While architecture regulations related to building massing help address this issue, the proposed ODP offers sufficient mitigation measures to reduce visual impacts in several ways. First, the PD zone district would provide landscape screening and communal amenities requirements beyond the standards of the ZR. Setback requirements ensure that the primary structure is oriented to adjacent streets and not to residential neighborhoods. The combination of these standards adequately mitigates the potential negative visual impacts of this proposal if built to its maximum height.

d. The availability of infrastructure and services.

The existing infrastructure and services are available and adequate to support the proposed Rezoning, as stated above.

e. The effect upon health, safety, and welfare of the residents and landowners in the surrounding area.

The proposed land uses will not result in significant impacts to the health, safety, and welfare of the residents and landowners in the surrounding area. No unmitigated negative effects relating to the proposed Rezoning have been identified.

7. COMMERCIAL MINERAL DEPOSITS

No known commercial mineral deposits exist on the subject property.

8. COMMUNITY MEETING

A Community Meeting was held on July 19, 2023. There were 21 citizens in attendance. The general tone of the meeting was of concern. Questions presented by community members during the meeting

related to traffic, density, building layout and massing, affordability, historical structures, and the role of the Rock Rest Lodge. Please see the Community Meeting Summary included in this case packet for more details.

9. COMMUNITY/REFERRAL RESPONSES

During the processing of this Rezoning application, Staff received one community response regarding this proposal, which included questions about the allowed building height, potential for shade, and if the traffic study considers traffic from other recently approved projects on S Golden Road. Staff has not identified unresolved citizen comments.

10. AGENCY REFERRAL RESPONSES

This application was sent on referral to 12 Jefferson County Departments & Divisions, 13 external agencies, and 24 registered associations (please see the HOA mailing list in the case packet for more information). The request was sent on two referrals which both resulted in modifications to the proposed written restrictions related to permitted uses and lot and building standards. There are no known outstanding issues with the referral agencies.

11. NOTIFICATION

Notification of the proposed development was sent and posted in accordance with the Zoning Resolution. Please see the attached Notification Summary for more information.

12. POST HEARING REVIEW

If the Rezoning is approved, the post hearing review shall be in accordance with the Zoning Resolution as follows:

The applicant shall have 28 days after Board of County Commissioner's approval to submit a 'clean' copy of the approved red-marked ODP and pay the recordation fees. The Case Manager will have 7 days to review the submitted ODP. If the revisions have been made in accordance with the approval conditions, Staff will affirm and record the ODP documents, as appropriate. If the submitted documents are not in conformance with the approved red-marked ODP, the red-marked ODP shall be recorded.

13. SUBSEQUENT PROCESSES

If the Rezoning is approved, prior to construction of any other buildings on the site a Site Development Plan (SDP) would be required. Building Permits would be required after SDP approval. During these processes, the SDP would be sent on referral to numerous internal and external agencies. The SDP and Building Permit applications are processes that will ensure compliance with all of the County's development regulations.

SUMMARY OF STAFF ANALYSIS

Staff's analysis concludes that the proposed Rezoning is in conformance with specific land use goals and policies outlined within the CMP, and therefore meets the land use recommendations of the CMP. Potential negative impacts to the surrounding area have been adequately addressed using development standards in the ODP, and infrastructure and services are adequate and available to support the

proposed uses. Staff has no unresolved issues related to this Rezoning application and staff recommends APPROVAL of the Rezoning request.

FINDINGS:

Based on the analysis included in this report, staff concludes that the proposal satisfactorily addresses each of the criteria below which the Board of County Commissioners may consider, as detailed in subsection 6 in this staff report.

1. The Rezoning to allow for a mixed-use project with ground-floor retail, office and service uses, and up to 200 multi-family residential dwelling units above, and to preserve the Rock Rest Lodge, is compatible with the existing and allowable commercial and residential land uses in the surrounding South Golden Road Corridor area.
2. The proposal is in general conformance with the Comprehensive Master Plan (Plan). The Plan recommends mixed-use buildings and the rezoning would allow for a mixed-use building and preservation of the existing Rock Rest Lodge. The proposal meets the Plan's land use recommendation, and all other applicable sections of the Plan goals and policies are met.
3. The ability to mitigate the negative impacts of the proposed land use upon the surrounding area has been considered. Restrictions to mitigate potential impacts have been provided through requirements in the Official Development Plan (ODP). Standards for building height and massing, architectural design, and landscape buffers address visual, architectural, and shading impacts. Traffic from the proposed development can be absorbed in the surrounding transportation network with some mitigation.
4. The subject property is served by Pleasant View Metropolitan District Fire Department and the Jefferson County Sheriff's Office. Water and wastewater services will be provided by Consolidated Mutual Water and Pleasant View Sanitation District. Services are available and adequate to service the property.
5. The proposed land use will not result in significant impacts to the health, safety, and welfare of the residents and landowners in the surrounding area.

PLANNING COMMISSION ACTION:

Planning Commission Recommendation (Resolution Dated July 10 2024 Attached):

Approval	<u> X (4-1) </u>
Approval with Conditions	<u> </u>
Denial	<u> </u>

The case was scheduled on the regular agenda of the Planning Commission hearing based upon public opposition. Five members of the public requested to testify against the application at the hybrid hearing in-person and online. They stated concerns about parking, traffic, density, height and design of the mixed-use building, other development in the area, lack of services in the area, and road maintenance.

Staff responses confirmed the following: (1) the traffic study concluded that the intersections studied in the surrounding area would operate at level of service C or better, which is acceptable; (2) the existing Rock Rest Lodge would be subject to parking requirements for a commercial use under the Zoning Resolution; (3) the applicable service providers submitted will serve letters; and (4) the building images submitted by the applicant are conceptual. Staff explained that many of these aspects of the site would be dealt with at future design stages in the Site Development Plan process based on the requirements in the ODP, if approved.

The applicant discussed that the provided building elevations are intended to show how the requirements in the ODP can be met, and may not be what is built. The applicant explained that the building elevations

in the visual analysis within the packet were submitted before the transitional height setbacks were included in the ODP requirements.

The majority of the Planning Commission members agreed with staff that the criteria for the rezoning application was met. The Planning Commission approved a resolution (4 to 1) recommending approval of the application. The Planning Commission member that voted against the motion recommending approval cited compatibility issues. Specifically discussed was the compatibility of buildings with a 75 ft maximum height limit compared to the height of the buildings in the surrounding area.

BOARD OF COUNTY COMMISSIONERS ACTION:

The Board of County Commissioners is charged with reviewing the request, staff report, and Planning Commission recommendation, receiving testimony and evidence on the application and recommending approval or denial of the request to the Board of County Commissioners.

COMMENTS PREPARED BY:

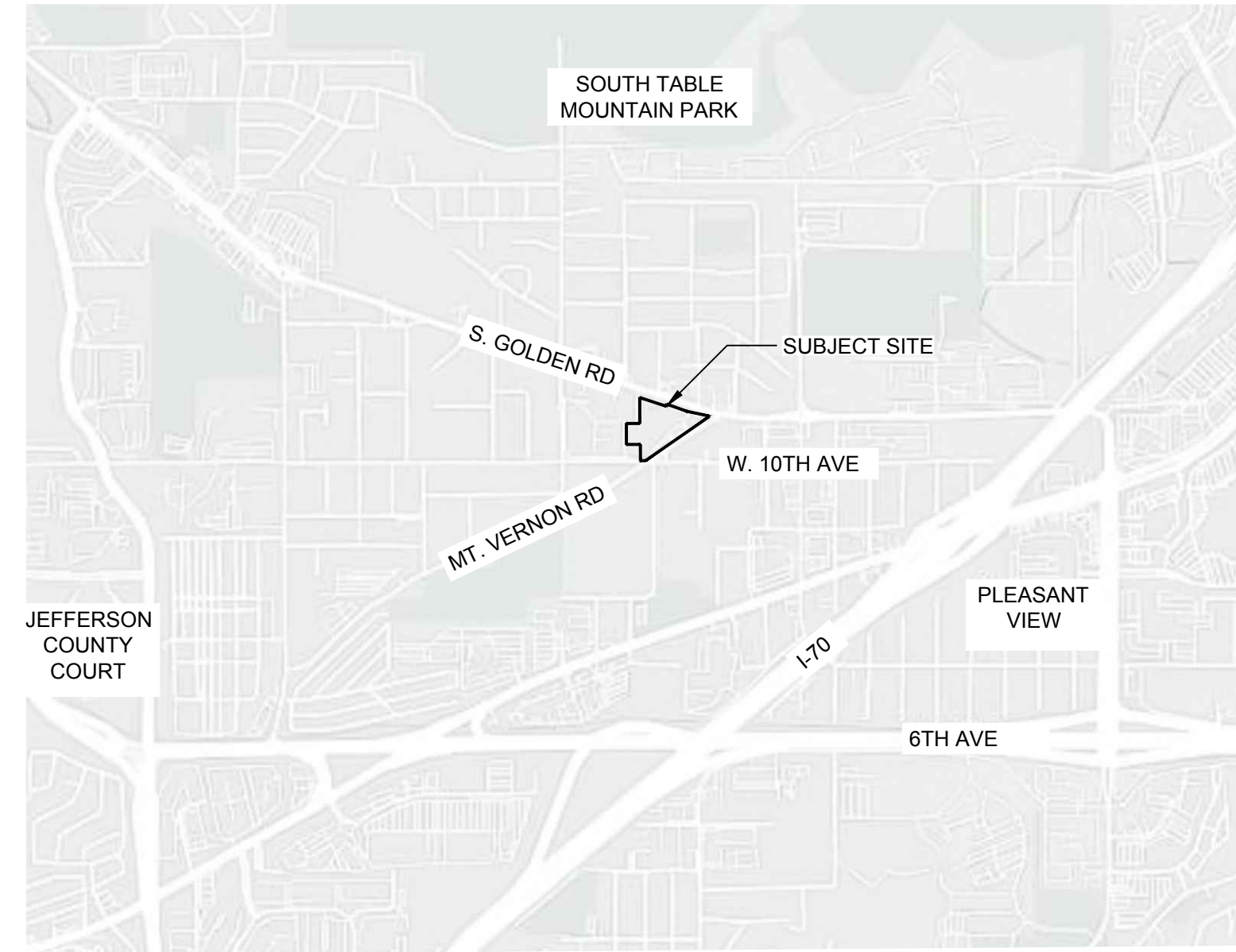
Sara Hutchinson

Sara Hutchinson
Planner
July 17, 2024

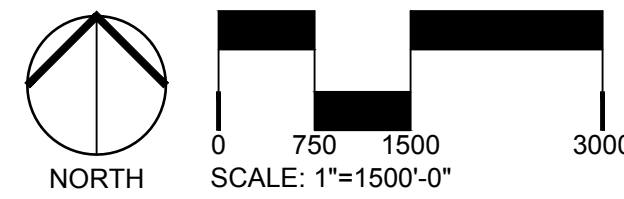
PROPOSED ZONING

SOUTH GOLDEN ROAD / MT. VERNON MIXED-USE OFFICIAL DEVELOPMENT PLAN

A PARCEL LOCATED IN THE SW 1/4 OF THE NW 1/4 OF SECTION 1, TOWNSHIP 4 SOUTH, RANGE 70 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF JEFFERSON, STATE OF COLORADO



VICINITY MAP



LEGAL DESCRIPTION (16129 WEST 10TH AVENUE)

LOT 2A, BURDICK HEIGHTS EXEMPTION SURVEY NO. 1 ADJUSTMENT 1, A REVISION TO LOT 2, BURDICK HEIGHTS EXEMPTION SURVEY NO. 1, LOCATED IN THE NW 1/4 OF SECTION 1, TOWNSHIP 4 SOUTH, RANGE 70 WEST, OF THE 6TH P.M., PER THE MAP RECORDED JULY 10, 2007, AT RECEPTION NO. 2007080061, DESCRIBED AS FOLLOWS:

LOT 2, BURDICK HEIGHTS EXEMPTION SURVEY NO. 1, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

A PARCEL LOCATED IN THE SW 1/4 OF THE NW 1/4 SECTION 1, TOWNSHIP 4 SOUTH, RANGE 70 WEST OF THE 6TH PRINCIPAL MERIDIAN, PER MAP RECORDED JUNE 19, 1991 IN PLAT BOOK 106 AT PAGE 30 AS RECEPTION NUMBER 91053181, DESCRIBED AS FOLLOWS:

COMMENCING AT THE W 1/4 CORNER OF SAID SECTION 1, THENCE N89°58'14"E, ALONG THE SOUTH LINE OF THE NW 1/4 OF SAID SECTION 1, A DISTANCE OF 653.11 FEET; THENCE CONTINUING N89°58'14"E, A DISTANCE OF 124.65 FEET; THENCE N00°01'21"W, A DISTANCE OF 25.00 FEET TO THE SE CORNER OF LOT 1, BURDICK HEIGHTS EXEMPTION SURVEY NO. 1; THENCE N00°01'21"W, ALONG THE EAST LINE OF LOT 1, BURDICK HEIGHTS EXEMPTION SURVEY NO. 1, A DISTANCE OF 127.94 FEET TO THE SE CORNER OF LOT 2, BURDICK HEIGHTS EXEMPTION SURVEY NO. 1 AND THE TRUE POINT OF BEGINNING; THENCE N00°01'21"W, ALONG THE EAST LINE OF SAID LOT 2, A DISTANCE OF 214.71 FEET TO THE NE CORNER OF SAID LOT 2; THENCE S89°59'43"W, ALONG THE NORTH LINE OF SAID LOT 2, A DISTANCE OF 124.77 FEET TO THE NW CORNER OF SAID LOT 2; THENCE S00°02'27"E, ALONG THE WEST LINE OF SAID LOT 2, A DISTANCE OF 214.80 FEET TO THE SW CORNER OF SAID LOT 2; THENCE N89°57'16"E, ALONG THE SOUTH LINE OF SAID LOT 2, A DISTANCE OF 124.70 FEET TO THE TRUE POINT OF BEGINNING.

TOGETHER WITH A 25 FOOT EASEMENT FOR INGRESS AND EGRESS, BEING THE WESTERLY 25 FEET OF LOT 1, BURDICK HEIGHTS EXEMPTION SURVEY NO. 1, PER THE MAP RECORDED JUNE 19, 1991 IN BOOK 106 AT PAGE 30, AS RECEPTION NUMBER 91053181 COUNTY OF JEFFERSON, STATE OF COLORADO.

LEGAL DESCRIPTION (16005 MT VERNON ROAD)

BEGINNING AT A POINT 793 FEET EAST OF THE SOUTHWEST CORNER OF THE NW 1/4 SECTION 1, TOWNSHIP 4 SOUTH, RANGE 70 WEST; THENCE 3/4THS OF A FOOT EAST; THENCE NORTHEASTERLY 706 FEET TO EAST LINE OF SW 1/4 NW 1/4; THENCE NORTHWESTERLY ALONG SOUTH GOLDEN ROAD 284 FEET; THENCE SOUTHWESTERLY 609 FEET TO POINT OF BEGINNING.

ALSO: COMMENCING 793 FEET EAST OF SOUTHWEST CORNER OF NW 1/4 SECTION 1, TOWNSHIP 4 SOUTH, RANGE 70 WEST, THENCE NORTHEASTERLY 706 FEET TO THE EAST LINE OF SW 1/4 NW 1/4; THENCE EASTERLY ALONG SOUTH SIDE OF SOUTH GOLDEN ROAD, 171 FEET TO INTERSECTION OF MOUNT VERNON ROAD AND SOUTH GOLDEN ROAD, THENCE SOUTHWESTERLY ALONG THE NORTHWESTERLY SIDE OF MOUNT VERNON ROAD TO THE SOUTH LINE OF THE NW 1/4 OF SECTION 1; THENCE WEST 38 FEET TO PLACE OF BEGINNING. COUNTY OF JEFFERSON, STATE OF COLORADO. (REC. NO.F0316415)

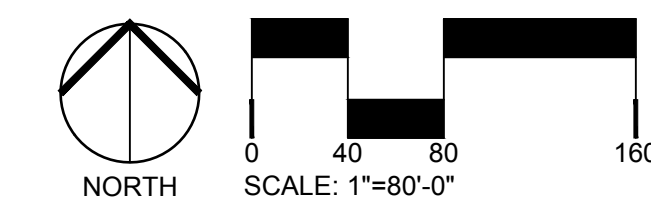
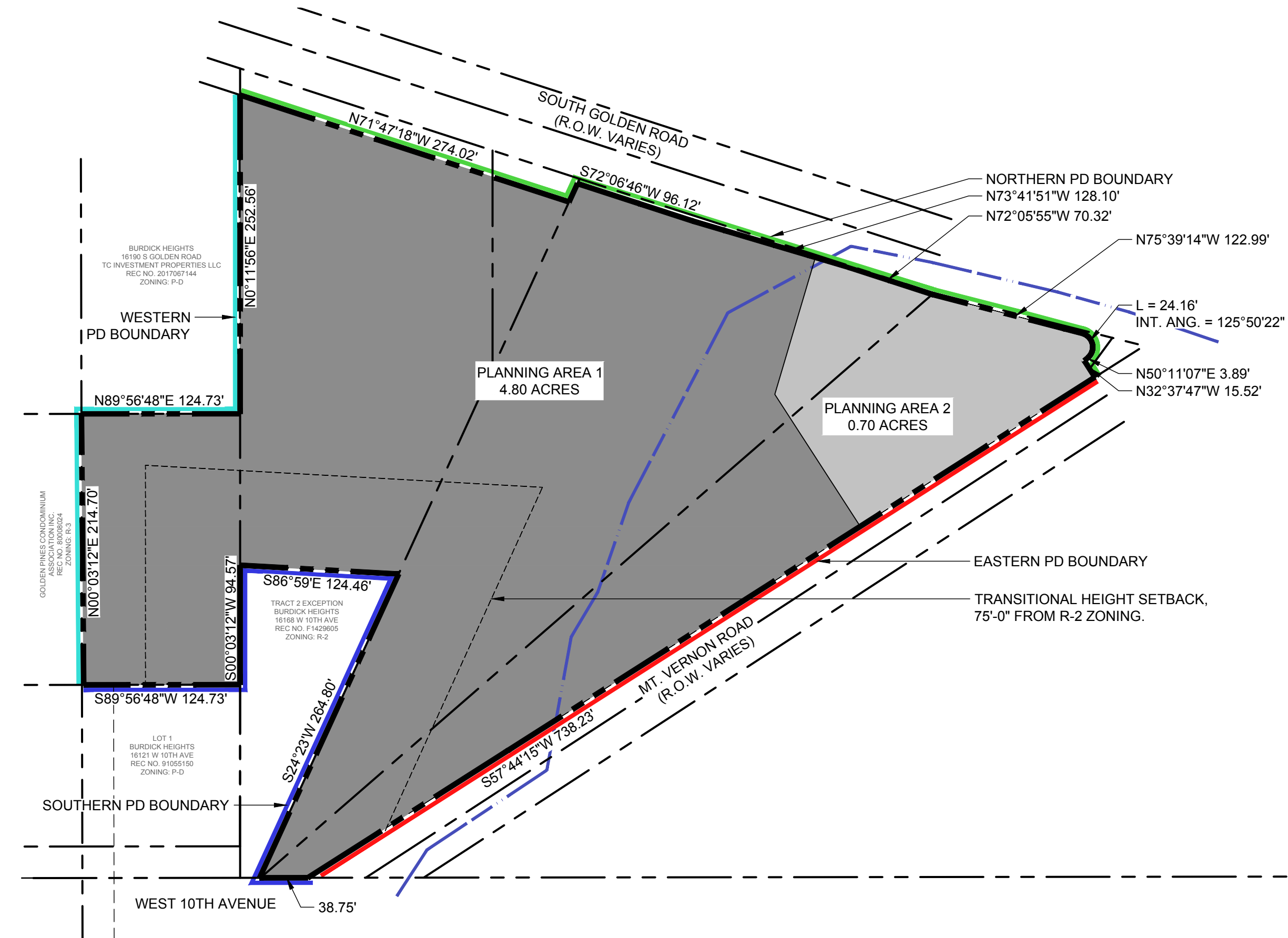
EXCEPT THAT PARCEL DESCRIBED IN RECEPTION NO. 2013090817.

LEGAL DESCRIPTION (16100 SOUTH GOLDEN ROAD)

LOTS 1 AND 2, MORE CORRECTLY KNOWN AS TRACTS 1 AND 2, BURDICK HEIGHTS, EXCEPT THE NORTHERLY 20 FEET OF SAID LOTS 1 AND 2, BURDICK HEIGHTS, AND EXCEPT THAT PORTION MORE PARTICULARLY DESCRIBED AS FOLLOWS:

A TRACT OF LAND IN THE NORTHWEST QUARTER OF SECTION 1, TOWNSHIP 4 SOUTH, RANGE 70 WEST OF THE 6TH P.M., MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT 778.25 FEET EAST OF THE SOUTHWEST CORNER OF THE NORTHWEST QUARTER OF SECTION 1, TOWNSHIP 4 SOUTH, RANGE 70 WEST; THENCE N0°10'W A DISTANCE OF 247.73 FEET; THENCE S86°59'E A DISTANCE OF 124.46 FEET; THENCE S24°23'W A DISTANCE OF 264.80 FEET TO THE SOUTH LINE OF THE NORTHWEST QUARTER OF SECTION 1; THENCE WEST A DISTANCE OF 14.25 FEET, MORE OR LESS, ALONG THE SOUTH LINE OF THE NORTHWEST QUARTER OF SECTION 1 TO THE POINT OF BEGINNING COUNTY OF JEFFERSON, STATE OF COLORADO.



STATEMENT OF INTENT

THE PURPOSE OF THE SOUTH GOLDEN ROAD / MT VERNON ROAD MIXED USE OFFICIAL DEVELOPMENT PLAN IS TO ALLOW FOR THE CREATION OF A MIXED USE PROJECT WITH GROUND FLOOR COMMERCIAL ADJACENT TO SOUTH GOLDEN ROAD AND MULTIFAMILY RESIDENTIAL ABOVE. MULTIFAMILY RESIDENTIAL WILL ALSO BE ALLOWED ON THE GROUND FLOOR SO LONG AS IT DOES NOT FACE PUBLIC RIGHT OF WAY. THE GROUND FLOOR COMMERCIAL AND HIGH DENSITY RESIDENTIAL WILL FOLLOW THE INTENT OF THE CENTRAL PLAINS AREA PLAN AND DIRECTION FOR THIS AREA TO BE AN "ACTIVITY CENTER" ALONG THE MAJOR COLLECTOR STREET. THESE LAND USES WILL ENABLE AN EFFICIENT INFILL DEVELOPMENT THAT REDUCES SPRAWL, ADDS ADDITIONAL COMMERCIAL USES, PROVIDE HOUSING ADJACENT TO EXISTING EMPLOYMENT, AND UTILIZE EXISTING TRANSIT INFRASTRUCTURE. THE ROCK REST LODGE WILL REMAIN AS PART OF ANY DEVELOPMENT EFFORT ASSOCIATED WITH THIS OFFICIAL DEVELOPMENT PLAN.

LEGEND

- PLANNED DEVELOPMENT BOUNDARY
- - - EXISTING LOT LINE
- - - TRANSITIONAL HEIGHT SETBACK
- EXISTING 100-YEAR FLOODPLAIN

FLOODPLAIN NOTE:

- ANY MAN-MADE CHANGE TO IMPROVED OR UNIMPROVED REAL ESTATE, INCLUDING BUT NOT LIMITED TO BUILDINGS OR OTHER STRUCTURES, MINING, DREDGING, FILLING, GRADING, PAVING, EXCAVATION OR DRILLING OPERATIONS IS NOT PERMITTED WITHIN THE 100-YEAR FLOODPLAIN UNLESS A FLOODPLAIN DEVELOPMENT PERMIT PURSUANT TO THE FLOODPLAIN SECTION OF THE JEFFERSON COUNTY ZONING RESOLUTION IS FIRST OBTAINED.

APPROVED FOR RECORDING

THIS OFFICIAL DEVELOPMENT PLAN, TITLED SOUTH GOLDEN ROAD / MT VERNON MIXED USE OFFICIAL DEVELOPMENT PLAN, WAS APPROVED

THE _____ DAY OF _____ BY THE BOARD OF COUNTY COMMISSIONERS OF THE COUNTY OF JEFFERSON, STATE OF COLORADO AND IS APPROVED FOR RECORDING.

THE OWNER OF THE PROPERTY AT THE TIME OF APPROVAL WAS PETRIFIED TREE, LLC, A COLORADO LIMITED LIABILITY COMPANY AND TALK TO THE HAND, LLC, A COLORADO LIMITED LIABILITY COMPANY.

BY: JEFFERSON COUNTY PLANNING AND ZONING DIRECTOR

SIGNATURE: _____

DATE: _____

CLERK AND RECORDER'S CERTIFICATE

ACCEPTED FOR FILING IN THE OFFICE OF THE COUNTY CLERK AND RECORDER OF JEFFERSON COUNTY AT GOLDEN, COLORADO

ON THIS _____ DAY OF _____,

BY: _____ JEFFERSON COUNTY CLERK AND RECORDER
 _____ DEPUTY CLERK

STANDARD FLEXIBILITY STATEMENT

THE GRAPHIC DRAWINGS CONTAINED WITHIN THIS OFFICIAL DEVELOPMENT PLAN ARE INTENDED TO DEPICT GENERAL LOCATIONS AND ILLUSTRATE CONCEPTS OF THE TEXTUAL PROVISIONS OF THIS OFFICIAL DEVELOPMENT PLAN. DURING THE SITE DEVELOPMENT PLAN PROCESS THE PLANNING AND ZONING DIRECTOR MAY ALLOW MINOR VARIATIONS FOR THE PURPOSE OF ESTABLISHING:

- FINAL ROAD ALIGNMENTS
- FINAL CONSTRUCTION OF IMPROVEMENTS
- FINAL BUILDING ENVELOPES
- FINAL ACCESS AND BUILDING LOCATIONS
- LANDSCAPE ADJUSTMENTS

APPLICABILITY STATEMENT

EXCEPT AS EXPRESSLY PROVIDED OTHERWISE IN THIS OFFICIAL DEVELOPMENT PLAN, DEVELOPMENT OF THIS PROPERTY SHALL CONFORM TO THE JEFFERSON COUNTY ZONING RESOLUTION IN EFFECT AT THE TIME OF PLATTING, SITE DEVELOPMENT PLAN, AND/OR BUILDING PERMIT APPLICATION. IN THE EVENT A STANDARD OR DEFINITION IS IN CONFLICT, THE STANDARD OR DEFINITION IN THIS OFFICIAL DEVELOPMENT PLAN SHALL GOVERN.

S. GOLDEN ROAD / MT VERNON MIXED-USE

REZONING APPLICATION

JEFFERSON COUNTY, CO
 PREPARED BY:



LANDSCAPE ARCHITECT | LAND PLANNER

RIPLY DESIGN INC.
 Joel Weikert
 419 Canyon Ave, Suite 200
 Fort Collins, CO 80521
 p. 970.224.5828

OWNER | APPLICANT

PETRIFIED TREE, LLC AND TALK TO THE HAND, LLC

Phil Hodgkinson
 1776 Platte St.
 Denver, CO 80202
 p. 970.402.8244

ARCHITECT

VFLA ARCHITECTURE + INTERIORS
 Jeff Fleischer
 419 Canyon Ave, Suite 200
 Fort Collins, CO 80521
 p. 970.224.1191

ENGINEER

CENTERPOINT ENGINEERING
 Matt Buono
 1626 Cole Boulevard, Suite 125
 Lakewood, CO 80401
 p. 303.895.1671

ORIGINAL SIZE 24X36

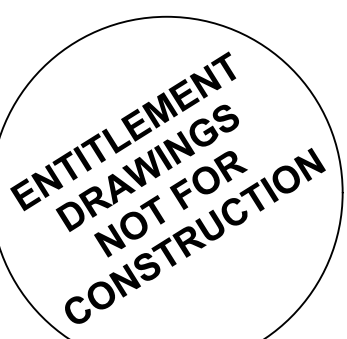
ISSUED	No.	DESCRIPTION	DATE
	01	REZONE	08.10.2023
	02	RESUBMITTAL	11.20.2023
	03	RESUBMITTAL	03.27.2024
	04	FOR HEARING	06.19.2024

REVISIONS

No.	DESCRIPTION	DATE

OFFICIAL DEVELOPMENT PLAN

SEAL:



PROJECT No.:	R22-045.1
DRAWN BY:	JW
REVIEWED BY:	RL

DRAWING NUMBER:

MAPS



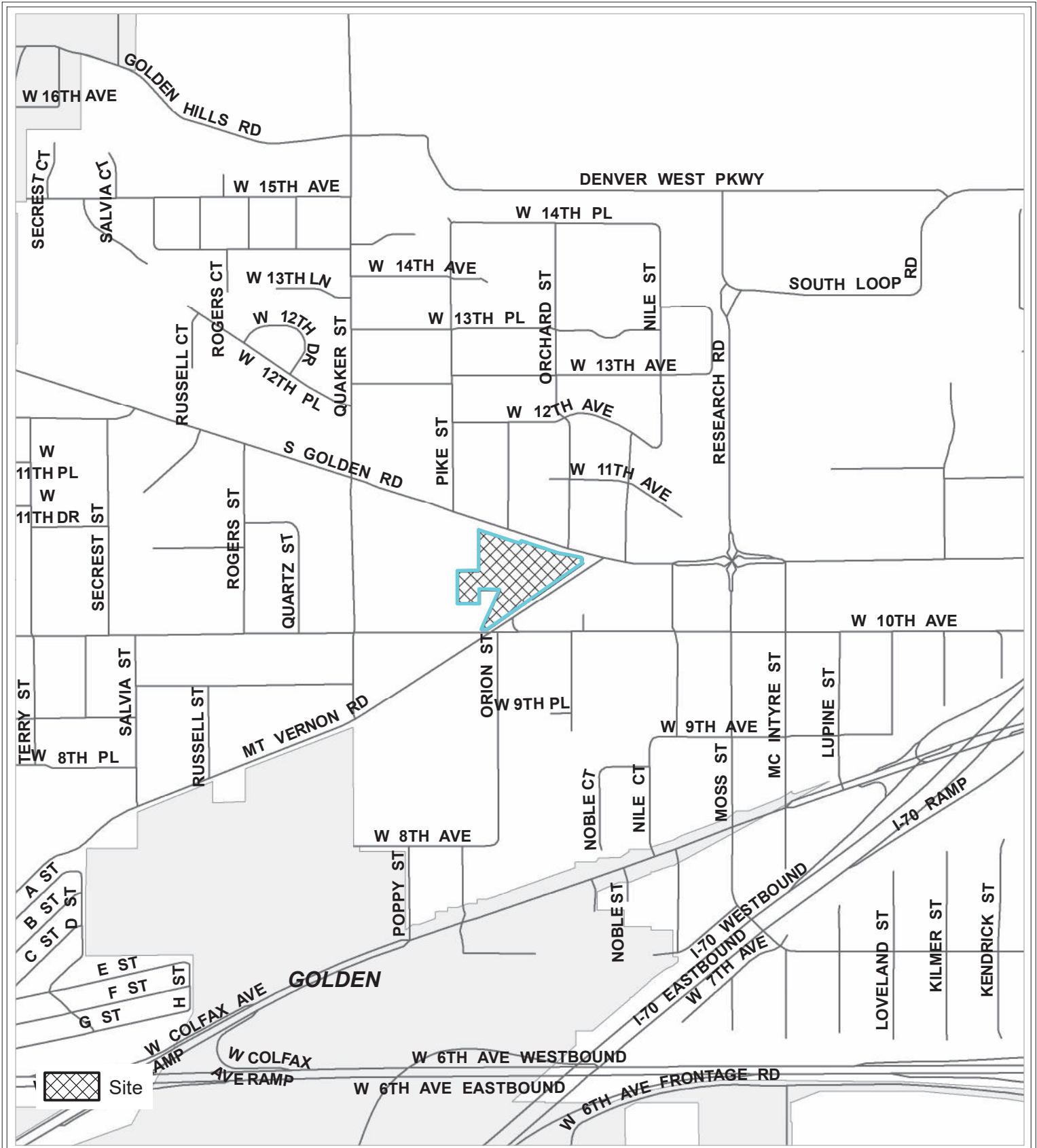
Case Number: 23-119953RZ
 Location: Section 1, T4S, R70W



JEFFERSON
 COUNTY COLORADO

This product has been developed for internal use only. The Planning and Zoning Division makes no warranties or guarantees, either expressed or implied, as to the completeness, accuracy or correctness of such products, nor accepts any liability arising from any incorrect, incomplete or misleading information contained therein.



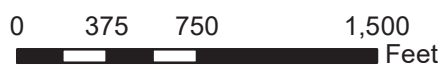


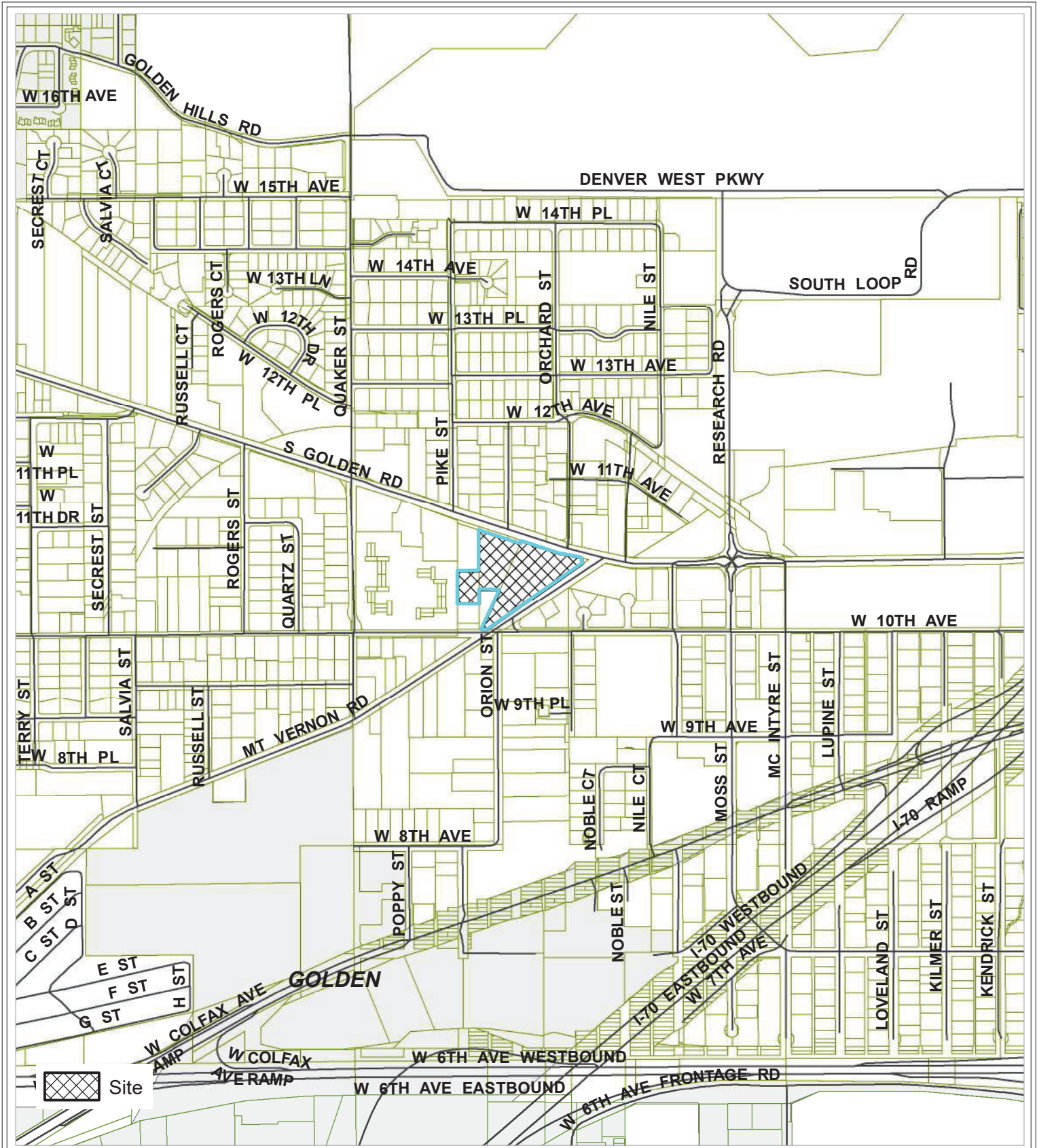
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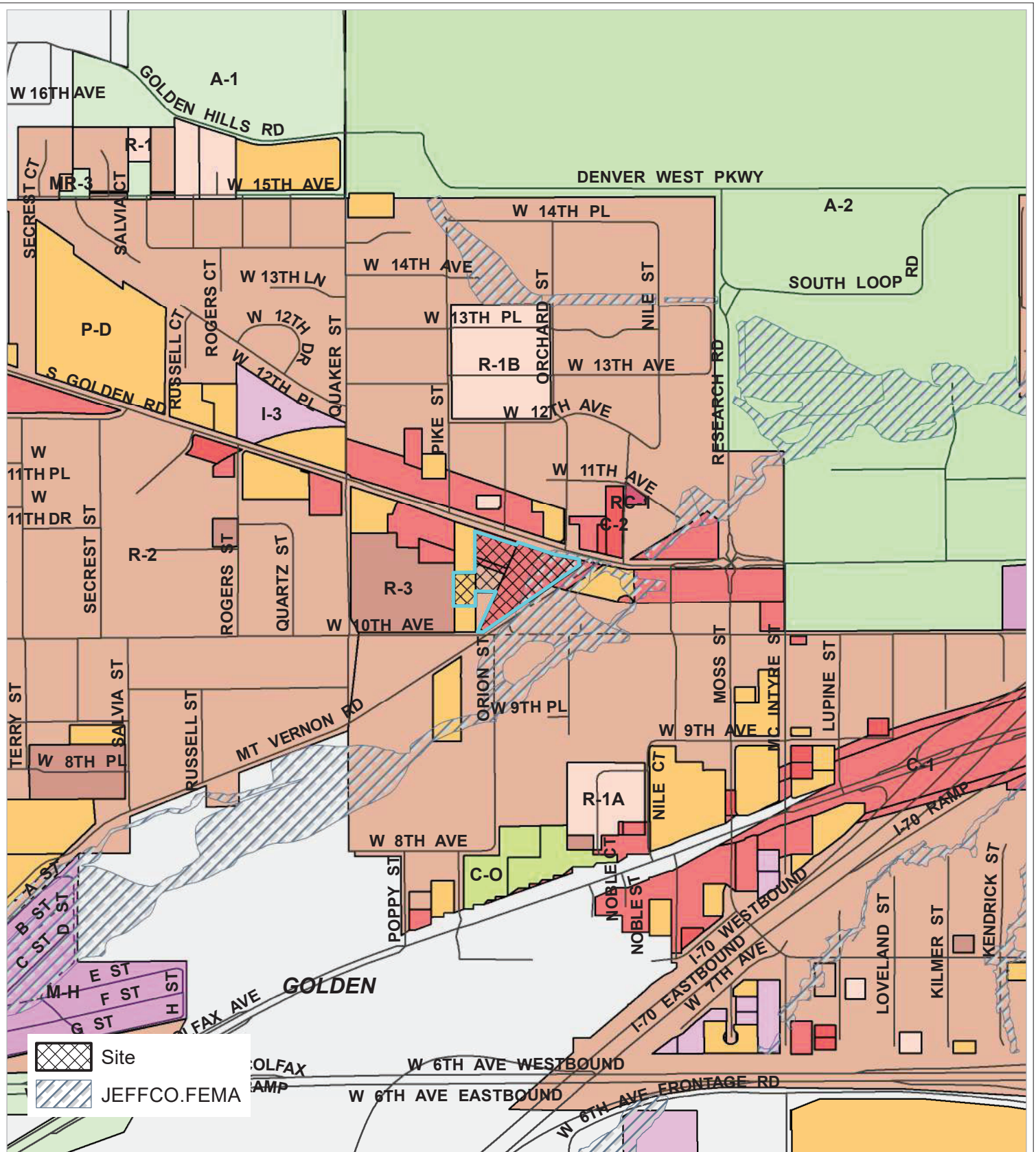


Case Number: 23-119953RZ
Location: Section 1, T4S, R70W



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Case Number: 23-119953RZ
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Legal Description

Street Location of Property 16129 W. 10th Ave., 16005 Mt. Vernon Road, 16100 S. Golden Road

Is there an existing structure at this address?

Yes X No

Type the legal description and address below.

LEGAL DESCRIPTION (16129 WEST 10TH AVENUE)

LOT 2A, BURDICK HEIGHTS EXEMPTION SURVEY NO.1 ADJUSTMENT 1, A REVISION TO LOT 2, BURDICK HEIGHTS EXEMPTION SURVEY NO. 1, LOCATED IN THE NW 1/4 OF SECTION 1, TOWNSHIP 4 SOUTH, RANGE 70 WEST, OF THE 6TH P.M., PER THE MAP RECORDED JULY 10, 2007, AT RECEPTION NO. 2007080061, DESCRIBED AS FOLLOWS:

LOT 2, BURDICK HEIGHTS EXEMPTION SURVEY NO.1, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

A PARCEL LOCATED IN THE SW 1/4 OF THE NW 1/4 SECTION 1, TOWNSHIP 4 SOUTH, RANGE 70 WEST OF THE 6TH PRINCIPAL MERIDIAN, PER MAP RECORDED JUNE 19, 1991 IN PLAT BOOK 106 AT PAGE 30 AS RECEPTION NUMBER 91053181, DESCRIBED AS FOLLOWS:

COMMENCING AT THE W 1/4 CORNER OF SAID SECTION 1, THENCE N89°58'14"E, ALONG THE SOUTH LINE OF THE NW 1/4 OF SAID SECTION 1, A DISTANCE OF 653.11 FEET; THENCE CONTINUING N89°58'14"E, A DISTANCE OF 124.65 FEET; THENCE N00°01'21"W, A DISTANCE OF 25.00 FEET TO THE SE CORNER OF LOT 1, BURDICK HEIGHTS EXEMPTION SURVEY NO. 1; THENCE N00°01'21"W, ALONG THE EAST LINE OF LOT 1, BURDICK HEIGHTS EXEMPTION SURVEY NO.1, A DISTANCE OF 127.94 FEET TO THE SE CORNER OF LOT 2, BURDICK HEIGHTS EXEMPTION SURVEY NO.1 AND THE TRUE POINT OF BEGINNING; THENCE N00°01'21"W, ALONG THE EAST LINE OF SAID LOT 2, A DISTANCE OF 214.71 FEET TO THE NE CORNER OF SAID LOT2; THENCE S89°59'43"W, ALONG THE NORTH LINE OF SAID LOT 2, A DISTANCE OF 124.77 FEET TO THE NW CORNER OF SAID LOT 2; THENCE S00°02'27"E, ALONG THE WEST LINE OF SAID LOT 2, A DISTANCE OF 214.80 FEET TO THE SW CORNER OF SAID LOT 2; THENCE N89°57'16"E, ALONG THE SOUTH LINE OF SAID LOT 2, A DISTANCE OF 124.70 FEET TO THE TRUE POINT OF BEGINNING.

TOGETHER WITH A 25 FOOT EASEMENT FOR INGRESS AND EGRESS, BEING THE WESTERLY 25 FEET OF LOT 1, BURDICK HEIGHTS EXEMPTION SURVEY NO. 1, PER THE MAP RECORDED JUNE 19, 1991 IN BOOK 106 AT PAGE 30, AS RECEPTION NUMBER 91053181
COUNTY OF JEFFERSON, STATE OF COLORADO.

LEGAL DESCRIPTION (16005 MT VERNON ROAD)

BEGINNING AT A POINT 793 FEET EAST OF THE SOUTHWEST CORNER OF THE NW 1/4 SECTION 1, TOWNSHIP 4 SOUTH, RANGE 70 WEST; THENCE 3/4THS OF A FOOT EAST; THENCE NORTHEASTERLY 706 FEET TO EAST LINE OF SW 1/4 NW 1/4 ; THENCE NORTHWESTERLY ALONG SOUTH GOLDEN ROAD 284 FEET; THENCE SOUTHWESTERLY 609 FEET TO POINT OF BEGINNING.

ALSO: COMMENCING 793 FEET EAST OF SOUTHWEST CORNER OF NW $\frac{1}{4}$, SECTION 1, TOWNSHIP 4 SOUTH, RANGE 70 WEST, THENCE NORTHEASTERLY 706 FEET TO THE EAST LINE OF SW 1/4 NW 1/4; THENCE EASTERLY ALONG SOUTH SIDE OF SOUTH GOLDEN ROAD, 171 FEET TO INTERSECTION OF MOUNT VERNON ROAD AND SOUTH GOLDEN ROAD, THENCE SOUTHWESTERLY ALONG THE NORTHWESTERLY SIDE OF MOUNT VERNON ROAD TO THE SOUTH LINE OF THE NW 1/4 OF SECTION 1; THENCE WEST 38 FEET TO PLACE OF BEGINNING. COUNTY OF JEFFERSON, STATE OF COLORADO. (REC. NO.F0316415)

EXCEPT THAT PARCEL DESCRIBED IN RECEPTION NO. 2013090817.

LEGAL DESCRIPTION (16100 SOUTH GOLDEN ROAD)

LOTS 1 AND 2, MORE CORRECTLY KNOWN AS TRACTS 1 AND 2, BURDICK HEIGHTS, EXCEPT THE NORTHERLY 20 FEET OF SAID LOTS 1 AND 2, BURDICK HEIGHTS, AND EXCEPT THAT PORTION MORE PARTICULARLY DESCRIBED AS FOLLOWS:

A TRACT OF LAND IN THE NORTHWEST QUARTER OF SECTION 1, TOWNSHIP 4 SOUTH, RANGE 70 WEST OF THE 6TH P.M., MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT 778.25 FEET EAST OF THE SOUTHWEST CORNER OF THE NORTHWEST QUARTER OF SECTION 1, TOWNSHIP 4 SOUTH, RANGE 70 WEST;
THENCE N0°10'W A DISTANCE OF 247.73 FEET;
THENCE S86°59'E A DISTANCE OF 124.46 FEET;
THENCE S24°23'W A DISTANCE OF 264.80 FEET TO THE SOUTH LINE OF THE NORTHWEST QUARTER OF SECTION 1;
THENCE WEST A DISTANCE OF 14.25 FEET, MORE OR LESS, ALONG THE SOUTH LINE OF THE NORTHWEST QUARTER OF SECTION 1 TO THE POINT OF BEGINNING
COUNTY OF JEFFERSON, STATE OF COLORADO.

Section 1 Township 4 S. Range 70 W.

Calculated Acreage 5.5 Acres Checked by: Becky Daleske

Address Assigned (or verified) 16129 W. 10th Ave., 16005 Mt. Vernon Road, 16100 S. Golden Road

COMMUNITY MEETING SUMMARY



Planning & Zoning Division

COMMUNITY MEETING SUMMARY

Case Number	Meeting Date	Approx. # of Citizens	# Signed in
23-113741CMT	7.19.2023	21	
Meeting Location			
Teams (virtual)			
Subject Property			
16005 Mt Vernon, 16100 S Golden Road, and 16129 W 10th Ave			
Property Owner		Applicant/Representative	
Talk to the Hand LLC, Petrified Tree LLC, A&J Properties LLC		Joel Weikert (Ripley Design)	

Summary of the Applicant's Presentation

Applicant talked about why they are rezoning, what they are rezoning from/to, and a potential design/layout of a mixed-use building on site.

Information Presented/Format of the Meeting

The applicant screen shared their presentation which included maps, visual massing, and details about their rezoning proposal.

Overall Impression/Tone of Meeting

The applicants thoroughly covered their application and respectfully answered all community questions. The tone was sometimes confrontational, but mostly very civil.

Main Points/Issues Raised by Citizens/Applicant's Response

Questions/concerns:

- who receives rezoning notification postcards (Answer: property owners within 500 ft)
- role of Rock Rest; if Rock Rest is going away (Answer: RR is staying in place, just adding a mixed use building)
- adding density in neighborhood; other proposed apartment projects in the area; how they will get people in to these units over any of the other projects in the neighborhood/rates going up in apartments all over
- traffic and safety at S Golden; being able to turn left out of neighborhood; lack of adequate infrastructure; kids crossing roundabouts with increased traffic; concerns about surveys happening now due to traffic and atmosphere differences with summer population because of School of Mines (Answer: Jeffco Traffic and Engineering review is part of rezoning)
- the layout of the proposed new building; a 6 floor building compared to 1-story homes in neighborhood
- if the apartments will be rentals vs purchase; cost of units; affordability in area (Answer: probably rentals, pricing unknown at this time)
- the greater area plan/plan for S Golden Rd; the age of the master plan, if that is being updated, etc. (case manager discussed Together Jeffco plan updates)
- history of the site and suggestions about the ability to have historic designation, suggestion to meet with the Historical Commission; preservation of history
- desire for single family/townhomes/condos; desire for community/people buying homes; lack of desire for rentals or people who are going to be in and out of the neighborhood; property taxes going up with new developments
- worried about retired/older folks not being able to join virtual meetings or provide comments
- request for the applicant to visit the neighborhood/community; preference for this project over nearby ones

REFERRAL COMMENTS

MEMO

TO: Sara Hutchinson
 Jefferson County Planning and Zoning Division

FROM: Urszula Tyl
 Jefferson County Environmental Health Services Division

DATE: September 8, 2023

SUBJECT: Case #23-119953 RZ
 Joel Weikert
 16100 S Golden Rd
 16005 Mt Vernon Road
 16129 W 10th Ave

The applicant has met the public health requirements for the proposed rezoning of this property.

PROPOSAL SUMMARY

Rezoning of three properties from Commercial One (C-1), Residential Two (R-2), and Planned Development (P-D) to Planned Development (PD).

COMMENTS

Jefferson County Public Health (JCPH) provided comments for a pre-application, site development process in 2005 and comments for the pre-application process on February 14, 2023, regarding this property. We have reviewed the documents submitted by the applicant for this rezoning process and have the following comments:

The applicant must submit the following documents or take the following actions prior to a ruling on the proposed rezoning of this property. NOTE: Items marked with a “✓” indicate that the document has been submitted or action has been taken. **Please read entire document for requirements and information. Please note additional documentation may be required.**

REZONING REQUIREMENTS (Public Water & Public Sewer Systems)

✓	Date Reviewed	Required Documentation/Actions	Refer to Sections
✓	9/8/2023	Submit a will serve service letter from the Water and Sanitation District indicating public water and sewer can be provided to the proposed development in accordance with the Land Development Regulation (LDR) 21 and 22.	Water/Wastewater
✓	9/8/2023	Submit a notarized Environmental Questionnaire and Disclosure Statement packet, in accordance with the LDR Section 30.	Environmental Site Assessment

WATER/WASTEWATER

The Consolidated Mutual Water District provided a letter dated August 25, 2023, stating 16005 Mt. Vernon Rd is currently receiving water service. The district indicated that 16100 S Golden Rd and 16129 W 10th Ave are within the boundaries to receive public water service.

The Pleasant View Water and Sanitation District provided a letter dated August 23, 2023, stating all properties are within the boundaries to receive public sewer service.

ENVIRONMENTAL SITE ASSESSMENT

JCPH has reviewed the Environmental Questionnaire and Disclosure Statement. The applicant checked "No" on all categories of environmental concern on the cover sheet. From this information, it does not appear that any recognized environmental conditions exist which would negatively impact the property.

Should stained or discolored soil or contaminated groundwater be encountered during construction and excavation of this area, the contractor must cease operations and contact a professional engineer licensed in Colorado or equivalent expert to further evaluate the soil and/or groundwater conditions, the nature and extent of the contamination, and determine the proper remediation and disposal of the contaminated material. The contractor must contact the CDPHE, Hazardous Materials and Waste Management Division at 303.692.3320

ACTIVE LIVING

JCPH is in support of the mixed-use development where residents can live, work, and recreate within the community as it encourages physical activity, such as walking or biking, and reduces automobile travel which decreases air pollution.

JCPH strongly recommends that the developer design this project to include all modes of transportation (walking, biking, public transportation, and vehicle travel), a balanced mix of housing and employment, and a vibrant mixed use of activity centers to create an integrated, cohesive community with pleasant streetscapes to be enjoyed by users of the development. We also suggest the following design criteria:

- Orient the buildings toward the streets and provide parking in the back of the building.
- Collaborate with the planning efforts of surrounding communities.
- Consider shade canopies (natural and or man-made) to prevent sun exposure.
- Arrange for sidewalk amenities (benches, tables, vegetation, sidewalk art, etc.)

Intentional and thoughtful design elements such as these can promote public health by actively engaging the community in physical and social activity that can enhance the well-being of the users of this development.

AIR

Land development activities that are less than 25 contiguous acres and less than 6 months in duration are exempt from permitting and do not need to report air emissions to the Air Pollution Control Division. However, the developer must use sufficient control measures and have a dust control plan in place to minimize any dust emissions during demolition, land clearing and construction activities. This department will investigate any reports of fugitive dust emissions from the project site. If confirmed, a notice of violation will be issued with appropriate enforcement action taken by the State.

Please be advised that a vehicle tracking pad or equivalent should be placed at egress points to prevent off property transport of materials during construction.

ASBESTOS

For any proposed demolition activity, the applicant must obtain a Demolition Permit from the Asbestos Section at the Colorado Department of Public Health and the Environment, (303.692.3100). To get this permit, a certified asbestos inspector must examine the building or portion thereof to be removed and sample all suspect materials. If detected, an Asbestos Abatement Permit must be obtained, and the materials must be removed by a trained and qualified person or company prior to demolition.

RADON

JCPH strongly advises and encourages the developer to install a radon mitigation system in the proposed development to address the health hazard associated with radiation from radon gas. Jefferson County is considered a Zone Red which is the highest risk of radon exposure according to the Environmental Protection Agency (EPA). According to our statistics from our radon grants, more than half of the homes in Jefferson County have radon levels that are at or above of 4 picoCuries per Liter (piCu/L). EPA advises that dwellings that test at or above 4 piCu/L should have a radon mitigation system installed. It is extremely difficult to install radon mitigation system in multi-home developments after the development is built. As such, it is more cost effective and the reasonable and prudent choice to install a radon system as part of the development to protect future residents.

LANDSCAPING

Landscaping plans should include appropriate water conservation measures. The use of native plant species and/or xeriscaping is strongly encouraged to minimize water quality impacts in the area.

NOISE

Since this facility will have residential properties, noise levels emitted from this property are more stringent and must comply with the Colorado Revised Statutes (Sections 25-12-101 through 108) which stipulates that the maximum residential noise levels must comply with the following 25 feet from the property line:

- 55dB(A) between 7:00 a.m. and 7:00 p.m.
- 50dB(A) at all other times.

Colorado Revised Statute 25-12-103 classifies noise that exceeds the maximum permissible noise level as a public nuisance which is a civil matter between the property owner and the complainant. **Please note:** JCPH and the Colorado Department of Public Health and Environment does not enforce noise complaint nuisances.

REGULATED FACILITIES

Certain commercial uses may be subject to plan reviews, inspections, licensing and/or permitting by this Department, or referred to State agencies. Regulated uses include the following: Child Care Centers/Schools, Assisted Living/ Nursing Home, Food Service Establishments/Grocery Stores, Swimming Pools/Hot tubs, Dry Cleaner, Gasoline Stations/Auto Repair/Auto Body, Car Wash, Body Art

NOTE: These case comments are based solely upon the submitted application package. They are intended to make the applicant aware of regulatory requirements. Failure by

Jefferson County Public Health to note any specific item does not relieve the applicant from conforming to all County regulations. Jefferson County Public Health reserves the right to modify these comments, request additional documentation, and or add appropriate additional comments.

Sara Hutchinson

From: AUTOMAILER@JEFFCO.US
Sent: Monday, September 11, 2023 1:43 PM
To: Sara Hutchinson
Cc: Kristina Duff
Subject: 23 119953 RZ - Agency Response

Follow Up Flag: Follow up
Flag Status: Flagged

Case Number: 23 119953 RZ

Case Type: Rezoning

Case Name: 16129 W 10Th Avenue

Review: Open Space

Results: No Comment (no further review)

Review Comments:

Scheduled End Date: 28-SEP-23

Reviewer: Kristina Duff

Description: Rezoning of three properties from Commercial One (C-1), Residential Two (R-2), and Planned Development (P-D) to Planned Development (PD).

Sara Hutchinson

From: AUTOMAILER@JEFFCO.US
Sent: Tuesday, September 12, 2023 7:40 AM
To: Sara Hutchinson
Cc: Mark Weiden
Subject: 23 119953 RZ - Agency Response

Follow Up Flag: Follow up
Flag Status: Flagged

Case Number: 23 119953 RZ

Case Type: Rezoning

Case Name: 16129 W 10Th Avenue

Review: Road & Bridge

Results: No Comment (no further review)

Review Comments:

Scheduled End Date: 28-SEP-23

Reviewer: Mark Weiden

Description: Rezoning of three properties from Commercial One (C-1), Residential Two (R-2), and Planned Development (P-D) to Planned Development (PD).

ADDRESSING

MEMO

To: Sara Hutchinson
FROM: Christine Derby
SUBJECT: 23-119953RZ 16129 West 10th Avenue
DATE: September 21, 2023

Addressing offers the following comments on this proposal:

1. The purpose of this Rezoning is to Rezone three properties from Commercial One (C-1), Residential Two (R-2), and Planned Development (P-D) to Planned Development (PD).
2. Access is off West 10th Avenue.
3. There is a valid existing address, 16129 West 10th Avenue, in the addressing database. This address will not change with this Rezoning but may change with future development.

Please let me know if you have any questions.

Sara Hutchinson

From: Troy Jones
Sent: Monday, September 25, 2023 10:21 AM
To: Sara Hutchinson
Subject: 23-119953RZ

Follow Up Flag: Follow up
Flag Status: Flagged

Good morning, Sara,

The Division of Building Safety has no issues currently, with the proposed project. The applicant will need to comply with the currently adopted Jefferson County codes and supplement at the time of building permit application.

Please contact us with any questions or comments.

Thank you and have a great and healthy day.

Troy Jones

Commercial Plans Examiner/MCP

Jefferson County Division of Building Safety

Phone: 303-271-8256 Fax: 303-271-8282

Jefferson County Building Safety offices operate on a 4-day schedule Monday – Thursday, open from 8am to 5pm. For scheduling inspections, submitting permits or updating a contractor license or checking on the status of a submitted permit, please visit <https://citizenportal.jeffco.us/citizenportal/app/landing> to access our online portal.



September 28, 2023
Jefferson County Planning and Zoning Department
Ms. Sara Hutchinson
100 Jefferson County Parkway, Suite 3550
Golden, Colorado 80419-3550

Re: REFERRAL 23-119953 RZ - 16129 W 10th Ave, 16100 Golden Rd, & 16005 Mt Vernon Rd

Dear Ms. Sara Hutchinson,

This letter will acknowledge receipt of your correspondence dated 09/07/23 regarding the above referenced property.

Please be advised that the above referenced properties are in an area served by The Consolidated Mutual Water Company (Company). Our records indicate one of the properties is currently receiving domestic water and the two other properties are not receiving domestic water, see the attached map for reference. Domestic water service may continue to be provided to the properties subject to compliance with the Company's Bylaws, rules, regulations, and requirements for such service.

The Company's rules, regulations and requirements require that each **separate structure be served by a separate tap and meter**. Townhomes can be served per unit if **each unit fronts a company main** or per building if the service is in the **name of an HOA or similar entity**. Please have the applicant contact Missy Thompson at 303-274-7425 for more information on the domestic services.

Fire protection requirements should be verified with the Pleasant View Fire District and those requirements forwarded to this office. **If a main extension, fire line, or fire hydrant(s) are required, a separate meeting will need to be held with the owner/developer to discuss water infrastructure**. Please have the applicant contact our Engineering Department at (303) 238-0451.

At this time, we do not oppose the proposed rezoning.

If you should have any questions or comments regarding this correspondence, please contact this office.

Sincerely,

Casey Burtis, PE
Manager - Engineering

cc: Sudan Muhammad, CMWCo Business Services Manager
Missy Thompson, CMWCo Tap Sales
Heather Young, CMWCo Project Engineer
Chris Malmgren, Pleasant View Fire Chief

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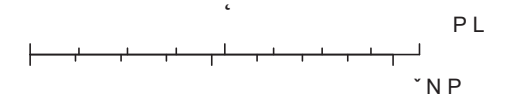


16100 Mt Vernon Rd
not currently receiving
domestic water

16005 Mt Vernon Rd
Tap #20768
Meter Size 3/4"

16129 W 10th Ave
not currently receiving
domestic water

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Memorandum

To: Sara Hutchinson
Planner

From: Patrick O'Connell
Engineering Geologist

Date: September 28, 2023

Re: 16129 w 10th Avenue, Case No. 23-119953RZ

I reviewed the submitted documents for the subject property. I have the following comment.

1. The site is not located in a geologic hazard area, and geologic and geotechnical reports are not required at the time of the rezoning.
2. There is a FEMA designated floodplain (AE Zone) within this property. Any work including grading or construction within the Special Flood Hazard Area (SFHA) will require a Floodplain Development Permit through Jefferson County and may require a FEMA process (CLOMR and/or LOMR).

Sara Hutchinson

From: AUTOMAILER@JEFFCO.US
Sent: Wednesday, April 10, 2024 7:05 AM
To: Sara Hutchinson
Cc: Rebecca Daleske
Subject: 23 119953 RZ - Agency Response

Case Number: 23 119953 RZ

Case Type: Rezoning

Case Name: South Golden Road-Mt Vernon Mixed -Use Official Development Plan

Review: Cartographic

Results: Comments Sent (no further review)

Review Comments: Previous comments on ODP have been addressed. No Page 3 / Resolution Legal done - no exterior boundary of project was given - 3 individual legal descriptions with only 1 that is cogoable. Maps were submitted previously and are still good.

Scheduled End Date: 17-APR-24

Reviewer: Rebecca Daleske

Description: Rezoning of three properties from Commercial One (C-1), Residential Two (R-2), and Planned Development (P-D) to Planned Development (PD).



Boards and Commissions
Historical Commission

Tugce Ucar Maurer
Planner II, Long Range Planning
Jefferson County Planning and Zoning

April 22, 2024

Dear Tugce,

The Historical Preservation and Landmarks Committee of the Jefferson County Historical Commission (JCHC) has reviewed *Rezoning at 16129 W 10th Avenue, Case No. 23-119953RZ, Third Referral*. The attached memo contains more details about the review. Further review is not needed. JCHC has the following recommendations:

Recommendation 1: The JCHC urges the applicant to supplement the ODP with visual documentation of the current design and appearance of the historic primary building of Rock Rest, its accompanying historic arch, and its signage, along with its general setting, accompanied by historical visual evidence, to best inform decisions relating to this ODP now and in the future.

Recommendation 2: JCHC urges the applicant to document the Mountain Edge Court historic buildings prior to their destruction. The Colorado Office of Archaeology and Historic Preservation (OAHP) standards and guidelines titled "Historic Resource Documentation Standards for Level I, II, and III Documentation" can be used to determine the type of documentation. The document can be found at <<https://www.historycolorado.org/guidelines-historic-preservation-projects>>, and the documentation needs to be submitted to OAHP for their records.

Please forward our review and recommendations to the case manager.

Sincerely Yours,

//s// Dan Haas, Richard Scudder

Co-Chairs, Historical Preservation and Landmarks Committee
Jefferson County Historical Commission

Attachment: JCHC Memo

J E F F E R S O N

C O U N T Y C O L O R A D O

Boards and Commissions

Historical Commission

Memorandum

April 22, 2024

Rezoning at 16129 W 10th Avenue, Case No. 23-119953RZ, Third Referral

Project: The project area is located at 16005 Mt. Vernon Road, 16100 Golden Road, and 16129 W 10th Avenue. Two planning areas are described. The intent of Planning Area #1 is to enable the Rock Rest Lodge to continue to operate as it does today, at the time of approval for this Official Development Plan (ODP). As a long-standing establishment of the community, the development will not restrict or limit its operations nor establish a zoning violation against the business. The existing commercial (Rock Rest Lodge) parking requirements will continue. Planning Area #2 will have no restrictions to development.

The third referral presents a revised ODP for review based on Jefferson County Historical Commission (JCHC) recommendations on the second referral.

Resources near the APE: (Section 1, T4S, R70W)

Camp George West Historic District, Romano Residence, 9 historic dwellings, 2 historic ditches, 1 railroad spur, 1 historic bridge, and 5 other historic resources.

Resources in the APE:

Rock Rest: located at 16005 Mt. Vernon Road; Eligible (Note: This site has not been formally recorded); built in 1921 by Maj. Bert Lake as a dance hall and tavern. Rock Rest is historically quite significant as one of only two known remaining of Jefferson County's Prohibition-era roadhouses, among its oldest dance venues and bars, and among its very oldest service stations that was an auxiliary early use (in the front).

Rock Rest is very well preserved today with only one addition (to the rear) and various complimentary cosmetic improvements that do not adversely affect its historic integrity, and in our assessment is eligible for the National Register of Historic Places.

Old Homestead Court: located at 16100 South Golden Road; Eligible (Note: This site has not been formally recorded); built in 1925 when the property was owned by the Romano family as a pioneering automobile lodging place. Old Homestead, first built around the relocated Boston Company building, which is Golden's first building built in 1859 and reassembled where the northwest cottage now stands in 1925, is the oldest known remaining privately owned automobile lodging facility in Jefferson County, and like Rock Rest also among its oldest service stations (which use its tiny front building would've served). It later became the Mountain Edge Court, when it was converted to mobile home use in 1956.

The Boston Company building supposedly was destroyed by fire in 1942; however, due to conflicting accounts, it is imperative to examine the northwest cottage structurally today to determine if any of this

building has survived. The forward portion of the long multi-unit building is original with the rear portion being added after 1937, and the northeast cottage was added after then too, and no mobile homes were there prior to 1956. It is the auto court as originally configured, along with the 1942 replacement cottage, that is historically significant and in our assessment is eligible for Jefferson County Landmark designation.

Project Determination of Effect and Mitigation Measures:

Rock Rest: The applicant revised the ODP language to preserve the companion stone gateway arch in Planning Area #1. A Note to exempt the stone arch from P-D architecture restrictions is added to the exemption section.

Old Homestead Court: The applicant reiterated that the intent of future development plans is not to preserve the buildings described on this property. Please refer to the historical integrity survey and response to JCHC Memorandum 2024-02-08 included with the RD3 submittal materials.

Other Information

The applicant responded to the JCHC conclusion and recommendations from the second referral. The responses are below:

Recommendation 1: JCHC highly recommends the preservation and revitalization of the remaining 1920s era buildings of the Mountain Edge Court and urge that the original auto court be part of the redevelopment. These preservation efforts need to be described in the ODP.

(Applicant response): It is not the intent of future development plans to preserve the buildings described on this property. Please refer to the historical integrity survey and response to JCHC Memorandum 2024-02-08 included with the RD3 submittal materials.

The applicant is willing to facilitate the move of Building A - "former filling station"; the JCHC may reach out directly to the applicant in order to relocate the structure off-site and take ownership of the structure. Please reach out to the applicant to discuss further documentation.

Recommendation 2: Building setbacks in Planning Area #2 shall apply to the Rock Rest companion stone gateway arch in Planning Area #1.

(Applicant response): Existing stone arch added to list of permitted accessory structures. Note pertaining to the stone arch's exemption of setbacks as identified in Planning Area #1 added to written restrictions.

Recommendation 3: The revised ODP needs to include the following details:

- 1) *"The existing Rock Rest building in Planning Area #2 and its companion stone gateway arch in Planning Area # 1 shall be historically preserved in accordance with the intent of this ODP in consultation with the Jefferson County Historical Commission"*

(Applicant response): Note omitted from the ODP.

- 2) *"The existing principal structure and future additions to the structure, located in Planning Area #2 and known as the Rock Rest Lodge, and the companion stone gateway arch in Planning Area #1 are exempt from the architecture written restrictions of this planning development and Section 13 of the zoning resolution in deference to their architecturally unique design."*

(Applicant response): Note is revised in the ODP to exempt the Rock Rest Lodge from architecture written restrictions of the planned development and Section 13 of the zoning resolution in light of its unique

character. A Note to exempt the stone arch from P-D architecture restrictions is added to the exemption section.

(Corbett Architecture History Services letter, 2/29/2024)

Dr. Corbett with Corbett Architecture History Services responded to the JCHC comments regarding the preservation of the filling station. They stand by the assessment that was provided in October that it has poor integrity. They agreed that it is very possible that Building A was the filling station advertised in 1929, and that it is definitely the building shown on the 1937 aerial. However, this does not change the fact that it does not retain the historic integrity to convey this history. Alterations include the removal, enlargement, and replacement of the façade windows (that these windows are replacements is unequivocal and was noted in my earlier assessment), replacement of the front door, and the application of wood shingle siding on the façade, as well as the addition of a turbine roof ventilator, which required cutting a large hole in the roof. Other sides of the building are less affected, but it is also possible that the other windows were at some point reduced in size.

In terms of the restoration and preservation of the tiny filling station building (Building A), to their knowledge no historical photographs or drawings of the filling station at 16100 South Golden Road have been found. A restoration of the building that would meet the Secretary of the Interior's (SOI) standards would not be possible without documentation that shows what the façade of the building originally looked like. The SOI Standards for Restoration clearly state: "Replacement of missing features from the restoration period will be substantiated by documentary and physical evidence". A false sense of history will not be created by adding conjectural features, features from other properties, or by combining features that never existed together historically" (emphasis mine; Item 7, The Secretary of the Interior's Standards for the Treatment of Historic Properties: Restoration as a Treatment and Standards for Restoration). Additionally, if preserved unaltered from its present condition, Building A would still not be eligible for local landmark designation, as Section IV of the Jefferson County Historic Landmark Program Guidelines clearly states: "In order to designate a site, building, structure, or object as a Historic Landmark or a Historic District, it should be 50 or more years old and *have integrity*" (emphasis mine).

(Rick Gardner, JCHC Email, 4/17/2024)

I definitely recommend the Historical Commission focus on the preservation of Rock Rest's architectural appearance. This is covered in its exemption from the architectural requirements: "The unique character of the existing building should be maintained to the extent practicable." Maintaining presumes preserving. However, by necessity the language cannot describe this appearance (and indeed it would be challenging to describe in detail). What we need is for the ODP to include supplemental visual documentation of Rock Rest's design as of the enacting date of the ODP to serve as a guide on file for purposes now and in the future. It should be accompanied by historical visual evidence to further inform design decisions. Since the applicant does not have access to all of this the Historical Commission should offer to provide this material in a timely manner. I can do all this myself and in a speedy fashion but we'll need to be able to access the Rock Rest property to do this, which would include closeups to show its methods of construction.

To this end I would propose we send this language: Rock Rest as heretofore noted by all parties has a unique design and character. Since the unique architecture of Rock Rest is challenging to describe in writing, the Historical Commission recommends the Official Development Plan be supplemented with visual documentation of the current design and appearance of the historic primary building of Rock Rest, its accompanying historic arch, and its signage, along with its general setting, accompanied by historical visual evidence, to best inform decisions relating to this ODP now and in the future. Since the applicant does not have full access to useful material it is recommended the Historical Commission provide this supplemental material in a timely manner. Its members will need access to the Rock Rest property to accomplish this including the ability to take closeup photos to document Rock Rest's materials and methods of construction.

For language relating to the Old Homestead Court, obviously there's no need to get into detail because the applicant is not persuadable, so language we can say can be this: Regarding the Mountain Edge Court, originally known as Old Homestead, the Jefferson County Landmark guidelines anticipate that evaluations of integrity can be a subjective judgement and it is up to the Jefferson County Historical Commission to make any and all final determinations of eligibility for the landmarking program. The Historical Commission stands by its preservation recommendations for the court's remaining structures.

Jefferson County Historical Commission Conclusion and Recommendation:

The ODP has been adequately revised to address the preservation outcomes for Rock Rest and the companion stone gateway arch. Rock Rest as heretofore noted by all parties has a unique design and character. The JCHC further urges the applicant to supplement the ODP with visual documentation of the current design and appearance of the historic primary building of Rock Rest, its accompanying historic arch, and its signage, along with its general setting, accompanied by historical visual evidence, to best inform decisions relating to this ODP now and in the future. JCHC can provide this supplemental material to the applicant in a timely manner but will need access to the Rock Rest property to accomplish this including the ability to take closeup photos to document Rock Rest's materials and methods of construction.

Regarding the Mountain Edge Court, originally known as Old Homestead, the Jefferson County Landmark guidelines anticipate that evaluations of integrity can be a subjective judgement, and it is up to JCHC to make any and all final determinations of eligibility for the landmarking program taking into account the views of Corbett Architecture History Services. This includes determining its preservation value locally. The JCHC greatly appreciates that the applicant proactively funded a historical integrity assessment of the buildings. Based on the assessment of Corbett Architecture History Services that the buildings have poor-fair integrity and the property's overall integrity is only fair, the applicant has decided to move forward without preserving the historic buildings. The offer of providing the buildings to JCHC for removal to another location is not viable since JCHC does not possess real estate nor funding beyond its small operating budget. The JCHC stands by its preservation recommendations for the court's remaining historic structures. However, if the applicant can't be persuaded to preserve them, we urge that the buildings be documented before their removal. No further review is needed for this project. The JCHC has the following recommendations:

Recommendation 1: The JCHC urges the applicant to supplement the ODP with visual documentation of the current design and appearance of the historic primary building of Rock Rest, its accompanying historic arch, and its signage, along with its general setting, accompanied by historical visual evidence, to best inform decisions relating to this ODP now and in the future.

Recommendation 2: JCHC urges the applicant to document the Mountain Edge Court historic buildings prior to their destruction. The Colorado Office of Archaeology and Historic Preservation (OAHP) standards and guidelines titled "Historic Resource Documentation Standards for Level I, II, and III Documentation" can be used to determine the type of documentation. The document can be found at <<https://www.historycolorado.org/guidelines-historic-preservation-projects>>, and the documentation needs to be submitted to OAHP for their records.

NOTIFICATION SUMMARY

+

PUBLIC / HOA COMMENTS

Case Number 23-119953RZ

As a requirement of the Jefferson County Zoning Resolution, the following Level 1 notification was provided for this proposal.

1. Notification of this proposed development was mailed to property owners within a 500 ft radius of the site and Registered Associations located within a one mile radius of the site.

These radii are shown on the maps below. The initial notification was mailed at the time of the first referral. Additional notification was mailed 14 days prior to the Planning Commission Hearing identifying the scheduled hearings dates for both the Planning Commission and the Board of County Commissioners.

2. Sign(s), identifying the dates of the hearings before both the Planning Commission and the Board of County Commissioners, were provided to the applicant for posting on the site. The sign(s) were provided to the applicant with instructions that the site be posted 14 days prior to the Planning Commission Hearing.
3. Notification of the hearings before the Planning Commission and the Board of County Commissioners was published in the West Jeffco Hub.

Lists of the specific property owners and registered associations that received notification are attached to this summary.

Property Owners

Registered Associations



Postcard Mailing List

Owner	Mail Address	Mail Loc	Mail Zip
PETRIFIED TREE LLC	16005 MT VERNON RD	GOLDEN, CO	80401
EK HOLDING CO LLC	16360 S GOLDEN RD	GOLDEN, CO	80401
CURRENT RESIDENT	9395 UTICA ST	WESTMINSTER, CO	80030
TALK TO THE HAND LLC	16005 MT VERNON RD	GOLDEN, CO	80401
W MELNICK & CO	16095 S GOLDEN RD	GOLDEN, CO	80401
CURRENT RESIDENT	735 S LEE CT	LAKEWOOD, CO	80226
HANDS OF THE CARPENTER	16099 S GOLDEN RD	GOLDEN, CO	80401
PLEASANT VIEW WAREHOUSE LLC	1065 ORCHARD ST	GOLDEN, CO	80401
DSTD LLC	4800 PRYAMID CIR	BROOMFIELD, CO	80023
CURRENT RESIDENT	1125 ORION ST	GOLDEN, CO	80401
CURRENT RESIDENT	1135 ORION ST	GOLDEN, CO	80401
MLB REAL ESTATE LLC	16199 S GOLDEN RD	GOLDEN, CO	80401
16185 S GOLDEN RD LLC	16305 S GOLDEN RD A	GOLDEN, CO	80401
AKA ACE LLC	328 MESA VIEW WAY	GOLDEN, CO	80401
3M COMMERCIAL PROPERTY DEVELOPMENT LLC	259 N MEYER AVE	TUCSON, AZ	85701
CURRENT RESIDENT	5368 OWENS ST	ARVADA, CO	80002
CURRENT RESIDENT	600 BLUE JAY DR	GOLDEN, CO	80401
CURRENT RESIDENT	2609 TUMWATER LN	BOULDER, CO	80304
CURRENT RESIDENT	16359 W 10TH AVE M-4	GOLDEN, CO	80401
CURRENT RESIDENT	9889 SUNSET HILL CIR	LONE TREE, CO	80124
CURRENT RESIDENT	1084 AZURE WAY	LOUISVILLE, CO	80027
J & G PROPERTIES	1224 SPRUCE DR	GOLDEN, CO	80401
CURRENT RESIDENT	16359 W 10TH AVE N2	GOLDEN, CO	80401
TERRY AUMILLER LLC	PO BOX 178	PINE, CO	80470
CURRENT RESIDENT	16359 W 10TH AVE N-4	GOLDEN, CO	80401
JAMES I ROBERTSON REVOCABLE TRUST	PO BOX 3509	IDYLLWILD, CA	92549
CURRENT RESIDENT	5333 E 100TH PL	THORNTON, CO	80229
CURRENT RESIDENT	8537 S DAVCO DR	MORRISON, CO	80465
CURRENT RESIDENT	52 S HOLMAN WAY	GOLDEN, CO	80401
BSK PROPERTY 2 LLC	8725 UTE RD	CASCADE, CO	80809
CURRENT RESIDENT	16359 W 10TH AVE Q4	GOLDEN, CO	80401
CURRENT RESIDENT	16359 W 10TH AVE Q-5	GOLDEN, CO	80401
GOLDEN LIVING LLC	PO BOX 9973	BRECKENRIDGE, CO	80424

CURRENT RESIDENT	16359 W 10TH AVE APT	GOLDEN, CO	80401
CURRENT RESIDENT	16359 W 10TH AVE R	GOLDEN, CO	80401
CURRENT RESIDENT	1117 8TH ST	GOLDEN, CO	80401
CURRENT RESIDENT	16359 W 10TH AVE R-4	GOLDEN, CO	80401
URBAN FAMILY TRUST	88 DE FRANCE WAY	GOLDEN, CO	80401
CURRENT RESIDENT	1147 COLE ST	SAN FRANCISCO, CA	94117
CURRENT RESIDENT	16359 W 10TH AVE S1	GOLDEN, CO	80401
CURRENT RESIDENT	18996 W 62ND AVE	GOLDEN, CO	80403
CURRENT RESIDENT	16359 W 10TH AVE S3	GOLDEN, CO	80401
CURRENT RESIDENT	15358 SINGLETREE DR	MEAD, CO	80542
CURRENT RESIDENT	16359 W 10TH AVE S-5	GOLDEN, CO	80401
LIFESTYLE INVESTMENTS	23626 SUNROSE LN	GOLDEN, CO	80401
CURRENT RESIDENT	16359 W 10TH AVE T	GOLDEN, CO	80401
CURRENT RESIDENT	13846 LEXINGTON PL	WESTMINSTER, CO	80023
16359 W 10TH AVE LLC	7950 W 46TH AVE	WHEAT RIDGE, CO	80033
CURRENT RESIDENT	16359 W 10TH AVE T-4	GOLDEN, CO	80401
BUCKMAN ASSOCIATES LLC	PO BOX 758	MOUNT AIRY, MD	21771
CURRENT RESIDENT	2080 E EASTER AVE	LITTLETON, CO	80122
CURRENT RESIDENT	135 WHITE ASH DR	GOLDEN, CO	80403
CURRENT RESIDENT	16359 W 10TH AVE W-2	GOLDEN, CO	80401
CURRENT RESIDENT	16359 W 10TH AVENUE	GOLDEN, CO	80401
CURRENT RESIDENT	16359 W 10TH AVE W4	GOLDEN, CO	80401
CURRENT RESIDENT	456 COPPERDALE LN	GOLDEN, CO	80403
CURRENT RESIDENT	5811 W 4TH AVE	LAKWOOD, CO	80226
ROBERT MOODY TRUST	7505 W YALE AVE 2804	DENVER, CO	80227
CURRENT RESIDENT	16359 W 10TH AVE X2	GOLDEN, CO	80401
CURRENT RESIDENT	6028 NILE CIR	GOLDEN, CO	80403
CURRENT RESIDENT	PO BOX 1417	FRISCO, CO	80443
GILBERT FAMILY LIVING TRUST	11421 W LOUISIANA AVE	LAKWOOD, CO	80232
CURRENT RESIDENT	14167 W 3RD PL	GOLDEN, CO	80401
CURRENT RESIDENT	16359 W 10TH AVE XX-2	GOLDEN, CO	80401
CURRENT RESIDENT	6134 W GOULD DR	LITTLETON, CO	80123
CURRENT RESIDENT	21024 E GREENWOOD PL	AURORA, CO	80013
LARA & WAYLLACE SERVICES LLC	12827 W 85TH CIR	ARVADA, CO	80005

SARLAR LLC	3921 SIMMS ST	WHEAT RIDGE, CO	80033
HOSER & NOB LLC	6059 S FARM RD 101	REPUBLIC, MO	65738
CURRENT RESIDENT	16359 W 10TH AVE Y-2	GOLDEN, CO	80401
CURRENT RESIDENT	16359 W 10TH AVE Y-3	GOLDEN, CO	80401
CURRENT RESIDENT	3817 PILOT DR	PLANO, TX	75025
CURRENT RESIDENT	1363 LAURENWOOD WAY	HGHLNDS RANCH, CO	80129
CURRENT RESIDENT	1367 HILLTOP CIR	WINDSOR, CO	80550
CURRENT RESIDENT	16359 W 10TH AVE Z1	GOLDEN, CO	80401
CURRENT RESIDENT	16359 W 10TH AVE Z2	GOLDEN, CO	80401
CURRENT RESIDENT	16359 W 10TH AVE Z3	GOLDEN, CO	80401
CURRENT RESIDENT	230 TRUMAN RD	FRANKLIN, TN	37064
CURRENT RESIDENT	16359 W 10TH AVE	GOLDEN, CO	80401
CURRENT RESIDENT	16259 W 10TH AVE #A1	GOLDEN, CO	80401
CURRENT RESIDENT	307 LOOKOUT VIEW CT	GOLDEN, CO	80401
CURRENT RESIDENT	16259 W 10TH AVE A-3	GOLDEN, CO	80401
CURRENT RESIDENT	426 E ORCHARD	FREDERICKSBURG, TX	78624
CURRENT RESIDENT	16259 W 10TH AVE A5	GOLDEN, CO	80401
CURRENT RESIDENT	16259 W 10TH AVE A6	GOLDEN, CO	80401
CURRENT RESIDENT	35 YANK WAY	LAKEWOOD, CO	80228
CURRENT RESIDENT	16259 W 10TH AVE B-3	GOLDEN, CO	80401
CURRENT RESIDENT	16259 W 10TH AVE	GOLDEN, CO	80401
CURRENT RESIDENT	5330 S BAHAMA CT	CENTENNIAL, CO	80015
CURRENT RESIDENT	15259 W 10TH AVE APT	GOLDEN, CO	80401
CURRENT RESIDENT	66 CLARE CT	CASTLE ROCK, CO	80108
CURRENT RESIDENT	1616 BUCHHANAN ST NE	WASHINGTON, DC	20017
IMPERIAL MOUNTAIN PROPERTIES LLC	182 ANEMORE DR	BOULDER, CO	80302
CURRENT RESIDENT	PO BOX 17834	GOLDEN, CO	80402
CURRENT RESIDENT	8885 W 77TH CIR	ARVADA, CO	80005
CURRENT RESIDENT	16259 W 10TH AVE D-1	GOLDEN, CO	80401
CURRENT RESIDENT	30246 MERION LN	EVERGREEN, CO	80439
CURRENT RESIDENT	13492 W DAKOTA AVE	LAKEWOOD, CO	80228
CURRENT RESIDENT	11066 W ROWLAND AVE	LITTLETON, CO	80127
CURRENT RESIDENT	15 TIMBERHILL LN	LYNNFIELD, MA	01940
CURRENT RESIDENT	23626 SUNROSE LN	GOLDEN, CO	80401

CURRENT RESIDENT	12078 W BERRY AVE	LITTLETON, CO	80127
CURRENT RESIDENT	16259 W 10TH AVE E2	GOLDEN, CO	80401
RJ MENARD TRUST	16259 W 10TH AVE E-3	GOLDEN, CO	80401
DINGDANG PROPERTY LLC	19584 W 56TH PLAC	GOLDEN, CO	80403
S PERSICHETTI FAMILY LLC	5574 S ELDRIDGE ST	LITTLETON, CO	80127
CURRENT RESIDENT	16259 W 10TH AVE E-6	GOLDEN, CO	80401
CURRENT RESIDENT	16259 W 10TH AVE F-1	GOLDEN, CO	80401
CURRENT RESIDENT	601 16TH ST C	GOLDEN, CO	80401
I&J INVESTMENTS #2 LLC	7539 S STORM MOUNTAIN	LITTLETON, CO	80127
CURRENT RESIDENT	16259 W 10TH AVE F4	GOLDEN, CO	80401
CURRENT RESIDENT	16259 W 10TH AVE F-5	GOLDEN, CO	80401
CURRENT RESIDENT	16259 W 10TH AVE F 6	GOLDEN, CO	80401
CURRENT RESIDENT	440 CARRIAGE GATE TRL	ATLANTA, GA	30331
CURRENT RESIDENT	16259 W 10TH AVE G-2	GOLDEN, CO	80401
CURRENT RESIDENT	16259 W 10TH AVE UNIT	GOLDEN, CO	80401
JEM ENTERPRISES LLC	9380 COTTONWOOD CIR	FREDERICK, CO	80504
CURRENT RESIDENT	852 DEFRAME WAY	LAKEWOOD, CO	80228
CURRENT RESIDENT	PO BOX 150230	LAKEWOOD, CO	80215
CURRENT RESIDENT	16259 W 10TH AVE H2	GOLDEN, CO	80401
CURRENT RESIDENT	9110 W BELLWOOD PL	LITTLETON, CO	80123
CURRENT RESIDENT	PO BOX 18513	GOLDEN, CO	80402
CURRENT RESIDENT	16259 W 10TH AVE H5	GOLDEN, CO	80401
CURRENT RESIDENT	16259 W 10TH AVE H-6	GOLDEN, CO	80401
CURRENT RESIDENT	16259 W 10TH AVE UNIT I-1	GOLDEN, CO	80401
CURRENT RESIDENT	16259 W 10TH AVE I-2	GOLDEN, CO	80401
CURRENT RESIDENT	4871 S EVANSTON ST	AURORA, CO	80015
CURRENT RESIDENT	16259 W 10TH AVE 1-4	GOLDEN, CO	80401
CURRENT RESIDENT	16259 W 10TH AVE I-U6	GOLDEN, CO	80401
CURRENT RESIDENT	16259 W 10TH AVE J- 1	GOLDEN, CO	80401
CURRENT RESIDENT	16259 W 10TH AVE	GOLDEN, CO	80401
TILLEY J 3 GOLDEN PINES LLC	12191 W 64TH AVE STE 304	ARVADA, CO	80004
CURRENT RESIDENT	319 JACKSON PL A	GOLDEN, CO	80403
CURRENT RESIDENT	8378 E PHILLIPS PL	CENTENNIAL, CO	80112
CURRENT RESIDENT	14256 W 2ND AVE	GOLDEN, CO	80401

CURRENT RESIDENT	16259 W 10TH AVE #K1	GOLDEN, CO	80401
CURRENT RESIDENT	601 16TH ST STE C	GOLDEN, CO	80401
CURRENT RESIDENT	10115 W 44TH AVE	WHEAT RIDGE, CO	80033
URBAN FAMILY TRUST	88 DEFRANCE WAY	GOLDEN, CO	80401
CURRENT RESIDENT	16259 W 10TH AVE	GOLDEN, CO	80401
CURRENT RESIDENT	16259 W 10TH AVE L1	GOLDEN, CO	80401
CURRENT RESIDENT	16259 W 10TH AVE	GOLDEN, CO	80401
CURRENT RESIDENT	16259 W 10TH AVE L-4	GOLDEN, CO	80401
CURRENT RESIDENT	16259 W 10TH AVE L5	GOLDEN, CO	80401
CURRENT RESIDENT	23626 SUNROSE LN	GOLDEN, CO	80401
A & J PROPERTIES LLC	16190 S GOLDEN RD	GOLDEN, CO	80401
CURRENT RESIDENT	16168 W 10TH AVE	GOLDEN, CO	80401
CURRENT RESIDENT	3203 VISTA DEL CAMINO	MARINA, CA	93933
GOLDEN PINES CONDOMINIUM ASSOCIATION INC	2180 W STATE RD 434 5000	LONGWOOD, FL	32779
CURRENT RESIDENT	16090 MT VERNON RD	GOLDEN, CO	80401
CURRENT RESIDENT	16060 MT VERNON RD	GOLDEN, CO	80401
CURRENT RESIDENT	16040 MOUNT VERNON RD	GOLDEN, CO	80401
CURRENT RESIDENT	16250 S GOLDEN RD	GOLDEN, CO	80401
CURRENT RESIDENT	PO BOX 1540	KREMMLING, CO	80459
CURRENT RESIDENT	PO BOX 1540	KREMMLING, CO	80459
CURRENT RESIDENT	16070 W 10TH AVE	GOLDEN, CO	80401
CURRENT RESIDENT	970 ORION ST	GOLDEN, CO	80401
CURRENT RESIDENT	975 ORCHARD ST	GOLDEN, CO	80401
CURRENT RESIDENT	411 WALNUT ST	GREEN COVE SPRINGS, FL	32043
CURRENT RESIDENT	16295 MOUNT VERNON RD	GOLDEN, CO	80401
CURRENT RESIDENT	16305 MT VERNON RD	GOLDEN, CO	80401
CURRENT RESIDENT	16130 MT VERNON RD	GOLDEN, CO	80401
NICHOLAS FELTIS & ROSETTA FELTIS TRUST	16160 MT VERNON RD	GOLDEN, CO	80401
961 ORION STREET LLC	2868 S KITTREDGE PARK RD	EVERGREEN, CO	80439
CURRENT RESIDENT	PO BOX 614	GOLDEN, CO	80402
CURRENT RESIDENT	PO BOX 614	GOLDEN, CO	80401

From the Jefferson County Assessor's Office
Home Owners Associations within 1 miles of 59-272-00-013

Subject Properties

Owner	AIN/Parcel PIN/Sched Mail Addr	Property Address
COLUMBINE HILLS CHURCH OF THE NAZARENE	59-272-00-30050378	(PO BOX 62 09700 W COAL MINE AVE , LITTLETON, CO 80123

24 HOA within 1 miles of subject properties

HOA Name	Amanda R	Contact	Address Li	Address Li	Phone 1	Phone 2	Email Addr	License	Comments
ADVANTAGE AT STONY CREEK ASSN	757523	C/O TINA	\ P O BOX 2	LITTLETON		30393362	tina@kchc	AOI	Last Updat
ALPERS FARM HOMEOWNERS ASSOC., INC	980896	C/O ANGE	P O BOX 2	LITTLETON	30393362		angela@k	AOI	Last Updat
COHOPE	757299	C/O WILLI	7294 W H	LITTLETON	30397811	30397100	ray@coho		Last Updat
COLUMBINE WEST CIVIC ASSN	757309	c/o Gary M	PO Box 62	LITTLETON	30390482		cwcatalk@	AOI	Last Updat
DUTCH RIDGE HOA	757316	C/O TINA	\ P O BOX 2	LITTLETON	30393362		tina@kchc	AOI	Last Updat
HILLSIDE AT FAIRWAY VISTA CMTY ASSN	757332		10605 W V	LITTLETON		30394844	lgydvosb@	AOI	Last Updat
JEFFERSON CORPORATE CENTER OWNERS ASSN	757445	C/O ALAN	10901 W T	LITTLETON	30391783	30390470	alan@harc	AOI	Last Updat
JEFFERSON COUNTY HORSE COUNCIL	757337				30381748		franevers@	AOI	Last Updat
KEN CARYL RANCH MASTER ASSN	757338	VICTORIA I	7676 S CO	LITTLETON	30397918		victoriad@	AOI	Last Updat
KEN CARYL RANCH METRO DIST	757339	MELISSA D	7676 S CO	LITTLETON	30397918		melissad@	SD	Last Updat
KIPLING VILLAS HOA	757341	TONY ESC	(9200 W CF	LITTLETON	30376318	30397948	gjshin@m	AOI	Last Updat
LEXINGTON VILLAGE ONE CONDO ASSN	757517	C/O KEVIN	10106 W S	LITTLETON	30393362		kevin@kcl	AOI	Last Updat
MEADOWS SANCTUARY	757308	C/O LITHA	6892 S YO	CENTENNI	72097442		steigen@n	AOI	Last Updat
PANORAMA RIDGE HOA	757449	C/O MSI, L	6892 S YO	CENTENNI	72097442		lspies@ms	AOI	Last Updat
PLAN JEFFCO	984263	C/O MICH	24396 CO	GOLDEN, C	30352613	72083943	mpoolet@		Last updat
PRECEDENT AT STONY CREEK	757358	c/o Tina M	9145 E KE	DENVER C	30374522	30390496	tinamarie@	AOI	Last Updat
Peakview Village Community Assoc	990007		10106 W.	Littleton C		30393362	candice.jar		Last Updat
STANTON FARMS TOWNHOMES	757483	c.o Kathy C	(10106 W S	LITTLETON	30393362		Kathy@kcl	AOI	Last Updat
STONY CREEK 6 HOA	757408	BARBARA I	7038 S FLC	LITTLETON	30370463		barbmac@	AOI	Last Updat
TERRA VISTA HOMEOWNERS ASSOCIATION	984624	c/o Micha	(10106 W S	LAKEWOO	30393362		michael.br	AOI	Updated 1
WILLIAMSBURG I	757417	RIC WATS	(9843 W. L	LITTLETON	30397991	72029811	ricdane@a	AOI	Last Updat
WILLIAMSBURG II	757444	WINIFRED	10118 W F	LITTLETON	30397292		wburdan1	AOI	Last Updat
WOODBURY HILLS HOA	757520	c/o Meliss	11050 W V	LITTLETON	30348359	30354860	mgonring@	AOI	Last Updat

HOA	Hearing De	Board 1	Board 2	Board 3	Board 4	Board 5	Website	Area
Y	MANAGER	Todd Pere	Austin Fre	Dale Bowe	Dale Bowe		advantage	
Y		Sheila Lied	Joanne En	Mindi Gris				
Y	DIANE SUC	Diane Suct	William R I	Cheryl Paa			www.cohc	S JEFFCO
Y	GARY MCC	Gary McC	John Basil	Stacey Hal	Kelly Fiedl	Kent Swee	www.neig	S JEFFCO
Y		Tom McCa	Leslie Soicl	George Kn	Jodi McCel	Fred Lindh	victoriavill	S JEFFCO
Y		Brian Cohr	Tom Hare	Shaun Stric	Marilee Lit	Patricia Gr		S JEFFCO
Y	ALAN FISH	Alan Fishr	Declarent	Declarent	Declarent	Land Secu		S JEFFCO
N	ANY BOAR	Don McDo	Barb Sugg	Andrea Ra	Andrea Ra	Terry Liekl	jeffcohors	ALL AREAS
Y	VICTORIA I	Seth Murp	Dan Mullir	Enlinda St	Chris Figge	Andrew Rc	victoriad@	S JEFFCO
N		Scott Miln	Stuart Mac	Dennis Syk	Greg Milar		ken-caryl	S JEFFCO
Y	TONY ESC	Tony Escol	Judy Stock	Jerry Shin	Janet Clark		kvha.net	S JEFFCO
Y	DESIGNAT	Gilbert Poi	Jaimi Mae	Brian McK	James Boy	Barb Darg	www.kcho	
Y	PRESIDENT						www.meas	S JEFFCO
Y		Daniel Big	Karen Bim	Dan Abras				S JEFFCO
N	MICHELLE	John Litz	Peter Mor	Michelle P	Peter Mor	John Litz, E	www.plan	
Y		Tina Marie	John Musc	John Musc	Acting Pre		precedent	S JEFFCO
		Dave Ickes	Dave Ickes	Will Street	Dawn Dier	Carmen Cl	Lurlene Ur	
Y		Gerald "Je	Pat Fentor	Charla Nev	Charla Nev		www.neig	S JEFFCO
Y	BARBARA I	Dave Cost	Mike Prem	Barbara M	Barbara M			S JEFFCO
Y		Robert Go	Don Obrie	Lynn Barn				
Y	RIC WATSC							S JEFFCO
Y	WINIFRED	Mike Eppe	Debbie Ric	Susan Gan	Sharon Eri	Winnie Bu		S JEFFCO
Y		Melissa Gc	Mary Beth	Deb Ellis	Mary Beth	Bruce Ploc		

The Denver Post, LLC

PUBLISHER'S AFFIDAVIT

City and County of Denver)
State of Colorado)
)

The undersigned Nicole Maestas being first duly sworn under oath, states and affirms as follows:

- 1. He/she is the legal Advertising Reviewer of The Denver Post, LLC, publisher of The Denver Post and Your Hub.
2. The Denver Post and Your Hub are newspapers of general circulation that have been published continuously and without interruption for at least fifty-two weeks in Denver County and meet the legal requisites for a legal newspaper under Colo. Rev. Stat. 24-70-103.
3. The notice that is attached hereto is a true copy, published in Your Hub for West Jeffco (including the counties of Jefferson, Arapahoe, Arvada, Denver, Lakewood, Gilpin, Clear Creek, and Westminster) on the following date(s):

July 11, 2024

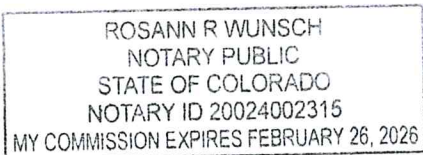
Handwritten signature of Nicole Maestas

Signature

Subscribed and sworn to before me this 12 day of July, 2024.

Handwritten signature of Rosann R Wunsch

Notary Public



(SEAL)

NOTICE OF PUBLIC HEARINGS FOR REZONING

NOTICE IS HEREBY GIVEN that the Board of County Commissioners of the County of Jefferson, State of Colorado will hold a hybrid (in-person and online virtual) public hearing on a proposed rezoning of certain property within Jefferson County, Colorado. The public hearing will be held at the Jefferson County Administration and Courts Facility, Hearing Room 1, at 100 Jefferson County Parkway, Golden, Colorado, on July 30, 2024 at 9:00 a.m. with the virtual hearing link being available on the County's website at https://www.jeffco.us/meetings.

FURTHER NOTICE IS HEREBY GIVEN that said public hearings may be continued from time to time without further notice.

Said proposed rezoning is Case No. 23-119953RZ/ South Golden Road / Mt. Vernon Mixed-Use ODP, which proposes to Rezone from Planned Development (PD), Commercial - One (C-1), and Residential - Two (R-2) to Planned Development (PD) to allow for a mixed-use project with ground-floor retail and up to 200 multi-family residential dwelling units above, and to preserve the Rock Rest Lodge.

Said property is located at: 16129 W 10th Ave, 16005 Mt Vernon Rd, and 16100 S Golden Rd, Golden, which contains approximately 5.5 acres.

BE IT ALSO KNOWN that the text and/or maps relating to the above referenced rezoning and any text and/or maps so certified by the Jefferson County Planning Commission may be examined by contacting the Jefferson County Planning and Zoning Division during any working day. You can reach Planning & Zoning at 303-271-8700 or pzweb@jeffco.us.

BOARD OF COUNTY COMMISSIONERS
COUNTY OF JEFFERSON
STATE OF COLORADO

Published July 11, 2024

/s/ Lesley Dahlkemper, Chairman

Please note: The Denver Post will no longer be issuing paper tears. They will only be a digital copy.

Sara Hutchinson

From: Sara Hutchinson
Sent: Tuesday, July 2, 2024 2:31 PM
To: ALLA FLASKA
Subject: RE: case #23-119953R2

Alla,

Please see my responses below:

1. How tall is the building and how many stories?

The proposed ODP documents would allow a maximum height of 75'. There are step-back requirements for all stories above a second story to reduce building massing. For example, any story above 60' in height would be required to be stepped back at least 25' from the story below it. There is no restriction on the number of stories, just the height.

If the Rezoning were approved, the actual building design would have to be approved through the Site Development Plan process with the County.

2. Why Traffic study that was done recently does not include the estimated traffic from 4 story new apartment buildings father the road that still almost empty

The traffic study does take this into account.

3. Why traffic study Does not include the estimated traffic from 354 units apartment complex that was approved and in the process of building now?

The traffic study does take this into account.

4. If building is tall why shade study was not required?

The potential shade impact of this building would be ice on S Golden Road. Our Road and Bridge team has reviewed this application, and did not have concerns about the shade.

Please let me know if there are any other questions you have for me. This correspondence will be added to the case packet that is given to the Planning Commission and Board of County Commissioners.

Thank you,

Sara Hutchinson
Planner III

Jefferson County Planning and Zoning
100 Jefferson County Parkway, Suite 3550
Golden, CO 80419
303.271.8732
shutchin@jeffco.us | planning.jeffco.us

Help us shape the future of Jefferson County by visiting the Together Jeffco website!
Click the image below to visit our website: <https://togetherjeffco.com>



We encourage scheduling an appointment to see staff during our office hours Monday - Thursday. Please schedule [appointments](#) and submit [applications](#) online. Go to planning.jeffco.us for more information.

From: ALLA FLASKA <aflaska@hotmail.com>
Sent: Monday, July 1, 2024 9:31 AM
To: Sara Hutchinson <shutchin@co.jefferson.co.us>
Subject: --[EXTERNAL]-- case #23-119953R2

This Message Is From a New Sender

You have not previously corresponded with this sender.

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Good morning,

I have looked info on Jeffco website and have few questions about this rezoning.

1. How tall is the building and how many stories?
2. Why Traffic study that was done recently does not include the estimated traffic from 4 story new apartment buildings father the road that still almost empty
3. Why traffic study Does not include the estimated traffic from 354 units apartment complex that was approved and in the process of building now?

4. If building is tall why shade study was not required?

Thanks, Alla Flaska
1245 Nile street, Golden

5.

Sara Hutchinson

From: ALLA FLASKA <aflaska@hotmail.com>
Sent: Thursday, July 4, 2024 2:05 PM
To: Sara Hutchinson
Subject: --{EXTERNAL}-- case# 23-119953 RZ

Follow Up Flag: Follow up
Flag Status: Flagged

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COMMENTS.

This development will add more traffic on South Golden rd. that will cause big problems in the not far away future after all previously approved rental apartments will be build and occupied.

We already have 4 story "prison" looking rental building that was promised to be very nice looking, but on pictures only.

This one looks even worse on the pictures, so i can only imagine the real look when it will be built.

And as I recall from the previous hearing for huge rental complex of 354 units - it was said that you would want to maintain 4 stories high to blend in and be in the same 4 story as the 92 units along the south golden rd. So the height was reduced from 5 story to 4.

Now this 6+ story building seems to be perfect fit along the Golden rd.

There is no any common logic how on the earth stuff decided that it meets all criteria and recommended to approval of such tall building .

I know that no one from the stuff, planning commission , or Board cares about what people think , how it effects their lives, or how many accidents will happen from all that extra traffic brought by approving everything what developers want. It is just a game to put a check mark that community input was taking in to consideration in the final decision. It was not.

People are just disappointed and do not want to waste their time any more trying to write comments, participate in the meetings, because it is all useless, everything gets approved. I think you have had noticed it.

Maybe when some of you, who are so easy in approving all this monstrous developments , or people you care about , get hurt in the accident here, you will remember that you were the one who approved it. So far you do not care.

I guess your next approval will be 10 story if anything becomes available for development along the south golden rd.

Sara Hutchinson

From: Tara Slowik <goldenslowiks@msn.com>
Sent: Monday, July 8, 2024 11:15 AM
To: Sara Hutchinson
Subject: --{EXTERNAL}-- 23-119953RZ

Follow Up Flag: Follow up
Flag Status: Flagged

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Just say NO!

Pleasant view doesn't need another 200 unit building. The one that is complete on South Golden Rd and Rodgers isn't fully utilized.

The height of this proposed building is very out of character for the PV area. Possibly 6 stories? This isn't Belmar.

The traffic study that was conducted didn't take into account the increase of cars with will happen once the 354 units on the north side SGR.

South Golden Rd to two lanes, and traffic is bad enough during certain times of the day. Adding another 800 cars with this rezone would make it a stand still.

The infrastructure of PV can't keep up with the builds that have been granted. This community really doesn't need another 200 unit build.

Thanks,
Tara Slowik

Sara Hutchinson

From: SALLY MAUGHAN <sallymaughan@msn.com>
Sent: Monday, July 8, 2024 2:01 PM
To: Sara Hutchinson
Subject: --{EXTERNAL}-- 23-119953RZ

Follow Up Flag: Follow up
Flag Status: Flagged

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Hello Ms Hutchinson,

I am writing to express my opposition to yet another monstrous apartment complex on a 2 lane county road. Another 200 units plus commercial/office/ retail is too many units. The road can't handle the traffic regardless of what the traffic analysis says. Seems everything gets greenlighted without any consideration to the long-term effect of those living nearby or anyone travelling that road. There is already 85 new units at SGR & Quaker, 353 approved just east of King Soopers, the new energy park at Camp George West for NREL not to mention the property at 15601 SGR up for rezone as well. I'm sure that will be at least another 100 units although I can't find anything recent regarding it.

Just the newly approved developments (including this one) equal at least nearly 650 cars although most people have 2 cars so that's 1300 making a minimum of 2 trips a day is 2600. Rent will be far from affordable so tenant occupancy could double. Then we're looking at almost double the estimated trips on SGR. It will look like the super cruise all the time instead of just 1 weekend a month!!!!

I can't believe the schools, water, xcel, emergency services besides can truly and honestly handle all of this overcrowding. I'm absolutely positively the road can't.

Please take all of this into serious consideration.

Thank you,

Sally Maughan

1528 Golden Hills Rd, Golden, Co 80401

Sara Hutchinson

From: Debra Meyer <77jurney@gmail.com>
Sent: Monday, July 8, 2024 5:20 PM
To: Sara Hutchinson
Subject: --{EXTERNAL}-- Case # 23-119953RZ

Follow Up Flag: Follow up
Flag Status: Flagged

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Ms. Hutchinson:

I am not going to address every issue which the area next to Rock Rest's planned development affects but when added to all the other developments in process or planned along S Golden Rd like; encroachment of wetlands for our wildlife, water and air quality (air alert 7-9-24), school capacity and safety of our children crossing busy streets and overall affect on the environment of Golden and Pleasant View, BUT, I would like to see a map disclosing all planned developments along S Golden Road (that cannot be widened) at Wednesday's meeting.

Please note all other developments parking for commercial and each unit. Also, please include your estimations of 2 x vehicles for each unit and how S Golden Rd will handle the added traffic congestion through the roundabouts and air quality. Oh and let's not forget about the affects and parking for businesses.

Thank you for your time and consideration.

Truly,

Debra Meyer
303-514-5537


--{EXTERNAL}-- Fw: 23-119953RZT



BRYANN LYNCH <blynch80401@msn.com>
To Sara Hutchinson



Tue 7/16/2024 6:55 PM

 Follow up. Start by Monday, July 22, 2024. Due by Monday, July 22, 2024.
You replied to this message on 7/24/2024 8:31 AM.
[If there are problems with how this message is displayed, click here to view it in a web browser.](#)

This Message Is From a New Sender

You have not previously corresponded with this sender.

[Report Suspicious](#)

Hello,

As a citizen, taxpayer and Pleasant View resident, I would like to express my strong opposition to the proposed rezoning of the property surrounding the Rock Rest. The proposed development is out of scale and out of character with the neighborhood, which consists of low-height, low-density residential properties and small local businesses.

An example of this is the recently built mixed-use development on South Golden Road west of 7-Eleven, which was also vehemently opposed by neighbors. Its apartments and retail spaces are nowhere near fully leased/occupied. On July 6, 2024, the Denver Post printed on page A8 of the Business section an article reprinted from the New York Times entitled "Apartments could be the next business to struggle." In it, "some industry experts say they expect a wave of defaults in the apartment business, intensifying problems across the commercial real estate industry." This means more developer defaults, vacant properties and blight.

Additionally, on July 9, 2024, the Denver Post printed an article on page A10 of the Business section an article entitled "Inventory reaches decade-plus high," which chronicles the fact that "Metro Denver's housing market softening when it should be peaking," mostly due to high interest rates that are not decreasing anytime soon. Again, overbuilding will lead to negative consequences for our community.

And this is not even considering the huge development that has already been approved at 16725 South Golden Road. Developers apparently consider Pleasant View the goose that laid the golden egg and we all remember how that story ends!

The neighbors I have spoken to are not opposed to reasonable development that respects and enhances our community. None of the proposed or recently built huge mixed-use projects qualify.

Thank you for your consideration,
Bryann Lynch
16735 W. 15th Ave.
Golden, CO 80401
Unincorporated Jefferson County

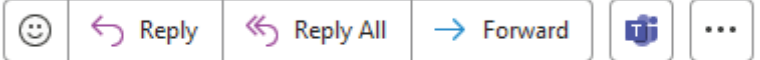
Please disregard the previous email. I accidentally hit Send before I completed it.

--{EXTERNAL}-- 23-119953RZ (Rock Rest)




SALLY MAUGHAN <sallymaughan@rockrest.com>

To: Andy Kerr; Lesley Dahlkemper; Tracy Kraft-Tharp
Cc: Sara Hutchinson



Tue 7/23/2024 9:32 AM

 Follow up. Start by Tuesday, July 23, 2024. Due by Tuesday, July 23, 2024.
You forwarded this message on 7/24/2024 8:38 AM.

This Message Is From a New Sender

You have not previously corresponded with this sender.

[Report Suspicious](#)

Hello all,

Planning commission approved this rezone a couple weeks ago and it will come before you on July 30th.

This is the 3rd 'development along S Golden Rd that again cannot handle the traffic. This fact keeps getting either ignored or glossed over

Traffic studies saying it can be is ludicrous! This is also the 2nd time the one 'solution' mentioned is to restripe the roundabout at Moss/Research Rd into a double lane. To what end? There will be a steady single line of bumper-to-bumper traffic going into to a double lane roundabout only to filter out into a single lane again. How does this help? Makes zero sense. I predict many accidents since people will try to beat each other out of the roundabout.

Even the chairman of the planning commission did not agree with this rezone since Nick Nelson did not include the impact of future traffic from NREL's energy park. He said it was hypothetical at this point and shouldn't be considered! How can it not when everything these commissions do is supposed to take into consideration the future impacts of all of these developments?

Please keep these points in mind at your hearing.

Thank you,

Sally Maughan
1528 Golden Hills Rd
Golden, Co

CURRENT ZONING


BETTINGER OFFICIAL DEVELOPMENT PLAN

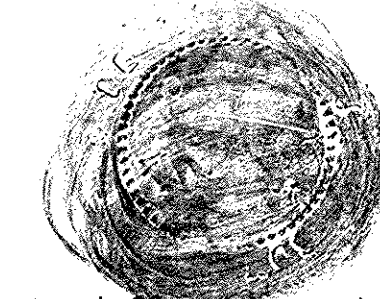
Case Number: 290-15
Map Number: 219

ODP PREPARED BY: Tim Joswiak
4981 S. Garland St
Littleton, CO 80123
303-973-4157
February 3, 1990
Revised: May 1, 1991

LEGAL DESCRIPTION: A parcel of land in the SW 1/4 of the NW 1/4 of Section 1, Township 4 South, Range 70 West of the 6th Principal Meridian, deeded as the South 367 (367.70) feet of Tract 3, Burdick Heights Sub-division, and more particularly described as follows: Beginning at the W 1/4 corner of said section 1, thence S 89°56'48"E along the centerline of said Section 1 for a distance of 777.73 feet to a #5 rebar with aluminium cap stamped L.S.24317, which is the True point of beginning; Thence N 00°03'12"E for a distance of 367' (367.70) to a point; thence N 89°56'48"W for a distance of 125 (124.73) feet to a point; thence S 00°03'12"W for a distance of 367 (367.70) feet to a point; thence S 89°56'48"E a distance of 125 (124.73) feet to the true point of beginning. Said parcel contains 1.05 acres, more or less. All field measurements of the survey have been denoted in parenthesis.

The hereon plan of the Planned Development Bettinger is approved and accepted by the Board of County Commissioners this 25 day of June, 1991

BOARD OF COUNTY COMMISSIONERS:  Chairman



Joan Fitz-Gerald
Clerk
By: Joan K. Card Deputy

Reviewed by the Jefferson County Planning Commission this 19th day of June, 1991

Donald E. Wilner
Chairman

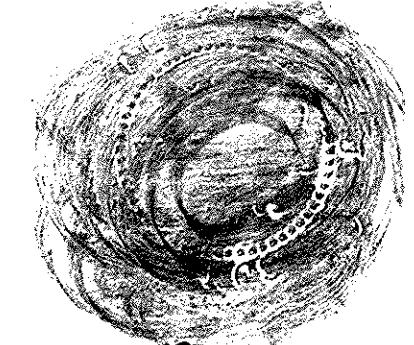
Reviewed by Public Works Division

Date: JUNE 10, 1991

By: Amy O'Neill

RECORDER'S CERTIFICATE:
ACCEPTED FOR FILING IN THE OFFICE OF THE COUNTY CLERK AND RECORDER OF JEFFERSON COUNTY AT GOLDEN, COLORADO ON THIS 27th DAY OF June, 1991 at 15:00 O'CLOCK P.M.

91056575
Reception Number



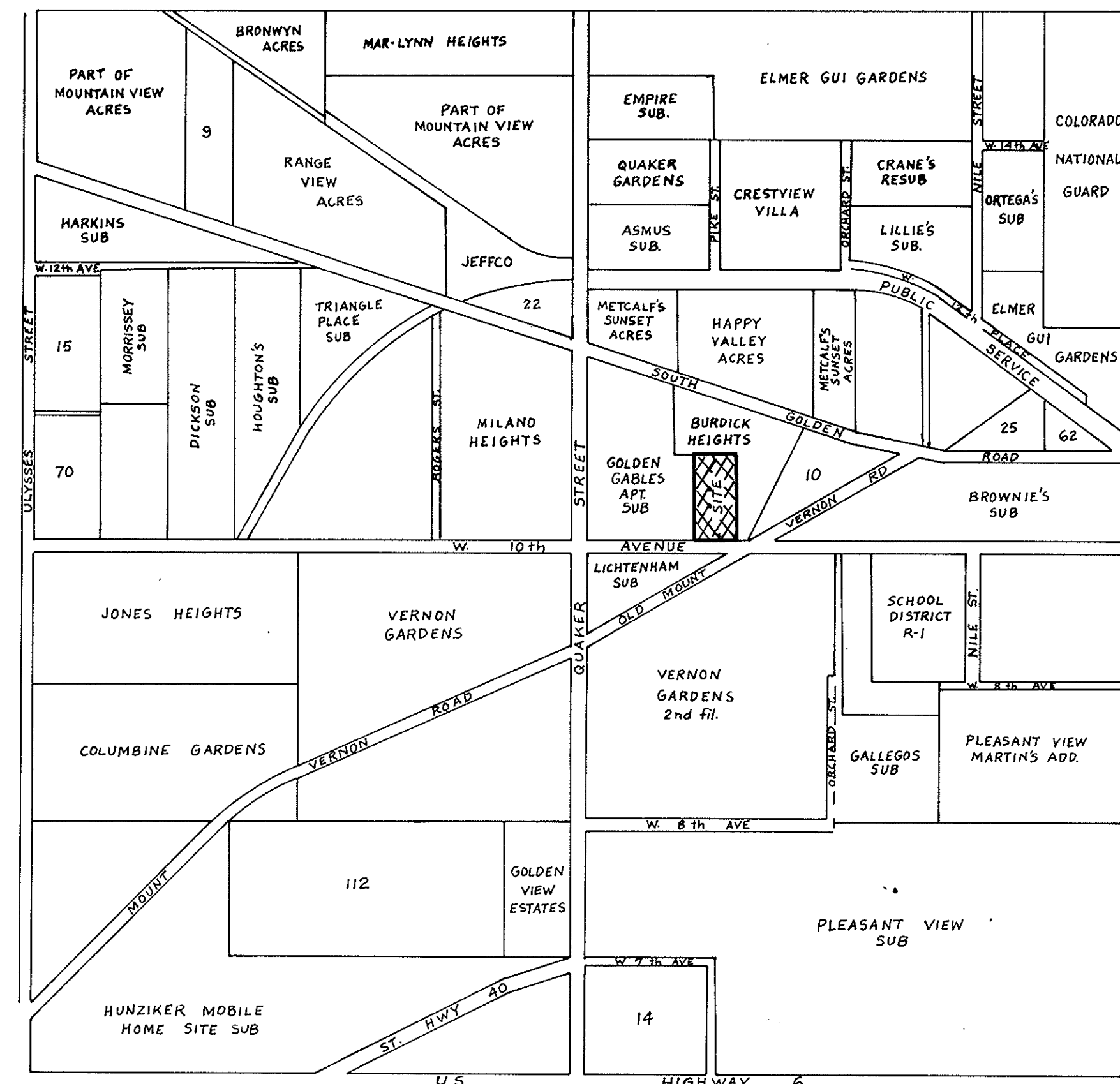
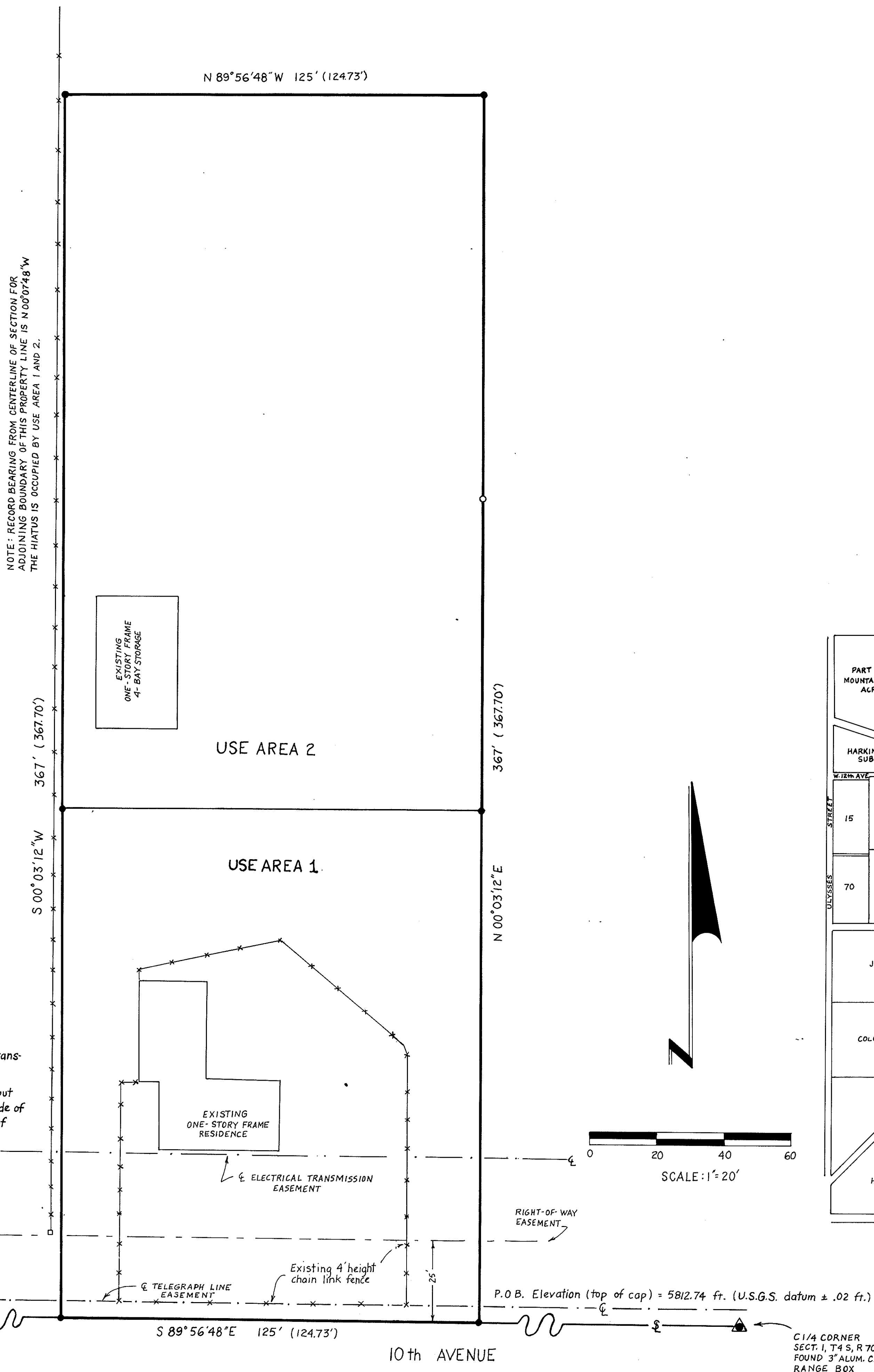
Joan Fitz-Gerald
JEFFERSON COUNTY CLERK AND RECORDER
By: Joan K. Card
Deputy Clerk

Standard Flexibility Statement:
The graphic drawings contained within this Official Development Plan are intended to depict general locations and illustrate concepts of the textual provisions of this Official Development Plan. In granting plat approval, the Board of County Commissioners may allow minor variations for the purpose of establishing:

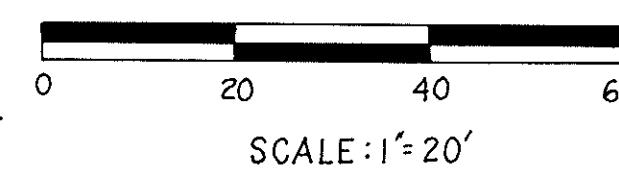
- Final road alignments
- Final configuration of lot and tract sizes and shapes
- Final building envelopes
- Final access and parking locations
- Landscaping adjustments

Applicability Statement:

Except as expressly provided otherwise in this Official Development Plan, development of this property shall conform to the Jefferson County Zoning Resolution in effect at the time of platting and building permit application.



Existing Easements
5' North and parallel to section line centerline easement for telegraph line Bk 153, Pg. 92
50' North and parallel to section line centerline easement for electrical transmission Bk 153, Pg. 92
No widths of easements are defined, but the right to cut trees 50' either side of centerline affects the southerly 100' of use area 1.



VICINITY MAP
SCALE: 1"=600'

P.O.B. Elevation (top of cap) = 5812.74 ft. (U.S.G.S. datum ± .02 ft.)

1/4 CORNER
SECT. 1, T4 S, R 70 W, 6th PM.
FOUND 3" ALUM. CAP IN
RANGE BOX

NOTE: RECORD BEARING FROM CENTERLINE OF SECTION FOR ADJOINING BOUNDARY OF THIS PROPERTY LINE IS N 00°04'48" W THE HIATUS IS OCCUPIED BY USE AREA 1 AND 2.

Unofficial

BETTINGER OFFICIAL DEVELOPMENT PLAN

WRITTEN RESTRICTIONS

1) Permitted Uses :

- A. Use Area 1 - this area shall contain one single family dwelling, together with normal residential accessory uses and structures (i.e., private garage)
- B. Use Area 2 - this area shall permit a maximum of two storage buildings, with a maximum total GLA of 3000 s.f. Storage uses shall be limited to the storage of antique automobiles, parts for antique automobiles, and collectable items. Restoration and repair of antique automobiles and collectables shall be permitted, provided that the activity is limited to occur within the building, and that the repair is done by the building owner or leaseholder on their own antiques and collectables. No off-site employees will be permitted.

2) Signs :

No signs shall be permitted, except for those signs permitted within the R-2 zone in the Jefferson County Zoning Resolution.

3) Fences :

- A) Maximum fence height shall be six feet.
- B) Fence permits shall be required for any fence over 42" in height.
- C) No fence over 42" in height shall be permitted within the southerly 48 feet of this Planned Development.
- D) No barbed wire or electric fences shall be permitted.

4) Parking :

- A) Residential Uses - a minimum of two on site parking spaces shall be provided for each dwelling unit.
- B) Storage Uses - a minimum of one space per 2000 s.f. GLA shall be provided on site.

5) Lighting :

- A) Lights shall be permitted for residential and security use only. No exterior lighting (other than security lighting) shall be permitted in association with the storage uses.
- B) Maximum light height shall be 18 feet.
- C) No light shall cast a glare on adjacent properties or right-of-way.

6) Building Standards :

- A) Maximum height of residential structures shall be 35 feet
- B) Maximum height of accessory structures and storage buildings shall be 20 feet.

7) Lot Standards :

- A) Maximum number of lots shall be two.
- B) Minimum lot size shall be 12,500 s.f.
- C) Minimum building setbacks shall be :
 - front - 20 feet
 - rear - 20 feet
 - side - 10 feet

8) Architectural Treatment :

- A) All buildings shall be residential in scale, character and finish. All buildings must have sloped gable-style roofs and painted or stained siding on the walls.

9) General Provisions :

- A) No use shall be permitted that produces any noise, smell, vibration, or any other sensory impact that is perceptible and annoying from off-site.
- B) All oil, fluids, and other materials used in connection with restoration and repair activities shall be stored and disposed of in accordance with the requirements of the Jefferson County Health Department and the sanitation district.
- C) No exterior storage is permitted within Use Area 2.

Unofficial

Section 25 – Commercial District

(orig. 3-26-13)

A. Intent and Purpose

1. The Commercial Districts are intended to provide areas for low to high density commercial office, retail, services and activities, where allowed. (orig.3-26-13)
2. Contained in this section are the allowed land uses, building and lot standards (including minimum setbacks) and other general requirements for each specific commercial zone district. (orig.3-26-13)
3. The Commercial Zone Districts are divided as follows: (orig.3-26-13)
 - a. Restricted Commercial-One
 - b. Commercial-One (C-1)
 - (1) Convenience Level
 - (2) Neighborhood Level
 - (3) Community Level
 - (4) Regional Level
 - c. Commercial-Two (C-2)

B. Permitted Uses (orig. 3-26-13; am. 7-17-18; am. 5-21-19)

Uses	RC-1	C-1				C-2
		Convenience	Neighborhood	Community	Regional	
Medical and dental offices, clinics and small veterinary clinics with no outside facilities.	X	X	X	X	X	X
Business and professional offices	X	X	X	X	X	X
Laboratory, except those involved in any hazardous process of that emit noxious noise dust, fumes or odor.	X, <5,000 s.f. GLA	X, < 5,000 s.f. GLA	X	X	X	X
State licensed day-care center or preschool or nursery	X	X	X	X	X	X
Grocery Store, Supermarket		X, <10,000 s.f. GLA	X	X	X	X
Gas station, service station or car wash.		X (4 fueling stations max)	X	X	X	X
Auto repair facility		X (max. 4 bays)	X	X	X	X
Fuels stores						X
Convenience retail shopping facility Including but not limited to drug stores, liquor stores, florists, newsstands, hardware stores, livestock feed stores, auto supply stores, and retail food specialty shops which sell food products not intended to be consumed on the premises, such as butcher shops, candy stores, bakeries, dairy product shops, delicatessens.		X, <5,000 s.f. GLA	X	X	X	X
Restaurants, excluding drive-thru and fast food,		X, <4,000 s.f. GLA.				
Specialty Restaurant, no drive –thru.		X, <1,200 s.f. GLA	X	X	X	X
Restaurants, including specialty, brew-pub, vintner's, fast food, drive-in, drive-thru, or carry-out			X	X	X	X

Uses	RC-1	C-1				C-2
		Convenience	Neighborhood	Community	Regional	
Convenience service establishments, including but not limited to: barber and beauty shops, cleaners, shoe repair shops, laundries, music lessons.		X	X	X	X	X
Outdoor Vending Machines	X	X	X	X	X	X
Low intensity specialty goods and services, including but not limited to: art gallery, antiques, artisan shops, photo studio, gift shop, plant store or nursery, taxidermy, furniture store, pet store, blue-print, newspaper office, apparel, appliances.		X, <5,000 s.f. GLA	X	X	X	X
Taverns and lounges		X	X	X	X	X
Banks and other financial institutions			X	X	X	X
Craft brewery and craft distillery			X <5,000 s.f. GLA	X <10,000 s.f. GLA	X	X
Arcades, pool halls, dance and other similar studios.			X	X	X	X
Fitness Centers, Martial Arts Studios, and other similar uses		X, <4,000 s.f. GLA	X	X	X	X
Department stores and/or discount stores				X, <75,000 s.f. GLA.	X	X
Nightclubs and discotheques				X	X	X
Entertainment facilities, including but not limited to movie theaters, bowling alleys, skating rinks, pool halls.				X	X	X
Building material retail stores				X	X	X
Building material sales						X
Recreational facilities, including but not limited to swimming, tennis, health and court sports facilities.				X	X	X
Hotels and motels				X	X	X
Private colleges and schools including: trade, vocational and professional schools and student and faculty housing, when located on the same lot or tract as the school for which the housing is being provided.				X	X	X
Rental stores, excluding automobiles, campers, trailers and heavy equipment.		X	X	X	X	X
Motor vehicle, recreational vehicle and trailer sales, leasing or rental (new or used).						X
Rental agencies for heavy equipment						X
Repair for heavy equipment, recreational vehicles, or trailers.						X
Auditoriums, conference rooms and Event Centers					X	X
Ambulance services						X
Shops for custom work to include electrical, plumbing, air conditioning, and similar type shops.				X	X	X

Uses	RC-1	C-1				C-2
		Convenience	Neighborhood	Community	Regional	
Fabrication and manufacturing of any type set forth in the I-3 Zone District are permitted, except those uses involved in any hazardous process or that emit noxious noise, dust, fumes or odor and provided that no machinery greater than 5 horsepower is utilized and that activities are enclosed.						X
Wholesale businesses						X
Cold-storage plants						X
Amusement parks						X
Auction house excluding those for animals						X
Home for social rehabilitation or adjustment for up to 20 residents plus staff, not located within 750 ft. of a similar type facility.						X
Temporary shelter for the homeless which is not located within a 750 ft. of another such shelter.						X
Sexually Oriented Businesses located in accordance with the provision of the General Provisions and Regulations Section of this Zoning Resolution.						X
Telecommunications Land Uses shall comply with the provisions of the Telecommunication Uses Section of this Zoning Resolution.	X	X	X	X	X	X
Energy Conversion Systems (ECS) land uses shall comply with the Alternative Energy Resources Section of the Zoning Resolution.	X	X	X	X	X	X
Mini-Storage, Mini-Warehousing				X ¹	X ¹	X ¹

¹ When meeting the design criteria below.

C. Accessory Uses (orig. 3-26-13)

Uses	RC-1	C-1				C-2
		Convenience	Neighborhood	Community	Regional	
Construction Trailers during construction only, not to exceed to two years.	X	X	X	X	X	X
Customer and employee parking of operable motor vehicles, either open or covered.	X	X	X	X	X	X
Living Quarters for not more than one family in a commercial building not a dwelling.		X	X	X	X	X
Retail Sale of Permissible Fireworks in a temporary fireworks sales facility provided the facility complies with the requirements of H.4. and obtains a yearly permit from the County.		X	X	X	X	X

D. Special Uses

The following uses shall be permitted only upon review by the Planning Commission and Approval by the Board of County Commissioners: (orig. 3-26-13)

Uses	RC-1	C-1				C-2
		Convenience	Neighborhood	Community	Regional	
Holding area for motor vehicles (operable or inoperable) removed from public roads and awaiting disposition by proper legal authorities. Such motor vehicles shall be enclosed by a closed fence (one preventing view) at least 8 feet in height.		X	X	X	X	X
Religious Assemblies or private clubs		X	X	X	X	
A group living facility, other than homes for social rehabilitation, or a home where up to 6 unrelated individuals are living together, that is occupied by more than one registered sex offender.	X	X	X	X	X	X
Oil and gas drilling and production such operations shall conform to the standards contained in the Drilling and Production of Oil and Gas Section of this Zoning Resolution, except as modified by the Board of County Commissioners in the resolution approving the Special Use.	X	X	X	X	X	X

E. Lot and Building Standards (orig. 3-26-13; am 7-17-18; am; 5-21-19)

Districts	Setbacks – Structural					Setbacks – Gas Pump			
	Front	Side	Rear	From common wall/interior lot line	Side & Rear adjacent to separate Commercial or Industrial Zone District ¹	Front	Sides	Rear	
RC-1	35 ft.	20 ft.	20 ft.	N/A	20 ft.	NA			
C-1	Convenience	35 ft.	20 ft.	20 ft.	0 ft.	10 ft.	18 ft.	18 ft.	20 ft.
	Neighborhood	40 ft.	20 ft.	20 ft.	0 ft.	10 ft.	18 ft.	18 ft.	20 ft.
	Community	50 ft.	50 ft.	50 ft.	0 ft.	10 ft.	18 ft.	18 ft.	20 ft.
	Regional	50 ft.	50 ft.	50 ft.	0 ft.	10 ft.	18 ft.	18 ft.	20 ft.
C-2	50 ft.	20 ft.	20 ft.	0 ft.	10 ft.	18 ft.	18 ft.	20 ft.	

¹ Or comparable PD Zone District.

Districts	Building Height		Area Required for sub-districts
	Structural	Roof Mounted Solar	
RC-1	35 ft.	45 ft.	N/A
C-1	Convenience	35 ft.	Up to 6 acres (261,359 s.f.)
	Neighborhood	46 ft.	Min. 6 Acres (261,360 s.f.)
	Community	60 ft.	Min. 10 Acres (435,600 s.f.)
	Regional	80 ft.	Min. 30 Acres (1,306,800 s.f.)
C-2	50 ft.	N/A	None

1. Area Calculations

Acreage requirements for all Commercial-One sub-districts may be satisfied by the following: (orig.3-26-13; am. 7-17-18)

- a. Area of lot or tract, or the total area of two or more contiguous lots or tracts of Commercial-One Zone District or a comparable use area of a Planned Development Zone District. (orig.3-26-13; am. 7-17-18)

F. Design Criteria for Mini-Storage

- 1. No outdoor storage shall be permitted. (orig.7-17-18)
- 2. Mini-storage located in C-1 & C-2 zoning shall be designed to emulate other allowed uses in the Commercial zone district and be in context with the built environment. Specific architectural standards in addition to the standard requirements in the Architecture Section of the Zoning Resolution are: (orig. 7-17-18)
 - a. New buildings shall be multi-story. (orig. 7-17-18)
 - b. Doors to individual storage units may not be visible from abutting public street frontage or residential zone districts. (orig. 7-17-18)
 - c. Building colors, trim colors, and doors visible from the outside of the building shall be subdued colors as described in the Architecture Section of the Zoning Resolution. (orig. 7-17-18)
 - d. Buildings abutting residential zoning shall feature architecture compatible with the residential character of the abutting neighborhood including, but not limited to materials, colors, roof pitch, and detailing. (orig. 7-17-18)

G. Enclosure of Activities

- 1. RC-1 – No outdoor storage shall be permitted. Trash containers shall be screened from public view. (orig.3-26-13)
- 2. C-1 - Commercial activities, except restaurants, childcare facilities, plant nurseries, and parking lot sales accessory to a permitted use when located on the same lot, shall take place in a completely enclosed building. (orig.3-26-13)
- 3. C-2 – All activities and outdoor storage shall be adequately screened from surrounding properties and public view. (orig.3-26-13)

H. Fences

- 1. Maximum fence height:
 - a. RC-1: 6 ft. (orig.3-26-13)
 - b. C-1: 8 ft. (orig.3-26-13)
 - c. C-2: 8 ft. (orig.3-26-13)
- 2. Fence permits are required for any fence over 42 inches in height. (orig.3-26-13)
- 3. No barbed wire shall be permitted as material for a boundary or perimeter fence. However, boundary or perimeter fences may include not more than 4 strands of barbed wire as the top 18 inches or less of the fence, which may be angled inward up to 45 degrees, provided the lowest strand of barbed wire is at least 6 feet above the ground. (orig.3-26-13)
- 4. No electric fence is allowed as a boundary or perimeter fence. (orig.3-26-13)
- 5. Fences on corner lots must comply with the vision clearance triangle requirements as specified in the Definitions Section of this Zoning Resolution, except that fences constructed of woven wire or ornamental iron which are 80 percent open may be erected up to a maximum height of 8 feet. (orig.3-26-13)
- 6. Where allowed, accessory outside storage shall be enclosed and concealed by a closed fence (one preventing view) at least 6 feet in height. When abutting a residential zone district, fencing shall be wooden or masonry, or replaced with mature hedge. Such fence shall be constructed and maintained in good condition. As used in this section, accessory outdoor storage shall not include employee or customer

parking lots or merchandise displayed for sale. Accessory outside storage shall not exceed the height of the fence, except for operable vehicles, trailers, and other equipment designed to be towed or lifted as a single component. Where the topography of the land is such that a fence would not prevent view from adjoining property or right-of-way, the Director of Planning and Zoning may waive this requirement. No accessory outdoor storage shall be allowed within a required front setback or within any required landscaping area. (orig.3-26-13; am. 3-3-15)

I. General Requirements

1. All setbacks shall be measured from the foundation or wall; however, eaves, roof overhangs and fireplaces may protrude 24 inches into the setback. (orig.3-26-13)
2. Corner lots must comply with the vision clearance triangle requirements as specified in the Definitions Section of this Zoning Resolution (orig.3-26-13)
3. No structure may be erected, placed upon or extend over any easement unless approved in writing by the agency or agencies having jurisdiction over such easement. (orig.3-26-13)
4. A temporary fireworks sales facility (i.e., tent rather than the stakes) must be a minimum of 100 feet from the property line of adjacent property located in a residential or agricultural zone district. Accessory storage of fireworks is permitted if fully enclosed in a metal storage container, and must be a minimum of 50 feet from the property line of adjacent property located in a residential or agricultural zone district. (orig.3-26-13)
5. Recreational facilities shall conform to the setback requirements for a main building in this zone district. Enclosure fences immediately surrounding these facilities shall not exceed 12 feet in height. (orig.3-26-13)

Section 30 - Residential District

(orig. 3-26-13)

A. Intent and Purpose

1. The Residential Districts are intended to provide areas for residential development and includes single-family dwellings, two-family dwellings, duplexes, townhomes and multi-family dwellings, where allowed. (orig. 3-26-13)
2. Contained in this section are the allowed land uses, building and lot standards (including minimum setbacks) and other general requirements for each specific residential zone district. (3-26-13)
3. The Residential Zone Districts are divided as follows: (orig. 3-26-13)
 - a. Residential-One (R-1)
 - b. Restricted Residential (RR)
 - (1) Restricted Residential Quarter Acre (RR-1/4)
 - (2) Restricted Residential One Half Acre (RR-1/2)
 - (3) Restricted Residential One Acre (RR-1)
 - (4) Restricted Residential Two Acre (RR-2)
 - (5) Restricted Residential Five Acre (RR-5)
 - (6) Restricted Residential Ten Acre (RR-10)
 - c. Residential-One A (R-1A)
 - d. Residential-One B (R-1B)
 - e. Residential-One C (R-1C)
 - f. Residential-Two (R-2)
 - g. Residential-Three (R-3)
 - h. Residential-Three A (R-3A)
 - i. Residential-Four (R-4)

B. Permitted Uses (orig.3-26-13; am. 7-17-18)

Use	R-1	RR	R-1A	R-1B	R-1C	R-2	R-3	R-3A	R-4
Single-family dwelling	X	X	X	X	X	X	X		
Two-family dwelling or duplex						X	X	X	
Multi-family dwelling or townhome							X	X	
Multi-family dwelling (20 dwelling units to 50 dwelling units per acre).									X
Religious Assemblies and related uses, parish house and/or parsonage.							X	X	X
Private nonprofit museum							X	X	X
Parochial or private schools. Not included are private vocational, trade or professional schools, schools of art, music or dance and schools for subnormal or mentally disturbed adults.							X	X	X
Colleges; not included are private vocational, trade or professional schools, schools of art, music or dance and schools for subnormal or mentally disturbed adults.									X

Use	R-1	RR	R-1A	R-1B	R-1C	R-2	R-3	R-3A	R-4
State licensed daycare or large day –care home or preschool or nursery.							X	X	X
Group Home for up to 8 aged persons not located within 750 ft of another such group home; state licensed group home for up to 8 developmentally disabled persons not located within 750 ft of another such group home; state licensed group home for up to 8 mentally ill persons not located within 750 ft of another such group home or group home for the aged or developmentally disabled persons.	X	X	X	X	X	X	X	X	X
Public park, Class I public recreation facilities.	X	X	X	X	X	X	X	X	X
Class II public recreation facility							X	X	X
Homes for the aged and nursing homes							X	X	X
Hospital, nursing homes and clinics but not including institutions exclusively for the mentally disturbed, or for contagious or infectious diseases.									X
Telecommunications Land Uses shall comply with the provisions of the Telecommunications Uses Section of this Zoning Resolution.	X	X	X	X	X	X	X	X	X
Energy Conversion Systems (ECS) land uses shall comply with the provisions of the Alternative Energy Resources Section of the Zoning Resolution.	X	X	X	X	X	X	X	X	X

C. Accessory Uses (orig.3-26-13; am. 7-17-18)

Use	R-1	RR	R-1A	R-1B	R-1C	R-2	R-3	R-3A	R-4
Private garage, mini structure, storage shed	X	X	X	X	X	X	X	X	X
Private greenhouse and nursery, noncommercial conservatory for plants and flowers.	X								
Private poultry house and pigeon coop with no more than 400 square feet of floor area; private rabbit and chinchilla hut with no more than 100 square feet of floor area.	X								
Private building or kennel for housing dogs, cats and similar domestic pets. ¹	X	X	X	X	X	X	X	X	
Private stable and/or barn for keeping horses, cattle, sheep, goats or other similar domesticated animals. See general requirements below.	X								
Home Occupations provided the requirements and conditions of the Board of Adjustment or the Home Occupation Section of the Zoning Resolution have been met.	X	X	X	X	X	X	X		

Use	R-1	RR	R-1A	R-1B	R-1C	R-2	R-3	R-3A	R-4
Accessory Uses per the Accessory Use Section of the Zoning Resolution.	X	X	X	X	X	X	X	X	X
Commercial service activities, which are accessory to the main use of the building ²									X

¹ But not including horses, cattle, sheep, goats, chickens, ducks, geese or other fowl. The maximum total number of dogs, cats and similar domestic pets which may be kept shall be 3. Offspring of domestic pets may be kept until weaned.

² May be conducted, provided said use is contained within the main building. Cafeterias, offices, studios and personal services such as beauty parlors, barber shops, laundry pick-up stations and pharmacies may be conducted. However, the sum total of commercial uses may not exceed more than 10 percent of the floor area of any single building or structure. The entrance to any such accessory business will be from inside the building. Such accessory use is one which:

- a. Is subordinate to and serves the principal building or principal use.
- b. Is subordinate in area, extent, or purpose to the principal building or principal use served.
- c. Contributes to the comfort, convenience, or necessity of occupants of the principal building or principal use served.
- d. Is located on the same lot as the principal building or principal use served.

D. Special Uses (3-26-13)

The following uses shall be permitted only upon review by the Planning Commission and approval by Board of County Commissioners: (orig. 3-26-13; am. 7-17-18)

Use	R-1	RR	R-1A	R-1B	R-1C	R-2	R-3	R-3A	R-4
Religious Assemblies and related uses, parish house and/or parsonage.	X	X	X	X		X			
Private nonprofit museum	X	X	X	X		X			
Cable Television reception station	X	X	X	X	X	X	X	X	X
Water supply reservoir and irrigation canal	X	X	X	X	X	X	X	X	
A group living facility, other than homes for social rehabilitation, or a home where up to 6 unrelated individuals are living together, that is occupied by more than one registered sex offender.	X	X	X	X	X	X	X	X	X
Group, foster or communal home, residential treatment center, community residential home, home for social rehabilitation, assisted living residence, personal case boarding home, specialized group facility, receiving home for more than 4 foster home residents, residential child care facility or shelter from domestic violence, licensed or certified by state if applicable, in which 7 or more residents who are not legally related live and cook together as a single housekeeper unit not located within 750 ft of another similar type home or shelter.	X	X	X	X	X	X	X	X	X

Use	R-1	RR	R-1A	R-1B	R-1C	R-2	R-3	R-3A	R-4
Group home for the aged, group home for the developmentally disabled, group home for the mentally ill persons, licensed or certified by the state if applicable, in which 9 or more residents who are not legally related live and cook together as a single housekeeper unit, where such home is not located within 750 ft of another similar type home, licensed or certified by the state if applicable.	X		X	X	X	X	X	X	X
State licensed daycare center or preschool or nursery	X	X	X	X	X	X			
Parochial or private schools. Not included are private vocational, trade or professional schools, schools of art, music or dance and schools for subnormal or mentally disturbed adults. Exceptions listed above shall not preclude home occupations authorized by the Board of Adjustment or the Home Occupations Section of this Zoning Resolution.	X	X	X	X	X	X			
Home for social rehabilitation or adjustment for up to 10 residents plus staff, not located within 750 ft. of another similar facility.							X		
Oil and gas drilling and production subject to the Drilling and Production of Oil and Gas Section of this Zoning Resolution, except where located within a subdivision platted and recorded in the records of the Clerk and Recorder.	X	X	X	X		X	X	X	X
Class I or II commercial recreational facility. Class II public recreational facility.	X	X	X	X		X	X	X	X

E. Lot and Building Standards (orig. 3-26-13; am. 7-17-18; am. 5-10-22)

Districts	Front Setback		
	Primary Structure/ Garages (attached or detached)	Adjacent to Arterial	All Other Accessory Structures
R-1	20 ft.	30 ft.	Housing Livestock – 100 ft. All Other Accessory Structure – 50 ft.
R-1A	20 ft.	30 ft.	50 ft.
R-1B	20 ft.	30 ft.	50 ft.
R-1C	12 ft. (living space) 20 ft. (garage)	18 ft. (living space) 30 ft. (garage)	30 ft.
R-2	20 ft.	30 ft.	20 ft.

Districts	Front Setback		
	Primary Structure/ Garages (attached or detached)	Adjacent to Arterial	All Other Accessory Structures
R-3	20 ft.	30 ft.	50 ft.
R-3A	20 ft.	30 ft.	50 ft.
R-4	40 ft.	40 ft.	40 ft.
RR-1/4	20 ft.	20 ft.	20 ft.
RR-1/2	30 ft.	30 ft.	30 ft.
RR-1	30 ft.	30 ft.	30 ft.
RR-2	30 ft.	30 ft.	30 ft.
RR-5	50 ft.	50 ft.	50 ft.
RR-10	75 ft.	75 ft.	75 ft.

Districts	Side Setback ¹		
	All Structures	Adjacent to local/collector	Adjacent to arterial
R-1	5 ft. min (15 ft. total) ² Housing Livestock – 15 ft.	20 ft.	30 ft.
R-1A	5 ft. min (15 ft. total) ²	20 ft.	30 ft.
R-1B	5 ft.	20 ft.	30 ft.
R-1C	5 ft.	15 ft.	20 ft.
R-2	5 ft. min (15 ft. total) ²	20 ft.	30 ft.
R-3	5 ft. ³	20 ft.	30 ft.
R-3A	5 ft. ³	20 ft.	30 ft.
R-4	30 ft.	30 ft.	30ft.
RR-1/4	10 ft.	20 ft.	20 ft.
RR-1/2	20 ft.	30 ft.	30 ft.
RR-1	30 ft.	30 ft.	30 ft.
RR-2	30 ft.	30 ft.	30 ft.
RR-5	50 ft.	50 ft.	50 ft.
RR-10	50 ft.	75 ft.	75 ft.

¹For a two-family dwelling, no side setback shall be required where there is a common wall shared between buildings on adjacent lots.

² Each side setback must be a minimum of 5 feet, and both side setbacks added together must equal 15 feet or more.

³ The minimum side setback for a single-family dwelling, two-family dwelling, duplex, townhome, or multi-family dwelling with 1 story, shall be 5 feet on each side. The minimum side setback for any other main building shall be 10 feet on each side.

Districts	Rear Setback					
	Single-Family	Two-Family or Duplex	Townhome	Multi-Family	Other Main Building	Detached Garage or Other Accessory Structure
R-1	5 ft.	n/a	n/a	n/a	5 ft.	5 ft.
R-1A	10 ft.	n/a	n/a	n/a	10 ft.	5 ft.
R-1B	10 ft.	n/a	n/a	n/a	10 ft.	5 ft.
R-1C	10 ft.	n/a	n/a	n/a	10 ft.	5 ft.
R-2	5 ft.	5 ft.	n/a	n/a	5 ft.	5 ft.
R-3	5 ft.	5 ft.	10 ft.	10 ft.	10 ft.	5 ft.
R-3A	10 ft.	10 ft.	10 ft.	10 ft.	10 ft.	10 ft.
R-4	n/a	n/a	n/a	30 ft.	30 ft.	30 ft.
RR-1/4	20 ft.	n/a	n/a	n/a	20 ft.	20 ft.
RR-1/2	20 ft.	n/a	n/a	n/a	20 ft.	20 ft.
RR-1	20 ft.	n/a	n/a	n/a	20 ft.	20 ft.
RR-2	30 ft.	n/a	n/a	n/a	30 ft.	30 ft.
RR-5	50 ft.	n/a	n/a	n/a	50 ft.	50 ft.
RR-10	50 ft.	n/a	n/a	n/a	50 ft.	50 ft.

Districts	Building Separation		Building Height		
	Between Townhome or Multi-family Groups	From Building on Adjacent Lot	Primary Structure	Multi-Family Structure	All Other Accessory Structure ¹
R-1	n/a	n/a	35 ft.	n/a	25 ft.
R-1A	n/a	15 ft.	35 ft.	n/a	25 ft.
R-1B	n/a	n/a	35 ft.	n/a	25 ft.
R-1C	n/a	n/a	30 ft.	n/a	25 ft.
R-2	n/a	15 ft.	35 ft.	n/a	25 ft.
R-3	25 ft.	n/a	35 ft.	45 ft.	25 ft.
R-3A	25 ft.	n/a	35 ft.	45 ft.	25 ft.
R-4	30 ft. ²	n/a	80 ft.	80 ft.	25 ft.
RR-1/4	n/a	n/a	35 ft.	n/a	25 ft.
RR-1/2	n/a	n/a	35ft	n/a	25 ft.
RR-1	n/a	n/a	35 ft.	n/a	25 ft.
RR-2	n/a	n/a	35 ft.	n/a	25 ft.
RR-5	n/a	n/a	35 ft.	n/a	25 ft.
RR-10	n/a	n/a	35 ft.	n/a	25 ft.

¹ No such building shall exceed the lesser of the height indicated or the height of the primary structure.

Districts	Lot Size				
	Single-Family Dwelling	Two-Family Dwelling	Duplex	Townhome	Multi-Family
R-1	12,500 s.f.	n/a	n/a	n/a	n/a
R-1A	9,000 s.f.	n/a	n/a	n/a	n/a
R-1B	7,500 s.f.	n/a	n/a	n/a	n/a
R-1C	4,500 s.f.	n/a	n/a	n/a	n/a
R-2	9,000 s.f.	12,500 s.f. min. develop area and 5,000 s.f. min lot area per unit	12,500 s.f.	n/a	n/a

Districts	Lot Size				
	Single-Family Dwelling	Two-Family Dwelling	Duplex	Townhome	Multi-Family
R-3	7,500 s.f.	3,000 s.f. min. develop area and 1,500 s.f. min lot area per unit	9,000 s.f.	12,500 s.f. min. develop area and 2,000 s.f. min lot area per unit	12,500 s.f. min. develop area and 2,000 s.f. min lot area per unit
R-3A	n/a	4,000 s.f. min. develop area and 2,000 s.f. Min lot area per unit	12,500 s.f.	4,000 s.f. min. develop area and 2,000 s.f. Min lot area per unit	12,500 s.f. min. develop area and 3,000 s.f. min lot area per unit
R-4	n/a	n/a	n/a	n/a	1 acre min develop area and 850 s.f. Min lot area per unit
RR-1/4	¼ acre (10,890 s.f.)	n/a	n/a	n/a	n/a
RR-1/2	½ acre (27,180 s.f.)	n/a	n/a	n/a	n/a
RR-1	1 acre (43,560 s.f.)	n/a	n/a	n/a	n/a
RR-2	2 acres (87,120 s.f.)	n/a	n/a	n/a	n/a
RR-5	5 acres (217,800 s.f.)	n/a	n/a	n/a	n/a
RR-10	10 acres (435,600 s.f.)	n/a	n/a	n/a	n/a

F. Fences

1. Maximum fence height: 6 feet. (orig. 3-26-13)
2. No fence more than 42 inches in height of any type shall be permitted within the front setback line and the front lot line. (orig. 3-26-13)
3. No barbed wired or electric fence shall be permitted in this zone district. (orig. 3-26-13)
4. On adjacent lots where allowed fence heights differ, the lower height restriction shall govern. (orig. 3-26-13)

G. General Requirements

1. Corner lots must comply with the vision clearance triangle requirements. (orig. 3-26-13; am.7-17-18)
2. No structure may be erected, placed upon or extend over any easement unless approved in writing by the agency or agencies having jurisdiction over such easement. (orig. 3-26-13)

H. Animals

1. Manure shall not be allowed to accumulate so as to cause a hazard to the health, safety or welfare of humans and/or animals. The outside storage of manure in piles shall not be permitted within 100 feet of the front lot line and shall conform to the side and rear setback requirements of a dwelling. (orig. 3-26-13)
2. Stallions and bulls shall be kept in a pen, corral or run area enclosed by a 6-foot chain link fence, or material equal or greater in strength, except when it is necessary to remove them for training, breeding or other similar purposes. (orig. 3-26-13)
3. Where allowed the keeping of horses, cattle, sheep, goats, or other similar domesticated animals shall be kept in a fenced area. The total number of animals, listed above, is limited as follows. (orig. 3-26-13)

The minimum square footage of open lot area available to the animals, shall be 9,000 square feet for the first animal and 6,000 square feet for each additional animal. The total number of such animals that may be kept shall not exceed 4 per 1 acre; except that offspring of animals on the property may be kept until weaned. (orig. 3-26-13; am. 7-17-18)

ADDITIONAL CASE DOCUMENTS



Planning & Zoning Division

DEVELOPMENT PERMIT APPLICATION

APPLICATION FOR (Please check all that apply)

Rezoning from to

Special Use Item No. of the Zone District

to permit

Subdivision Platting Superlot Process Rezoning/Special Use Minor Modification or Revision Rural Cluster

Exemption from Platting Superlot Minor Division of Land Legalization of Property Division Vested Rights

Site Approval Site Development Plan Approval

PURPOSE OF APPLICATION(S)

The purpose of his rezoning application is to bring three separate parcels under separate zoning districts under one cohesive zoning district that allows for:

- + Higher density residential adjacent to existing employment, commercial, and transit areas.
- + Allow for additional commercial uses.
- + Conformance to the Central Plains Area Plan and it's recommendation for the South Golden Road Corridor to act as an Activity Center that includes Mixed-Use development.

DOCUMENTS SUBMITTED

- | | |
|--|---|
| <input type="checkbox"/> Water Supply Report | <input type="checkbox"/> Reduction of the Plat |
| <input type="checkbox"/> Wastewater Report | <input type="checkbox"/> Exemption Survey |
| <input type="checkbox"/> Utility Report | <input type="checkbox"/> Landscape Plan |
| <input type="checkbox"/> Fire Protection Report | <input type="checkbox"/> Proof of ownership |
| <input type="checkbox"/> Drainage Report | <input type="checkbox"/> Proof of access |
| <input type="checkbox"/> Geologic Report | <input type="checkbox"/> Lighting Plan |
| <input type="checkbox"/> Soils Report | <input type="checkbox"/> Architectural Elevations |
| <input type="checkbox"/> Radiation Report | <input type="checkbox"/> Parking Plan |
| <input type="checkbox"/> Sensory Impact Report | <input type="checkbox"/> OTHER _____ |
| <input type="checkbox"/> Wildlife, Vegetation and Landscaping Report | |
| <input type="checkbox"/> Historical, Archaeological & Paleontological Report | |

INSTRUCTIONS FOR SUBMITTAL

- All applications must be submitted electronically to Jefferson County Planning and Zoning.
- Original completed applications must be provided. Copies are not acceptable.
- Incomplete applications will not be accepted and will delay processing.
- Pre-Applications are encouraged prior to the formal submittal of a Development Permit Application.

SPECIAL DISTRICTS

<i>Water</i> Consolidated Mutual Water	<i>Post Office</i> USPS Golden - Post Office	<i>Electricity</i> Xcel
<i>Sewage</i> Pleasant View Water & Sanitation D	<i>Park & Rec.</i> N/A	<i>Fire</i> Pleasant View Metropolitan District

STAFF USE ONLY

Case No.	<input type="text"/>	Current Zoning	<input type="text"/>
Dated Filed	<input type="text"/>	Proposed Zoning/SU	<input type="text"/>
Planner	<input type="text"/>	Street Address	<input type="text"/>
Acres	<input type="text"/>	Previous Cases	<input type="text"/>
Map Sheet	<input type="text"/>	Community Plan	<input type="text"/>

PROJECT TEAM INFORMATION

Property Owner(s)	E-mail (required)	Phone	Fax
Petrified Tree, LLC	phodgkinson@grandamericaninc.co	970.402.8244	
Address 16005 Mt Vernon Road, Golden Colorado 80401			
Property Owner(s)	E-mail (required)	Phone	Fax
Talk To The Hand, LLC	nofrillgrl@aol.com	303-807-0565	
Address 16005 Mt Vernon Road, Golden Colorado 80401			
Developer/ Subdivider	E-mail (required)	Phone	Fax
Grand American Inc	phodgkinson@grandamericaninc.co	303-297-8090	
Address 1776 Platte St. Denver, CO 80202			
Authorized Representative	E-mail (required)	Phone	Fax
Joel Weikert, Ripley Design Inc	joel.weikert@ripleydesigninc.com	970.498.2994	
Address 419 Canyon Avenue Suite 200, Fort Collins, CO 80521			
Engineer	E-mail (required)	Phone	Fax
Matt Buono, Centerpoint Engineering	mbuono@centerpoint-eng.com	970.790.9948	
Address 1626 Cole Blvd Suite 125, Lakewood, CO 80401			

PROPERTY DESCRIPTION

Property ID(s)	Acreage	Map Sheet
40-012-00-061, 40-012-17-172, &	+/- 5.5 acres	
Access via South Golden Road and Mt Vernon Road		
Address 16005 Mt Vernon Road, 16129 West 10th Avenue, and 16100 South Golden Road, Golden, CO 80401		
Legal Description: <i>(attach additional sheet if necessary)</i>		
Please refer to the three deeds accompanying this application for the legal descriptions (of the three parcels) part of this rezoning effort. Thank you!		

ADDITIONAL INFORMATION

Please list and attach any additional information to support or clarify this application.

Please refer to the Cover Letter provided with this application for a detailed analysis supporting the rezone application. Thank you!

DISCLOSURE OF PROPERTY OWNERSHIP (PLEASE CHECK ALL THAT APPLY)

- If owner is an individual, indicate name exactly as it appears on the deed.
- If owner is a corporation, partnership, limited partnership, or other business entity, name principals and/or managers on a separate page. Include the articles of organization, partnership agreement, resolution of managers, etc., as applicable to establish legal signatures.

Please provide the name(s), mailing address(es), street address(es), and phone number(s) for all owners.

PROPERTY OWNER AFFIDAVIT

I/We Petrified Tree, LLC & Talk To The Hand, LLC, being first duly sworn, depose and state under penalties of perjury that I am *(we are)* the owner(s) of the property described herein and which is the subject of the application and proposed hearings; that all answers provided to the questions in this application, and all sketches, data, and all other supplementary matter attached hereto and made part of this application, are honest and true to the best of my *(our)* knowledge and belief. I *(we)* understand that this application must be complete and accurate prior to a hearing being scheduled. I *(we)* authorize County staff to visit the site as necessary for proper review of this application. *(If there are any special conditions such as guard dogs, locked gates, restricted hours, etc., please give the name and phone number of the person(s) who can provide access to the site)*

Petrified Tree, LLC
 Name *(printed)*
16005 Mt Vernon Road
 Address
Golden Colorado 80401
 Address
970.402.8244
 Phone
N/A
 Fax
phodgkinson@grandamericaninc.com
 E-Mail *(required)*
[Signature]
 Signature

Talk To The Hand, LLC
 Name *(printed)*
16005 Mt Vernon Road
 Address
Golden Colorado 80401
 Address
303 807 0565
 Phone
n/a
 Fax
nofrillgrl@aol.com
 E-Mail *(required)*
[Signature] A STRUBEN
 Signature
MANAGER & MEMBER

County of Denver)
 State of Colorado) SS

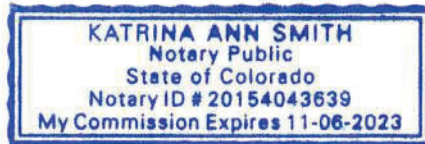
Sworn to and subscribed before me this 1st day of August, 2023.
(fill in month) (fill in year)

By Philip C Hodgkinson
(name printed)

Witness my hand and official seal.

[Signature]
Notary Public

My Commission expires: 11/06/23



AUTHORIZED REPRESENTATIVE

I/We further permit Ripley Design Inc to act as my/our representative in any manner regarding this application, to answer questions and to represent me/us at any meeting and public hearing(s) which may be held on this application. **NOTE: All correspondence will be sent to the authorized representative. It will be the representative's responsibility to keep the owner(s) adequately informed as to the status of the application.**

Joel Weikert, Ripley Design Inc

Representative Name *(printed)*

419 Canyon Avenue, Suite 200

Fort Collins, CO 80521

Representative Address

970-498-2994

Representative Phone

N/A

Representative Fax



Owner Signature

8/1/2023

Date



August 24th, 2023

Jefferson County Colorado
Planning and Zoning
100 Jefferson County Parkway, Suite 3550
Golden, Colorado 80419

Rezoning Application Cover Letter
South Golden Road & Mt Vernon Road Mixed-Use

Introduction:

The Applicant is proposing to rezone three properties south of South Golden Road and west of Mt Vernon Road. Currently, the properties at 16005 Mt Vernon Road, 16100 S Golden Road, and 16129 West 10th Avenue are zoned within the Commercial One (C-1), Residential Two (R-2), and Planned Development (P-D) Zone Districts, respectively. With this rezoning application, these parcels are proposed to be zoned *Planned Development* to allow for a mixed-use development. The proposed development would be adjacent to the major collector South Golden Road, and two other collector streets that border the development (Mt Vernon Road and W 10th Avenue). The goal of this proposal is to provide complementary development adjacent to surrounding land uses in the form of high density residential, additional commercial space, and to maintain the existing commercial on site (Rock Rest Lodge). The intersection of major roadways makes the site an ideal location for mixed use development. It is the understanding of the applicant that the proposed rezoning adheres to the intent of the Central Plains Area Plan of the Jefferson County Comprehensive Master Plan and purpose of the South Golden Road Corridor.

Property ownership

The parcels located at 16005 Mt Vernon Road, 16100 S Golden Road, and 16129 West 10th Avenue, Jefferson County Colorado are owned by Petrified Tree LLC and Talk to the Hand LLC. Please refer to application materials submitted for further information regarding property ownership (deeds, ownership documentation, and owner acknowledgement).

Applicant contact information:

Phil Hodgkinson, President Petrified Tree, LLC
Phone: (970)402-8244
Email: phodgkinson@grandamericaninc.com



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o: 970.224.5828 | w: ripleydesigninc.com

RIPLEY DESIGN, INC. | 419 Canyon Avenue, Suite 200 | Fort Collins, CO 80521



Appointed representative's contact information:

Joel Weikert, Ripley Design, Inc.

Phone: (970)498-2994

Email: joel.weikert@ripleydesigninc.com

Previous Meetings:

Pre-Application Meeting: March 2nd, 2023 (23-102360PA)

- This meeting was held remotely via Teams.
- Sara Hutchinson, the assigned case manager to the Pre-App, led the meeting.

Community Meeting: July 19th, 2023

- This meeting was held remotely via Teams.
- Sara Hutchinson, the assigned case manager, was in attendance and helped coordinate the community meeting with the adjacent community members.

Rezoning Information:

The applicant is proposing to rezone three parcels, comprising three separate zoning districts, to a Planned Development that will follow the direction of Jefferson County's policy documents and create a cohesive development when constructed. The decision to go with Planned Development is also made given the unique shape of the three parcels and desire to preserve the existing Rock Rest Lodge. The accompanying Official Development Plan, submitted with this application, details written restrictions for the site's future redevelopment. The ODP includes two separate Planning Areas that allow for a maximum of 200 dwelling units (36 dwelling units/ acre), the minimum addition of 6,000 SF of commercial space, and the preservation of the Rock Rest Lodge.

Planning Area #1 provides for vertically mixed-use buildings, including ground floor commercial fronting South Golden Road. Higher density residential is permitted on floors above first floor commercial and on the ground level when not fronting a public street. Permitted land uses for this planning area include multifamily, general retail, business and professional offices, and service establishments. This planning area comprises of the majority of the Planned Development.

Planning Area #2 is located on the northeastern corner of the development. The intent of Planning Area #2 is preserving the Rock Rest Lodge as it currently looks and operates today. Please refer to the Official Development Plan provided with the application for further details and written restrictions regarding both Planning Area #1 and Planning Area #2.



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RIPLEY DESIGN, INC. | 419 Canyon Avenue, Suite 200 | Fort Collins, CO 80521

Rezone Evaluation Criteria

1. *The compatibility of the permitted uses with existing and allowable land uses in the surrounding area.*
 - Existing commercial businesses along South Golden Road vary from insurance, vehicular sales, breweries, to retail. The proposed rezone application would allow for further commercial uses at ground level, continuing the commercial vernacular at the pedestrian level.
 - Golden Pines Condominiums is directly west of the Planned Development. The addition of higher density residential is a compatible land use and would provide additional population immediately adjacent to existing commerce, employment and transit opportunities.
 - South Golden Road is changing due to infill redevelopment. The *South Golden Road Mixed Use Development (P-D)* was approved in March of 2023 which provides for a variety of residential uses and all Commercial-One (C-1) land uses. That planned development is located less than ½ mile northwest of the properties part of this application. The residential uses and some of the commercial uses part of this rezoning application are compatible with the land uses proposed in the *South Golden Road Mixed Use Development*.
 - The location of this site is at an intersection between a major collector and collector roadways (South Golden Road and Mt Vernon Road, respectively). This location makes it more viable as a mixed-use development.
2. *The degree of conformance of the proposed zone change to applicable land use plans.*
 - The subject properties are in the Central Plains Area Plan of the Comprehensive Master Plan. The properties are within the South Golden Road Corridor, which specifically recommends *Activity Center* land uses such as Neighborhood Commercial, Research & Development, and Mixed-Use development. The graphic below demonstrates the extent of this land use corridor (red hue along South Golden Road) and location of the Planned Development properties (black outline).





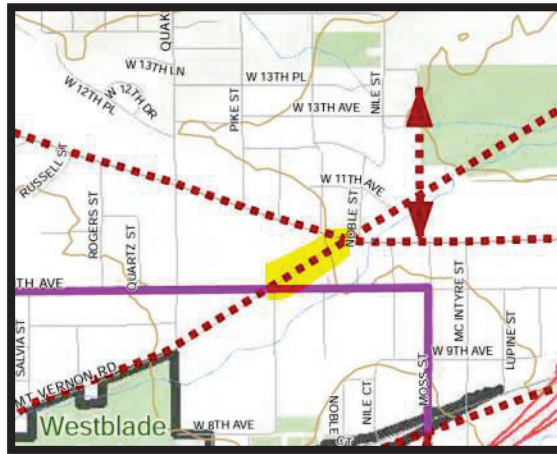
- The Comprehensive Master Plan defines mixed-use as *“a variety of residential, commercial or industrial land uses on one property, or it can be a mix of those uses with a single building”* (Pp.25). The Official Development Plan included with this application proposes to maintain the existing commercial (Rock Rest Lodge) and provide for a vertically mixed-use development in Planning Area #2. Ground floor commercial is proposed to front South Golden Road, which includes general retail, business and professional offices, and service establishments. Residential is proposed above the ground floor commercial and ground floor that does not face public right of way. This combination of proposed land uses falls within the definition of mixed-use in a location that prescribed by the Comprehensive Plan.

3. *The effect upon health, safety, and welfare of the residents and landowners in the surrounding area.*

- Vehicular access and pedestrian connectivity will be provided at clear locations along South Golden Road and Mt Vernon.
- All future buildings associated with this rezone will follow applicable Building and Fire Code standards.
- The Jefferson County Open Space & Trails Map identifies Mt Vernon Road as a potential trail. The Site Development Plan application, that would follow this rezone, would include right-of-way improvements in the area highlighted in yellow below. These right of way improvements could begin to realize the



future trail while also improving pedestrian safety by connecting W 10th Avenue to South Golden Road via a detached walk, off of the Mt Vernon roadway.



Additional evaluation criteria when rezoning to Planned Development

4. *The impacts of the proposed use upon property in the surrounding area and the ability of mitigating negative impacts.*

- The proposed rezone and land use will produce minimal impacts to the surrounding area and Jefferson County as a whole.
 - The proposed rezone and subsequent redevelopment is infill in nature. This means existing infrastructure is already constructed around the Planned Development, making it an excellent location for efficient development practices. The Comprehensive Master Plan states: *“Infill and redevelopment opportunities should be seen as valuable as greenfield development to both the community and the County. Infill and redevelopment projects improve the vitality of the community, reduce sprawl, maximize existing infrastructure, and increase the tax benefits to the County” (Pp. 18).*
 - By adding higher density residential, more people will be located immediately adjacent to existing commerce, employment and transit opportunities. This benefits existing businesses by introducing a greater customer and employment base within walking distance.



- Having a population within walking distance will also allow for surrounding businesses to grow without adding additional vehicular trips to fuel that growth.
- Basic improvements to the Mt Vernon right of way (with a subsequent Site Development Plan application) will improve pedestrian access and safety for those in the surrounding area.
- The accompanying traffic study concludes that the existing roadway system can adequately accommodate the projected traffic volumes associated in the near-term and long-term.
- Adequate public facilities are accounted for and provided for police, fire, and utilities.

It is the understanding of the applicant that the rezoning application is presented to both the Planning Commission and the Board of County Commissioners at public hearings. The Planning Commission will review the request and Staff recommendation, receive testimony and evidence on the application, and will recommend approval, conditional approval, or denial of the request to the Board of County Commissioners. The Board of the County Commissioners shall review the recommendations from staff, Planning Commission, and will approve, conditionally, approve, or deny the application.

Our team looks forward to collaborating with County staff on this application and moving forward with a rezoning that will benefit Jefferson County residents well into the future. Thank you for your review.



SPECIAL WARRANTY DEED

THIS DEED is dated February, 2022, and is made between Grand American Inc., a California corporation (whether one, or more than one), the "Grantor", of the City of Santa Monica, County of Los Angeles and State of California, and Petrified Tree, LLC, a Colorado limited liability company (whether one, or more than one), the "Grantee," whose legal address is 16005 Mt Vernon Road, Golden, CO 80401 of the County of Jefferson and State of Colorado.

WITNESS, that the Grantor, for and in consideration of the sum of TWO HUNDRED TEN THOUSAND DOLLARS, (\$ 210,000.00), the receipt and sufficiency of which is hereby acknowledged, hereby grants, bargains, sells, conveys and confirms unto the Grantee and the Grantee's heirs and assigns forever, all the real property, together with any improvements thereon, located in the County of Jefferson and State of Colorado, described as follows:

See Exhibit A attached hereto and incorporated herein by this reference

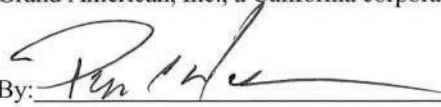
also known by street address as: 16129 West 10th Avenue, Golden, CO 80401
and assessor's schedule or parcel number: 300408345

TOGETHER with all and singular the hereditaments and appurtenances thereunto belonging, or in anywise appertaining, the reversions, remainders, rents, issues and profits thereof, and all the estate, right, title, interest, claim and demand whatsoever of the Grantor, either in law or equity, of, in and to the above bargained premises, with the hereditaments and appurtenances;

TO HAVE AND TO HOLD the said premises above bargained and described, with the appurtenances, unto the Grantee and the Grantee's heirs and assigns forever. The Grantor, for the Grantor and the Grantor's heirs and assigns, does covenant and agree that the Grantor shall and will WARRANT THE TITLE AND DEFEND the above described premises, *but not any adjoining vacated street or alley, or other right-of-way that adjoins the real property*, if any, in the quiet and peaceable possession of the Grantee and the heirs and assigns of the Grantee, against all and every person or persons claiming the whole or any part thereof, by, through or under the Grantor except and subject to: none; or X the following matters: "Statutory Exceptions" as defined in CRS 38-30-113(5)(a).

IN WITNESS WHEREOF, the Grantor has executed this deed on the date set forth above.

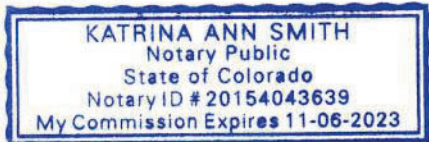
Grand American, Inc., a California corporation

By: 
Philip Hodgkinson, President

STATE OF COLORADO)
) ss.
_____ County of Denver)

The foregoing instrument was acknowledged before me this 24th day of February 2022, by Philip Hodgkinson, President of Grand American, Inc., a California corporation.

Witness my hand and official seal.
My commission expires:




Notary Public

LEGAL DESCRIPTION

Lot 2A, Burdick Heights Exemption Survey No. 1 Adjustment 1, a Revision to Lot 2, Burdick Heights Exemption Survey No 1, located in the NW 1/4 of Section 1, Township 4 South, Range 70 West, of the 6th P.M., per the Map recorded July 10, 2007, at Reception No. 2007080061, described as follows:

Lot 2, Burdick Heights Exemption Survey No. 1, more particularly described as follows:

A Parcel located in the SW 1/4 of the NW 1/4 of Section 1, Township 4 South, Range 70 West of the 6th Principal Meridian, per Map recorded June 19, 1991 in Plat Book 106 at Page 30 as Reception Number 91053181, described as follows:

Commencing at the W 1/4 Corner of Said Section 1, thence N89°58'14"E, along the South line of the NW 1/4 of said Section 1, a distance of 653.11 feet; thence continuing N89°58'14"E, a distance of 124.65 feet; thence N00°01'21"W, a distance of 25.00 feet to the SE corner of Lot 1, Burdick Heights Exemption Survey No.1; thence N00°01'21"W, along the East line of Lot 1, Burdick Heights Exemption Survey No. 1, a distance of 127.94 feet to the SE corner of Lot 2, Burdick Heights Exemption Survey No. 1 and the True Point of Beginning; thence N00°01'21"W, along the East line of said Lot 2, a distance of 214.71 feet to the NE corner of said Lot 2; thence S89°59'43"W, along the North line of said Lot 2, a distance of 124.77 feet to the NW corner of said Lot 2; thence S00°02'27"E, along the West line of said Lot 2, a distance of 214.80 feet to the SW corner of said lot 2; thence N89°57'16"E, along the South line of said Lot 2, a distance of 124.70 feet to the True Point of Beginning.

TOGETHER WITH a 25 foot easement for Ingress and Egress, being the Westerly 25 feet of Lot 1, Burdick Heights Exemption Survey No 1, per the Map recorded June 19, 1991 in Book 106 at Page 30, as Reception Number 91053181 County of Jefferson, State of Colorado.

WARRANTY DEED

State Doc Fee: \$60.00
Recording Fee: \$10.00

THIS DEED is dated the 2nd day of February, 2017, and is made between

BF & SL Enterprises, LLC
(whether one, or more than one), the "Grantor" of the County of Jefferson and State of Colorado and
Petrified Tree LLC

the "Grantees", whose legal address is 16005 Mt. Vernon Rd, Golden, CO 80401 of the County of Jefferson and State of Colorado

WITNESS, that the Grantor, for and in consideration of the sum of (\$600,000.00) Six Hundred Thousand Dollars and No Cents, the receipt and sufficiency of which is hereby acknowledged, hereby grants, bargains, sells, conveys and confirms unto the Grantees and the Grantees' heirs and assigns forever, not in tenancy in common but in joint tenancy, all the real property together with any improvements thereon, located in the County of Jefferson and State of Colorado described as follows:

SEE EXHIBIT "A" ATTACHED HERETO

also known by street and number as: 16100 S Golden Rd., Golden, CO 80401

TOGETHER with all and singular the hereditaments and appurtenances thereto belonging, or in anywise appertaining, the reversions, remainders, rents, issues and profits thereof, and all the estate, right, title, interest, claim and demand whatsoever of the Grantor, either in law or equity, of, in and to the above bargained premises, with the hereditaments and appurtenances;

TO HAVE AND TO HOLD the said premises above bargained and described, with the appurtenances, unto the Grantees, and the Grantees' heirs and assigns forever.

The Grantor, for the Grantor and the Grantor's heirs and assigns, does covenant, grant, bargain, and agree to and with the Grantees, and the Grantees' heirs and assigns: that at the time of the ensembling and delivery of these presents, the Grantor is well seized of the premises above described; has good, sure, perfect, absolute and indefeasible estate of inheritance, in law, and in fee simple; and has good right, full power and lawful authority to grant, bargain, sell and convey the same in manner and form as aforesaid; and that the same are free and clear from all former and other grants, bargains, sales, liens, taxes, assessments, encumbrances and restrictions of whatever kind or nature soever, except and subject to:

And the Grantor shall and will WARRANT AND FOREVER DEFEND the above described premises, in the quiet and peaceable possession of the Grantees, and the heirs and assigns of the Grantees, against all and every person or persons lawfully claiming the whole or any part thereof.

IN WITNESS WHEREOF, the Grantor has executed this deed on the date set forth above.


BF & SL ENTERPRISES, LLC


Barbara K. Fulmer Managing Member

State of Colorado
County of Jefferson

The foregoing instrument was acknowledged before me this 2nd day of February, 2017 by BF & SL Enterprises, LLC.

Witness my hand and official seal.


Notary Public: Beth Quinlan
My commission expires: 9/19/2017

ELIZABETH H. QUINLAN
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID # 26054036249
MY COMMISSION EXPIRES SEPTEMBER 19, 2017

EXHIBIT "A"
LEGAL DESCRIPTION

Lots 1 and 2, more correctly known as Tracts 1 and 2, Burdick Heights, except the Northerly 20 feet of said Lots 1 and 2, Burdick Heights, and except that portion more particularly described as follows:
A tract of land in the Northwest Quarter of Section 1, Township 4 South, Range 70 West of the 6th P.M., more particularly described as follows: Beginning at a point 778.25 feet East of the Southwest corner of the Northwest Quarter of Section 1, Township 4 South, Range 70 West; thence N 0°10' W a distance of 247.73 feet; thence S 86°59' E a distance of 124.46 feet; thence S 24°23' W a distance of 264.80 feet to the South line of the Northwest Quarter of Section 1; thence West a distance of 14.25 feet, more or less, along the South line of the Northwest Quarter of Section 1 to the Point of Beginning, County of Jefferson, State of Colorado.

of the County of Jefferson, and State of Colorado
of the first part, and TALK TO THE HAND, LLC

Cont.

a corporation duly organized and existing under and by virtue of the laws of the
State of Colorado, of the second part, whose legal address is 16005 Mount Vernon Road,
Golden, CO 80401

WITNESSETH, That the said party of the first part, for and in consideration of the sum of FOUR HUNDRED TWENTY
FIVE THOUSAND AND NO/100-----
----- DOLLARS, (\$425,000.00).

to the said party of the first part, in hand paid by the said party of the second part, the receipt whereof is hereby confessed and
acknowledged, has granted, bargained, sold and conveyed, and by these presents does grant, bargain, sell, convey and confirm,
unto the said party of the second part, its successors and assigns forever, all the following described lot(s) or parcel(s) of land,
situate, lying and being in the County of Jefferson, and State of Colorado, to wit:

Beginning at a point 793 feet East of the Southwest corner of the
NW1/4 Section 1, Township 4 South, Range 70 West; thence 3/4ths of a
foot East; thence Northeasterly 706 feet to East line of SW1/4 NW1/4;
thence Northwesterly along South Golden Road 284 feet; thence
Southwesterly 609 feet to point of beginning.

ALSO: Commencing 793 feet East of Southwest corner of NW1/4, Section
1, Township 4 South, Range 70 West, thence Northeasterly 706 feet to
the East line of SW1/4 NW1/4; thence Easterly along South side of South
Golden Road, 171 feet to intersection of Mount Vernon Road and South
Golden Road, thence Southwesterly along the Northwesterly side of
Mount Vernon road to the South line of the NW1/4 of Section 1; thence
West 38 feet to place of beginning.

County of Jefferson, State of Colorado
also known by street and number as 16005 Mount Vernon Road, Golden, CO 80401

TOGETHER with all and singular the hereditaments and appurtenances thereunto belonging, or in anywise appertaining, and
the reversion and reversions, remainder and remainders, rents, issues and profits thereof, and all the estate, right, title, interest,
claim and demand whatsoever of the said party of the first part, either in law or equity, of, in and to the above bargained premises,
with the hereditaments and appurtenances.

TO HAVE AND TO HOLD the said premises above bargained and described, with the appurtenances, unto the said party of
the second part, its successors and assigns forever. And the said party of the first part, for himself, his heirs, executors, and
administrators, does covenant, grant, bargain and agree to and with the said party of the second part, its successors and assigns,
that at the time of the ensembling and delivery of these presents, he is well seized of the premises above conveyed, as of a good, sure,
perfect, absolute and indefeasible estate of inheritance, in law, in fee simple, and has good right, full power and lawful authority
to grant, bargain, sell and convey the same in manner and form aforesaid, and that the same are free and clear from all former
and other grants, bargains, sales, liens, taxes, assessments, encumbrances and restrictions of whatever kind or nature soever,
except for taxes for the current year, a lien but not yet due and payable, easements, restrictions, reservations, covenants
and rights-of-way of record, if any, .

and the above-bargained premises in the quiet and peaceable possession of the said party of the second part, its successors and
assigns, against all and every person or persons lawfully claiming or to claim the whole or any part thereof, shall and will
WARRANT AND FOREVER DEFEND.

The singular number shall include the plural, the plural the singular, and the use of any gender shall be applicable to all genders.

IN WITNESS WHEREOF, the said party of the first part has hereunto set his hand and seal the day and year first above written.

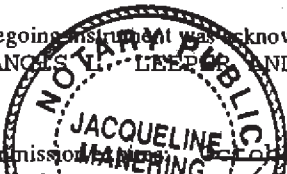
Signed, Scaled and Delivered in the Presence of

Francis L. Leeper
Francis L. Leeper

Patricia Leeper
Patricia Leeper

STATE OF COLORADO)
COUNTY OF Denver) ss.

The foregoing instrument was acknowledged before me this 15th day of October, 1996, by
FRANCIS L. LEEPER AND PATRICIA LEEPER



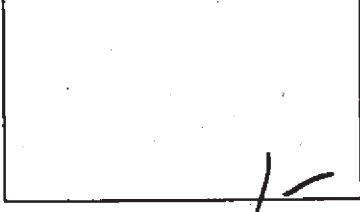
My Commission Expires October 15, 1996

Witness my hand and official seal.

STATE DOCUMENTARY FEE
\$250
OCT 16 1996

1.1
Doc Fee
\$42.50

602



August 1, 2023

Jefferson County Planning Department
100 Jefferson County Parkway
Golden, CO 80411

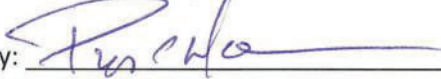
Re: 16005 Mt Vernon Road, 16100 S Golden Road, 16129 West 10th Avenue, Jefferson County, CO
(collectively the Property).

Ladies and Gentlemen:

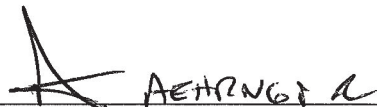
Pleased be advised that the undersigned owners of the Property hereby consent to the rezoning and PUD planning efforts of Ripley Design for the Property. Please contact Phil Hodgkinson at 970-402-8244 or email at phodgkinson@grandamericaninc.com, if you have any questions or concerns regarding this matter.

Very truly yours

Petrified Tree LLC, a Colorado limited liability company

By: 
Philip C Hodgkinson, President

Talk to the Hand LLC, a Colorado limited liability company

By: 
Its: Managing Partner



Technical Memo

PO Box 272150
Fort Collins, CO 80527

Date: July 31, 2023

To: Planning & Zoning Division, Jefferson County, Colorado

From: Cedar Creek Associates, Inc.

Subject: Ecological Assessment of South Golden and Mt. Vernon Development Proposal

Cedar Creek Associates Inc. (Cedar Creek) was retained to conduct an Ecological Assessment of an approximately 6 acre Project Area for proposed development, which is situated to the west of the intersection of South Golden and Mt. Vernon Roads in Jefferson County, Colorado (Figure 1). A field study to evaluate ecological characteristics was completed on July 22, 2023.

A data review was conducted to gather information and assist in the evaluation of potential natural biological resources within the property. The data review entailed an evaluation of online resources and publications to determine the presence or potential occurrence of important natural and biological resources. This data review included:

- U.S. Fish and Wildlife Service (USFWS) Federally Listed and Proposed Endangered, Threatened, and Candidate Species and Critical Habitat as identified by the USFWS Information, Planning, and Conservation System (IPaC) Official Species List and Critical Habitat Mapper;
- Migratory Bird Treaty Act (MBTA) and Bald and Golden Eagle Protection Act (BGEPA) protected species as identified on the IPAC Trust Resources Report;
- The Colorado Natural Heritage Program's (CNHP) Colorado's Conservation Data Explorer (CODEX);
- Colorado Parks and Wildlife (CPW) Threatened and Endangered Species List and High Priority Habitat database (SB181);
- USFWS National Wetlands Inventory (NWI); and
- US Natural Resources Conservation Service (NRCS) Web Soil Survey.

DESKTOP FINDINGS

IPaC Query - The IPaC query revealed the following species could occur within the target parcel. The findings are attached to this memo.

Species	Federal Status ¹	Habitat	Habitat Present?	Determination
Mammals				
Gray Wolf	E	The wide range of habitats includes temperate forests, mountains, tundra, taiga, and grasslands.	No habitat onsite. No known gray wolf on the eastern slope.	No Effect
Birds				
Piping Plover	T	Sandy beaches, sandflats, dredge islands, and drained river floodplains.	No potential habitat onsite. This project would not require water depletions and would not impact this species.	No Effect
Whooping Crane	E	Wetlands, inland marshes, lakes, ponds, wet meadows and rivers, and agricultural fields.	A very rare migrant in the region. This project would not require water depletions and would not impact this species.	No Effect
Fishes				
Pallid Sturgeon	E	Large, free-flowing, warm-water, and turbid rivers with a diverse assemblage of physical habitats.	Project would not require water depletions and would not impact this species.	No Effect
Insects				
Monarch Butterfly	C	No critical habitat has been designated for this species. Known to inhabit open fields and meadows with milkweed in the spring and summer months.	No milkweed found onsite	No Effect

¹E = Endangered, T = Threatened, C = Candidate

CODEX – The CODEX report is attached to this memo and reports on documented and potential regulatory and other species of concern species occurring within 1 mile of parcel. For the target parcel, there were several common species documented within a mile of the project area and many others with the potential to occur. The report also reports CNHP Potential Conservation Areas and other special areas within 1 mile of the parcel, which found Aquatic Native Species Conservation Waters along Lena Gulch (Figure 2).

NWI – The National Wetlands Inventory reported Riverine and Freshwater Forested/Shrub Wetland along Lena Gulch which is outside the study area.

Web Soil Survey The Web Soil Survey indicates that soils within the target parcel are Denver-Urban Land complex, which comprises ~92%, the Haverson Loam comprises the remaining 8%.

FIELD SURVEY FINDINGS

The field survey was completed on July 22, 2023.

Vegetation Summary

The site is contained by urban development on all sides of the project. The vegetation found on the site can generally be considered ruderal, the herbaceous areas were dominated by mowed non-native grasses (such as crested wheatgrass [*Agropyron cristatum*] and smooth brome [*Bromus inermis*]) and annual weedy forbs (such as kochia [*Kochia scoparium*] and prickly lettuce [*Lactuca serriola*]). The herbaceous area did contain field bindweed (*Convolvulus arvensis*), a noxious list C species. There are also landscaping trees planted on the western portion of the property.

Wildlife Summary

There were no wildlife observed during the field visit. However, given the proximity to Lena Gulch to the south, it is reasonable to expect that urban adapted wildlife may pass through the site.

Habitat Summary

The mature trees provide habitat value for nesting birds (songbirds and raptors) and cover value for small urban adapted mammals and reptiles. The habitat value of the herbaceous areas is diminished due to lack of lifeform and species diversity. Overall, the habitats on the project site offer very limited habitat value.

In its current condition, the site does not provide suitable habitat for the plants and mammals listed on the IPaC query.

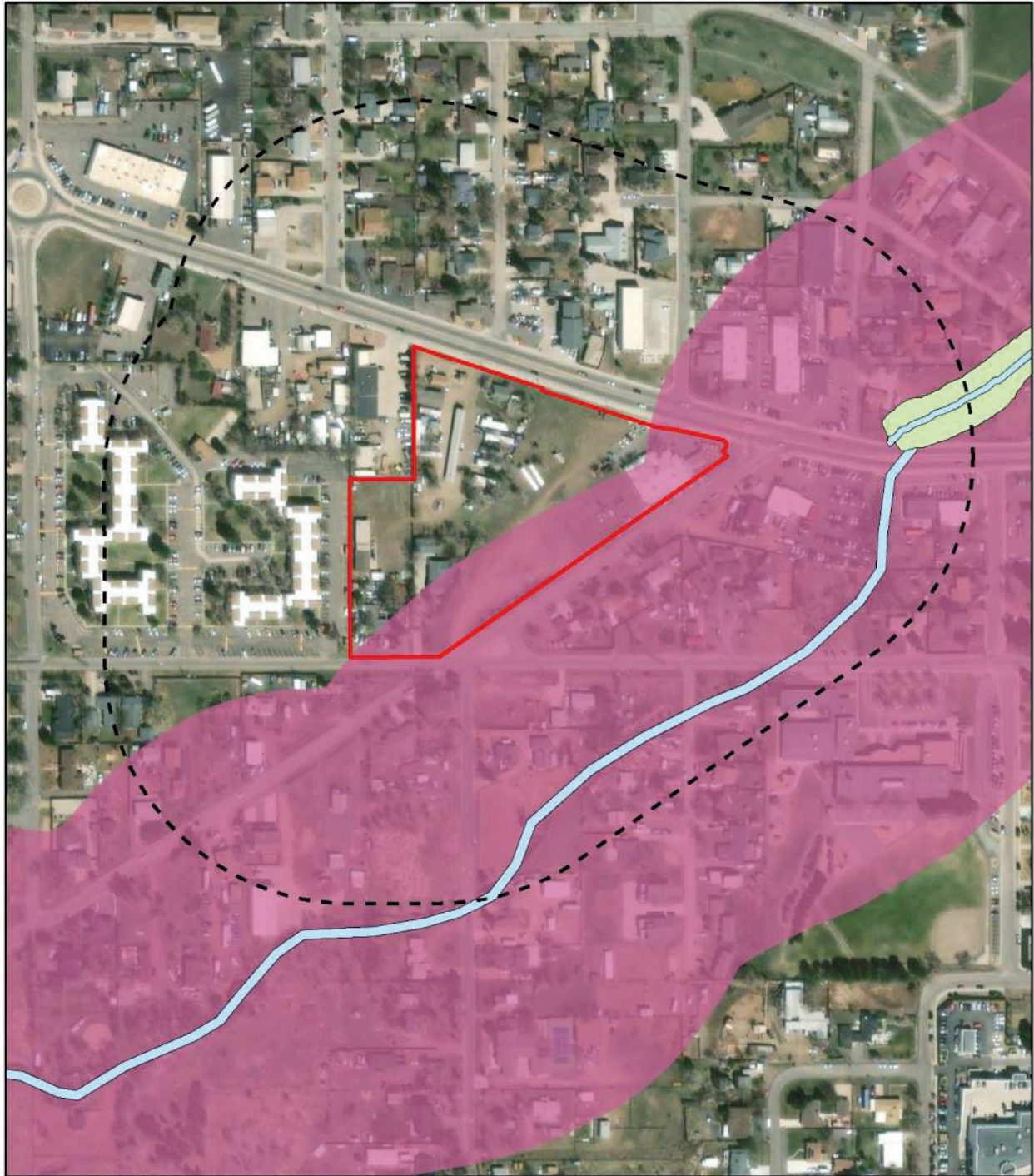
NATURAL HABITAT PROTECTION MEASURES

Prior to constructing the project, the following protection measures should be implemented:

- If development is planned during the nesting season (from February 1st to July 31st), a qualified biologist should survey any trees on the project or within a half mile for nesting activity. If active nests are found, the CPW recommended buffer zones and seasonal restrictions (2020) should apply. These surveys ensure compliance with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act by verifying no active bird nests are disturbed.
- Development should follow CPW's recommended wildlife best management practices.
- Preservation or conservation of onsite habitats are not warranted.
- Given the urban development between Lena Gulch, which could serve as a wildlife corridor, and the proposed development, no protection measures pertaining to noise or light are proposed for the Aquatic Native Species Conservation Waters along Lena Gulch.



<p>0 200 400 Feet</p>	<p>Legend</p> <ul style="list-style-type: none"> Study Area S_Golden_Mt_Vernon 	<p>South Golden and Mt. Vernon</p>
	<p>Coordinate System: State Plane 83 Colorado N</p> <p>Sources: Cedar Creek</p>	<p>Figure 1: Project and Study Areas</p>



0 200 400 Feet



Legend

-  Study Area
-  S_Golden_Mt_Vernon
- National Wetland Inventory**
-  Freshwater Forested/Shrub Wetland
-  Riverine
-  Aquatic Native Species Conservation Waters HPHC

Coordinate System:
State Plane 83 Colorado N

Sources:
Cedar Creek



**South Golden
and Mt. Vernon**

Figure 2:
Desktop Study



Site Overview



Site Overview



Landscaping Trees Onsite



Lena Gulch

ENVIRONMENTAL QUESTIONNAIRE AND DISCLOSURE STATEMENT

NAME OF PROJECT: SOUTH GOLDEN ROAD / MT VERNON REZONE

CONTACT PERSON: PHIL HODGKINSON PH 303 297- 8090

PROPERTY LOCATION: 1600S MT VERNON ROAD, 16129 W 10TH AVENUE, 16100 S GOLDEN ROAD

On this property, do any of the following conditions exist, or have any of the following conditions existed at any time in the past?

SECTION	CONDITION	NO	YES
A	Placement of earthen fill from an outside source, operation of a solid waste disposal site or landfill, whether private or commercial, legal or illegal	X	
B	Asbestos or asbestos-containing materials used or stored within any existing buildings or anywhere else onsite	X	
C	Storage or use of electrical equipment such as transformers or capacitors, other than in the provision of normal electrical service	X	
D	Above or underground storage tanks containing gasoline, diesel, fuel oil, waste oil or any other liquid chemical storage	X	
E	Storage or use of pesticides and herbicides or any other agricultural chemicals, other than for typical household or garden use	X	
F	Hazardous or dangerous chemicals stored, released or otherwise emitted anywhere on the property	X	
G	Storage or use of explosives, including dynamite, blasting caps, or unexploded ordinance such as bullets and bombs	X	
H	Radiation hazards such as radiation from uranium mine and mill tailings, nuclear reactors, and/or the processing, handling, disposal and/or deposition of radioactive materials.	X	

If you answered "NO" to ALL of the above, please sign below in the presence of a NOTARY PUBLIC and return this page only to the Department.

If you answered "YES" to ANY of the above, please complete Parts I and II on page 2 AND complete any SECTION on pages 3-5 to which you responded "YES" above. Then sign below in the presence of a NOTARY PUBLIC and return the entire packet (pages 1-5) to the Department.

As the present owner of the Property or as an officer or a general partner of the present owner of the Property (or duly authorized representative of such owner), I am familiar with all of the operations presently conducted on the Property. I have made a diligent inquiry into the former uses of the property; and hereby certify to and for the benefit of Jefferson County that to the best of my knowledge and belief the information disclosed on or attached to this form is true and correct.

NAME: *Phil Hodgkinson* DATE: 8/7/2023

State of Colorado)
) ss.
County of Denver)

The above and foregoing Environmental Questionnaire and Disclosure Statement was acknowledged before me this 1st day of August, 2023, by Philip C. Hodgkinson,

WITNESS my hand and official seal.

Katrina Ann Smith
NOTARY PUBLIC

MY COMMISSION EXPIRES: 11/6/23

REVISED: 1/11/18





PLEASANT VIEW METROPOLITAN DISTRICT FIRE DEPARTMENT

955 Moss St. Golden, CO 80401

Phone: (303) 279-4361 Fax: (303) 278-3430

February 14, 2023

Jefferson County Planning and Zoning Department
100 Jefferson County Parkway, Suite 3550
Golden, Colorado 80419-3550

Attn: Sara Hutchinson Case Manager
Contact Info: shutchin@jeffco.us 303-271-8732

RE: Preliminary Application submittal to rezone three commercial properties to a mixed-use. On properties 16005 and 16100 S. Golden Rd, and 16129 W. 10th Ave., Golden, CO.
Case Number 23-102360PA

These properties are within the Pleasant View Metropolitan District, and the Pleasant View Fire Department will provide fire protection services. Fire service will be provided as long as the provision of the International Fire Code, 2018 edition, including all amendments, is met in development.

The developer/Owner shall submit an acceptable site plan that will show that the fire apparatus access road through the development and shall meet the fire department turning radius of inside turning: 37 feet, outside curb to curb: 45 feet, and outside wall to wall: 52 feet. The plans must also show that all portions of the exterior of the buildings can be reached within 150 feet of the 24-foot wide access lane. No Parking Fire Lane signs are required along the fire apparatus access lanes.

The developer/Owner shall submit acceptable building plans that show the building construction type, building height, and occupancy type for the fire flow requirements that will need to meet the demand in the 2018 IFC.

Fire flow requirements for this project will depend on the construction type, the number of buildings on the site, and the buildings' square footage. More information is needed to determine these requirements. In addition, the development will require the installation of fire hydrants for this proposed project. The available water needs will be obtained from the Consolidated Mutual Water Company. The developer/Owner is encouraged to meet with Consolidated Mutual Water and the fire department to discuss the infrastructure improvement needed to meet fire flow demands and hydrant placement.

Permits are required from the fire department for core and shell improvements, automatic fire protection systems, automatic fire detection systems, and storage of hazardous materials.

Pleasant View Fire Department reserves the right to provide additional comments/requirements when plans are submitted and reviewed per applicable codes and amendments.

If you have any questions regarding this correspondence, don't hesitate to contact me at 303-279-4361 extension 301 or email me.

Respectfully,

A handwritten signature in black ink that reads "Chris P. Malmgren".

Chris P. Malmgren
Fire Chief



Water & Sanitation

August 23, 2023

Joel Weikert
Ripley Design
Joel.weikert@ripleydesigninc.com

Re: Will Serve Letter for Sewer Service
16005 Mt. Vernon Road
16100 S Golden Road
16129 W 10th Ave

To Whom It May Concern:

This letter is to certify sewer service has been provided by Pleasant View Water & Sanitation District for the above-mentioned properties. Subject to the rules, regulations and requirements of the District and Metro Water Recovery. Any required additions or extensions will be at the Developer's expense.

If you have questions, please call (303) 279-3391.

Sincerely,

David Councilman

David Councilman
District Manager



November 7, 2023

Joel Weikert
Joel.weikert@ripleydesigninc.com

Re: 16005 Mt. Vernon, 16100 S. Golden Rd., 16129 W. 10th Ave. – Will Serve Letter

Dear Mr. Weikert:

This letter will acknowledge your request for a will-serve letter for the above-referenced properties.

Please be advised that the properties are in an area served by The Consolidated Mutual Water Company (Company). Our records indicate that the property addressed as 16005 Mt. Vernon Rd. is currently receiving domestic water from the Company through one (1) individual tap and meter (Tap # 20768). Domestic water service may continue to be provided to the property subject to compliance with the Company's rules, regulations, and requirements for such service.

The Company has been in contact with the applicant and anticipates continued work on the proposed 200 residential units and commercial use for this project.

Fire protection requirements should be verified with the Pleasant View Metro District and those requirements forwarded to this office. **If a main extension, fire line, or fire hydrant(s) are required, a separate meeting will need to be held with the owner/developer to discuss water infrastructure.** Please have the owner/developer contact our Engineering Department at 303.238.0451.

If you should have any questions or comments regarding this correspondence, please get in touch with this office at 303.238.0451.

Sincerely,


Missy Thompson
Tap Administrator

cc: Andy Rogers, CMWCo Vice President
Chris P. Malmgren, Fire Marshall, Pleasant View Metro District
Casey Burtis, Manager - Engineering

S. Golden Road and Mt. Vernon Road Mixed-Use Project Traffic Impact Study



Date: August 1, 2023

Updated: November 20, 2023

Submitted To:
Grand American, Inc.
1776 Platte Street
Denver, CO 80202

Submitted By:
Fox Tuttle Transportation Group, LLC
1580 Logan Street, 6th Floor
Denver, CO 80203



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Existing & Historic Traffic Data

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S. GOLDEN ROAD AND MT. VERNON ROAD MIXED-USE DEVELOPMENT TRAFFIC IMPACT STUDY

1.0 Introduction

The Fox Tuttle Transportation Group has prepared this traffic impact study for the development of the proposed S. Golden Road & Mt. Vernon Road Mixed-Use Development project in Jefferson County, Colorado. The approximately 5.5±-acre triangular shaped property is bounded by S. Golden Road on the north and Mt. Vernon Road on the southeast. The project is proposing to build a new mixed-use building containing 173 residential units and approximately 8,400 sq ft of commercial space. The property currently contains a commercial building (Rock Rest Lodge) which is proposed to remain. There are two existing accesses to Rock Rest Lodge that are proposed to remain along with the addition of one more access location from S. Golden Road. **Figure 1** provides a vicinity map for the proposed project.

The purpose of this study is to assist in identifying potential traffic impacts within the study area as a result of the S. Golden Road & Mt. Vernon Road Mixed-Use Development project. The traffic study addresses existing (Year 2023), buildout (Year 2028), and long-term (Year 2043) peak hour intersection conditions in the study area with and without the project-generated traffic. The information contained in this study is anticipated to be used by the Jefferson County staff in identifying any intersection or roadway deficiencies and potential improvements for the build-out condition and long-term future scenarios. This study focused on the weekday AM and PM peak hours which represent the periods of highest trip generation for the proposed use and adjacent street traffic.

2.0 Project Description

The S. Golden Road & Mt. Vernon Road Mixed-Use Development site is made up of three properties currently zoned within the Commercial One (C-1), Residential Two (R-2), and Planned Development (P-D) Zone Districts. It is understood that the project proposes to rezone the three properties to a mixed-use district. The proposed rezone would allow the site to develop in a manner which complements the surrounding land uses. The site's current existing commercial building, Rock Rest Lodge, is proposed to

remain while an additional mixed-use building is proposed to be added to the site. This building is expected to contain 173 residential dwelling units and approximately 8,400 sq ft of commercial space.

There are currently two (2) accesses to the site: one from the north off S. Golden Road and one from the southeast off Mt. Vernon Road. The project proposes one (1) additional access location: an access from S. Golden Road into a parking garage. Both new accesses are proposed to be full-movement and side-street stop-controlled. In addition, it is proposed the current access from S. Golden Road be converted to a right-in/right-out access. The site plan and accesses are provided on **Figure 2**.

3.0 Study Considerations

3.1 Data Collection

Intersection turning movement volumes were collected in June 2023 at seven (7) existing intersections/access locations during the weekday AM and PM peak hours, including pedestrians and bicyclists. Daily traffic volumes were collected adjacent to the project site on both S. Golden Road and Mt. Vernon Road. Count data sheets are provided in the **Appendix**.

3.2 Evaluation Methodology

The traffic operations analysis addressed the unsignalized intersection operations using the procedures and methodologies set forth by the *Highway Capacity Manual (HCM)*¹. Existing peak hour factors were applied to the intersections for the existing and future scenarios. Study intersections were evaluated using Synchro software (v11).

3.3 Level of Service Capacity Analysis

A Level of Service analysis was conducted to determine the existing, buildout, and future performance of the study area intersections and accesses to determine the most appropriate intersection traffic controls and auxiliary lanes for future conditions.

To measure and describe the operational status of the study intersections, transportation engineers and planners commonly use a grading system referred to as “Level of Service” (LOS) that is defined by the

¹ [Highway Capacity Manual](#), Highway Research Board Special Report 209, Transportation Research Board, National Research Council, 6th Edition (2016).

HCM. LOS characterizes the operational conditions of an intersection's traffic flow, ranging from LOS A (indicating very good, free flow operations) and LOS F (indicating congested and sometimes oversaturated conditions). These grades represent the perspective of drivers and are an indication of the comfort and convenience associated with traveling through the intersections. The intersection LOS is represented as a delay in seconds per vehicle for the intersection as a whole and for each turning movement. A more detailed discussion of LOS methodology is contained in the **Appendix** for reference.

4.0 Existing Conditions

4.1 Roadways

The study area boundaries are based on the amount of traffic to be generated by the project and potential impact to the existing roadway network. The primary public roadways that serve the project site are discussed in the following text and illustrated on **Figure 1**.

S. Golden Road is an east-west, two-lane major collector with a median/center left turn lane. It extends approximately 2.5 miles from Golden High School on the west to I-70 on the east. This roadway provides access to several residential neighborhoods and businesses in Jefferson County. S. Golden Road currently serves approximately 13,500 vehicles per day (vpd) in the study area and has a posted speed limit of 35 miles per hour (mph). There are on street bicycle lanes and sidewalks on both sides of the road in the study area.

Mt. Vernon Road is a two-lane, northeast-southwest, collector through the study area. This roadway extends from Ulysses Street on the south to S. Golden Road on the north. This roadway provides access to several residential neighborhoods, a few commercial businesses, a park, and several private residences. Mt. Vernon Road currently serves approximately 1,300 vpd adjacent to the property site. The roadway has a posted speed limit of 30 mph within the study area. There are no sidewalks or special accommodations for bicycle traffic.

4.2 Pedestrian and Bicycle

There are sidewalks and on-street bicycle lanes along both sides of S. Golden Road in the study area. There is also a bicycle lane along 10th Avenue, a roadway just south of S. Golden Road. There are no bike facilities or sidewalks on Mt. Vernon Road, which does connect S. Golden Road and 10th Avenue. Bicyclists are permitted to ride within the travel lanes or along the shoulders on Mt. Vernon Road.

4.3 Transit

Jefferson County is serviced by Regional Transportation District (RTD). Currently, the closest bus stops are north of the project site on S. Golden Road, less than 300 feet away. These bus stops service Route 16, which travels from Parfet Park in Golden to the Colorado State Capitol in Downtown Denver. Patrons are permitted to transfer to other bus routes, light rail trains, and commuter trains at the appropriate stop or station.

4.4 Existing Intersection Capacity Analysis

The existing volumes, lane configuration, and traffic control are illustrated on **Figure 3**. The details of LOS for each movement are provided in **Table 1** and the 95th percentile queues are provided in **Table 2** (refer to **Appendix**). The intersection Level of Service worksheets are attached in the **Appendix**. **All study intersections currently operate overall at LOS B or better in both peak hours, with all movements operating at LOS C or better, with the following exception:**

- **#2 – S. Golden Road & Orchard Street/Site Access:** The southbound movement of this side-street stop-controlled intersection has a LOS of E. It is typical for side-streets to operate below LOS D in peak periods on arterial roadways. The queue for the southbound traffic is calculated to be less than two (2) car lengths. This is a reasonable queue. Side-street volumes do not approach volume thresholds required for a signal. No mitigation measures are recommended.

5.0 Future Conditions

5.1 Annual Growth Factor and Future Volume Methodology

In order to forecast the future peak hour traffic volumes, data provided by CDOT's 20-year factors on State Highway 6 were utilized. CDOT forecasted that traffic on this arterial in the vicinity of the study area will grow by a factor of 1.10 in 20 years, which equates to 0.48% annual growth rate. The County recognizes that there is more development occurring on the S. Golden Road corridor than previously included in land use projections for the area. Therefore, a conservative growth rate of 1.0% annually was applied to the traffic at the existing study intersection for future scenarios.

In addition to growing background traffic volumes, anticipated traffic volumes directly attributed to the Reva mixed-use development were added on top of background volumes.

5.2 Year 2028 Background Intersection Capacity Analysis

The study area intersections were evaluated to determine baseline operations for the Year 2028 background scenario and to identify any capacity constraints associated with background traffic in the short-term scenario. The short-term background volumes, lane configuration, and traffic control are illustrated on **Figure 4**.

The Level of Service criteria discussed previously was applied to the study area intersection to determine the impacts with the short-term background conditions. The details of LOS for each movement are provided in **Table 1** and the 95th percentile queues are provided in **Table 2** (refer to **Appendix**). The intersection Level of Service worksheets are attached in the **Appendix**. **In summary, the study intersections are expected to continue to operate overall at LOS B or better in both peak hours, with all movements operating at LOS C or better, with the following exception:**

- **#2 – S. Golden Road & Orchard Street/Site Access:** The southbound movement of this side-street stop-controlled intersection is expected to perform at a LOS of F. Similar to the existing conditions discussion, LOS F can be acceptable on an unsignalized approach to a major roadway if the volumes are not approaching signal warrant thresholds and the projected queues do not indicate an operational or safety concern. The queue for the southbound traffic is still calculated to be less than two (2) car lengths. This is a reasonable queue. No mitigation measures are recommended.

5.3 Year 2043 Background Intersection Capacity Analysis

The study area intersections were evaluated to determine baseline operations for the Year 2043 background scenario and to identify any capacity constraints associated with background traffic in the long-term scenario. The long-term background volumes, lane configuration, and traffic control are illustrated on **Figure 5**.

The Level of Service criteria discussed previously was applied to the study area intersection to determine the impacts with the long-term background conditions. The details of LOS for each movement are provided in **Table 1** and the 95th percentile queues are provided in **Table 2** (refer to **Appendix**). The intersection Level of Service worksheets are attached in the **Appendix**. **In summary, the study intersections are expected to operate overall at a LOS C or better. All individual movements during peak hours are expected to operate at a LOS C or better with the following exceptions:**

- **#2 – S. Golden Road & Orchard Street/Site Access:** The southbound movement of this side-street stop-controlled intersection is expected to perform at a LOS of F. Similar to the existing

and 2028 background conditions discussion, LOS F can be acceptable on an unsignalized approach to a major roadway if the volumes are not approaching signal warrant thresholds and the projected queues do not indicate an operational or safety concern. The queue for the southbound traffic is calculated to be about three (3) car lengths. This is still a reasonable queue. No mitigation measures are recommended.

- **#4 – S. Golden Road & Moss Street/Research Road:** The eastbound movement at the roundabout is expected to perform at LOS E in the PM peak hour. The 95th percentile queue for the eastbound movement is estimated to be approximately 425', indicating that the queue may spill back beyond Nile Street without mitigation. Currently striped for one eastbound lane, this roundabout appears to have been designed to hold two eastbound lanes. It is recommended that the eastbound approach be restriped for additional capacity if the traffic volumes increase as predicted. This is consistent with the Reva TIS conclusion and recommendation. The background traffic growth rate used is significantly higher than predicted by regional models in the area and it is understood the County has seen more growth in the area than the regional forecasts. This analysis may be overly conservative.

6.0 Future Conditions with the Proposed Multi-Use Project

6.1 Trip Generation

A trip generation estimate was performed to determine the traffic characteristics of the proposed S. Golden Road & Mt. Vernon Road Multi-Use Project. The trip rates contained in the Institute of Transportation Engineers (ITE) *Trip Generation Manual*² were applied to estimate the traffic. ITE land use #221 "Multifamily Housing (Mid-rise)" was utilized since the project proposes to build 173 new multi-family dwelling units in a building with six stories. ITE land use rates for #712 "Small Office Building" and ITE land use #822 "Strip Retail Plaza (<40k)" were applied to the proposed square footage in a 50/50 split to predict the traffic for the proposed commercial spaces. Note that the study analyzed traffic conditions based on the largest potential scenario, 200 dwelling units. Thus, the projected site trip generation and projected volumes may be conservatively high.

²*Trip Generation Handbook, 11th Edition*, Institute of Transportation Engineers, 2021.

The proposed project is expected to experience mostly new trips, also known as ‘primary trips’, as well as internal capture trips which are discussed below:

Primary Trips. These trips are made specifically to visit the site and are considered “new” trips. Primary trips would not have been made if the proposed project did not exist. Therefore, this is the only trip type that increases the total number of trips made on a regional basis.

Internal Capture Trips. These trips occur from one land use or building to another within the site boundaries. Multi-use or multi-purpose trips typically do not affect the exterior site access points, nor add any additional traffic volumes to the adjacent street network. It is anticipated there will be some internal trips within the proposed project site due to the mix of uses, especially between commercial businesses and residential units. ITE recommends that the internal capture calculations be conducted with the methodology presented in National Cooperative Highway Research Program’s (NCHRP) *Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments*³ which were utilized in this traffic study. Based on this methodology, it was calculated that the morning peak hour will have an internal capture rate of 5% and the evening peak hour will have an internal capture rate of 15%, which were applied to the trip estimate. Calculation sheets for internal capture rates are included in the **Appendix**. The evening peak hour internal capture rate was reduced from the calculated capture rate per NCHRP Report 684 methodology to a more conservative rate of 15%.

³ *NCHRP Report 684: Enhancing Internal Trip Capture Estimation for Mixed-Use Developments*. Bochner, B., K. Hooper, B. Sperry, and R. Dunphy. Washington, DC: Transportation Research Board, 2011.

Table 3 - Trip Generation Summary

Land Use	Size	Unit	Internal Capture		Average Daily Trips				AM Peak Hour Trips				PM Peak Hour Trips			
			AM adjust	PM adjust	Rate	Total	In	Out	Rate	Total	In	Out	Rate	Total	In	Out
ITE#221: Multifamily Housing (Mid-rise)	200	DU	0.95	0.85	4.54	772	386	386	0.37	70	16	54	0.39	66	40	26
ITE#712: Small Office Building	4.20	ksf	0.95	0.85	10.84	39	20	19	1.52	6	5	1	1.44	5	2	3
ITE#822: Strip Retail Plaza (<40k)	4.20	ksf	0.95	0.85	54.45	194	97	97	2.36	9	5	4	6.59	24	12	12
Total Added Trips					1,005	503	502		85	26	59		95	54	41	
ITE#932: High-Turnover (Sit-Down) Restaurant	8.9	ksf	0.95	0.85	107.2	811	406	405	9.57	81	45	36	9.05	68	41	27
Total Zone District Trips					1,816	909	907		166	71	95		163	95	68	

Source: ITE Trip Generation 11th Edition, 2021.

Table 3 provides the detailed trip generation estimates for the project. The S. Golden Road & Mt. Vernon Road Mixed-Use Project, including both the housing and commercial space trips, is estimated to generate approximately 1,005 new daily trips with 85 new trips in the AM peak hour and 95 new trips in the PM peak hour.

6.2 Trip Distribution and Assignment

The estimated trip volumes were distributed onto the study area street network based on existing traffic characteristics, land uses, and traffic patterns in the area, as well as regional growth and future roadway improvements. The assumed trip distribution is listed below and shown on Figure 6:

- 40% to/from the East via S. Golden Road
- 35% to/from the West via S. Golden Road
- 10% to/from the South via Mt. Vernon Road
- 15% to/from the Southeast via Moss Street

Using these distribution assumptions, the projected site traffic was assigned to the study area roadway network and appropriate accesses for the weekday AM and PM peak hour periods based on the most convenient route. The site-generated volumes are shown on Figure 6.

6.3 Year 2028 + Project Intersection Capacity Analysis

This section discusses impacts associated with the addition of the proposed mixed-use project trips in the short-term scenario. The site-generated volumes were added to the Year 2028 background volumes and are illustrated on **Figure 7**. This figure also illustrates the proposed traffic control and lane configurations for the three (3) proposed accesses. The details of LOS for each movement are provided in **Table 1** and the 95th percentile queues are provided in **Table 2** (refer to **Appendix**). The intersection Level of Service worksheets are attached in the **Appendix**.

The addition of the project trips was estimated to have little to no impact on the performance of the study intersections compared to the Year 2028 background scenario (overall LOS B or better in both peak hours, all movements operating at LOS C or better). The proposed new access on S. Golden Road is expected to operate overall at LOS A on all movements in both peak hours operating at LOS C or better. The recommended changes to access will have the following impacts:

- **#2 – S. Golden Road & Orchard Street/Site Access:** With the project, it is proposed the south leg be restricted to a right in/right out access. The change in movements results in better performance of the southbound traffic due to fewer conflicts, increasing the LOS from F to C and reducing the 95th percentile queue to less than one (1) vehicle.

6.4 Year 2043 Background + Project Intersection Capacity Analysis

This section discusses impacts associated with the addition of the proposed project trips in the long-term scenario. The site-generated volumes were added to the Year 2043 background volumes and are illustrated on **Figure 8**. This figure also illustrates the proposed traffic control and lane configurations for the three (3) accesses. The details of LOS for each movement are provided in **Table 1** and the 95th percentile queues are provided in **Table 2** (refer to **Appendix**). The intersection Level of Service worksheets are attached in the **Appendix**.

The addition of the project generated trips was estimated to have little to no impact on the performance of the study intersections compared to the Year 2043 background scenario. The overall Levels of Service were calculated to be similar to the Year 2043 with all movements estimated to operate at LOS C or better in both peak hours with the exception of:

- **#2 – S. Golden Road & Orchard Street/Site Access:** The southbound left turn LOS is expected to degrade to LOS D in the Year 2043 with project. As discussed previously, this is an acceptable LOS on a side-street stop-controlled approach to a major roadway where the volumes are not approaching signal warrant thresholds and the projected queues do not



- indicate an operational or safety concern. Note that due to limited restrictions in movements with the project, the intersection is expected to perform better with the project than without the project changes. The anticipated 95th percentile queue is calculated to be about one (1) vehicle. No mitigation measures are recommended.
- **#4 – S. Golden Road & Moss Street/Research Road:** The northbound approach to the roundabout is expected to operate at LOS D in Year 2043 with project. The project-added trips are estimated to only increase delay by two (2) seconds and queue by one (1) vehicle for the northbound approach. As discussed in the **Section 5.3**, it is recommended that the eastbound approach be restriped to permit two entering lanes. It is anticipated the additional eastbound lane will provide sufficient capacity for the forecasted volumes.

The proposed accesses are anticipated to operate overall at LOS A in both peak hours with all the movements operating at LOS C or better.

7.0 Queuing Analysis

A queuing analysis was performed to determine if the 95th percentile queues would warrant a need for an auxiliary lane or if any of the queues would impact an upstream intersection/access. **Table 2** provides the 95th percentile queues for each existing and future scenario as calculated by Synchro (assuming each vehicle utilizes 25 feet of space). It should be noted that the 95th percentile queue length is a theoretical queue that is 1.65 standard deviations above the average queue length. In theory, the 95th percentile queue would be exceeded 5% of the time based on the average queue length, but it is also possible that a queue this long may not occur.

As shown in **Table 2**, the calculated queues at the study intersections and proposed accesses are acceptable and can all be maintained in the existing geometry at all intersections with the exception of the intersection of **S. Golden Road & Moss Street (#4)**. If traffic increases as projected, the eastbound queue could be as long as 475' and would extend past the entrance of Nile Street. An eastbound auxiliary lane would mitigate the queue length. Other auxiliary lanes are not warranted based on volume or operations or queue lengths. The access intersections will operate acceptably within one inbound lane and one outbound lane.



8.0 Conclusions

The S. Golden Road and Mt. Vernon Road Mixed-Use Project proposes to construct a mixed-use building consisting of 173 multi-family dwelling units in addition to 8,400± sq. ft. commercial space. The project proposes two (2) full-movement, side-street stop-controlled accesses and one (1) right in/right out access. The project is conservatively estimated to generate approximately 1,005 daily trips with about 85 trips occurring in the AM peak hour and 95 trips occurring in the PM peak hour.

It was determined that the intersection of S. Golden Road & Moss Street (#4) may have traffic volumes in the 2043 background scenario that exceed the existing intersection capacity. **An additional eastbound lane is recommended by restriping the approach on S. Golden Road at Moss Street. All other study intersections can adequately accommodate the projected traffic volumes in the near-term and long-term scenarios.**

Tables and Figures:

Table 1 – Peak Hour Intersection Level of Service Summary

Table 2 – Peak Hour 95th Percentile Estimated Queue Summary

Table 3 – Trip Generation Summary

Figure 1 – Vicinity Map

Figure 2 – Proposed Site Plan and Access

Figure 3 – Year 2023 Existing Traffic Volumes

Figure 4 – Year 2028 Background Traffic Volumes

Figure 5 – Year 2043 Background Traffic Volumes

Figure 6 – Site-Generated Trips and Trip Distribution

Figure 7 – Year 2028 Background + Project Traffic Volumes

Figure 8 – Year 2043 Background + Project Traffic Volumes

Table 1 - Peak Hour Intersection Level of Service Summary

Intersection and Lanes Groups	2023 Existing				2028 Background				2028 Bkgrd + Project				2043 Background				2043 Bkgrd + Project			
	AM Peak Delay	PM Peak LOS	AM Peak Delay	PM Peak LOS	AM Peak Delay	PM Peak LOS	AM Peak Delay	PM Peak LOS	AM Peak Delay	PM Peak LOS	AM Peak Delay	PM Peak LOS	AM Peak Delay	PM Peak LOS	AM Peak Delay	PM Peak LOS	AM Peak Delay	PM Peak LOS		
STOP SIGN CONTROL																				
2. S. Golden Rd & Orchard St/Site Access	1	A	2	A	1	A	2	A	1	A	1	A	1	A	6	A	1	A	1	A
Eastbound Left	8	A	9	A	8	A	9	A	8	A	9	A	8	A	10	A	8	A	10	A
Eastbound Through+Right	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
Westbound Left	0	A	9	A	0	A	9	A	0	A	0	A	0	A	10	A	0	A	0	A
Westbound Through+Right	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
Northbound Left+Through+Right	11	B	14	B	12	B	14	B	12	B	14	B	13	B	16	C	13	B	16	C
Southbound Left+Through+Right	18	C	42	E	19	C	66	F	15	B	25	C	24	C	>120	F	16	C	32	D
3. S. Golden Rd & Mt. Vernon Rd	1	A	1	A	1	A	1	A	1	A	2	A	1	A	2	A	1	A	2	A
Eastbound Through+Right	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
Westbound Left	8	A	9	A	9	A	10	A	9	A	10	A	9	A	10	B	9	A	11	B
Westbound Through	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
Northbound Right	12	B	16	C	13	B	18	C	13	B	19	C	14	B	23	C	15	B	24	C
5. Mt. Vernon Rd & Site Access	0	A	2	A	0	A	1	A	2	A	2	A	0	A	1	A	2	A	2	A
Eastbound Left+Right	0	A	7	A	0	A	9	A	9	A	9	A	0	A	9	A	9	A	10	A
Northeastbound Left+Through	7	A	7	A	7	A	7	A	7	A	7	A	7	A	7	A	7	A	7	A
Southwestbound Through+Right	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
6. Mt. Vernon Rd & 10th Ave & Orion St	6	A	5	A	6	A	5	A	6	A	6	A	6	A	5	A	6	A	6	A
Westbound Left+Through	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
Westbound Right	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
Northeastbound Left+Through+Right	10	A	10	B	10	A	10	B	10	A	10	B	10	A	11	B	10	A	11	B
Southwestbound Left+Through+Right	9	A	10	A	9	A	10	A	9	A	10	A	9	A	10	A	9	A	10	A
Northbound Left+Through+Right	9	A	9	A	9	A	9	A	9	A	9	A	9	A	9	A	9	A	9	A
7. Mt. Vernon Rd & Ulysses St	2	A	1	A	2	A	1	A	2	A	1	A	2	A	2	A	2	A	2	A
Westbound Left+Right	10	B	12	B	10	B	11	B	10	B	11	B	10	B	12	B	11	B	12	B
Northbound Through+Right	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
Southbound Left	8	A	8	A	8	A	8	A	8	A	8	A	8	A	8	A	8	A	8	A
Southbound Through	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A	0	A
101. S. Golden Rd & Access									0	A	0	A					0	A	0	A
Eastbound Through+Right									0	A	0	A					0	A	0	A
Westbound Left+Through									9	A	10	A					9	A	10	A
Northbound Left+Right									14	B	19	C					15	C	22	C
ROUNDBOUT																				
1. S. Golden Rd & Quaker St	5	A	9	A	6	A	11	B	6	A	11	B	7	A	14	B	7	A	15	B
Eastbound Left+Through+Right	6	A	10	B	7	A	11	B	7	A	12	B	8	A	15	C	8	A	16	C
Westbound Left+Through+Right	5	A	9	A	5	A	11	B	6	A	11	B	6	A	14	B	6	A	15	B
Northbound Left+Through+Right	5	A	7	A	5	A	8	A	6	A	8	A	6	A	10	A	6	A	10	A
Southbound Left+Through+Right	5	A	6	A	5	A	7	A	5	A	7	A	5	A	9	A	5	A	9	A
4. S. Golden Rd & Moss St	6	A	12	B	7	A	15	B	8	A	16	C	9	A	26	D	9	A	29	D
Eastbound Left+Through+Right	6	A	14	B	7	A	19	C	8	A	20	C	9	A	38	E	9	A	43	E
Westbound Left+Through+Right	5	A	7	A	5	A	9	A	6	A	9	A	6	A	11	B	6	A	12	B
Northbound Left+Through+Right	8	A	12	B	10	A	15	C	10	B	17	C	12	B	25	C	13	B	27	D
Southbound Left+Through+Right	4	A	10	A	4	A	12	B	4	A	13	B	5	A	17	C	5	A	18	C

Note: Delay represented in average seconds per vehicle.

Table 2 - Peak Hour 95th Percentile Estimated Queue Summary

Intersection and Lanes Groups	Existing Storage Length (Feet)	2023 Existing		2028 Background		2028 Bkgd + Project		2043 Background		2043 Bkgd + Project	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1. S. Golden Rd & Quaker St		Roundabout		Roundabout		Roundabout		Roundabout		Roundabout	
Eastbound Left+Through+Right	-	25'	100'	50'	125'	75'	125'	50'	200'	50'	200'
Westbound Left+Through+Right	-	25'	75'	25'	100'	25'	125'	25'	175'	50'	175'
Northbound Left+Through+Right	-	0'	0'	0'	0'	50'	0'	0'	25'	0'	25'
Southbound Left+Through+Right	-	0'	0'	0'	25'	0'	25'	0'	25'	0'	25'
2. S. Golden Rd & Orchard St/Site Access		Stop-Control		Stop-Control		Stop-Control		Stop-Control		Stop-Control	
Eastbound Left	148'	0'	0'	0'	0'	0'	0'	0'	3'	0'	3'
Eastbound Through+Right	-	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
Westbound Left	-	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
Westbound Through+Right	-	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
Northbound Left+Through+Right	-	0'	0'	0'	0'	3'	3'	0'	0'	3'	3'
Southbound Left+Through+Right	-	13'	35'	10'	53'	8'	20'	18'	110'	10'	35'
3. S. Golden Rd & Mt. Vernon Rd		Stop-Control		Stop-Control		Stop-Control		Stop-Control		Stop-Control	
Eastbound Through+Right	-	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
Westbound Left	140'	0'	5'	0'	5'	3'	8'	3'	5'	3'	10'
Westbound Through	-	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
Northbound Right	-	8'	23'	10'	25'	13'	33'	13'	43'	18'	50'
4. S. Golden Rd & Moss St		Roundabout		Roundabout		Roundabout		Roundabout		Roundabout	
Eastbound Left+Through+Right	-	50'	175'	50'	225'	75'	250'	75'	425'	100'	475'
Westbound Left+Through+Right	-	25'	50'	25'	75'	25'	75'	25'	100'	25'	100'
Northbound Left+Through+Right	-	25'	50'	50'	75'	50'	75'	50'	125'	50'	150'
Southbound Left+Through+Right	-	0'	25'	0'	50'	0'	50'	0'	75'	0'	75'
5. Mt. Vernon Rd & Site Access		Stop-Control		Stop-Control		Stop-Control		Stop-Control		Stop-Control	
Eastbound Left+Right	-	0'	3'	0'	3'	3'	3'	0'	3'	3'	5'
Northeastbound Left+Through	-	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
Southwestbound Through+Right	-	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
6. Mt. Vernon Rd & 10th Ave & Orion St		Stop-Control		Stop-Control		Stop-Control		Stop-Control		Stop-Control	
Westbound Left+Through	-	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
Westbound Right	65'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
Northeastbound Left+Through+Right	-	5'	8'	5'	8'	5'	8'	8'	10'	8'	10'
Southwestbound Left+Through+Right	-	3'	5'	3'	5'	3'	5'	3'	5'	3'	8'
Northbound Left+Through+Right	-	3'	3'	3'	3'	3'	3'	3'	5'	3'	5'
7. Mt. Vernon Rd & Ulysses St		Stop-Control		Stop-Control		Stop-Control		Stop-Control		Stop-Control	
Westbound Left+Right	-	5'	8'	5'	5'	5'	5'	5'	8'	8'	8'
Northbound Through+Right	-	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
Southbound Left	55'	0'	0'	0'	0'	0'	0'	0'	3'	0'	3'
Southbound Through	-	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
101. S. Golden Rd & Access		Project Intersection		Project Intersection		Stop-Control		Project Intersection		Stop-Control	
Eastbound Through+Right	-					0'	0'			0'	0'
Westbound Left+Through	-					0'	0'			0'	0'
Northbound Left+Right	-					5'	5'			5'	8'

Table 3 - Trip Generation Summary

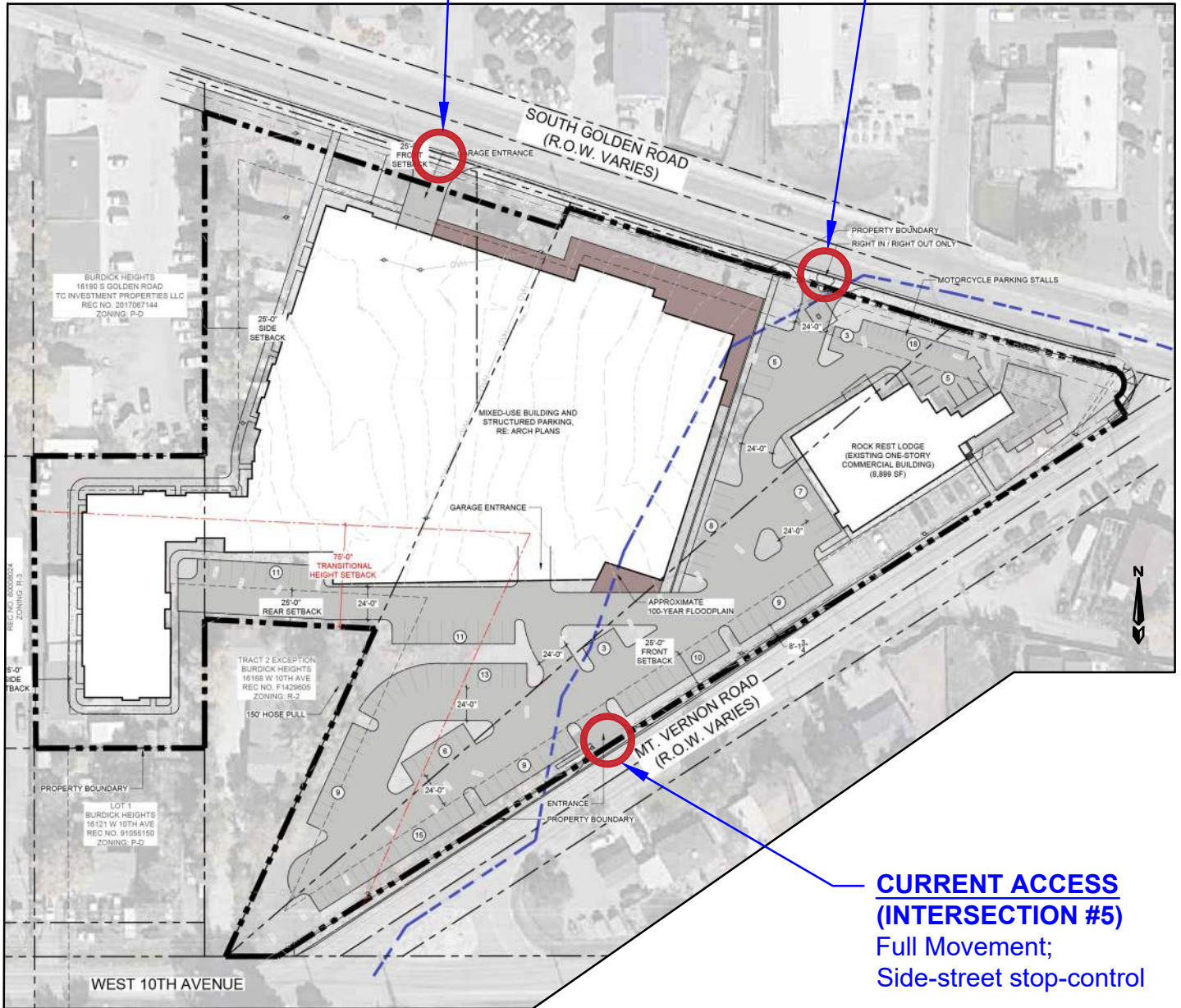
Land Use	Size	Unit	Internal Capture		Average Daily Trips				AM Peak Hour Trips				PM Peak Hour Trips			
			AM adjust	PM adjust	Rate	Total	In	Out	Rate	Total	In	Out	Rate	Total	In	Out
ITE#221: Multifamily Housing (Mid-rise)	200	DU	0.95	0.85	4.54	772	386	386	0.37	70	16	54	0.39	66	40	26
ITE#712: Small Office Building	4.20	ksf	0.95	0.85	10.84	39	20	19	1.52	6	5	1	1.44	5	2	3
ITE#822: Strip Retail Plaza (<40k)	4.20	ksf	0.95	0.85	54.45	194	97	97	2.36	9	5	4	6.59	24	12	12
Total Added Trips					1,005	503	502		85	26	59		95	54	41	
ITE#932: High-Turnover (Sit-Down) Restaurant	8.9	ksf	0.95	0.85	107.2	811	406	405	9.57	81	45	36	9.05	68	41	27
Total Zone District Trips					1,816	909	907		166	71	95		163	95	68	

Source : ITE Trip Generation 11th Edition, 2021.



**PROPOSED ACCESS
(INTERSECTION #101)**
Full movement;
Side-street stop-control

**CURRENT ACCESS,
(INTERSECTION #2)**
Right-in, Right-out;
Side-street
stop-control



**CURRENT ACCESS
(INTERSECTION #5)**
Full Movement;
Side-street stop-control

PRELIMINARY SITE PLAN

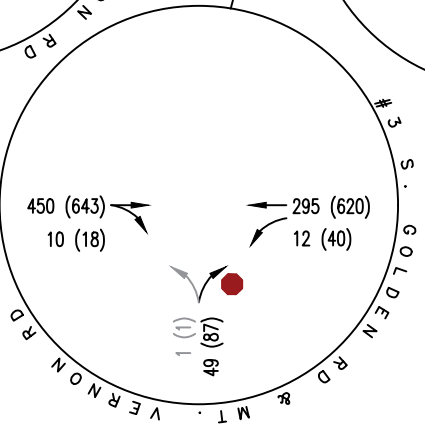
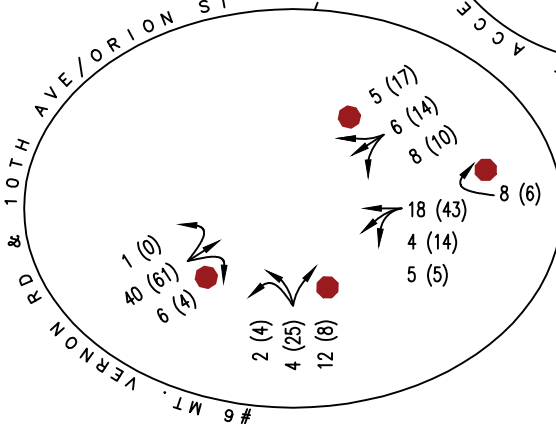
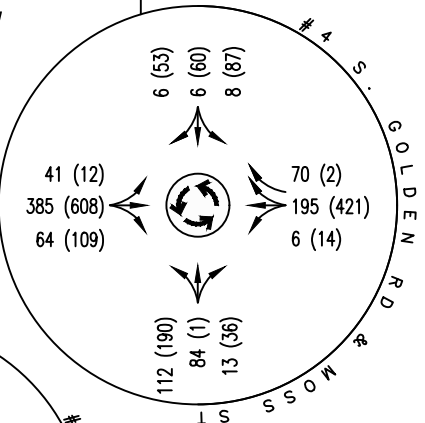
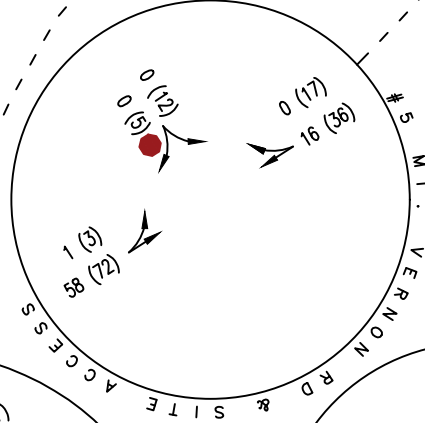
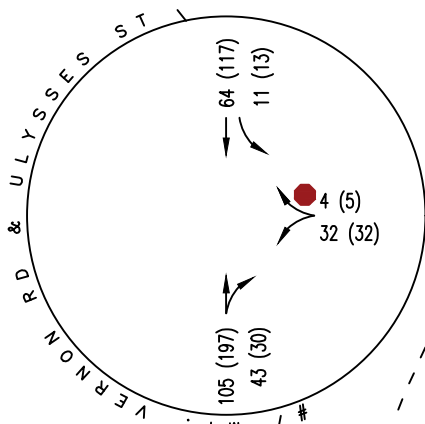
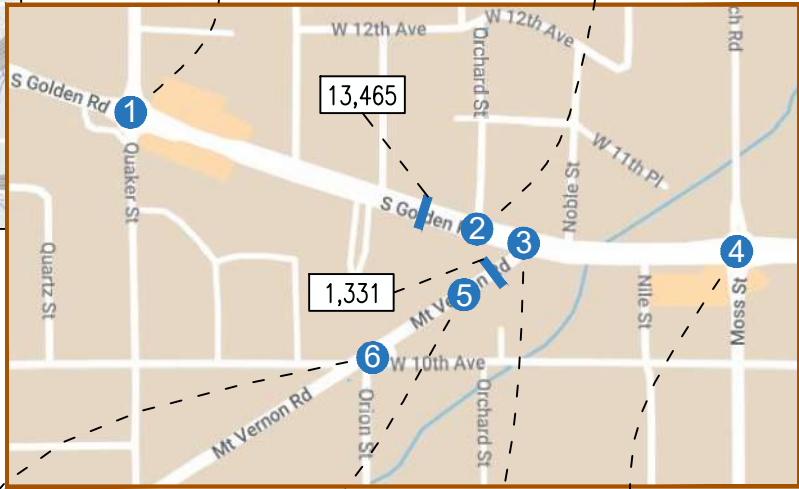
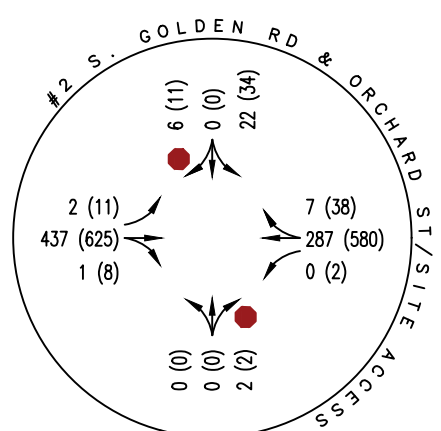
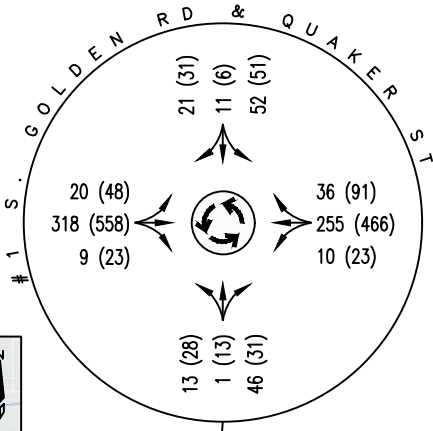
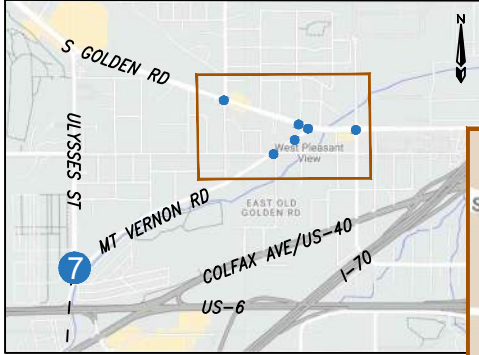


S. GOLDEN ROAD & MT. VERNON ROAD TRAFFIC IMPACT STUDY - GOLDEN, CO
PROPOSED SITE PLAN AND ACCESS

FT #	23047	Original Scale	NTS	Date	11/16/2023	Drawn by	SKK	Figure #	2
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KEY

- XX (XX) AM (PM) PEAK HOUR TRAFFIC VOLUME
- XXX AVERAGE DAILY TRAFFIC VOLUME
- EXISTING LANE CONFIGURATION
- ⊘ PROHIBITED TURNING MOVEMENTS

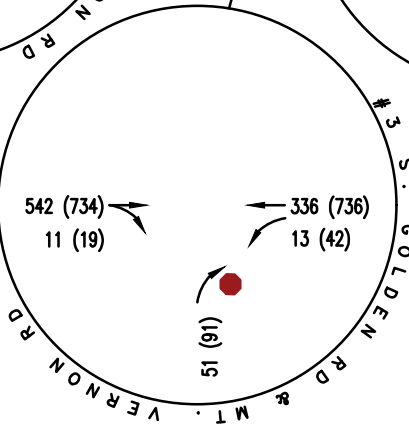
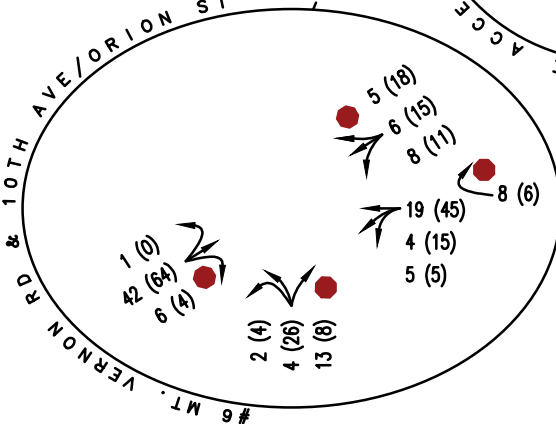
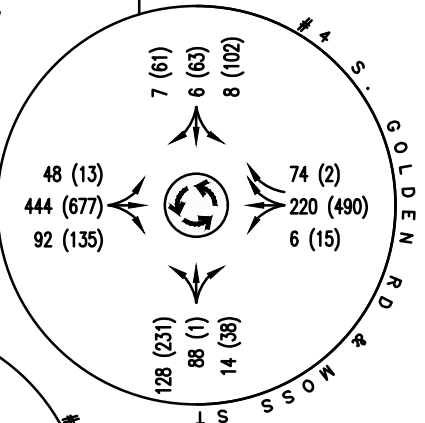
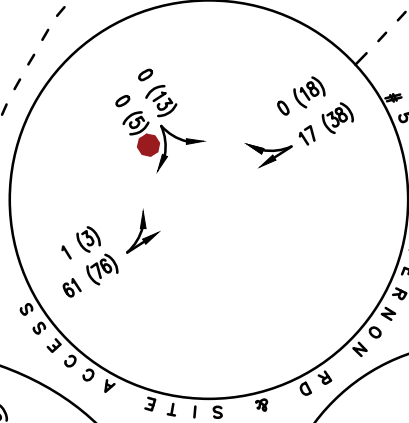
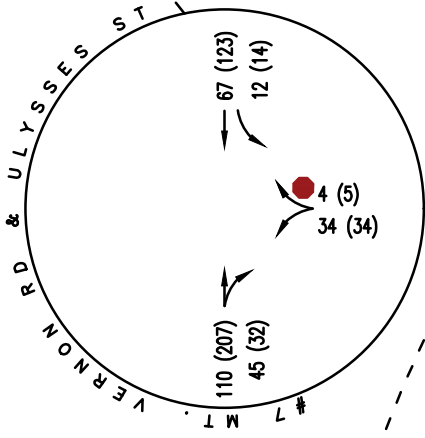
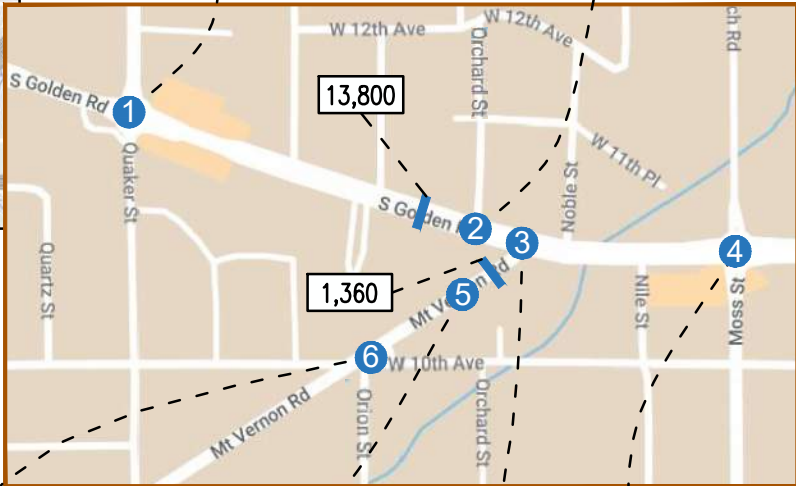
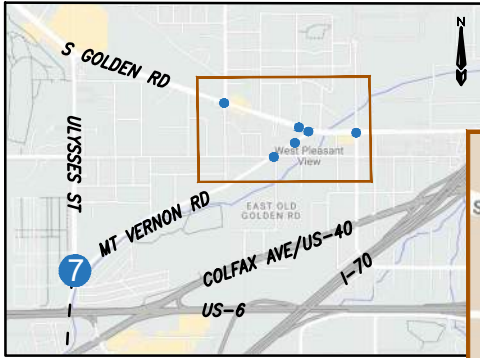
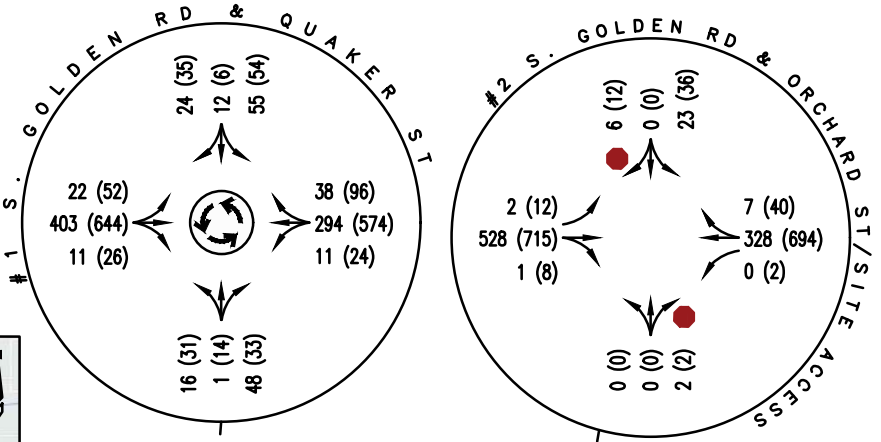


S. GOLDEN ROAD & MT. VERNON ROAD TRAFFIC IMPACT STUDY - GOLDEN, CO YEAR 2023 EXISTING TRAFFIC VOLUMES

FT #	23047	Original Scale	NTS	Date	6/26/2023	Drawn by	MAR	Figure #	3
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KEY

- XX (XX) AM (PM) PEAK HOUR TRAFFIC VOLUME
- XXX AVERAGE DAILY TRAFFIC VOLUME
- EXISTING LANE CONFIGURATION

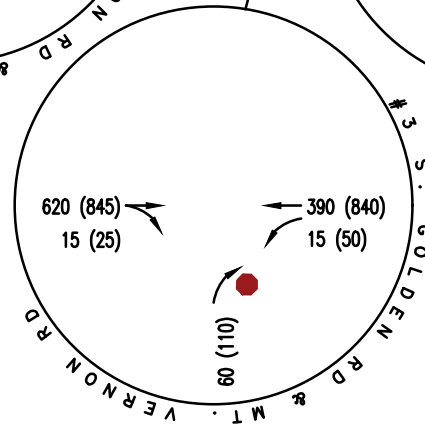
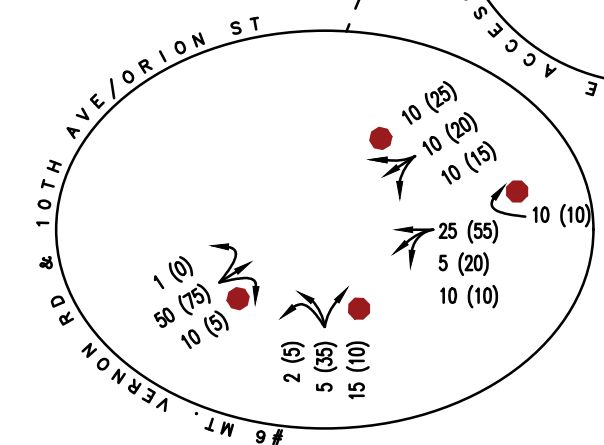
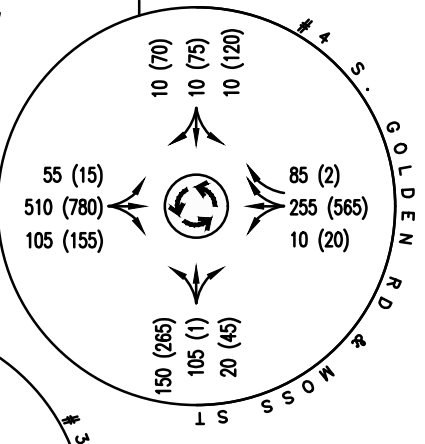
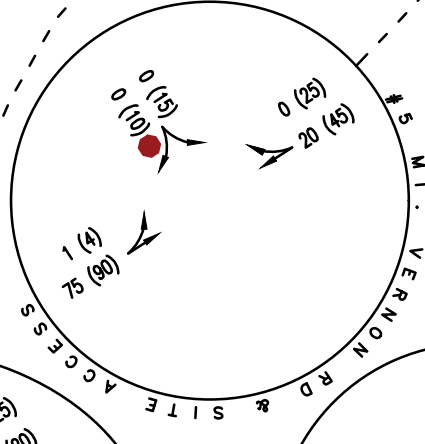
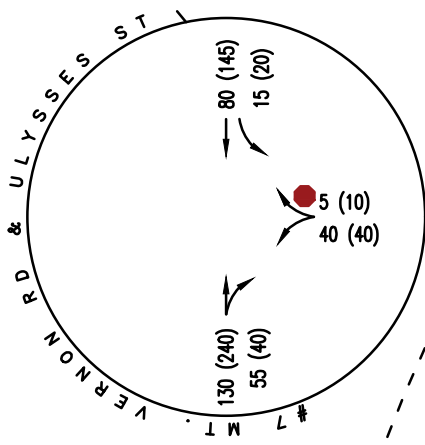
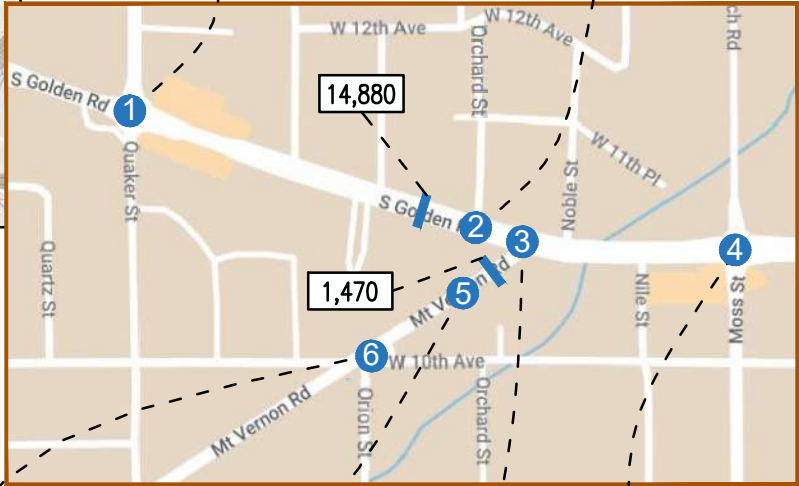
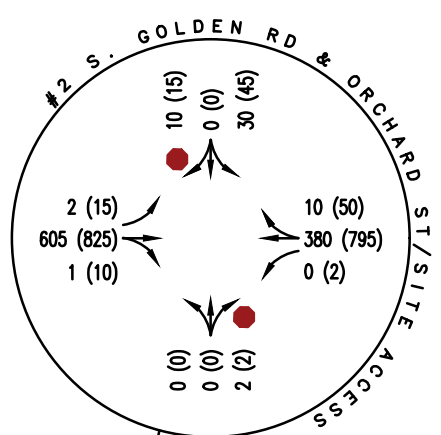
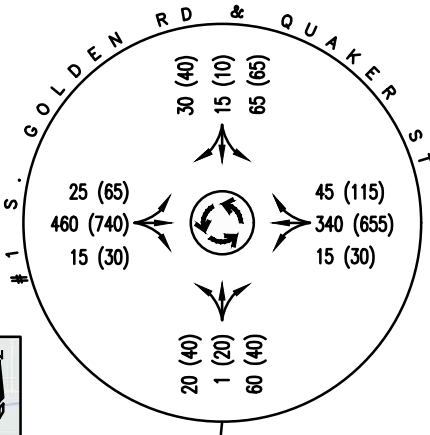
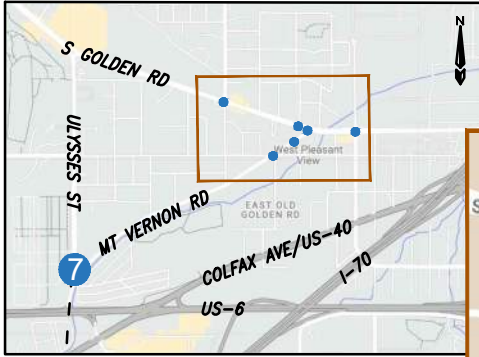


S. GOLDEN ROAD & MT. VERNON ROAD TRAFFIC IMPACT STUDY - GOLDEN, CO YEAR 2028 BACKGROUND TRAFFIC VOLUMES

FT #	23047	Original Scale	NTS	Date	11/16/2023	Drawn by	SKK	Figure #	4
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KEY

- XX (XX) AM (PM) PEAK HOUR TRAFFIC VOLUME
- XXX AVERAGE DAILY TRAFFIC VOLUME
- EXISTING LANE CONFIGURATION

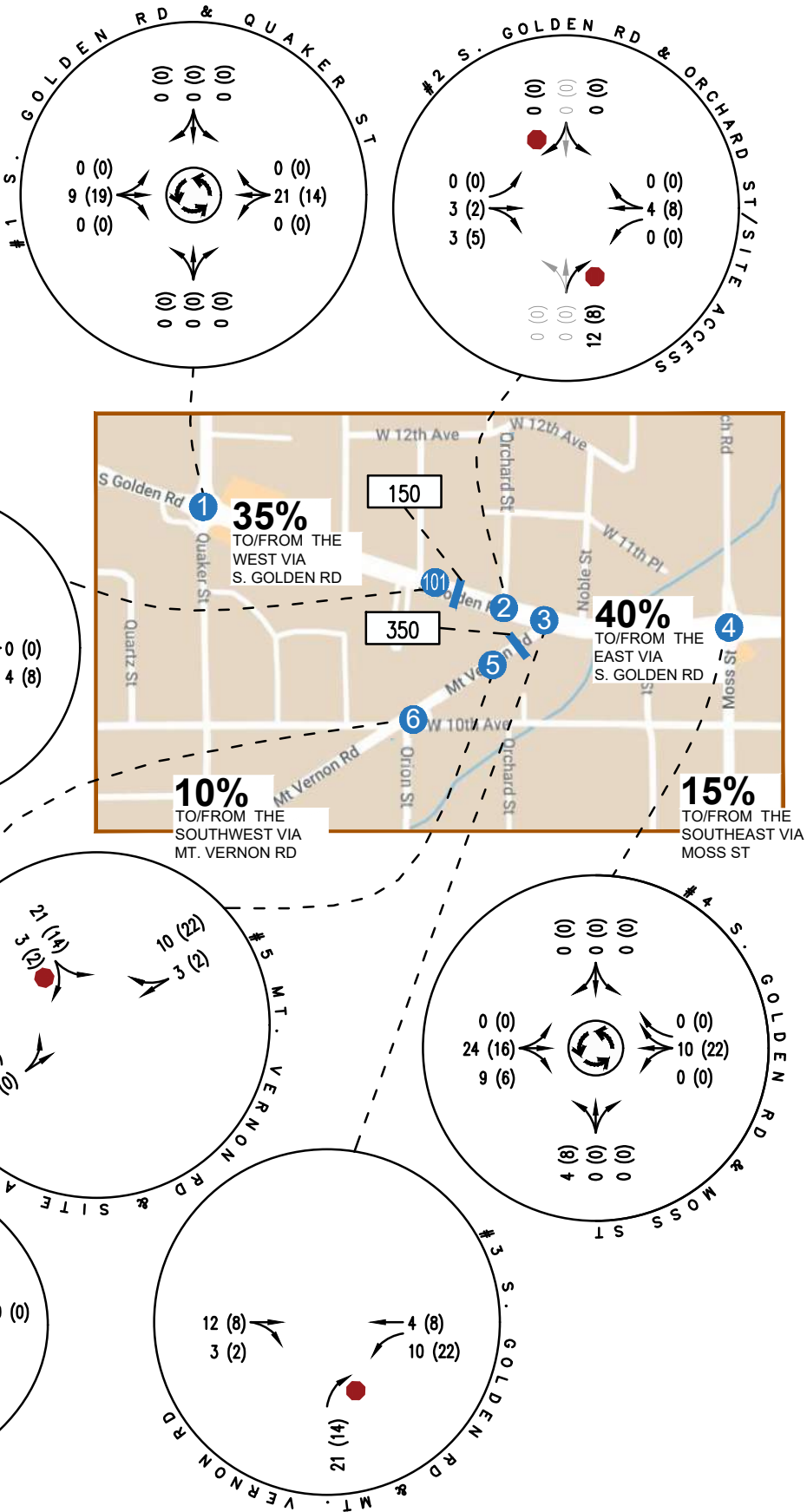
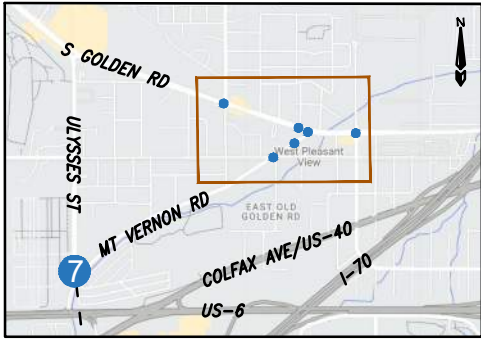


S. GOLDEN ROAD & MT. VERNON ROAD TRAFFIC IMPACT STUDY - GOLDEN, CO YEAR 2043 BACKGROUND TRAFFIC VOLUMES

FT #	23047	Original Scale	NTS	Date	11/16/2023	Drawn by	SKK	Figure #	5
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KEY

- XX (XX) AM (PM) PEAK HOUR TRIP VOLUME
- XXX AVERAGE DAILY SITE GENERATED TRAFFIC VOLUME
- EXISTING LANE CONFIGURATION



FT #	23047	Original Scale	NTS	Date	11/17/2023	Drawn by	SKK	Figure #	6
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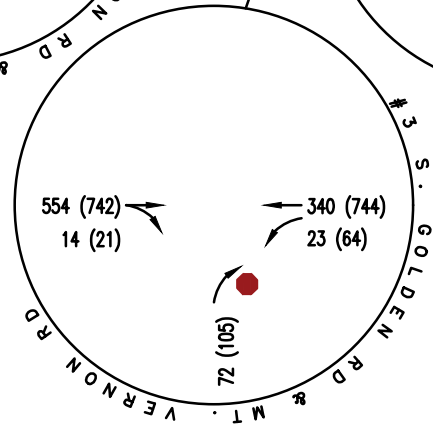
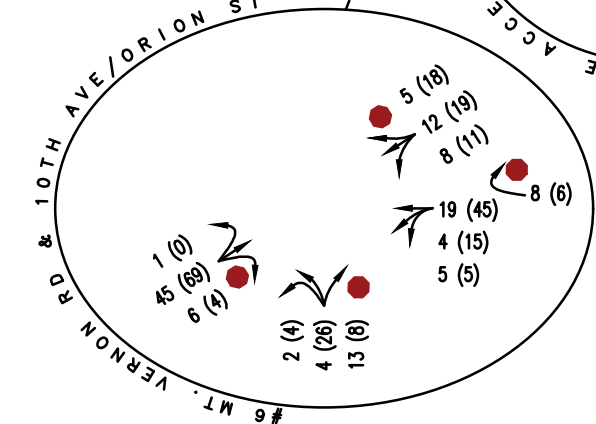
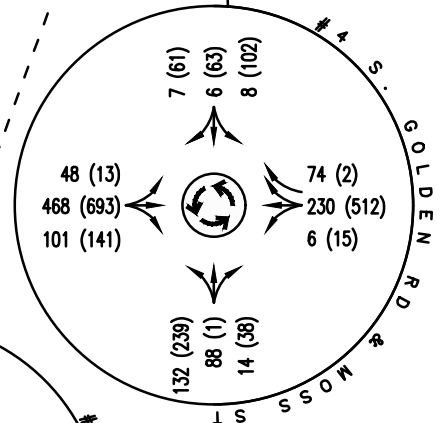
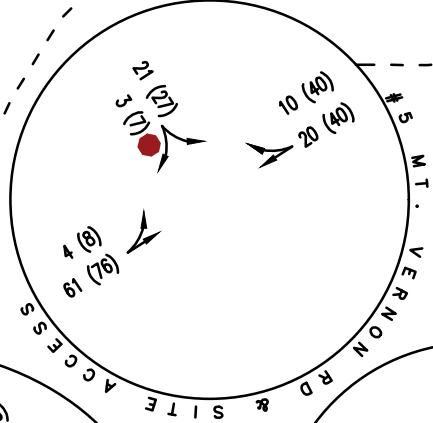
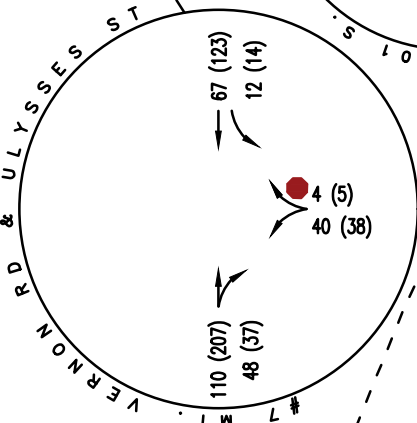
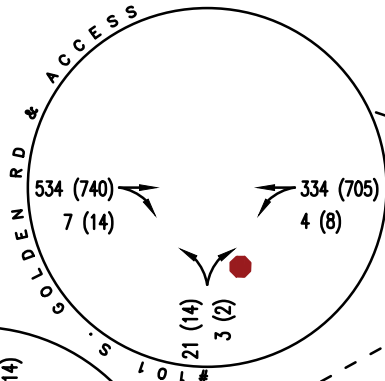
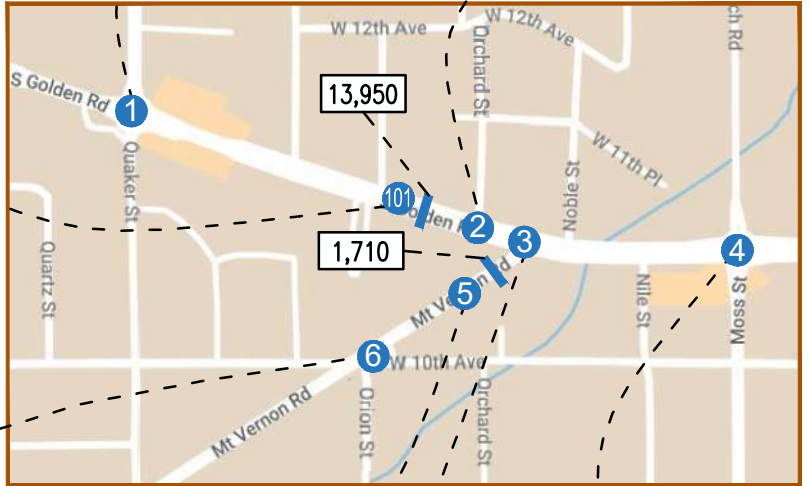
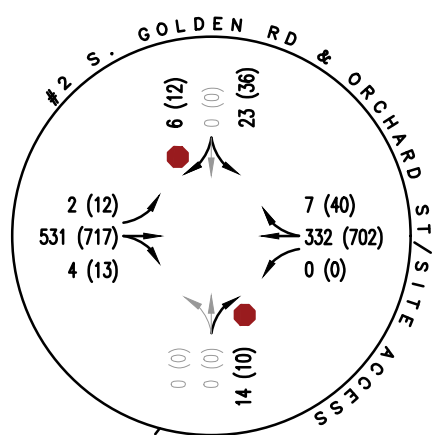
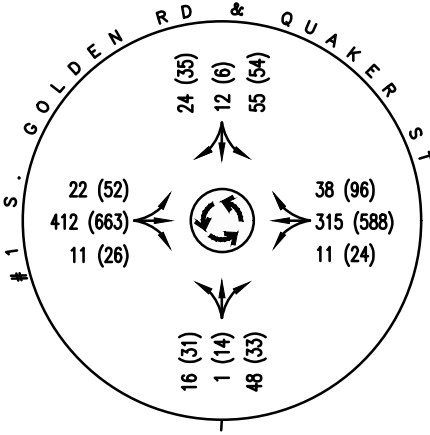
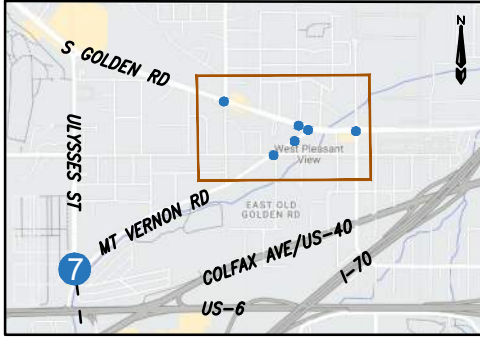
KEY

XX (XX) AM (PM) PEAK HOUR TRAFFIC VOLUME

XXX AVERAGE DAILY TRAFFIC VOLUME

→ EXISTING LANE CONFIGURATION

→ REMOVED LANE CONFIGURATION

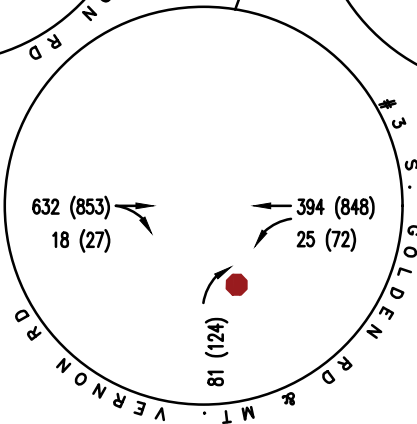
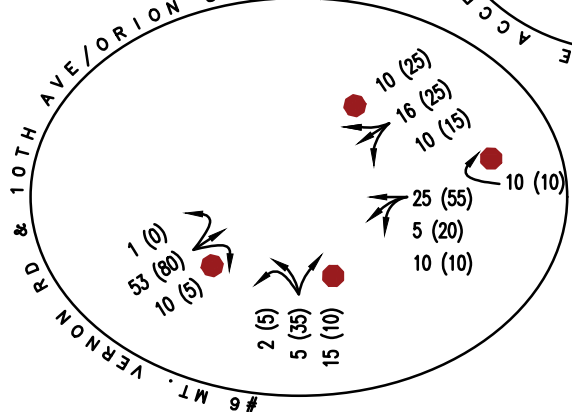
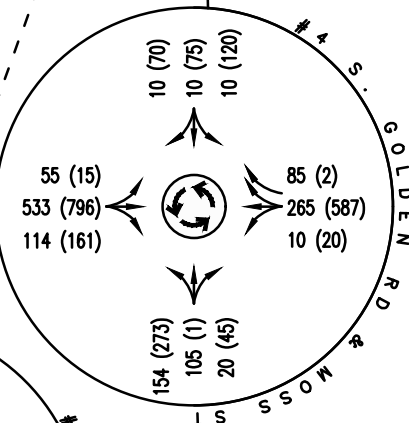
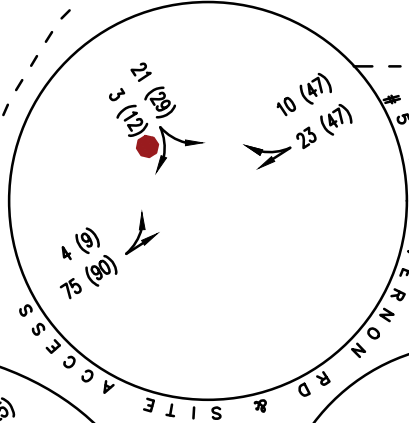
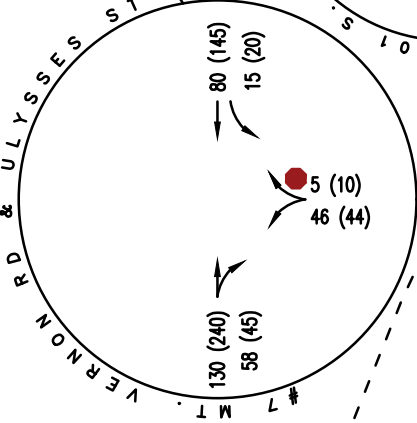
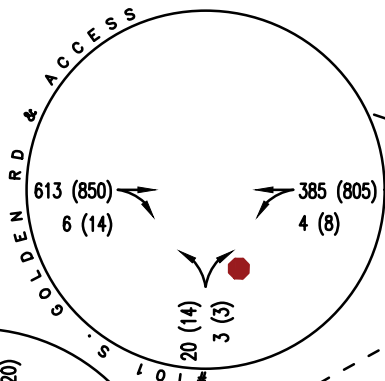
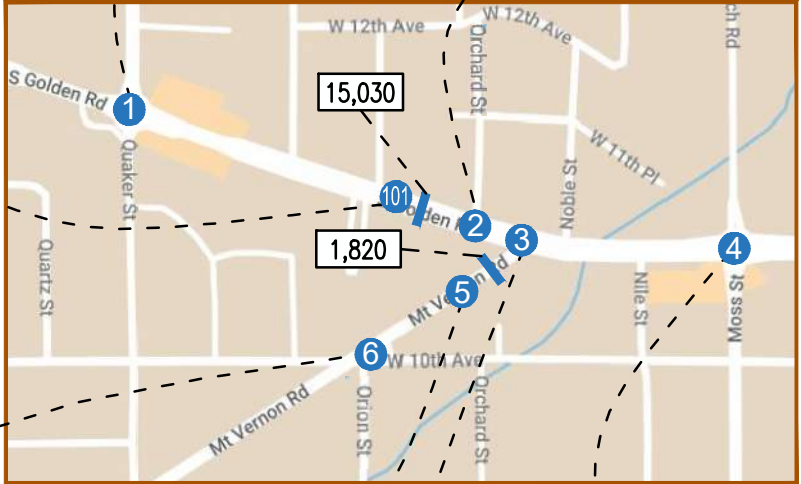
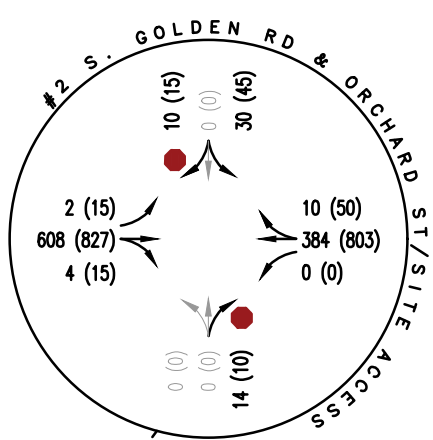
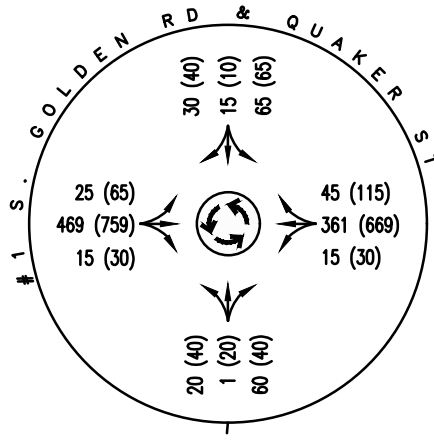
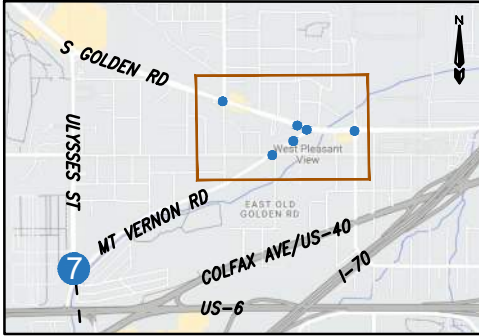


S. GOLDEN ROAD & MT. VERNON ROAD TRAFFIC IMPACT STUDY - GOLDEN, CO YEAR 2028 BACKGROUND + PROJECT TRAFFIC VOLUMES

FT #	23047	Original Scale	NTS	Date	11/17/2023	Drawn by	SKK	Figure #	7
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KEY

- XX (XX) AM (PM) PEAK HOUR TRAFFIC VOLUME
- XXX AVERAGE DAILY TRAFFIC VOLUME
- EXISTING LANE CONFIGURATION
- REMOVED LANE CONFIGURATION



S. GOLDEN ROAD & MT. VERNON ROAD TRAFFIC IMPACT STUDY - GOLDEN, CO YEAR 2043 BACKGROUND + PROJECT TRAFFIC VOLUMES

FT #	23047	Original Scale	NTS	Date	11/17/2023	Drawn by	SKK	Figure #	8
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Appendix:

Level of Service Definitions
Internal Capture Calculation Sheets
Existing & Historic Traffic Data
Intersection Capacity Worksheets



Level of Service Definitions



LEVEL OF SERVICE DEFINITIONS

In rating roadway and intersection operating conditions with existing or future traffic volumes, “Levels of Service” (LOS) A through F are used, with LOS A indicating very good operation and LOS F indicating poor operation. Levels of service at signalized and unsignalized intersections are closely associated with vehicle delays experienced in seconds per vehicle. More complete level of service definitions and delay data for signal and stop sign controlled intersections are contained in the following table for reference.

Level of Service Rating	Delay in seconds per vehicle (a)		Definition
	Signalized	Unsignalized	
A	0.0 to 10.0	0.0 to 10.0	Low vehicular traffic volumes; primarily free flow operations. Density is low and vehicles can freely maneuver within the traffic stream. Drivers are able to maintain their desired speeds with little or no delay.
B	10.1 to 20.0	10.1 to 15.0	Stable vehicular traffic volume flow with potential for some restriction of operating speeds due to traffic conditions. Vehicle maneuvering is only slightly restricted. The stopped delays are not bothersome and drivers are not subject to appreciable tension.
C	20.1 to 35.0	15.1 to 25.0	Stable traffic operations, however the ability for vehicles to maneuver is more restricted by the increase in traffic volumes. Relatively satisfactory operating speeds prevail, but adverse signal coordination or longer vehicle queues cause delays along the corridor.
D	35.1 to 55.0	25.1 to 35.0	Approaching unstable vehicular traffic flow where small increases in volume could cause substantial delays. Most drivers are restricted in ability to maneuver and selection of travel speeds due to congestion. Driver comfort and convenience are low, but tolerable.
E	55.1 to 80.0	35.1 to 50.0	Traffic operations characterized by significant approach delays and average travel speeds of one-half to one-third the free flow speed. Vehicular flow is unstable and there is potential for stoppages of brief duration. High signal density, extensive vehicle queuing, or corridor signal progression/timing are the typical causes of vehicle delays at signalized corridors.
F	> 80.0	> 50.0	Forced vehicular traffic flow and operations with high approach delays at critical intersections. Vehicle speeds are reduced substantially, and stoppages may occur for short or long periods of time because of downstream congestion.

(a) Delay ranges based on Highway Capacity Manual (6th Edition, 2016) criteria.



***Internal Capture
Calculation Sheets***



NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	S. Golden Rd & Mt. Vernon Rd	Organization:	Fox Tuttle Transportation Group, LLC
Project Location:	Golden, CO	Performed By:	S. Kilgore
Scenario Description:	Site Trip Generation	Date:	17-Nov-23
Analysis Year:		Checked By:	
Analysis Period:	AM Peak Hour	Date:	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office	712	4	ksf	6	5	1
Retail	822	4	ksf	10	6	4
Restaurant				4	2	2
Cinema/Entertainment				0		
Residential	221	199	dwelling units	71	16	55
Hotel				0		
All Other Land Uses ²				0		
				91	29	62

Table 2-A: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office			5%			5%
Retail			5%			5%
Restaurant						
Cinema/Entertainment						
Residential			5%			5%
Hotel						
All Other Land Uses ²						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		1	0	0	0
Restaurant	1	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	1	0	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	91	29	62
Internal Capture Percentage	7%	10%	5%
External Vehicle-Trips ⁵	81	25	56
External Transit-Trips ⁶	0	0	0
External Non-Motorized Trips ⁶	4	1	3

Table 6-A: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	20%	0%
Retail	17%	25%
Restaurant	50%	50%
Cinema/Entertainment	N/A	N/A
Residential	0%	2%
Hotel	N/A	N/A

¹Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

²Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

³Enter trips assuming no transit or non-motorized trips (as assumed in *ITE Trip Generation Manual*).

⁴Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

⁵Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

⁶Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	S. Golden Rd & Mt. Vernon Rd	Organization:	Fox Tuttle Transportation Group, LLC
Project Location:	Golden, CO	Performed By:	S. Kilgore
Scenario Description:	Site Trip Generation	Date:	17-Nov-23
Analysis Year:		Checked By:	
Analysis Period:	PM Peak Hour	Date:	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office	712	4	ksf	5	2	3
Retail	822	4	ksf	24	12	12
Restaurant				49	30	19
Cinema/Entertainment				0		
Residential	221	199	dwelling units	66	40	26
Hotel				0		
All Other Land Uses ²				0		
				144	84	60

Table 2-P: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office			5%			5%
Retail			5%			5%
Restaurant						
Cinema/Entertainment						
Residential			5%			5%
Hotel						
All Other Land Uses ²						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		1	0	0	0	0
Retail	0		3	0	3	0
Restaurant	0	6		0	3	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	1	4	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	144	84	60
Internal Capture Percentage	31%	26%	37%
External Vehicle-Trips ⁵	97	60	37
External Transit-Trips ⁶	0	0	0
External Non-Motorized Trips ⁶	3	2	1

Table 6-P: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	50%	33%
Retail	67%	50%
Restaurant	23%	47%
Cinema/Entertainment	N/A	N/A
Residential	15%	23%
Hotel	N/A	N/A

¹Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

²Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

³Enter trips assuming no transit or non-motorized trips (as assumed in *ITE Trip Generation Manual*).

⁴Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made.

⁵Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

⁶Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1



***Existing & Historic
Traffic Data***

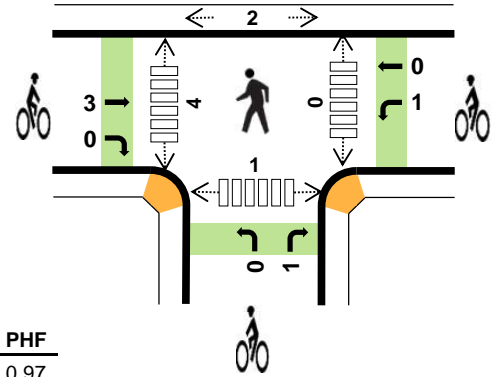
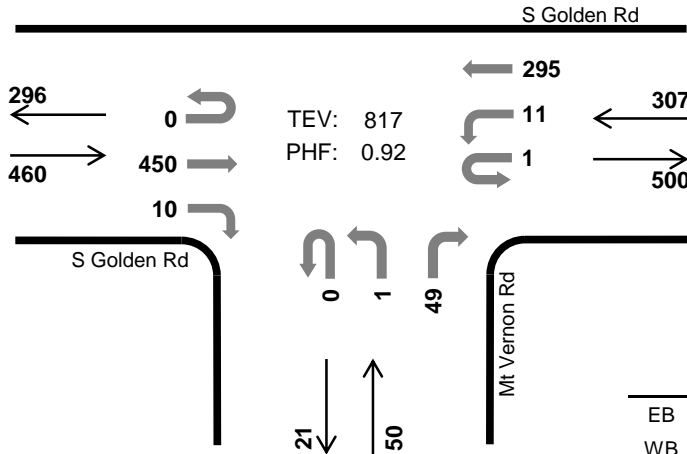


Mt Vernon Rd S Golden Rd



Peak Hour

Date: 06/14/2023
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM



	HV %:	PHF
EB	2.0%	0.97
WB	2.9%	0.85
NB	2.0%	0.83
SB	-	-
TOTAL	2.3%	0.92

Two-Hour Count Summaries

Interval Start	S Golden Rd Eastbound				S Golden Rd Westbound				Mt Vernon Rd Northbound				N/A Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	64	0	0	1	56	0	0	0	0	5	0	0	0	0	126	0	
7:15 AM	0	0	78	0	0	1	63	0	0	0	0	11	0	0	0	0	153	0	
7:30 AM	0	0	91	2	0	0	64	0	0	0	0	20	0	0	0	0	177	0	
7:45 AM	0	0	110	5	0	5	75	0	0	0	0	16	0	0	0	0	211	667	
8:00 AM	0	0	111	1	0	5	68	0	0	0	0	12	0	0	0	0	197	738	
8:15 AM	0	0	111	2	0	2	70	0	0	0	0	11	0	0	0	0	196	781	
8:30 AM	0	0	115	4	0	2	70	0	0	0	0	12	0	0	0	0	203	807	
8:45 AM	0	0	113	3	1	2	87	0	0	1	0	14	0	0	0	0	221	817	
Count Total	0	0	793	17	1	18	553	0	0	1	0	101	0	0	0	0	1,484	0	
Peak Hour	All	0	0	450	10	1	11	295	0	0	1	0	49	0	0	0	0	817	0
	HV	0	0	9	0	0	1	8	0	0	0	0	1	0	0	0	0	19	0
	HV%	-	-	2%	0%	0%	9%	3%	-	-	0%	-	2%	-	-	-	-	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	4	1	0	6	1	0	0	0	1	0	0	0	1	1
7:15 AM	1	6	0	0	7	0	0	0	0	0	0	3	0	1	4
7:30 AM	2	3	0	0	5	1	0	0	0	1	0	0	0	0	0
7:45 AM	3	1	0	0	4	2	0	1	0	3	0	0	2	0	2
8:00 AM	3	4	0	0	7	1	0	0	0	1	0	1	0	0	1
8:15 AM	2	3	0	0	5	2	0	1	0	3	0	1	1	1	3
8:30 AM	0	0	1	0	1	0	1	0	0	1	0	2	1	0	3
8:45 AM	4	2	0	0	6	0	0	0	0	0	0	0	0	0	0
Count Total	16	23	2	0	41	7	1	2	0	10	0	7	4	3	14
Peak Hr	9	9	1	0	19	3	1	1	0	5	0	4	2	1	7

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	S Golden Rd				S Golden Rd				Mt Vernon Rd				N/A				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	0	4	0	0	0	0	1	0	0	0	0	6	0
7:15 AM	0	0	1	0	0	0	6	0	0	0	0	0	0	0	0	0	7	0
7:30 AM	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	5	0
7:45 AM	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	4	22
8:00 AM	0	0	3	0	0	1	3	0	0	0	0	0	0	0	0	0	7	23
8:15 AM	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	5	21
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	17
8:45 AM	0	0	4	0	0	0	2	0	0	0	0	0	0	0	0	0	6	19
Count Total	0	0	16	0	0	1	22	0	0	0	0	2	0	0	0	0	41	0
Peak Hour	0	0	9	0	0	1	8	0	0	0	0	1	0	0	0	0	19	0

Two-Hour Count Summaries - Bikes

Interval Start	S Golden Rd			S Golden Rd			Mt Vernon Rd			N/A			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0
7:45 AM	0	2	0	0	0	0	0	0	1	0	0	0	3	5
8:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	5
8:15 AM	0	2	0	0	0	0	0	0	1	0	0	0	3	8
8:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	1	8
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Count Total	0	7	0	1	0	0	0	0	2	0	0	0	10	0
Peak Hour	0	3	0	1	0	0	0	0	1	0	0	0	5	0

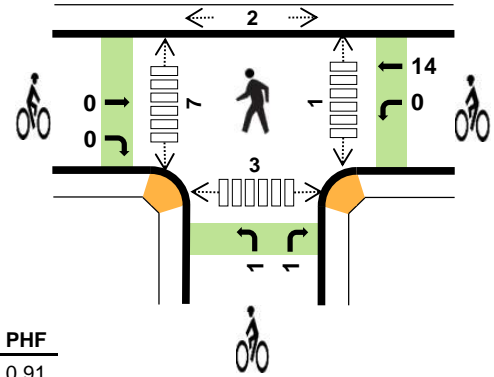
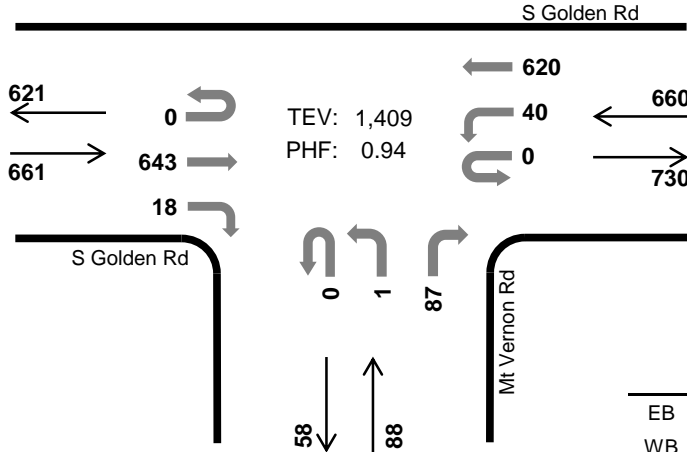
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Mt Vernon Rd S Golden Rd



Peak Hour

Date: 06/14/2023
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	1.1%	0.91
WB	0.9%	0.94
NB	0.0%	0.88
SB	-	-
TOTAL	0.9%	0.94

Two-Hour Count Summaries

Interval Start	S Golden Rd Eastbound				S Golden Rd Westbound				Mt Vernon Rd Northbound				N/A Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	0	131	4	0	5	137	0	0	0	0	16	0	0	0	0	293	0	
4:15 PM	0	0	146	5	0	6	146	0	0	0	0	13	0	0	0	0	316	0	
4:30 PM	0	0	142	5	0	15	142	0	0	0	0	22	0	0	0	0	326	0	
4:45 PM	0	0	175	7	0	8	147	0	0	1	0	18	0	0	0	0	356	1,291	
5:00 PM	0	0	172	2	0	9	166	0	0	0	0	25	0	0	0	0	374	1,372	
5:15 PM	0	0	154	4	0	8	165	0	0	0	0	22	0	0	0	0	353	1,409	
5:30 PM	0	0	131	1	0	9	137	0	0	0	0	12	0	0	0	0	290	1,373	
5:45 PM	0	0	122	6	0	5	149	0	0	1	0	9	0	0	0	0	292	1,309	
Count Total	0	0	1,173	34	0	65	1,189	0	0	2	0	137	0	0	0	0	2,600	0	
Peak Hour	All	0	0	643	18	0	40	620	0	0	1	0	87	0	0	0	0	1,409	0
	HV	0	0	7	0	0	0	6	0	0	0	0	0	0	0	0	0	13	0
	HV%	-	-	1%	0%	-	0%	1%	-	-	0%	-	0%	-	-	-	-	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	1	0	0	2	0	2	0	0	2	0	1	3	1	5
4:15 PM	2	4	0	0	6	0	0	0	0	0	0	4	4	0	8
4:30 PM	0	1	0	0	1	0	0	1	0	1	0	0	0	0	0
4:45 PM	3	2	0	0	5	0	4	0	0	4	0	2	0	2	4
5:00 PM	2	1	0	0	3	0	3	1	0	4	0	2	0	0	2
5:15 PM	2	2	0	0	4	0	7	0	0	7	1	3	2	1	7
5:30 PM	2	1	0	0	3	0	8	0	0	8	0	1	0	3	4
5:45 PM	2	0	0	0	2	2	5	0	0	7	0	1	0	0	1
Count Total	14	12	0	0	26	2	29	2	0	33	1	14	9	7	31
Peak Hr	7	6	0	0	13	0	14	2	0	16	1	7	2	3	13

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	S Golden Rd				S Golden Rd				Mt Vernon Rd				N/A				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0
4:15 PM	0	0	2	0	0	0	4	0	0	0	0	0	0	0	0	0	6	0
4:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
4:45 PM	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	5	14
5:00 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	15
5:15 PM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4	13
5:30 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	15
5:45 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	12
Count Total	0	0	14	0	0	0	12	0	0	0	0	0	0	0	0	0	26	0
Peak Hour	0	0	7	0	0	0	6	0	0	0	0	0	0	0	0	0	13	0

Two-Hour Count Summaries - Bikes

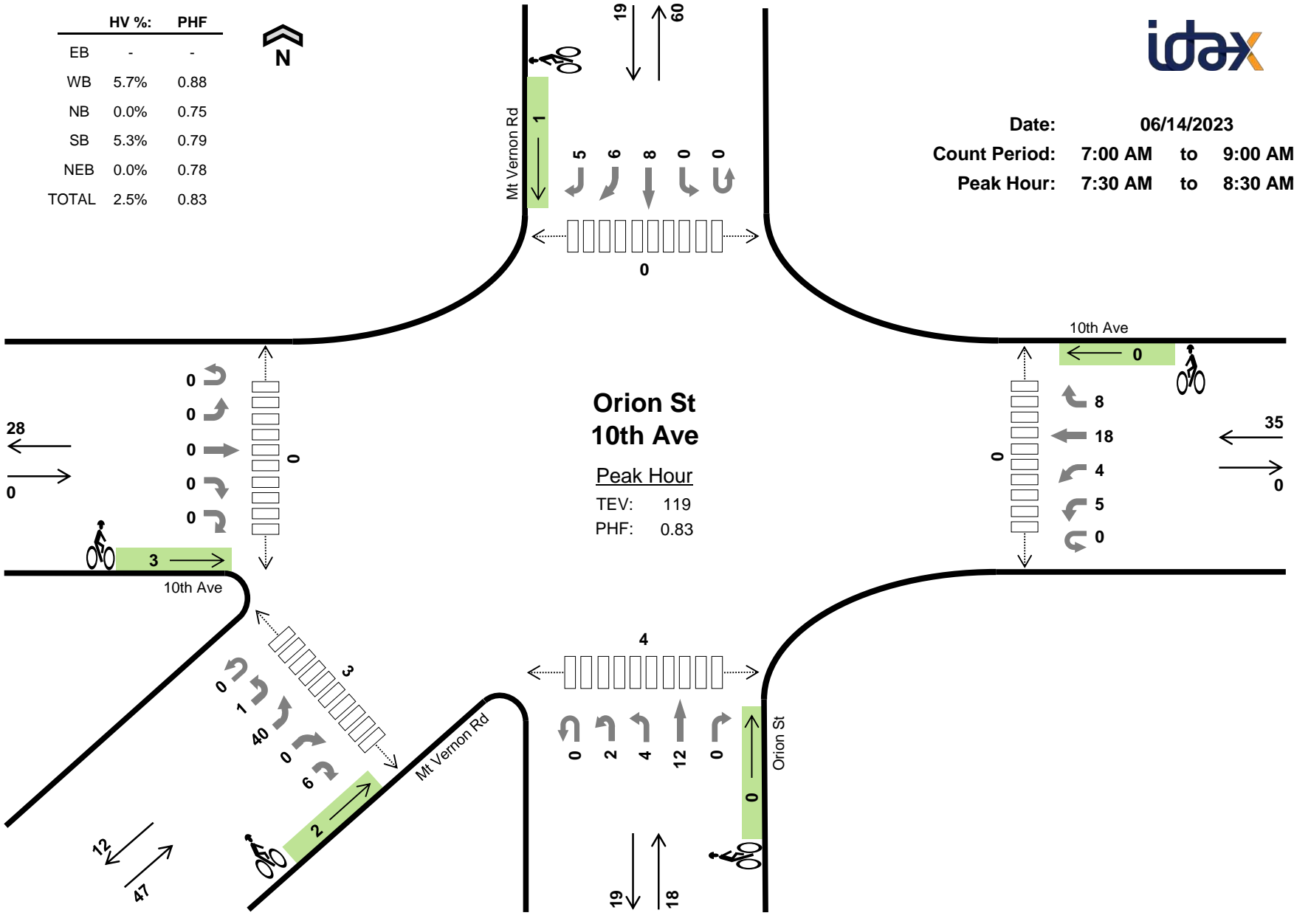
Interval Start	S Golden Rd			S Golden Rd			Mt Vernon Rd			N/A			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	2	0	0	0	0	0	0	0	2	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	1	0
4:45 PM	0	0	0	0	4	0	0	0	0	0	0	0	4	7
5:00 PM	0	0	0	0	3	0	1	0	0	0	0	0	4	9
5:15 PM	0	0	0	0	7	0	0	0	0	0	0	0	7	16
5:30 PM	0	0	0	0	8	0	0	0	0	0	0	0	8	23
5:45 PM	0	2	0	1	4	0	0	0	0	0	0	0	7	26
Count Total	0	2	0	1	28	0	1	0	1	0	0	0	33	0
Peak Hour	0	0	0	0	14	0	1	0	1	0	0	0	16	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.



Date: 06/14/2023
 Count Period: 7:00 AM to 9:00 AM
 Peak Hour: 7:30 AM to 8:30 AM

	HV %:	PHF
EB	-	-
WB	5.7%	0.88
NB	0.0%	0.75
SB	5.3%	0.79
NEB	0.0%	0.78
TOTAL	2.5%	0.83



Two-Hour Count Summaries

Interval Start	10th Ave					10th Ave					Orion St					Mt Vernon Rd					15-min Total	Rolling One Hour					
	Eastbound					Westbound					Northbound					Southbound											
	UT	LT	TH	RT	HR	UT	LT	BL	TH	RT	UT	HL	LT	TH	RT	UT	LT	TH	BR	RT			UT	HL	BL	BR	HR
7:00 AM	0	0	0	0	0	0	0	0	4	1	0	0	3	1	0	0	0	0	1	0	0	1	6	0	0	17	0
7:15 AM	0	0	0	0	0	0	0	0	4	1	0	1	0	4	0	0	0	0	0	0	0	0	7	0	1	18	0
7:30 AM	0	0	0	0	0	0	1	3	3	2	0	0	0	3	0	0	0	1	2	1	0	0	15	0	0	31	0
7:45 AM	0	0	0	0	0	0	2	0	5	3	0	0	2	4	0	0	0	4	1	1	0	1	10	0	3	36	102
8:00 AM	0	0	0	0	0	0	1	0	5	3	0	2	1	2	0	0	0	3	1	2	0	0	8	0	2	30	115
8:15 AM	0	0	0	0	0	0	1	1	5	0	0	0	1	3	0	0	0	0	2	1	0	0	7	0	1	22	119
8:30 AM	0	0	0	0	0	0	0	1	2	0	0	1	3	1	0	0	0	2	2	1	0	2	11	0	0	26	114
8:45 AM	0	0	0	0	0	0	1	0	1	0	0	1	1	3	0	0	0	1	1	2	0	0	8	0	1	20	98
Count Total	0	0	0	0	0	0	6	5	29	10	0	5	11	21	0	0	0	11	10	8	0	4	72	0	8	200	0
Peak Hour	All	0	0	0	0	0	5	4	18	8	0	2	4	12	0	0	0	8	6	5	0	1	40	0	6	119	0
	HV	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	3	0
	HV%	-	-	-	-	-	0%	25%	6%	0%	-	0%	0%	0%	-	-	-	0%	0%	20%	-	0%	0%	-	0%	3%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals						Bicycles						Pedestrians (Crossing Leg)													
	EB	WB	NB	SB	NEB	Total	EB	WB	NB	SB	NEB	Total	East	West	North	South	Southwest	Total								
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	2	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	0	0	1	0	0	0	1	1	2	0	0	0	2	2	2	2	4	0	0	0	0	0	0
7:45 AM	0	1	0	0	0	1	1	0	0	0	0	1	0	0	1	0	0	0	2	0	2	0	0	0	2	2
8:00 AM	0	0	0	1	0	1	2	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	0	0	0	1	1	0	0	1	1
8:30 AM	0	0	0	0	1	1	0	0	1	1	0	2	0	0	2	0	0	1	0	0	0	0	0	0	1	1
8:45 AM	0	0	0	0	1	1	0	2	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	2	0	1	2	5	5	3	1	2	2	13	0	0	1	4	3	8	0	0	0	4	3	8	8	8
Peak Hr	0	2	0	1	0	3	3	0	0	1	2	6	0	0	0	4	3	7	0	0	0	4	3	7	7	7

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	10th Ave Eastbound					10th Ave Westbound					Orion St Northbound					Mt Vernon Rd Southbound					Mt Vernon Rd Northeastbound					15-min Total	Rolling One Hour			
	UT	LT	TH	RT	HR	UT	LT	BL	TH	RT	UT	HL	LT	TH	RT	UT	LT	TH	BR	RT	UT	HL	BL	BR	HR					
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	3	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	3		
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	3		
Count Total	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0	0	5	0			
Peak Hour	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	3	0				

Two-Hour Count Summaries - Bikes

Interval Start	10th Ave Eastbound					10th Ave Westbound					Orion St Northbound					Mt Vernon Rd Southbound					Mt Vernon Rd Northeastbound					15-min Total	Rolling One Hour		
	UT	LT	TH	RT	HR	UT	LT	BL	TH	RT	UT	HL	LT	TH	RT	UT	LT	TH	BR	RT	UT	HL	BL	BR	HR				
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0		
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2	0			
7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6			
8:00 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	8			
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	6			
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2	6			
8:45 AM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	7			
Count Total	0	1	4	0	0	0	0	0	3	0	0	0	0	1	0	0	2	0	0	0	0	1	0	1	13	0			
Peak Hour	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	6	0			



	HV %:	PHF
EB	-	-
WB	1.5%	0.74
NB	0.0%	0.79
SB	2.4%	0.73
NEB	1.5%	0.74
TOTAL	1.4%	0.90



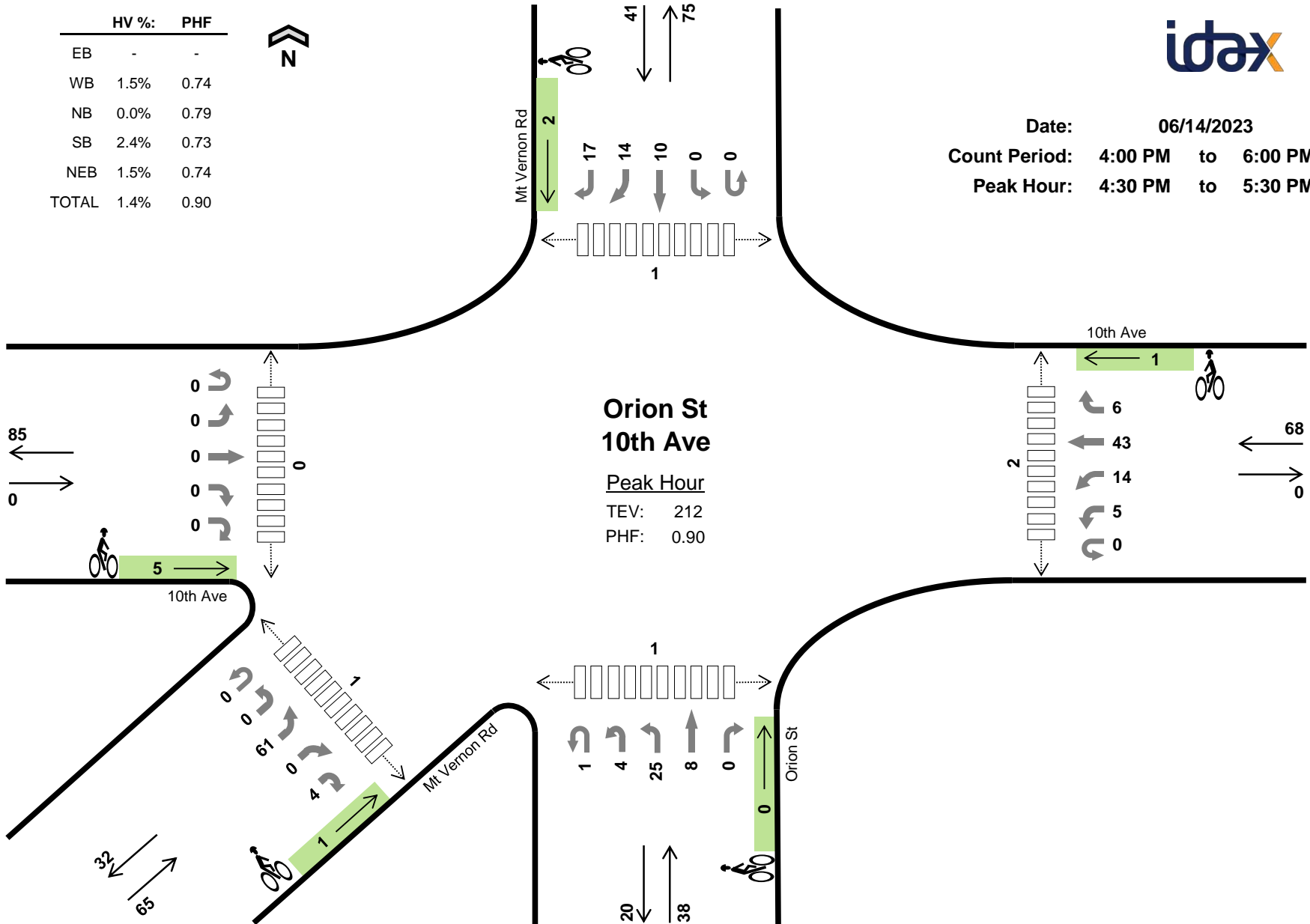
Date: 06/14/2023

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:30 PM to 5:30 PM

Orion St 10th Ave

Peak Hour
TEV: 212
PHF: 0.90



Two-Hour Count Summaries

Interval Start	10th Ave					10th Ave					Orion St					Mt Vernon Rd					15-min Total	Rolling One Hour						
	Eastbound					Westbound					Northbound					Southbound												
	UT	LT	TH	RT	HR	UT	LT	BL	TH	RT	UT	HL	LT	TH	RT	UT	LT	TH	BR	RT			UT	HL	BL	BR	HR	
4:00 PM	0	0	0	0	0	0	0	4	9	3	0	1	4	0	0	0	0	3	4	3	0	1	9	0	2	43	0	
4:15 PM	0	0	0	0	0	0	0	3	8	2	0	0	4	3	0	0	0	3	2	2	0	0	7	0	1	35	0	
4:30 PM	0	0	0	0	0	0	1	3	10	4	0	1	6	0	0	0	0	4	2	4	0	0	16	0	1	52	0	
4:45 PM	0	0	0	0	0	0	1	5	10	0	0	2	6	4	0	0	0	4	4	6	0	0	11	0	0	53	183	
5:00 PM	0	0	0	0	0	0	2	1	6	2	0	0	5	2	0	0	0	2	2	4	0	0	19	0	3	48	188	
5:15 PM	0	0	0	0	0	0	1	5	17	0	1	1	8	2	0	0	0	0	6	3	0	0	15	0	0	59	212	
5:30 PM	0	0	0	0	0	0	1	1	9	0	0	2	8	2	0	0	0	4	4	4	0	0	10	0	0	45	205	
5:45 PM	0	0	0	0	0	0	1	5	14	0	0	0	6	0	0	0	0	5	3	2	0	0	9	0	1	46	198	
Count Total	0	0	0	0	0	0	7	27	83	11	1	7	47	13	0	0	0	25	27	28	0	1	96	0	8	381	0	
Peak Hour	All	0	0	0	0	0	0	5	14	43	6	1	4	25	8	0	0	0	10	14	17	0	0	61	0	4	212	0
	HV	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	3	0
	HV%	-	-	-	-	-	-	0%	0%	2%	0%	0%	0%	0%	0%	-	-	-	0%	7%	0%	-	-	0%	-	25%	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals						Bicycles						Pedestrians (Crossing Leg)						
	EB	WB	NB	SB	NEB	Total	EB	WB	NB	SB	NEB	Total	East	West	North	South	Southwest	Total	
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	1	1	0	0	0	2	0	0	0	0	0	1	1
4:30 PM	0	0	0	0	0	0	3	0	0	0	1	4	0	0	0	0	0	0	0
4:45 PM	0	1	0	0	0	1	1	0	0	0	0	1	1	0	1	0	0	0	2
5:00 PM	0	0	0	0	1	1	0	0	0	2	2	2	0	0	0	1	1	1	2
5:15 PM	0	0	0	1	0	1	1	1	0	0	2	2	1	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	1	1	0	1	3	0	0	1	0	0	0	1	
5:45 PM	0	1	1	0	0	2	0	2	0	2	4	0	0	0	0	0	0	0	
Count Total	0	2	1	1	1	5	7	6	0	5	19	2	0	2	1	2	2	7	
Peak Hr	0	1	0	1	1	3	5	1	0	2	9	2	0	1	1	1	1	5	

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	10th Ave Eastbound					10th Ave Westbound					Orion St Northbound					Mt Vernon Rd Southbound					Mt Vernon Rd Northeastbound					15-min Total	Rolling One Hour				
	UT	LT	TH	RT	HR	UT	LT	BL	TH	RT	UT	HL	LT	TH	RT	UT	LT	TH	BR	RT	UT	HL	BL	BR	HR						
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	3	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
5:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4		
Count Total	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	5	0			
Peak Hour	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	3	0				

Two-Hour Count Summaries - Bikes

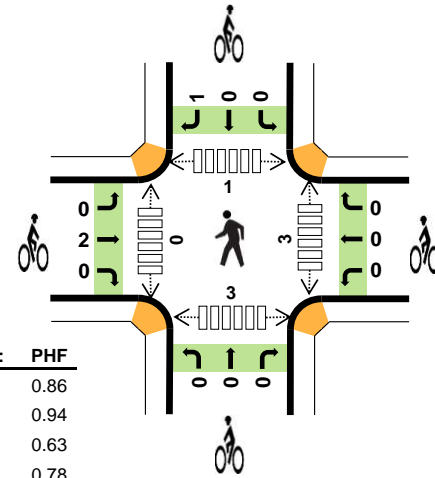
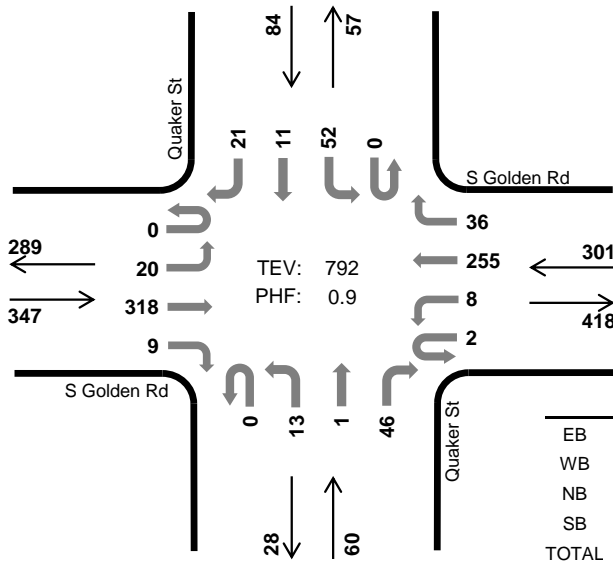
Interval Start	10th Ave Eastbound					10th Ave Westbound					Orion St Northbound					Mt Vernon Rd Southbound					Mt Vernon Rd Northeastbound					15-min Total	Rolling One Hour		
	UT	LT	TH	RT	HR	UT	LT	BL	TH	RT	UT	HL	LT	TH	RT	UT	LT	TH	BR	RT	UT	HL	BL	BR	HR				
4:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
4:15 PM	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
4:30 PM	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	
4:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	8	8	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	9	9	
5:15 PM	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	9	9	
5:30 PM	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	8	8	
5:45 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	4	11	11	
Count Total	0	2	5	0	0	0	0	0	6	0	0	0	0	0	0	0	0	2	2	1	0	0	1	0	0	19	0		
Peak Hour	0	2	3	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	9	0			

Quaker St S Golden Rd



Peak Hour

Date: 06/14/2023
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM



	HV %:	PHF
EB	2.3%	0.86
WB	2.0%	0.94
NB	0.0%	0.63
SB	0.0%	0.78
TOTAL	1.8%	0.90

Two-Hour Count Summaries

Interval Start	S Golden Rd Eastbound				S Golden Rd Westbound				Quaker St Northbound				Quaker St Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	1	42	4	0	2	46	5	0	2	0	13	0	7	3	2	127	0	
7:15 AM	0	0	56	2	1	1	53	2	0	3	0	4	0	17	0	5	144	0	
7:30 AM	0	1	60	1	0	0	51	5	0	3	0	9	0	11	1	6	148	0	
7:45 AM	0	4	74	1	1	2	58	8	0	8	1	8	0	19	2	6	192	611	
8:00 AM	0	5	65	1	1	1	65	9	0	4	0	12	0	18	3	5	189	673	
8:15 AM	0	4	79	2	0	4	57	6	0	2	0	11	0	12	1	1	179	708	
8:30 AM	0	5	81	4	1	1	65	11	0	4	1	19	0	10	5	12	219	779	
8:45 AM	0	6	93	2	0	2	68	10	0	3	0	4	0	12	2	3	205	792	
Count Total	0	26	550	17	4	13	463	56	0	29	2	80	0	106	17	40	1,403	0	
Peak Hour	All	0	20	318	9	2	8	255	36	0	13	1	46	0	52	11	21	792	0
	HV	0	1	7	0	0	0	5	1	0	0	0	0	0	0	0	0	14	0
	HV%	-	5%	2%	0%	0%	0%	2%	3%	-	0%	0%	0%	-	0%	0%	0%	2%	0

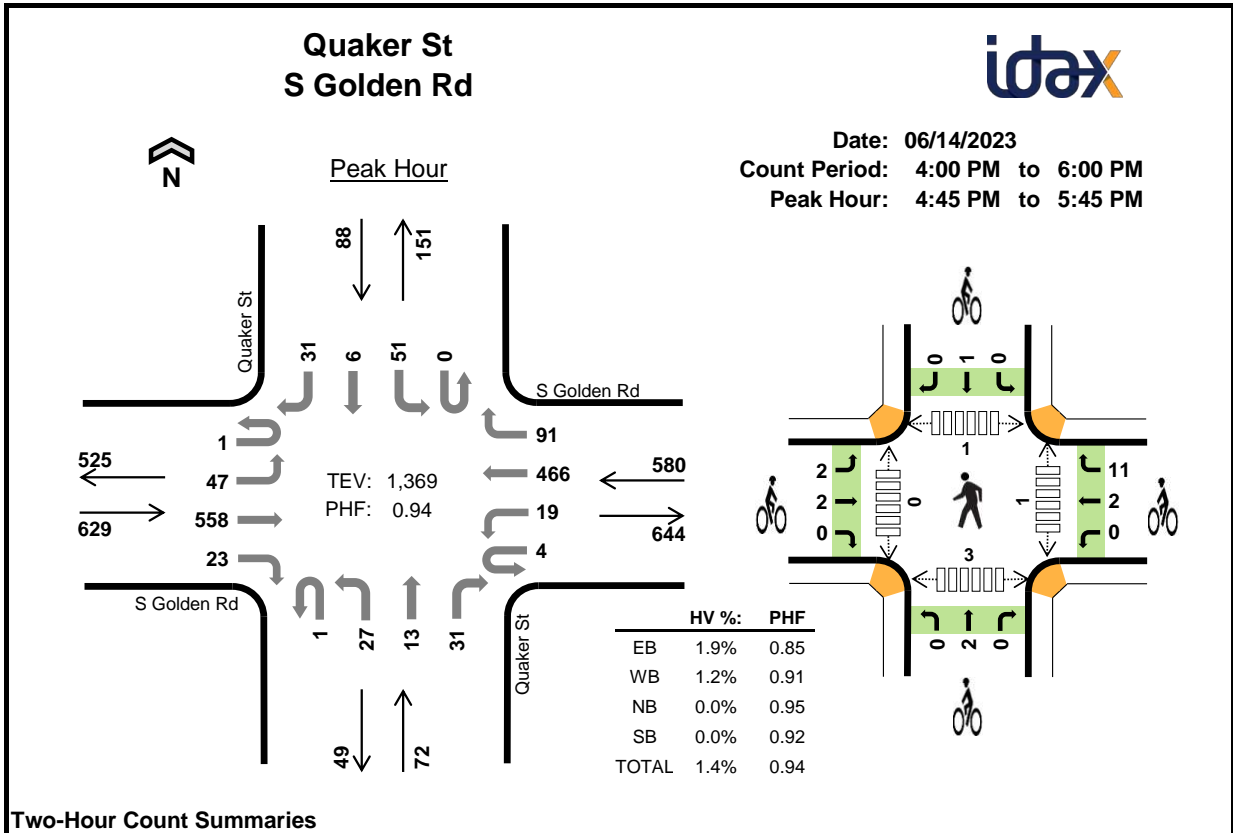
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	2	1	0	0	3	1	0	0	0	1	2	0	1	0	3
7:15 AM	1	6	0	0	7	0	0	0	0	0	0	0	2	0	2
7:30 AM	1	2	0	0	3	0	0	1	0	1	1	0	0	1	2
7:45 AM	3	1	0	0	4	1	0	1	0	2	1	0	0	0	1
8:00 AM	2	2	0	0	4	0	0	0	0	0	1	0	0	0	1
8:15 AM	3	2	0	0	5	2	0	0	1	3	0	0	0	0	0
8:30 AM	0	1	0	0	1	0	0	0	0	0	2	0	0	2	4
8:45 AM	3	1	0	0	4	0	0	0	0	0	0	0	1	1	2
Count Total	15	16	0	0	31	4	0	2	1	7	7	0	4	4	15
Peak Hour	8	6	0	0	14	2	0	0	1	3	3	0	1	3	7

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	S Golden Rd				S Golden Rd				Quaker St				Quaker St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0
7:15 AM	0	0	1	0	0	0	6	0	0	0	0	0	0	0	0	0	7	0
7:30 AM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	0
7:45 AM	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	4	17
8:00 AM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4	18
8:15 AM	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	5	16
8:30 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	14
8:45 AM	0	1	2	0	0	0	1	0	0	0	0	0	0	0	0	0	4	14
Count Total	0	1	14	0	0	0	15	1	0	0	0	0	0	0	0	0	31	0
Peak Hour	0	1	7	0	0	0	5	1	0	0	0	0	0	0	0	0	14	0

Two-Hour Count Summaries - Bikes																	
Interval Start	S Golden Rd			S Golden Rd			Quaker St			Quaker St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
7:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	
7:45 AM	0	1	0	0	0	0	0	0	0	1	0	0	0	0	2	4	
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
8:15 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	1	3	6	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	
Count Total	0	4	0	0	0	0	0	0	1	1	0	0	1	7	0		
Peak Hour	0	2	0	0	0	0	0	0	0	0	0	0	1	3	0		

Note: U-Turn volumes for bikes are included in Left-Turn, if any.



Two-Hour Count Summaries

Interval Start	S Golden Rd Eastbound				S Golden Rd Westbound				Quaker St Northbound				Quaker St Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	11	108	4	0	4	109	12	0	3	3	7	0	10	3	8	282	0	
4:15 PM	0	7	128	6	0	7	123	17	0	3	0	9	0	8	1	6	315	0	
4:30 PM	0	10	122	5	3	4	109	14	0	3	1	6	0	13	2	7	299	0	
4:45 PM	1	9	167	9	0	3	114	22	1	6	4	6	0	15	2	6	365	1,261	
5:00 PM	0	13	144	5	1	9	117	21	0	6	3	10	0	12	0	9	350	1,329	
5:15 PM	0	6	136	6	3	2	127	27	0	7	4	7	0	15	2	7	349	1,363	
5:30 PM	0	19	111	3	0	5	108	21	0	8	2	8	0	9	2	9	305	1,369	
5:45 PM	0	10	104	4	0	6	105	19	0	6	2	16	0	9	2	6	289	1,293	
Count Total	1	85	1,020	42	7	40	912	153	1	42	19	69	0	91	14	58	2,554	0	
Peak Hour	All	1	47	558	23	4	19	466	91	1	27	13	31	0	51	6	31	1,369	0
	HV	0	0	11	1	0	0	7	0	0	0	0	0	0	0	0	0	19	0
	HV%	0%	0%	2%	4%	0%	0%	2%	0%	0%	0%	0%	0%	-	0%	0%	0%	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	0	0	1	2	0	2	0	0	2	2	0	0	2	4
4:15 PM	1	4	0	1	6	0	1	0	0	1	0	0	0	1	1
4:30 PM	0	1	0	1	2	1	0	2	1	4	2	1	0	0	3
4:45 PM	2	3	0	0	5	0	0	2	0	2	1	0	1	0	2
5:00 PM	4	1	0	0	5	1	1	0	0	2	0	0	0	0	0
5:15 PM	4	2	0	0	6	0	3	0	0	3	0	0	0	0	0
5:30 PM	2	1	0	0	3	3	9	0	1	13	0	0	0	3	3
5:45 PM	2	0	0	0	2	3	4	2	1	10	1	2	2	2	7
Count Total	16	12	0	3	31	8	20	6	3	37	6	3	3	8	20
Peak Hour	12	7	0	0	19	4	13	2	1	20	1	0	1	3	5

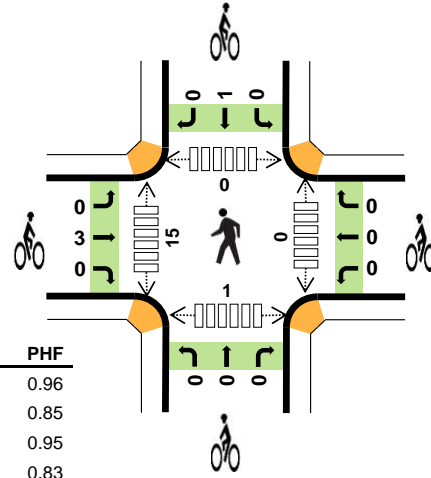
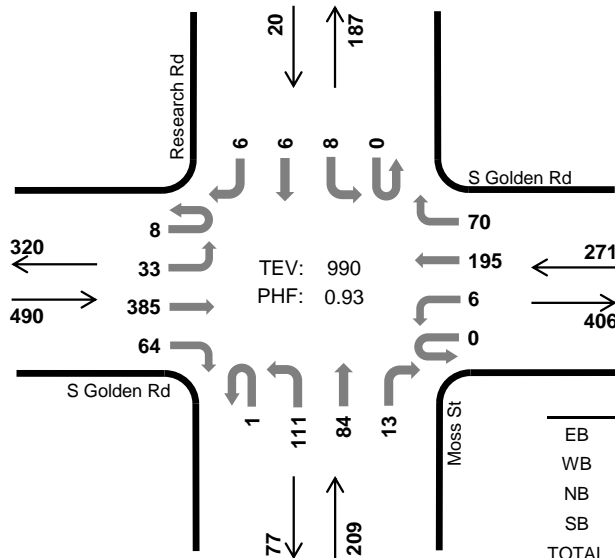
Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	S Golden Rd				S Golden Rd				Quaker St				Quaker St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	0	
4:15 PM	0	0	1	0	0	0	3	1	0	0	0	0	0	0	1	0	0	
4:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	
4:45 PM	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	5	15	
5:00 PM	0	0	3	1	0	0	1	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	4	0	0	0	2	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Count Total	0	0	15	1	0	0	11	1	0	0	0	0	0	0	1	2	0	
Peak Hour	0	0	11	1	0	0	7	0	0	0	0	0	0	0	0	0	0	
Two-Hour Count Summaries - Bikes																		
Interval Start	S Golden Rd			S Golden Rd			Quaker St			Quaker St			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
4:00 PM	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	0		
4:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0		
4:30 PM	1	0	0	0	0	0	0	0	0	2	0	0	1	0	4	0		
4:45 PM	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2	9		
5:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2	9		
5:15 PM	0	0	0	0	0	3	0	0	0	0	0	0	0	0	3	11		
5:30 PM	2	1	0	0	1	8	0	0	0	0	1	0	0	0	13	20		
5:45 PM	0	3	0	0	0	4	0	2	0	0	0	1	0	0	10	28		
Count Total	3	5	0	1	2	17	0	4	2	0	2	1	0	0	37	0		
Peak Hour	2	2	0	0	2	11	0	2	0	0	1	0	0	0	20	0		
<i>Note: U-Turn volumes for bikes are included in Left-Turn, if any.</i>																		

Moss St S Golden Rd



Peak Hour

Date: 06/14/2023
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM



	HV %:	PHF
EB	2.4%	0.96
WB	2.6%	0.85
NB	2.4%	0.95
SB	15.0%	0.83
TOTAL	2.7%	0.93

Two-Hour Count Summaries

Interval Start	S Golden Rd Eastbound				S Golden Rd Westbound				Moss St Northbound				Research Rd Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	1	4	58	7	0	1	42	11	0	17	16	1	0	1	1	0	160	0	
7:15 AM	0	7	71	11	0	2	41	9	0	25	15	3	0	2	1	0	187	0	
7:30 AM	2	5	99	7	0	1	38	9	0	25	18	2	0	1	1	1	209	0	
7:45 AM	1	8	91	18	1	0	60	15	0	18	21	3	0	1	1	1	239	795	
8:00 AM	2	9	91	17	0	1	48	16	0	31	18	3	0	1	3	1	241	876	
8:15 AM	3	8	95	22	0	3	43	13	0	26	21	1	0	1	1	2	239	928	
8:30 AM	0	8	104	6	0	0	45	22	1	24	27	3	0	2	1	2	245	964	
8:45 AM	3	8	95	19	0	2	59	19	0	30	18	6	0	4	1	1	265	990	
Count Total	12	57	704	107	1	10	376	114	1	196	154	22	0	13	10	8	1,785	0	
Peak Hour	All	8	33	385	64	0	6	195	70	1	111	84	13	0	8	6	6	990	0
	HV	0	0	11	1	0	0	6	1	0	4	0	1	0	2	0	1	27	0
	HV%	0%	0%	3%	2%	-	0%	3%	1%	0%	4%	0%	8%	-	25%	0%	17%	3%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	2	4	1	0	7	1	0	0	0	1	0	0	1	0	1
7:15 AM	1	2	4	0	7	0	0	0	0	0	0	0	0	0	0
7:30 AM	1	2	1	1	5	1	0	0	0	1	0	1	0	0	1
7:45 AM	3	0	2	0	5	2	0	1	0	3	0	1	0	0	1
8:00 AM	2	2	3	1	8	0	0	0	0	0	0	1	0	0	1
8:15 AM	4	4	2	0	10	3	0	0	0	3	0	9	0	1	10
8:30 AM	2	0	0	1	3	0	0	0	0	0	0	0	0	0	0
8:45 AM	4	1	0	1	6	0	0	0	1	1	0	5	0	0	5
Count Total	19	15	13	4	51	7	0	1	1	9	0	17	1	1	19
Peak Hour	12	7	5	3	27	3	0	0	1	4	0	15	0	1	16

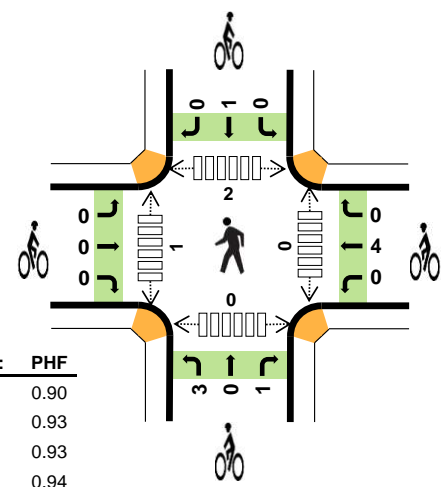
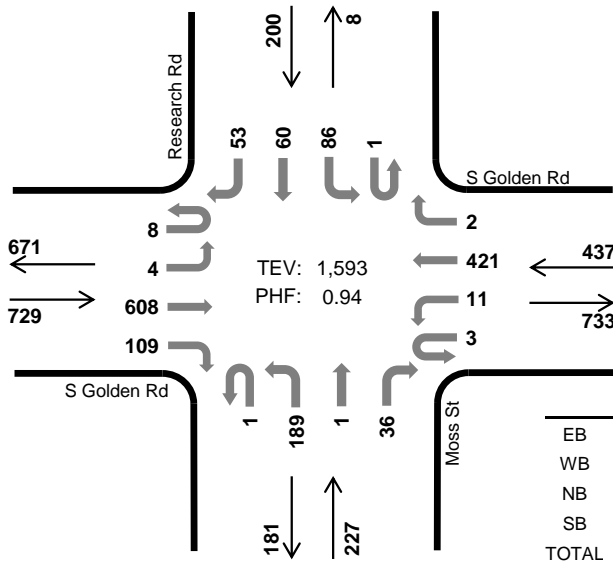
Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	S Golden Rd				S Golden Rd				Moss St				Research Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	2	0	0	0	2	2	0	1	0	0	0	0	0	0	7	0
7:15 AM	0	0	1	0	0	0	2	0	0	4	0	0	0	0	0	0	7	0
7:30 AM	0	1	0	0	0	0	2	0	0	1	0	0	0	0	1	0	5	0
7:45 AM	0	0	2	1	0	0	0	0	0	2	0	0	0	0	0	0	5	24
8:00 AM	0	0	1	1	0	0	2	0	0	2	0	1	0	1	0	0	8	25
8:15 AM	0	0	4	0	0	0	3	1	0	2	0	0	0	0	0	0	10	28
8:30 AM	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	3	26
8:45 AM	0	0	4	0	0	0	1	0	0	0	0	0	0	0	0	1	6	27
Count Total	0	1	16	2	0	0	12	3	0	12	0	1	0	3	0	1	51	0
Peak Hour	0	0	11	1	0	0	6	1	0	4	0	1	0	2	0	1	27	0
Two-Hour Count Summaries - Bikes																		
Interval Start	S Golden Rd			S Golden Rd			Moss St			Research Rd			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
7:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0		
7:45 AM	2	0	0	0	0	0	0	0	0	0	1	0	0	0	3	5		
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4		
8:15 AM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3	7		
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6		
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	4		
Count Total	2	5	0	0	0	0	0	0	0	1	0	1	0	9	0			
Peak Hour	0	3	0	0	0	0	0	0	0	0	0	1	0	4	0			
<i>Note: U-Turn volumes for bikes are included in Left-Turn, if any.</i>																		

Moss St S Golden Rd



Peak Hour

Date: 06/14/2023
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	1.1%	0.90
WB	1.1%	0.93
NB	1.3%	0.93
SB	1.5%	0.94
TOTAL	1.2%	0.94

Two-Hour Count Summaries

Interval Start	S Golden Rd Eastbound				S Golden Rd Westbound				Moss St Northbound				Research Rd Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	3	1	125	13	1	5	104	1	0	28	1	4	0	13	20	14	333	0	
4:15 PM	1	0	125	23	0	3	108	2	0	36	0	11	0	17	28	17	371	0	
4:30 PM	4	0	129	26	2	2	101	0	0	47	0	9	1	27	12	13	373	0	
4:45 PM	2	2	156	28	1	3	95	0	0	53	0	8	0	22	13	11	394	1,471	
5:00 PM	2	0	175	25	0	5	112	1	1	39	1	8	0	18	19	16	422	1,560	
5:15 PM	0	2	148	30	0	1	113	1	0	50	0	11	0	19	16	13	404	1,593	
5:30 PM	1	0	135	19	0	5	110	2	0	45	0	2	0	18	5	4	346	1,566	
5:45 PM	1	0	103	23	1	5	114	1	0	32	0	3	0	13	9	15	320	1,492	
Count Total	14	5	1,096	187	5	29	857	8	1	330	2	56	1	147	122	103	2,963	0	
Peak Hour	All	8	4	608	109	3	11	421	2	1	189	1	36	1	86	60	53	1,593	0
	HV	0	0	7	1	1	0	4	0	0	3	0	0	1	2	0	0	19	0
	HV%	0%	0%	1%	1%	33%	0%	1%	0%	0%	2%	0%	0%	100%	2%	0%	0%	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	2	0	1	0	3	0	0	0	1	1	0	1	0	0	1
4:15 PM	3	4	0	0	7	0	0	0	0	0	0	1	0	0	1
4:30 PM	0	1	1	2	4	0	0	0	0	0	0	0	0	0	0
4:45 PM	2	1	1	0	4	0	0	1	1	2	0	1	0	0	1
5:00 PM	4	0	1	0	5	0	2	0	0	2	0	0	0	0	0
5:15 PM	2	3	0	1	6	0	2	3	0	5	0	0	2	0	2
5:30 PM	2	2	0	1	5	1	5	0	0	6	0	1	1	0	2
5:45 PM	2	0	0	0	2	1	7	0	2	10	0	1	0	0	1
Count Total	17	11	4	4	36	2	16	4	4	26	0	5	3	0	8
Peak Hour	8	5	3	3	19	0	4	4	1	9	0	1	2	0	3

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	S Golden Rd				S Golden Rd				Moss St				Research Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	3	0
4:15 PM	0	0	3	0	0	0	4	0	0	0	0	0	0	0	0	0	7	0
4:30 PM	0	0	0	0	1	0	0	0	0	1	0	0	1	1	0	0	4	0
4:45 PM	0	0	2	0	0	0	1	0	0	1	0	0	0	0	0	0	4	18
5:00 PM	0	0	3	1	0	0	0	0	0	1	0	0	0	0	0	0	5	20
5:15 PM	0	0	2	0	0	0	3	0	0	0	0	0	0	1	0	0	6	19
5:30 PM	0	0	1	1	0	0	1	1	0	0	0	0	0	1	0	0	5	20
5:45 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2	18
Count Total	0	0	14	3	1	0	9	1	0	4	0	0	1	3	0	0	36	0
Peak Hour	0	0	7	1	1	0	4	0	0	3	0	0	1	2	0	0	19	0

Two-Hour Count Summaries - Bikes																	
Interval Start	S Golden Rd			S Golden Rd			Moss St			Research Rd			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0			
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:45 PM	0	0	0	0	0	0	0	0	1	0	1	0	2	3			
5:00 PM	0	0	0	0	2	0	0	0	0	0	0	0	2	4			
5:15 PM	0	0	0	0	2	0	3	0	0	0	0	0	5	9			
5:30 PM	0	1	0	0	5	0	0	0	0	0	0	0	6	15			
5:45 PM	0	1	0	2	5	0	0	0	0	2	0	0	10	23			
Count Total	0	2	0	2	14	0	3	0	1	0	4	0	26	0			
Peak Hour	0	0	0	0	4	0	3	0	1	0	1	0	9	0			

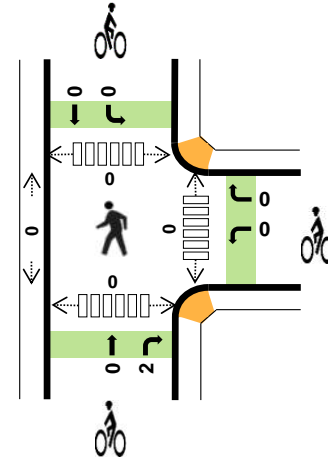
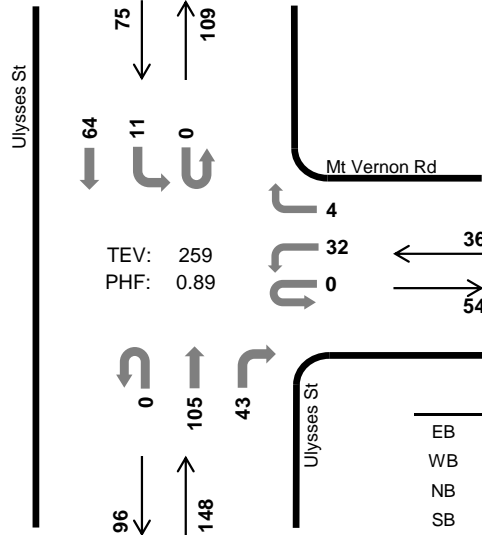
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Ulysses St Mt Vernon Rd



Peak Hour

Date: 06/14/2023
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM



	HV %:	PHF
EB	-	-
WB	0.0%	0.75
NB	2.7%	0.80
SB	4.0%	0.85
TOTAL	2.7%	0.89

Two-Hour Count Summaries

Interval Start	N/A				Mt Vernon Rd				Ulysses St				Ulysses St				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	0	0	0	6	0	1	0	0	21	11	0	0	11	0	50	0	
7:15 AM	0	0	0	0	0	3	0	0	0	0	20	3	0	2	12	0	40	0	
7:30 AM	0	0	0	0	0	5	0	0	0	0	31	11	0	2	5	0	54	0	
7:45 AM	0	0	0	0	0	10	0	0	0	0	37	9	0	1	16	0	73	217	
8:00 AM	0	0	0	0	0	9	0	1	0	0	26	16	0	1	16	0	69	236	
8:15 AM	0	0	0	0	0	9	0	3	0	0	21	8	0	1	18	0	60	256	
8:30 AM	0	0	0	0	0	4	0	0	0	0	21	10	0	8	14	0	57	259	
8:45 AM	0	0	0	0	0	4	0	0	0	0	24	9	0	3	19	0	59	245	
Count Total	0	0	0	0	0	50	0	5	0	0	201	77	0	18	111	0	462	0	
Peak Hour	All	0	0	0	0	0	32	0	4	0	0	105	43	0	11	64	0	259	0
	HV	0	0	0	0	0	0	0	0	0	0	3	1	0	0	3	0	7	0
	HV%	-	-	-	-	-	0%	-	0%	-	-	3%	2%	-	0%	5%	-	3%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
8:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
8:30 AM	0	0	2	3	5	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	2	1	3	0	0	0	1	1	0	0	0	0	0
Count Total	0	0	7	4	11	0	0	2	1	3	0	0	0	0	0
Peak Hr	0	0	4	3	7	0	0	2	0	2	0	0	0	0	0

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	N/A				Mt Vernon Rd				Ulysses St				Ulysses St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	3	0	5	7
8:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	9
Count Total	0	0	0	0	0	0	0	0	0	0	6	1	0	0	4	0	11	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	3	1	0	0	3	0	7	0

Two-Hour Count Summaries - Bikes																	
Interval Start	N/A			Mt Vernon Rd			Ulysses St			Ulysses St			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
Count Total	0	0	0	0	0	0	0	0	0	2	0	1	0	0	1	3	0
Peak Hour	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0

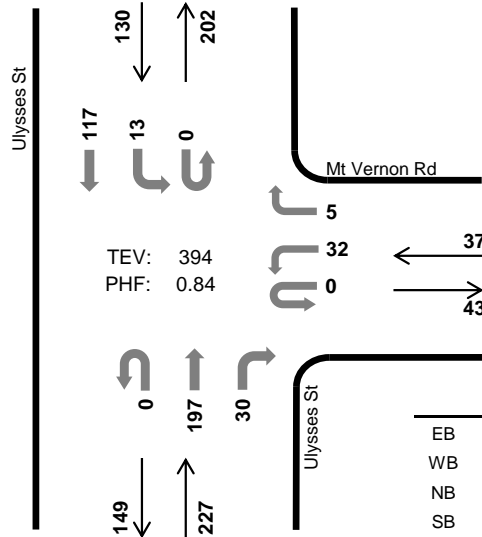
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Ulysses St Mt Vernon Rd



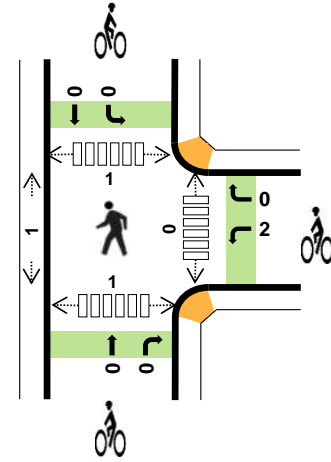
Peak Hour

Date: 06/14/2023
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



TEV: 394
PHF: 0.84

	HV %:	PHF
EB	-	-
WB	0.0%	0.77
NB	2.2%	0.86
SB	1.5%	0.83
TOTAL	1.8%	0.84



Two-Hour Count Summaries

Interval Start	N/A				Mt Vernon Rd				Ulysses St				Ulysses St				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	0	0	0	1	10	0	0	0	0	36	2	0	5	28	0	82	0	
4:15 PM	0	0	0	0	0	8	0	6	0	0	43	11	0	4	19	0	91	0	
4:30 PM	0	0	0	0	0	7	0	0	0	0	52	6	0	3	19	0	87	0	
4:45 PM	0	0	0	0	0	11	0	1	0	0	53	13	0	2	37	0	117	377	
5:00 PM	0	0	0	0	0	7	0	2	0	0	47	5	0	4	31	0	96	391	
5:15 PM	0	0	0	0	0	7	0	2	0	0	45	6	0	4	30	0	94	394	
5:30 PM	0	0	0	0	0	9	0	1	0	0	37	4	0	1	25	0	77	384	
5:45 PM	0	0	0	0	0	3	0	0	0	0	35	7	0	3	30	0	78	345	
Count Total	0	0	0	0	1	62	0	12	0	0	348	54	0	26	219	0	722	0	
Peak Hour	All	0	0	0	0	0	32	0	5	0	0	197	30	0	13	117	0	394	0
	HV	0	0	0	0	0	0	0	0	0	0	5	0	0	0	2	0	7	0
	HV%	-	-	-	-	-	0%	-	0%	-	-	3%	0%	-	0%	2%	-	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	1	0	1	2	0	0	1	0	1	0	0	0	0	0
4:15 PM	0	0	2	1	3	0	1	0	0	1	0	0	0	0	0
4:30 PM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
4:45 PM	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	2	0	2	0	2	0	0	2	0	0	0	0	0
5:15 PM	0	0	1	0	1	0	0	0	0	0	0	1	0	1	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
5:45 PM	0	0	0	1	1	0	0	1	1	2	0	0	0	0	0
Count Total	0	1	7	5	13	0	3	2	1	6	1	1	1	1	4
Peak Hr	0	0	5	2	7	0	2	0	0	2	0	1	1	1	3

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	N/A				Mt Vernon Rd				Ulysses St				Ulysses St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	3	9
5:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	9	
5:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	7	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	4	
Count Total	0	0	0	0	0	1	0	0	0	0	7	0	0	0	5	0	13	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	5	0	0	0	2	0	7	0
Two-Hour Count Summaries - Bikes																		
Interval Start	N/A			Mt Vernon Rd			Ulysses St			Ulysses St			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
4:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	
4:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
5:00 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	3	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
5:45 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	4	
Count Total	0	0	0	0	3	0	0	0	0	2	0	0	0	1	0	6	0	
Peak Hour	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	
Note: U-Turn volumes for bikes are included in Left-Turn, if any.																		

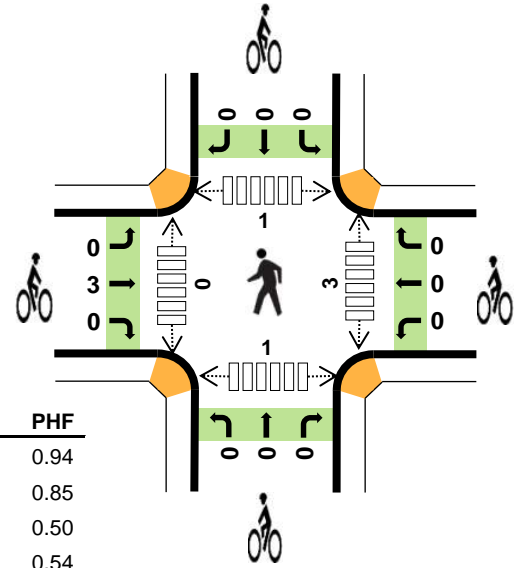
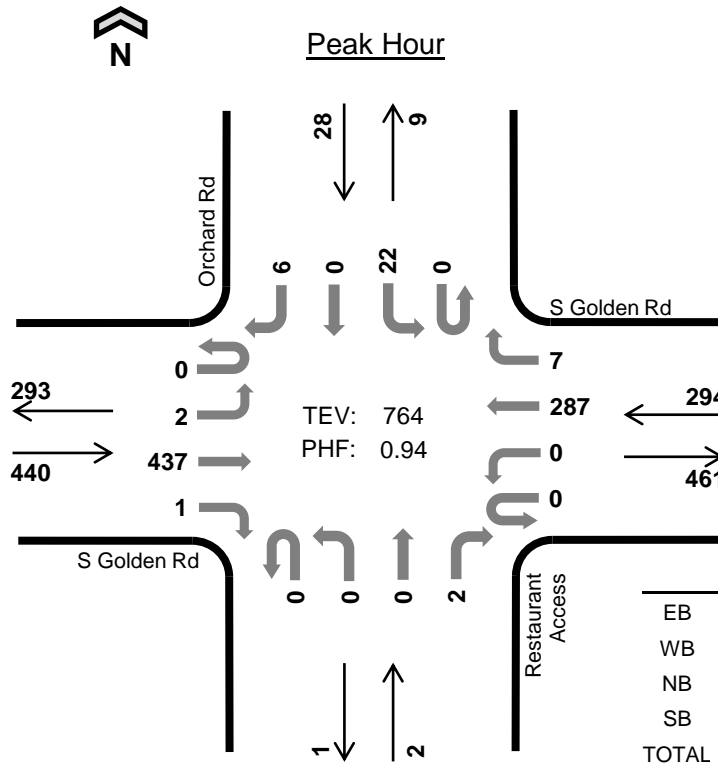
Orchard Rd / Restaurant Access S Golden Rd



Date: 06/14/2023

Count Period: 7:00 AM to 9:00 AM

Peak Hour: 8:00 AM to 9:00 AM



	HV %:	PHF
EB	2.0%	0.94
WB	2.4%	0.85
NB	0.0%	0.50
SB	0.0%	0.54
TOTAL	2.1%	0.94

Two-Hour Count Summaries

Interval Start	S Golden Rd				S Golden Rd				Restaurant Access				Orchard Rd				15-min Total	Rolling One Hour	
	Eastbound		Westbound		Northbound		Southbound		Eastbound		Westbound		Northbound		Southbound				
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	1	61	0	0	0	54	1	0	0	0	0	0	0	2	0	0	119	0
7:15 AM	0	1	73	0	0	1	61	1	0	0	0	0	0	0	4	0	1	142	0
7:30 AM	0	1	87	0	0	0	60	1	0	0	0	0	0	0	5	0	1	155	0
7:45 AM	0	0	105	0	0	0	74	1	0	0	0	0	0	0	8	0	2	190	606
8:00 AM	0	1	98	0	0	0	66	2	0	0	0	1	0	11	0	2	181	668	
8:15 AM	0	0	110	0	0	0	68	2	0	0	0	1	0	3	0	2	186	712	
8:30 AM	0	0	117	0	0	0	68	2	0	0	0	0	0	5	0	1	193	750	
8:45 AM	0	1	112	1	0	0	85	1	0	0	0	0	0	3	0	1	204	764	
Count Total	0	5	763	1	0	1	536	11	0	0	0	2	0	41	0	10	1,370	0	
Peak Hour	All	0	2	437	1	0	0	287	7	0	0	0	2	0	22	0	6	764	0
	HV	0	0	9	0	0	0	7	0	0	0	0	0	0	0	0	0	16	0
	HV%	-	0%	2%	0%	-	-	2%	0%	-	-	-	0%	-	0%	-	0%	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	3	0	0	4	1	0	0	0	1	0	0	0	0	0
7:15 AM	1	7	0	0	8	0	0	0	0	0	2	0	0	1	3
7:30 AM	2	3	0	0	5	0	0	0	1	1	0	0	0	1	1
7:45 AM	3	2	0	0	5	2	0	0	0	2	0	0	1	0	1
8:00 AM	3	3	0	0	6	1	0	0	0	1	0	0	0	0	0
8:15 AM	2	2	0	0	4	2	0	0	0	2	3	0	1	0	4
8:30 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	1	1
8:45 AM	3	2	0	0	5	0	0	0	0	0	0	0	0	0	0
Count Total	16	22	0	0	38	6	0	0	1	7	5	0	2	3	10
Peak Hour	9	7	0	0	16	3	0	0	0	3	3	0	1	1	5

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	S Golden Rd				S Golden Rd				Restaurant Access				Orchard Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	4	0
7:15 AM	0	0	1	0	0	0	7	0	0	0	0	0	0	0	0	0	8	0
7:30 AM	0	0	2	0	0	0	3	0	0	0	0	0	0	0	0	0	5	0
7:45 AM	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	5	22
8:00 AM	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	6	24
8:15 AM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4	20
8:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	16
8:45 AM	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	5	16
Count Total	0	0	16	0	0	0	22	0	0	0	0	0	0	0	0	0	38	0
Peak Hour	0	0	9	0	0	0	7	0	0	0	0	0	0	0	0	0	16	0
Two-Hour Count Summaries - Bikes																		
Interval Start	S Golden Rd			S Golden Rd			Restaurant Access			Orchard Rd			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0				
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	1	0				
7:45 AM	0	2	0	0	0	0	0	0	0	0	0	0	2	4				
8:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	4				
8:15 AM	0	2	0	0	0	0	0	0	0	0	0	0	2	6				
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	5				
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3				
Count Total	0	6	0	0	0	0	0	0	0	1	0	0	7	0				
Peak Hour	0	3	0	0	0	0	0	0	0	0	0	0	3	0				
<i>Note: U-Turn volumes for bikes are included in Left-Turn, if any.</i>																		

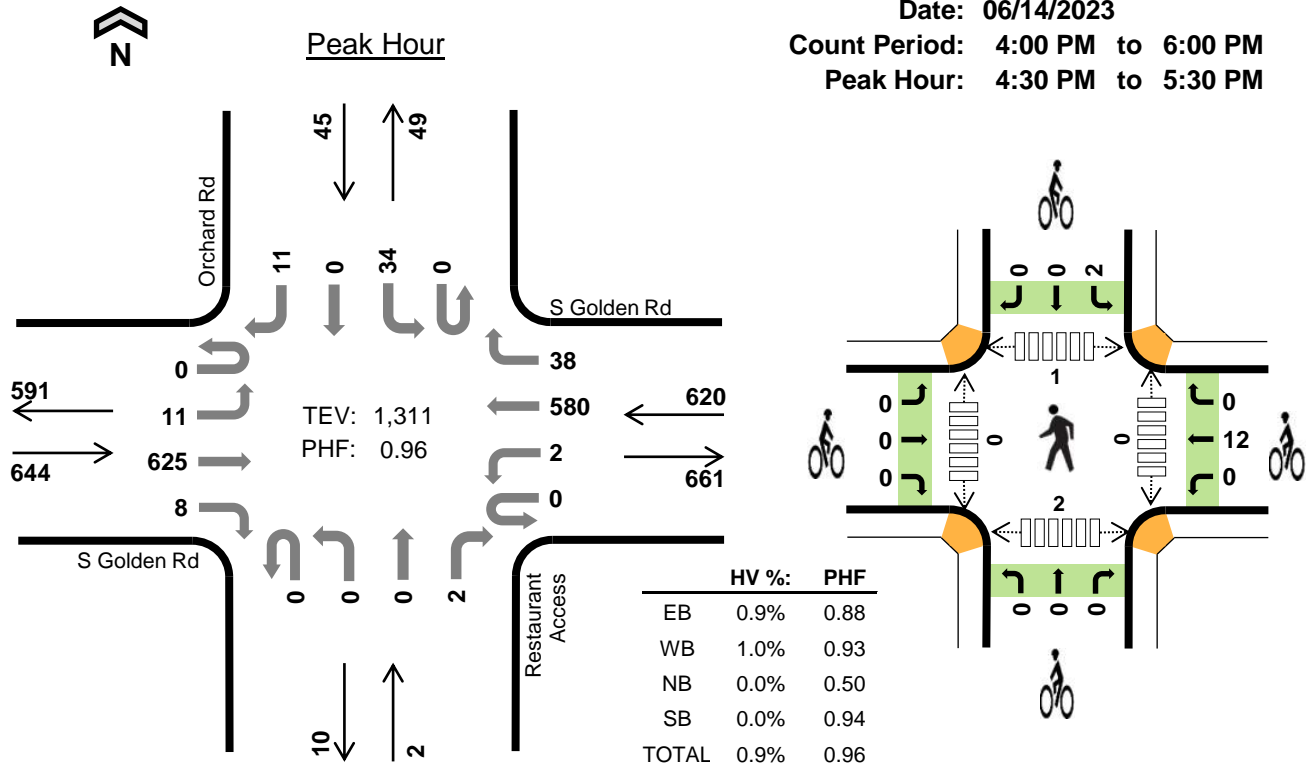
Orchard Rd / Restaurant Access S Golden Rd



Date: 06/14/2023

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:30 PM to 5:30 PM



Two-Hour Count Summaries

Interval Start	S Golden Rd Eastbound				S Golden Rd Westbound				Restaurant Access Northbound				Orchard Rd Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	1	125	1	0	1	122	16	0	0	0	1	0	4	0	3	274	0	
4:15 PM	0	2	142	1	0	0	142	4	0	1	1	0	0	6	0	2	301	0	
4:30 PM	0	0	138	0	0	1	131	13	0	0	0	1	0	9	0	1	294	0	
4:45 PM	0	3	179	2	0	1	137	8	0	0	0	0	0	6	0	5	341	1,210	
5:00 PM	0	4	161	2	0	0	155	8	0	0	0	0	0	10	0	2	342	1,278	
5:15 PM	0	4	147	4	0	0	157	9	0	0	0	1	0	9	0	3	334	1,311	
5:30 PM	0	4	127	0	0	1	137	3	0	0	0	0	0	6	0	4	282	1,299	
5:45 PM	0	5	117	0	0	0	140	6	0	1	0	1	0	7	0	2	279	1,237	
Count Total	0	23	1,136	10	0	4	1,121	67	0	2	1	4	0	57	0	22	2,447	0	
Peak Hour	All	0	11	625	8	0	2	580	38	0	0	0	2	0	34	0	11	1,311	0
	HV	0	0	6	0	0	0	6	0	0	0	0	0	0	0	0	0	12	0
	HV%	-	0%	1%	0%	-	0%	1%	0%	-	-	-	0%	-	0%	-	0%	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

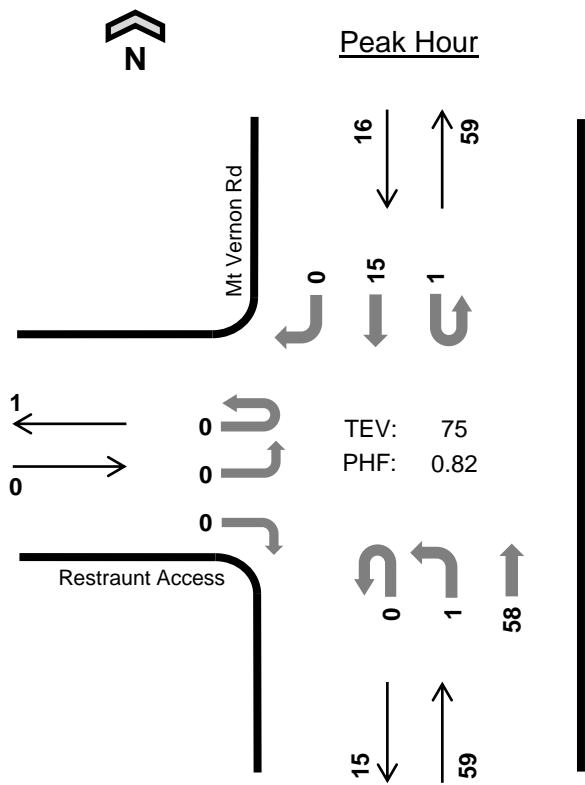
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	1	0	0	2	0	2	0	0	2	0	0	0	0	0
4:15 PM	2	4	0	0	6	0	2	0	3	5	1	0	0	1	2
4:30 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	1	1
4:45 PM	3	2	0	0	5	0	4	0	0	4	0	0	0	1	1
5:00 PM	1	1	0	0	2	0	2	0	0	2	0	0	0	0	0
5:15 PM	2	2	0	0	4	0	6	0	2	8	0	0	1	0	1
5:30 PM	2	1	0	0	3	1	9	0	1	11	1	1	1	2	5
5:45 PM	1	0	0	0	1	2	5	0	0	7	0	0	0	0	0
Count Total	12	12	0	0	24	3	30	0	6	39	2	1	2	5	10
Peak Hour	6	6	0	0	12	0	12	0	2	14	0	0	1	2	3

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	S Golden Rd				S Golden Rd				Restaurant Access				Orchard Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0
4:15 PM	0	0	2	0	0	0	4	0	0	0	0	0	0	0	0	0	6	0
4:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
4:45 PM	0	0	3	0	0	0	2	0	0	0	0	0	0	0	0	0	5	14
5:00 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	14
5:15 PM	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	4	12
5:30 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	14
5:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	10
Count Total	0	0	12	0	0	0	12	0	0	0	0	0	0	0	0	0	24	0
Peak Hour	0	0	6	0	0	0	6	0	0	0	0	0	0	0	0	0	12	0

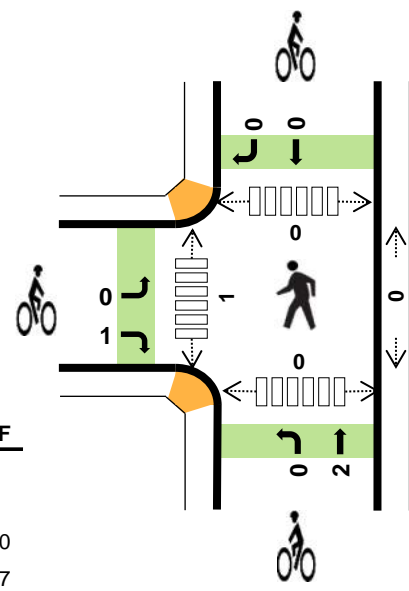
Two-Hour Count Summaries - Bikes																
Interval Start	S Golden Rd			S Golden Rd			Restaurant Access			Orchard Rd			15-min Total	Rolling One Hour		
	Eastbound			Westbound			Northbound			Southbound						
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT				
4:00 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0
4:15 PM	0	0	0	0	2	0	0	0	0	0	0	2	0	1	5	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	4	0	0	0	0	0	0	0	0	0	4	11
5:00 PM	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	11
5:15 PM	0	0	0	0	6	0	0	0	0	0	0	2	0	0	8	14
5:30 PM	0	1	0	0	9	0	0	0	0	0	0	1	0	0	11	25
5:45 PM	0	2	0	0	5	0	0	0	0	0	0	0	0	0	7	28
Count Total	0	3	0	0	30	0	0	0	0	0	0	5	0	1	39	0
Peak Hour	0	0	0	0	12	0	0	0	0	0	0	2	0	0	14	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Mt Vernon Rd Restraunt Access



Date: 06/14/2023
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM



	HV %:	PHF
EB	-	-
WB	-	-
NB	0.0%	0.70
SB	6.3%	0.57
TOTAL	1.3%	0.82

Two-Hour Count Summaries

Interval Start	Restraunt Access				N/A				Mt Vernon Rd				Mt Vernon Rd				15-min Total	Rolling One Hour	
	Eastbound		Westbound		Northbound		Southbound		Northbound		Southbound								
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	0	0	0	0	0	0	0	0	8	0	0	0	1	0	9	0	
7:15 AM	0	0	0	0	0	0	0	0	0	1	11	0	0	0	0	0	12	0	
7:30 AM	0	0	0	0	0	0	0	0	0	0	21	0	0	0	2	0	23	0	
7:45 AM	0	0	0	0	0	0	0	0	0	0	15	0	1	0	6	0	22	66	
8:00 AM	0	0	0	0	0	0	0	0	0	1	12	0	0	0	4	0	17	74	
8:15 AM	0	0	0	0	0	0	0	0	0	0	10	0	0	0	3	0	13	75	
8:30 AM	0	0	0	0	0	0	0	0	0	0	12	0	0	0	5	0	17	69	
8:45 AM	0	0	0	0	0	0	0	0	0	0	11	0	1	1	3	0	16	63	
Count Total	0	0	0	0	0	0	0	0	0	2	100	0	2	1	24	0	129	0	
Peak Hour	All	0	0	0	0	0	0	0	0	0	1	58	0	1	0	15	0	75	0
	HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
	HV%	-	-	-	-	-	-	-	-	-	0%	0%	-	0%	-	7%	-	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
7:30 AM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1
8:00 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
8:30 AM	0	0	1	0	1	0	0	0	1	1	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	2	1	3	1	0	2	1	4	0	2	0	0	2
Peak Hr	0	0	0	1	1	1	0	2	0	3	0	1	0	0	1

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Restraunt Access				N/A				Mt Vernon Rd				Mt Vernon Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0

Two-Hour Count Summaries - Bikes																	
Interval Start	Restraunt Access			N/A			Mt Vernon Rd			Mt Vernon Rd			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	2
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	3
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	3
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	1	0	0	0	0	0	2	0	0	0	1	0	0	4	0
Peak Hour	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	3	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

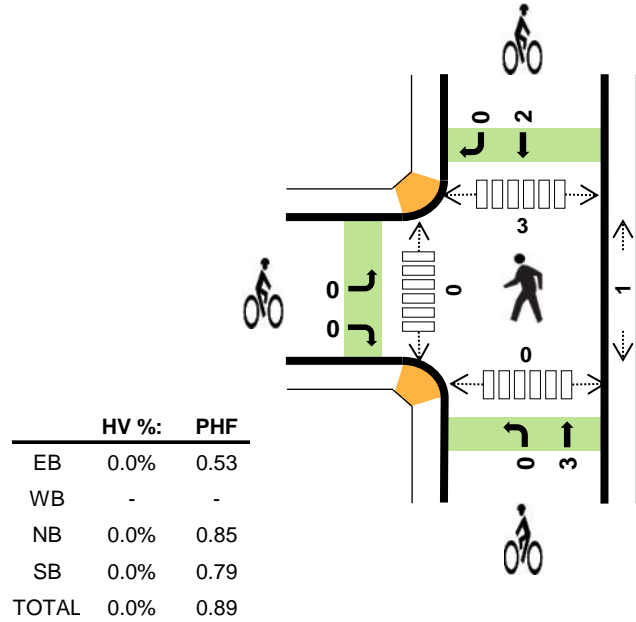
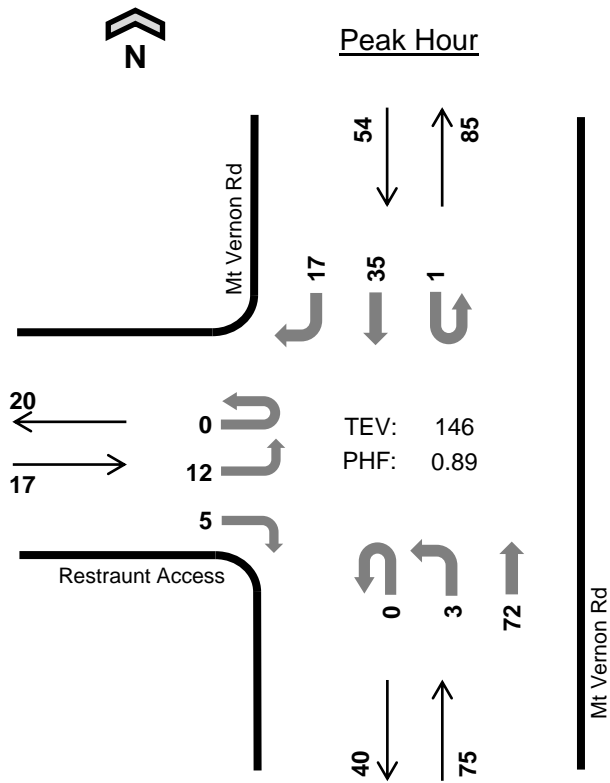
Mt Vernon Rd Restrault Access



Date: 06/14/2023

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:30 PM to 5:30 PM



Two-Hour Count Summaries

Interval Start	Restrault Access				N/A				Mt Vernon Rd				Mt Vernon Rd				15-min Total	Rolling One Hour	
	Eastbound		Westbound		Northbound		Southbound		UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	1	2	0	0	0	0	0	0	0	1	11	0	0	0	10	1	26	0	
4:15 PM	0	3	0	0	0	0	0	0	0	0	13	0	0	0	7	2	25	0	
4:30 PM	0	2	0	0	0	0	0	0	0	1	18	0	0	0	10	5	36	0	
4:45 PM	0	4	0	4	0	0	0	0	0	1	15	0	0	1	10	6	41	128	
5:00 PM	0	1	0	0	0	0	0	0	0	0	22	0	0	0	8	2	33	135	
5:15 PM	0	5	0	1	0	0	0	0	0	1	17	0	1	0	7	4	36	146	
5:30 PM	0	1	0	2	0	0	0	0	0	2	8	1	0	0	8	3	25	135	
5:45 PM	0	2	0	3	0	0	0	0	0	0	9	0	0	0	8	4	26	120	
Count Total	1	20	0	10	0	0	0	0	0	6	113	1	1	1	68	27	248	0	
Peak Hour	All	0	12	0	5	0	0	0	0	0	3	72	0	1	1	35	17	146	0
	HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	HV%	-	0%	-	0%	-	-	-	-	-	0%	0%	-	0%	0%	0%	0%	0%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2
4:30 PM	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
5:00 PM	0	0	0	0	0	0	0	0	2	2	0	0	1	0	1
5:15 PM	0	0	0	0	0	0	0	1	0	1	1	0	1	0	2
5:30 PM	0	0	0	0	0	0	0	0	1	1	0	1	2	0	3
5:45 PM	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	3	5	8	1	2	6	0	9
Peak Hr	0	0	0	0	0	0	0	3	2	5	1	0	3	0	4

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Restraunt Access				N/A				Mt Vernon Rd				Mt Vernon Rd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Two-Hour Count Summaries - Bikes																	
Interval Start	Restraunt Access			N/A			Mt Vernon Rd			Mt Vernon Rd			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:30 PM	0	0	0	0	0	0	0	2	0	0	0	0	2	0			
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2			
5:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	4			
5:15 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	5			
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	4			
5:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	6			
Count Total	0	0	0	0	0	0	0	3	0	0	5	0	8	0			
Peak Hour	0	0	0	0	0	0	0	3	0	0	2	0	5	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Location: S Golden Rd W/O Mt Vernon Rd
 Date Range: 6/14/2023 - 6/20/2023
 Site Code: 01

Time	Wednesday 6/14/2023			Thursday 6/15/2023			Friday 6/16/2023			Saturday 6/17/2023			Sunday 6/18/2023			Monday 6/19/2023			Tuesday 6/20/2023			Mid-Week Average		
	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	24	37	61	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	37	61
1:00 AM	11	12	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	12	23
2:00 AM	10	6	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	6	16
3:00 AM	11	12	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	12	23
4:00 AM	37	21	58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	21	58
5:00 AM	87	72	159	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	87	72	159
6:00 AM	196	140	336	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	196	140	336
7:00 AM	325	251	576	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	325	251	576
8:00 AM	444	286	730	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	444	286	730
9:00 AM	442	336	778	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	442	336	778
10:00 AM	435	299	734	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	435	299	734
11:00 AM	504	395	899	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	504	395	899
12:00 PM	521	452	973	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	521	452	973
1:00 PM	560	402	962	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	560	402	962
2:00 PM	541	396	937	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	541	396	937
3:00 PM	566	510	1,076	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	566	510	1,076
4:00 PM	595	542	1,137	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	595	542	1,137
5:00 PM	589	577	1,166	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	589	577	1,166
6:00 PM	484	468	952	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	484	468	952
7:00 PM	516	285	801	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	516	285	801
8:00 PM	300	196	496	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	300	196	496
9:00 PM	170	116	286	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	170	116	286
10:00 PM	115	85	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	115	85	200
11:00 PM	43	43	86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	43	43	86
Total	7,526	5,939	13,465	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7,526	5,939	13,465
Percent	56%	44%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56%	44%	
AM Peak	11:00	11:00	11:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11:00	11:00	11:00
Vol.	504	395	899	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	504	395	899
PM Peak	16:00	17:00	17:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16:00	17:00	17:00
Vol.	595	577	1,166	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	595	577	1,166

1. Mid-week average includes data between Tuesday and Thursday.

Location: Mt Vernon Rd S/O S Golden Rd
 Date Range: 6/14/2023 - 6/20/2023
 Site Code: 02

Time	Wednesday 6/14/2023			Thursday 6/15/2023			Friday 6/16/2023			Saturday 6/17/2023			Sunday 6/18/2023			Monday 6/19/2023			Tuesday 6/20/2023			Mid-Week Average		
	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	4	2	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	2	6
1:00 AM	4	6	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	6	10
2:00 AM	3	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	1	4
3:00 AM	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3	4
4:00 AM	7	0	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	0	7
5:00 AM	22	3	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22	3	25
6:00 AM	49	5	54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49	5	54
7:00 AM	54	10	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54	10	64
8:00 AM	48	19	67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48	19	67
9:00 AM	45	26	71	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	26	71
10:00 AM	45	27	72	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	27	72
11:00 AM	45	33	78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	33	78
12:00 PM	63	45	108	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	63	45	108
1:00 PM	40	39	79	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	39	79
2:00 PM	38	35	73	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	35	73
3:00 PM	73	34	107	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	73	34	107
4:00 PM	64	40	104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	64	40	104
5:00 PM	60	42	102	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	42	102
6:00 PM	62	34	96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	62	34	96
7:00 PM	42	37	79	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	37	79
8:00 PM	28	25	53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	25	53
9:00 PM	11	17	28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	17	28
10:00 PM	8	25	33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	25	33
11:00 PM	5	2	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	7
Total	821	510	1,331	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	821	510	1,331
Percent	62%	38%		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	62%	38%	
AM Peak	07:00	11:00	11:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	07:00	11:00	11:00
Vol.	54	33	78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54	33	78
PM Peak	15:00	12:00	12:00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15:00	12:00	12:00
Vol.	73	45	108	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	73	45	108

1. Mid-week average includes data between Tuesday and Thursday.



***Intersection Capacity Worksheets:
Existing***



Intersection				
Intersection Delay, s/veh	5.4			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	403	320	96	108
Demand Flow Rate, veh/h	410	326	97	109
Vehicles Circulating, veh/h	93	46	468	308
Vehicles Exiting, veh/h	324	519	35	64
Ped Vol Crossing Leg, #/h	0	3	3	1
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.0	4.9	5.4	4.6
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	410	326	97	109
Cap Entry Lane, veh/h	1255	1317	856	1008
Entry HV Adj Factor	0.982	0.980	0.989	0.990
Flow Entry, veh/h	403	320	96	108
Cap Entry, veh/h	1232	1290	847	997
V/C Ratio	0.327	0.248	0.113	0.108
Control Delay, s/veh	6.0	4.9	5.4	4.6
LOS	A	A	A	A
95th %tile Queue, veh	1	1	0	0

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	2	437	1	0	287	7	0	0	2	22	0	6
Future Vol, veh/h	2	437	1	0	287	7	0	0	2	22	0	6
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	85	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	85	85	85	50	50	50	54	54	54
Heavy Vehicles, %	2	2	2	2	2	2	1	1	1	1	1	1
Mvmt Flow	2	465	1	0	338	8	0	0	4	41	0	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	347	0	0	467	0	0	819	818	470	818	814	343
Stage 1	-	-	-	-	-	-	471	471	-	343	343	-
Stage 2	-	-	-	-	-	-	348	347	-	475	471	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1212	-	-	1094	-	-	295	312	596	296	313	702
Stage 1	-	-	-	-	-	-	575	561	-	674	639	-
Stage 2	-	-	-	-	-	-	670	637	-	572	561	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1211	-	-	1093	-	-	290	311	594	292	312	701
Mov Cap-2 Maneuver	-	-	-	-	-	-	290	311	-	292	312	-
Stage 1	-	-	-	-	-	-	573	559	-	672	638	-
Stage 2	-	-	-	-	-	-	659	636	-	566	559	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			11.1			17.7		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	594	1211	-	-	1093	-	-	334
HCM Lane V/C Ratio	0.007	0.002	-	-	-	-	-	0.155
HCM Control Delay (s)	11.1	8	-	-	0	-	-	17.7
HCM Lane LOS		B	A	-	-	A	-	C
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.5

Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	↶		↷	↶		↷
Traffic Vol, veh/h	450	10	12	295	0	49
Future Vol, veh/h	450	10	12	295	0	49
Conflicting Peds, #/hr	0	1	1	0	4	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	140	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	85	85	83	83
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	464	10	14	347	0	59

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	475	0	- 470
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	4.13	-	- 6.22
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	2.227	-	- 3.318
Pot Cap-1 Maneuver	-	-	1082	-	0 594
Stage 1	-	-	-	-	0 -
Stage 2	-	-	-	-	0 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1081	-	- 593
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NE
HCM Control Delay, s	0	0.3	11.7
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	593	-	-	1081	-
HCM Lane V/C Ratio	0.1	-	-	0.013	-
HCM Control Delay (s)	11.7	-	-	8.4	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection					
Intersection Delay, s/veh	6.3				
Intersection LOS	A				
Approach	EB	WB		NB	SB
Entry Lanes	1	2		1	1
Conflicting Circle Lanes	1	1		1	1
Adj Approach Flow, veh/h	511	318		220	21
Demand Flow Rate, veh/h	521	327		253	21
Vehicles Circulating, veh/h	22	281		462	379
Vehicles Exiting, veh/h	378	434		81	229
Ped Vol Crossing Leg, #/h	15	0		1	0
Ped Cap Adj	0.998	1.000		1.000	1.000
Approach Delay, s/veh	6.4	5.1		8.3	4.1
Approach LOS	A	A		A	A
Lane	Left	Left	Right	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized					
Lane Util	1.000	0.743	0.257	1.000	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609	2.609
Critical Headway, s	4.976	4.544	4.544	4.976	4.976
Entry Flow, veh/h	521	243	84	253	21
Cap Entry Lane, veh/h	1349	1100	1100	861	937
Entry HV Adj Factor	0.981	0.972	0.976	0.869	0.992
Flow Entry, veh/h	511	236	82	220	21
Cap Entry, veh/h	1321	1069	1073	748	930
V/C Ratio	0.387	0.221	0.076	0.294	0.022
Control Delay, s/veh	6.4	5.4	4.0	8.3	4.1
LOS	A	A	A	A	A
95th %tile Queue, veh	2	1	0	1	0

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	1	58	16	0	0	0
Future Vol, veh/h	1	58	16	0	0	0
Conflicting Peds, #/hr	1	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	70	70	57	57	82	82
Heavy Vehicles, %	1	1	6	6	1	1
Mvmt Flow	1	83	28	0	0	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	29	0	-	0	114 29
Stage 1	-	-	-	-	29 -
Stage 2	-	-	-	-	85 -
Critical Hdwy	4.11	-	-	-	6.41 6.21
Critical Hdwy Stg 1	-	-	-	-	5.41 -
Critical Hdwy Stg 2	-	-	-	-	5.41 -
Follow-up Hdwy	2.209	-	-	-	3.509 3.309
Pot Cap-1 Maneuver	1591	-	-	-	885 1049
Stage 1	-	-	-	-	996 -
Stage 2	-	-	-	-	941 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1589	-	-	-	882 1048
Mov Cap-2 Maneuver	-	-	-	-	882 -
Stage 1	-	-	-	-	994 -
Stage 2	-	-	-	-	940 -

Approach	EB	WB	SE
HCM Control Delay, s	0.1	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1589	-	-	-	-
HCM Lane V/C Ratio	0.001	-	-	-	-
HCM Control Delay (s)	7.3	0	-	-	0
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection												
Int Delay, s/veh	5.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations					↔			↔			↔	
Traffic Vol, veh/h	0	0	0	6	22	12	1	46	0	0	14	5
Future Vol, veh/h	0	0	0	6	22	12	1	46	0	0	14	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	7	24	13	1	50	0	0	15	5

Major/Minor	Major2	Minor1	Minor2
Conflicting Flow All	0	0	55
Stage 1	-	-	0
Stage 2	-	-	55
Critical Hdwy	4.12	-	7.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	6.12
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	943
Stage 1	-	-	-
Stage 2	-	-	957
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	925
Mov Cap-2 Maneuver	-	-	925
Stage 1	-	-	-
Stage 2	-	-	935

Approach	WB	NE	SW
HCM Control Delay, s		9.6	9.1
HCM LOS		A	A

Minor Lane/Major Mvmt	NELn1	WBL	WBT	WBR	SWLn1
Capacity (veh/h)	842	-	-	-	891
HCM Lane V/C Ratio	0.061	-	-	-	0.023
HCM Control Delay (s)	9.6	-	-	-	9.1
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1

Intersection						
Int Delay, s/veh	3.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations				↕	↕	
Traffic Vol, veh/h	0	0	11	22	18	0
Future Vol, veh/h	0	0	11	22	18	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	12	24	20	0

Major/Minor	Major2	Minor1
Conflicting Flow All	0	48
Stage 1	-	0
Stage 2	-	48
Critical Hdwy	4.12	6.42
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	5.42
Follow-up Hdwy	2.218	3.518
Pot Cap-1 Maneuver	-	962
Stage 1	-	0
Stage 2	-	974
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	962
Mov Cap-2 Maneuver	-	962
Stage 1	-	-
Stage 2	-	974

Approach	WB	NB
HCM Control Delay, s		8.8
HCM LOS		A

Minor Lane/Major Mvmt	NBLn1	WBL	WBT
Capacity (veh/h)	962	-	-
HCM Lane V/C Ratio	0.02	-	-
HCM Control Delay (s)	8.8	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↶			↷
Traffic Vol, veh/h	0	0	27	8	0	6
Future Vol, veh/h	0	0	27	8	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	1	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	29	9	0	7

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

Approach	WB	SB
HCM Control Delay, s	0	8.5
HCM LOS		A

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	1039
HCM Lane V/C Ratio	-	-	0.006
HCM Control Delay (s)	-	-	8.5
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

Intersection						
Int Delay, s/veh	1.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	32	4	105	43	11	64
Future Vol, veh/h	32	4	105	43	11	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	56	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	75	75	80	80	85	85
Heavy Vehicles, %	1	1	3	3	4	4
Mvmt Flow	43	5	131	54	13	75

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	259	158	0	0	185
Stage 1	158	-	-	-	-
Stage 2	101	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.14
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.236
Pot Cap-1 Maneuver	732	890	-	-	1378
Stage 1	873	-	-	-	-
Stage 2	926	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	725	890	-	-	1378
Mov Cap-2 Maneuver	725	-	-	-	-
Stage 1	873	-	-	-	-
Stage 2	918	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	1.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	740	1378
HCM Lane V/C Ratio	-	-	0.065	0.009
HCM Control Delay (s)	-	-	10.2	7.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0

Intersection				
Intersection Delay, s/veh	9.1			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	739	637	76	96
Demand Flow Rate, veh/h	754	643	76	97
Vehicles Circulating, veh/h	88	100	782	571
Vehicles Exiting, veh/h	580	758	60	172
Ped Vol Crossing Leg, #/h	0	1	3	1
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	10.1	8.6	7.2	6.0
Approach LOS	B	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	754	643	76	97
Cap Entry Lane, veh/h	1261	1246	622	771
Entry HV Adj Factor	0.980	0.990	0.998	0.989
Flow Entry, veh/h	739	637	76	96
Cap Entry, veh/h	1236	1234	620	762
V/C Ratio	0.598	0.516	0.122	0.126
Control Delay, s/veh	10.1	8.6	7.2	6.0
LOS	B	A	A	A
95th %tile Queue, veh	4	3	0	0

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷			↕			↕	
Traffic Vol, veh/h	11	625	8	2	580	38	0	0	2	34	0	11
Future Vol, veh/h	11	625	8	2	580	38	0	0	2	34	0	11
Conflicting Peds, #/hr	1	0	2	2	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	85	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	93	93	93	50	50	50	94	94	94
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	13	710	9	2	624	41	0	0	4	36	0	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	666	0	0	721	0	0	1398	1413	717	1393	1397	646
Stage 1	-	-	-	-	-	-	743	743	-	650	650	-
Stage 2	-	-	-	-	-	-	655	670	-	743	747	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	928	-	-	885	-	-	119	138	431	120	142	473
Stage 1	-	-	-	-	-	-	409	423	-	460	467	-
Stage 2	-	-	-	-	-	-	457	457	-	409	422	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	927	-	-	883	-	-	114	135	430	117	139	473
Mov Cap-2 Maneuver	-	-	-	-	-	-	114	135	-	117	139	-
Stage 1	-	-	-	-	-	-	402	416	-	453	466	-
Stage 2	-	-	-	-	-	-	445	456	-	400	415	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	13.5	42.3
HCM LOS			B	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	430	927	-	-	883	-	-	143
HCM Lane V/C Ratio	0.009	0.013	-	-	0.002	-	-	0.335
HCM Control Delay (s)	13.5	8.9	-	-	9.1	-	-	42.3
HCM Lane LOS	B	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	1.4

Intersection						
Int Delay, s/veh	1.3					
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	↶		↷	↶		↷
Traffic Vol, veh/h	643	18	40	620	1	87
Future Vol, veh/h	643	18	40	620	1	87
Conflicting Peds, #/hr	0	3	3	0	7	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	140	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	94	94	88	88
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	707	20	43	660	1	99

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	730	0	1473 720
Stage 1	-	-	-	-	720 -
Stage 2	-	-	-	-	753 -
Critical Hdwy	-	-	4.11	-	6.41 6.21
Critical Hdwy Stg 1	-	-	-	-	5.41 -
Critical Hdwy Stg 2	-	-	-	-	5.41 -
Follow-up Hdwy	-	-	2.209	-	3.509 3.309
Pot Cap-1 Maneuver	-	-	879	-	140 430
Stage 1	-	-	-	-	484 -
Stage 2	-	-	-	-	467 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	876	-	132 429
Mov Cap-2 Maneuver	-	-	-	-	270 -
Stage 1	-	-	-	-	483 -
Stage 2	-	-	-	-	441 -

Approach	EB	WB	NE
HCM Control Delay, s	0	0.6	15.9
HCM LOS			C

Minor Lane/Major Mvmt	NELn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	429	-	-	876	-
HCM Lane V/C Ratio	0.23	-	-	0.049	-
HCM Control Delay (s)	15.9	-	-	9.3	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.9	-	-	0.2	-

Intersection					
Intersection Delay, s/veh	11.5				
Intersection LOS	B				
Approach	EB	WB		NB	SB
Entry Lanes	1	2		1	1
Conflicting Circle Lanes	1	1		1	1
Adj Approach Flow, veh/h	810	470		244	223
Demand Flow Rate, veh/h	818	475		246	227
Vehicles Circulating, veh/h	185	220		801	679
Vehicles Exiting, veh/h	721	827		202	16
Ped Vol Crossing Leg, #/h	1	0		0	2
Ped Cap Adj	1.000	1.000		1.000	1.000
Approach Delay, s/veh	14.3	7.3		11.9	9.5
Approach LOS	B	A		B	A
Lane	Left	Left	Right	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized					
Lane Util	1.000	0.996	0.004	1.000	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609	2.609
Critical Headway, s	4.976	4.544	4.544	4.976	4.976
Entry Flow, veh/h	818	473	2	246	227
Cap Entry Lane, veh/h	1143	1162	1162	610	690
Entry HV Adj Factor	0.991	0.990	1.000	0.992	0.981
Flow Entry, veh/h	810	468	2	244	223
Cap Entry, veh/h	1132	1151	1162	605	677
V/C Ratio	0.716	0.407	0.002	0.404	0.329
Control Delay, s/veh	14.3	7.3	3.1	11.9	9.5
LOS	B	A	A	B	A
95th %tile Queue, veh	7	2	0	2	1

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	3	72	36	17	12	5
Future Vol, veh/h	3	72	36	17	12	5
Conflicting Peds, #/hr	0	0	0	0	3	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	79	79	53	53
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	4	85	46	22	23	9

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	68	0	-	0	153
Stage 1	-	-	-	-	57
Stage 2	-	-	-	-	96
Critical Hdwy	4.11	-	-	-	6.41
Critical Hdwy Stg 1	-	-	-	-	5.41
Critical Hdwy Stg 2	-	-	-	-	5.41
Follow-up Hdwy	2.209	-	-	-	3.509
Pot Cap-1 Maneuver	1540	-	-	-	841
Stage 1	-	-	-	-	968
Stage 2	-	-	-	-	930
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1540	-	-	-	838
Mov Cap-2 Maneuver	-	-	-	-	838
Stage 1	-	-	-	-	965
Stage 2	-	-	-	-	930

Approach	EB	WB	SE
HCM Control Delay, s	0.3	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1540	-	-	-	883
HCM Lane V/C Ratio	0.002	-	-	-	0.036
HCM Control Delay (s)	7.3	0	-	-	9.2
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection												
Int Delay, s/veh	5.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations				↕			↕			↕		
Traffic Vol, veh/h	0	0	0	18	68	8	0	65	0	0	24	17
Future Vol, veh/h	0	0	0	18	68	8	0	65	0	0	24	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	20	74	9	0	71	0	0	26	18

Major/Minor	Major2	Minor1	Minor2
Conflicting Flow All	0	0	141
Stage 1	-	-	0
Stage 2	-	-	141
Critical Hdwy	4.12	-	7.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	6.12
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	829
Stage 1	-	-	-
Stage 2	-	-	862
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	793
Mov Cap-2 Maneuver	-	-	793
Stage 1	-	-	-
Stage 2	-	-	818

Approach	WB	NE	SW
HCM Control Delay, s		10.2	9.5
HCM LOS		B	A

Minor Lane/Major Mvmt	NELn1	WBL	WBT	WBR	SWLn1
Capacity (veh/h)	767	-	-	-	846
HCM Lane V/C Ratio	0.092	-	-	-	0.053
HCM Control Delay (s)	10.2	-	-	-	9.5
HCM Lane LOS	B	-	-	-	A
HCM 95th %tile Q(veh)	0.3	-	-	-	0.2

Intersection						
Int Delay, s/veh	3.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations				↖ ↗	↖ ↗	
Traffic Vol, veh/h	0	0	9	57	37	0
Future Vol, veh/h	0	0	9	57	37	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	10	62	40	0

Major/Minor	Major2	Minor1
Conflicting Flow All	0	0 82
Stage 1	-	- 0
Stage 2	-	- 82
Critical Hdwy	4.12	- 6.42
Critical Hdwy Stg 1	-	- -
Critical Hdwy Stg 2	-	- 5.42
Follow-up Hdwy	2.218	- 3.518
Pot Cap-1 Maneuver	-	- 920
Stage 1	-	- - 0
Stage 2	-	- 941
Platoon blocked, %		-
Mov Cap-1 Maneuver	-	- 920
Mov Cap-2 Maneuver	-	- 920
Stage 1	-	- -
Stage 2	-	- 941

Approach	WB	NB
HCM Control Delay, s		9.1
HCM LOS		A

Minor Lane/Major Mvmt	NBLn1	WBL	WBT
Capacity (veh/h)	920	-	-
HCM Lane V/C Ratio	0.044	-	-
HCM Control Delay (s)	9.1	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↶			↷
Traffic Vol, veh/h	0	0	62	6	0	4
Future Vol, veh/h	0	0	62	6	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	1	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	67	7	0	4

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

Approach	WB	SB
HCM Control Delay, s	0	8.6
HCM LOS		A

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	991
HCM Lane V/C Ratio	-	-	0.004
HCM Control Delay (s)	-	-	8.6
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	32	5	197	30	13	117
Future Vol, veh/h	32	5	197	30	13	117
Conflicting Peds, #/hr	1	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	56	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	77	77	86	86	83	83
Heavy Vehicles, %	1	1	2	2	2	2
Mvmt Flow	42	6	229	35	16	141

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	421	248	0	0	264
Stage 1	247	-	-	-	-
Stage 2	174	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218
Pot Cap-1 Maneuver	591	793	-	-	1300
Stage 1	796	-	-	-	-
Stage 2	859	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	583	792	-	-	1300
Mov Cap-2 Maneuver	583	-	-	-	-
Stage 1	796	-	-	-	-
Stage 2	848	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.5	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	605	1300
HCM Lane V/C Ratio	-	-	0.079	0.012
HCM Control Delay (s)	-	-	11.5	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0



***Intersection Capacity Worksheets:
2028 Background***



Intersection				
Intersection Delay, s/veh	5.9			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	474	365	70	99
Demand Flow Rate, veh/h	483	372	71	100
Vehicles Circulating, veh/h	86	42	532	348
Vehicles Exiting, veh/h	362	561	37	66
Ped Vol Crossing Leg, #/h	0	3	3	1
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.6	5.3	5.4	4.7
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	483	372	71	100
Cap Entry Lane, veh/h	1264	1322	802	968
Entry HV Adj Factor	0.982	0.980	0.986	0.989
Flow Entry, veh/h	474	365	70	99
Cap Entry, veh/h	1241	1296	790	957
V/C Ratio	0.382	0.282	0.089	0.103
Control Delay, s/veh	6.6	5.3	5.4	4.7
LOS	A	A	A	A
95th %tile Queue, veh	2	1	0	0

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	2	528	1	0	328	7	0	0	2	23	0	6
Future Vol, veh/h	2	528	1	0	328	7	0	0	2	23	0	6
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	85	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	1	1	1	1	1	1
Mvmt Flow	2	562	1	0	357	8	0	0	2	25	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	366	0	0	564	0	0	933	934	567	933	930	362
Stage 1	-	-	-	-	-	-	568	568	-	362	362	-
Stage 2	-	-	-	-	-	-	365	366	-	571	568	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1193	-	-	1008	-	-	247	267	525	247	268	685
Stage 1	-	-	-	-	-	-	509	508	-	659	627	-
Stage 2	-	-	-	-	-	-	656	624	-	508	508	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1192	-	-	1007	-	-	244	266	523	245	267	684
Mov Cap-2 Maneuver	-	-	-	-	-	-	244	266	-	245	267	-
Stage 1	-	-	-	-	-	-	507	506	-	657	626	-
Stage 2	-	-	-	-	-	-	650	623	-	504	506	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			11.9			19.3		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	523	1192	-	-	1007	-	-	283
HCM Lane V/C Ratio	0.004	0.002	-	-	-	-	-	0.111
HCM Control Delay (s)	11.9	8	-	-	0	-	-	19.3
HCM Lane LOS		B	A	-	-	A	-	C
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.4

Intersection						
Int Delay, s/veh	0.8					
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	↶		↷	↶		↷
Traffic Vol, veh/h	542	11	13	336	0	51
Future Vol, veh/h	542	11	13	336	0	51
Conflicting Peds, #/hr	0	1	1	0	4	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	140	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	92	92	92	92
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	559	11	14	365	0	55

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	571	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	4.13	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	2.227	-	-
Pot Cap-1 Maneuver	-	-	997	-	0
Stage 1	-	-	-	-	0
Stage 2	-	-	-	-	0
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	996	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NE
HCM Control Delay, s	0	0.3	12.7
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	524	-	-	996	-
HCM Lane V/C Ratio	0.106	-	-	0.014	-
HCM Control Delay (s)	12.7	-	-	8.7	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection					
Intersection Delay, s/veh	7.2				
Intersection LOS	A				
Approach	EB	WB		NB	SB
Entry Lanes	1	2		1	1
Conflicting Circle Lanes	1	1		1	1
Adj Approach Flow, veh/h	608	326		243	23
Demand Flow Rate, veh/h	620	335		279	23
Vehicles Circulating, veh/h	22	313		531	408
Vehicles Exiting, veh/h	409	497		111	240
Ped Vol Crossing Leg, #/h	15	0		1	0
Ped Cap Adj	0.998	1.000		1.000	1.000
Approach Delay, s/veh	7.3	5.3		9.6	4.2
Approach LOS	A	A		A	A
Lane	Left	Left	Right	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized					
Lane Util	1.000	0.755	0.245	1.000	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609	2.609
Critical Headway, s	4.976	4.544	4.544	4.976	4.976
Entry Flow, veh/h	620	253	82	279	23
Cap Entry Lane, veh/h	1349	1068	1068	803	910
Entry HV Adj Factor	0.980	0.972	0.976	0.871	0.992
Flow Entry, veh/h	608	246	80	243	23
Cap Entry, veh/h	1320	1038	1042	699	903
V/C Ratio	0.460	0.237	0.077	0.348	0.025
Control Delay, s/veh	7.3	5.7	4.1	9.6	4.2
LOS	A	A	A	A	A
95th %tile Queue, veh	2	1	0	2	0

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	1	61	17	0	0	0
Future Vol, veh/h	1	61	17	0	0	0
Conflicting Peds, #/hr	1	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	6	6	1	1
Mvmt Flow	1	66	18	0	0	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	19	0	-	0	87 19
Stage 1	-	-	-	-	19 -
Stage 2	-	-	-	-	68 -
Critical Hdwy	4.11	-	-	-	6.41 6.21
Critical Hdwy Stg 1	-	-	-	-	5.41 -
Critical Hdwy Stg 2	-	-	-	-	5.41 -
Follow-up Hdwy	2.209	-	-	-	3.509 3.309
Pot Cap-1 Maneuver	1604	-	-	-	916 1062
Stage 1	-	-	-	-	1006 -
Stage 2	-	-	-	-	957 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1602	-	-	-	913 1061
Mov Cap-2 Maneuver	-	-	-	-	913 -
Stage 1	-	-	-	-	1004 -
Stage 2	-	-	-	-	956 -

Approach	EB	WB	SE
HCM Control Delay, s	0.1	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1602	-	-	-	-
HCM Lane V/C Ratio	0.001	-	-	-	-
HCM Control Delay (s)	7.2	0	-	-	0
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection												
Int Delay, s/veh	5.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations					↔			↔			↔	
Traffic Vol, veh/h	0	0	0	6	23	13	1	48	0	0	15	5
Future Vol, veh/h	0	0	0	6	23	13	1	48	0	0	15	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	7	25	14	1	52	0	0	16	5

Major/Minor	Major2	Minor1	Minor2
Conflicting Flow All	0	0	57
Stage 1	-	-	0
Stage 2	-	-	57
Critical Hdwy	4.12	-	7.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	6.12
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	940
Stage 1	-	-	-
Stage 2	-	-	955
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	921
Mov Cap-2 Maneuver	-	-	921
Stage 1	-	-	-
Stage 2	-	-	932

Approach	WB	NE	SW
HCM Control Delay, s		9.6	9.2
HCM LOS		A	A

Minor Lane/Major Mvmt	NELn1	WBL	WBT	WBRSWLn1
Capacity (veh/h)	840	-	-	888
HCM Lane V/C Ratio	0.063	-	-	0.024
HCM Control Delay (s)	9.6	-	-	9.2
HCM Lane LOS	A	-	-	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1

Intersection						
Int Delay, s/veh	3.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations				↖	↗	
Traffic Vol, veh/h	0	0	12	23	19	0
Future Vol, veh/h	0	0	12	23	19	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	13	25	21	0

Major/Minor	Major2	Minor1
Conflicting Flow All	0	0 51 -
Stage 1	-	- 0 -
Stage 2	-	- 51 -
Critical Hdwy	4.12	- 6.42 -
Critical Hdwy Stg 1	-	- - -
Critical Hdwy Stg 2	-	- 5.42 -
Follow-up Hdwy	2.218	- 3.518 -
Pot Cap-1 Maneuver	-	- 958 0
Stage 1	-	- - 0
Stage 2	-	- 971 0
Platoon blocked, %		-
Mov Cap-1 Maneuver	-	- 958 -
Mov Cap-2 Maneuver	-	- 958 -
Stage 1	-	- - -
Stage 2	-	- 971 -

Approach	WB	NB
HCM Control Delay, s		8.8
HCM LOS		A

Minor Lane/Major Mvmt	NBLn1	WBL	WBT
Capacity (veh/h)	958	-	-
HCM Lane V/C Ratio	0.022	-	-
HCM Control Delay (s)	8.8	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↶			↷
Traffic Vol, veh/h	0	0	28	8	0	6
Future Vol, veh/h	0	0	28	8	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	1	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	30	9	0	7

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

Approach	WB	SB
HCM Control Delay, s	0	8.5
HCM LOS		A

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	1038
HCM Lane V/C Ratio	-	-	0.006
HCM Control Delay (s)	-	-	8.5
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

Intersection						
Int Delay, s/veh	1.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T		T	T
Traffic Vol, veh/h	34	4	110	45	12	67
Future Vol, veh/h	34	4	110	45	12	67
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	-	-	-	56	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	3	3	4	4
Mvmt Flow	37	4	120	49	13	73

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	244	145	0	0	169
Stage 1	145	-	-	-	-
Stage 2	99	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.14
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.236
Pot Cap-1 Maneuver	747	905	-	-	1396
Stage 1	885	-	-	-	-
Stage 2	927	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	740	905	-	-	1396
Mov Cap-2 Maneuver	740	-	-	-	-
Stage 1	885	-	-	-	-
Stage 2	919	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	1.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	754	1396
HCM Lane V/C Ratio	-	-	0.055	0.009
HCM Control Delay (s)	-	-	10.1	7.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0

Intersection				
Intersection Delay, s/veh	10.5			
Intersection LOS	B			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	785	754	83	104
Demand Flow Rate, veh/h	801	761	83	105
Vehicles Circulating, veh/h	93	106	832	689
Vehicles Exiting, veh/h	701	809	62	178
Ped Vol Crossing Leg, #/h	0	1	3	1
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	11.1	10.6	7.8	7.1
Approach LOS	B	B	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	801	761	83	105
Cap Entry Lane, veh/h	1255	1238	591	683
Entry HV Adj Factor	0.980	0.990	0.998	0.990
Flow Entry, veh/h	785	754	83	104
Cap Entry, veh/h	1230	1227	589	676
V/C Ratio	0.638	0.615	0.141	0.154
Control Delay, s/veh	11.1	10.6	7.8	7.1
LOS	B	B	A	A
95th %tile Queue, veh	5	4	0	1

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	12	715	8	2	694	40	0	0	2	36	0	12
Future Vol, veh/h	12	715	8	2	694	40	0	0	2	36	0	12
Conflicting Peds, #/hr	1	0	2	2	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	85	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	93	93	93	92	92	92	94	94	94
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	13	777	9	2	746	43	0	0	2	38	0	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	790	0	0	788	0	0	1588	1604	784	1582	1587	769
Stage 1	-	-	-	-	-	-	810	810	-	773	773	-
Stage 2	-	-	-	-	-	-	778	794	-	809	814	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	835	-	-	836	-	-	88	106	395	88	109	403
Stage 1	-	-	-	-	-	-	375	395	-	393	410	-
Stage 2	-	-	-	-	-	-	391	401	-	376	393	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	834	-	-	834	-	-	84	104	394	86	107	403
Mov Cap-2 Maneuver	-	-	-	-	-	-	84	104	-	86	107	-
Stage 1	-	-	-	-	-	-	369	388	-	386	409	-
Stage 2	-	-	-	-	-	-	378	400	-	368	386	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	14.2	66.1
HCM LOS			B	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	394	834	-	-	834	-	-	107
HCM Lane V/C Ratio	0.006	0.016	-	-	0.003	-	-	0.477
HCM Control Delay (s)	14.2	9.4	-	-	9.3	-	-	66.1
HCM Lane LOS	B	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	2.1

Intersection						
Int Delay, s/veh	1.3					
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	↶		↷	↶		↷
Traffic Vol, veh/h	734	19	42	736	1	91
Future Vol, veh/h	734	19	42	736	1	91
Conflicting Peds, #/hr	0	3	3	0	7	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	140	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	94	94	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	798	21	45	783	1	99

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	822	0	1692	812
Stage 1	-	-	-	-	812	-
Stage 2	-	-	-	-	880	-
Critical Hdwy	-	-	4.11	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.209	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	812	-	103	380
Stage 1	-	-	-	-	438	-
Stage 2	-	-	-	-	407	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	810	-	96	379
Mov Cap-2 Maneuver	-	-	-	-	230	-
Stage 1	-	-	-	-	437	-
Stage 2	-	-	-	-	382	-

Approach	EB	WB	NE
HCM Control Delay, s	0	0.5	17.8
HCM LOS			C

Minor Lane/Major Mvmt	NELn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	379	-	-	810	-
HCM Lane V/C Ratio	0.261	-	-	0.055	-
HCM Control Delay (s)	17.8	-	-	9.7	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	1	-	-	0.2	-

Intersection					
Intersection Delay, s/veh	14.6				
Intersection LOS	B				
Approach	EB	WB		NB	SB
Entry Lanes	1	2		1	1
Conflicting Circle Lanes	1	1		1	1
Adj Approach Flow, veh/h	897	545		290	241
Demand Flow Rate, veh/h	905	550		292	245
Vehicles Circulating, veh/h	195	265		868	798
Vehicles Exiting, veh/h	848	895		232	17
Ped Vol Crossing Leg, #/h	1	0		0	2
Ped Cap Adj	1.000	1.000		1.000	1.000
Approach Delay, s/veh	18.6	8.8		15.4	12.0
Approach LOS	C	A		C	B
Lane	Left	Left	Right	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized					
Lane Util	1.000	0.996	0.004	1.000	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609	2.609
Critical Headway, s	4.976	4.544	4.544	4.976	4.976
Entry Flow, veh/h	905	548	2	292	245
Cap Entry Lane, veh/h	1131	1116	1116	569	611
Entry HV Adj Factor	0.991	0.990	1.000	0.993	0.982
Flow Entry, veh/h	897	543	2	290	241
Cap Entry, veh/h	1120	1105	1116	565	600
V/C Ratio	0.800	0.491	0.002	0.513	0.401
Control Delay, s/veh	18.6	8.8	3.2	15.4	12.0
LOS	C	A	A	C	B
95th %tile Queue, veh	9	3	0	3	2

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	3	76	38	18	13	5
Future Vol, veh/h	3	76	38	18	13	5
Conflicting Peds, #/hr	0	0	0	0	3	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	3	83	41	20	14	5

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	61	0	-	0	143 51
Stage 1	-	-	-	-	51 -
Stage 2	-	-	-	-	92 -
Critical Hdwy	4.11	-	-	-	6.41 6.21
Critical Hdwy Stg 1	-	-	-	-	5.41 -
Critical Hdwy Stg 2	-	-	-	-	5.41 -
Follow-up Hdwy	2.209	-	-	-	3.509 3.309
Pot Cap-1 Maneuver	1549	-	-	-	852 1020
Stage 1	-	-	-	-	974 -
Stage 2	-	-	-	-	934 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1549	-	-	-	850 1020
Mov Cap-2 Maneuver	-	-	-	-	850 -
Stage 1	-	-	-	-	972 -
Stage 2	-	-	-	-	934 -

Approach	EB	WB	SE
HCM Control Delay, s	0.3	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1549	-	-	-	891
HCM Lane V/C Ratio	0.002	-	-	-	0.022
HCM Control Delay (s)	7.3	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection												
Int Delay, s/veh	5.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations				↕			↕			↕		
Traffic Vol, veh/h	0	0	0	19	71	8	0	73	0	0	30	18
Future Vol, veh/h	0	0	0	19	71	8	0	73	0	0	30	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	21	77	9	0	79	0	0	33	20

Major/Minor	Major2	Minor1	Minor2
Conflicting Flow All	0	0	150
Stage 1	-	-	0
Stage 2	-	-	150
Critical Hdwy	4.12	-	7.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	6.12
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	818
Stage 1	-	-	-
Stage 2	-	-	853
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	775
Mov Cap-2 Maneuver	-	-	775
Stage 1	-	-	-
Stage 2	-	-	802

Approach	WB	NE	SW
HCM Control Delay, s		10.3	9.6
HCM LOS		B	A

Minor Lane/Major Mvmt	NELn1	WBL	WBT	WBRSWLn1
Capacity (veh/h)	763	-	-	834
HCM Lane V/C Ratio	0.104	-	-	0.063
HCM Control Delay (s)	10.3	-	-	9.6
HCM Lane LOS	B	-	-	A
HCM 95th %tile Q(veh)	0.3	-	-	0.2

Intersection						
Int Delay, s/veh	3.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations				↖ ↗	↖ ↗	
Traffic Vol, veh/h	0	0	9	60	39	0
Future Vol, veh/h	0	0	9	60	39	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	10	65	42	0

Major/Minor	Major2	Minor1
Conflicting Flow All	0	85
Stage 1	-	0
Stage 2	-	85
Critical Hdwy	4.12	6.42
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	5.42
Follow-up Hdwy	2.218	3.518
Pot Cap-1 Maneuver	-	916
Stage 1	-	0
Stage 2	-	938
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	916
Mov Cap-2 Maneuver	-	916
Stage 1	-	-
Stage 2	-	938

Approach	WB	NB
HCM Control Delay, s		9.1
HCM LOS		A

Minor Lane/Major Mvmt	NBLn1	WBL	WBT
Capacity (veh/h)	916	-	-
HCM Lane V/C Ratio	0.046	-	-
HCM Control Delay (s)	9.1	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↶			↷
Traffic Vol, veh/h	0	0	65	6	0	4
Future Vol, veh/h	0	0	65	6	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	1	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	71	7	0	4

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

Approach	WB	SB
HCM Control Delay, s	0	8.7
HCM LOS		A

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	986
HCM Lane V/C Ratio	-	-	0.004
HCM Control Delay (s)	-	-	8.7
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

Intersection						
Int Delay, s/veh	1.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T		T	T
Traffic Vol, veh/h	34	5	207	32	14	123
Future Vol, veh/h	34	5	207	32	14	123
Conflicting Peds, #/hr	1	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	56	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	2	2	2	2
Mvmt Flow	37	5	225	35	15	134

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	408	244	0	0	260
Stage 1	243	-	-	-	-
Stage 2	165	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218
Pot Cap-1 Maneuver	601	797	-	-	1304
Stage 1	800	-	-	-	-
Stage 2	867	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	593	796	-	-	1304
Mov Cap-2 Maneuver	593	-	-	-	-
Stage 1	800	-	-	-	-
Stage 2	856	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.3	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	613	1304
HCM Lane V/C Ratio	-	-	0.069	0.012
HCM Control Delay (s)	-	-	11.3	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0



***Intersection Capacity Worksheets:
2043 Background***



Intersection				
Intersection Delay, s/veh	6.7			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	553	448	88	120
Demand Flow Rate, veh/h	564	457	89	121
Vehicles Circulating, veh/h	104	51	620	430
Vehicles Exiting, veh/h	447	658	48	78
Ped Vol Crossing Leg, #/h	0	3	3	1
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.7	6.0	6.3	5.4
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	564	457	89	121
Cap Entry Lane, veh/h	1241	1310	733	890
Entry HV Adj Factor	0.980	0.981	0.989	0.990
Flow Entry, veh/h	553	448	88	120
Cap Entry, veh/h	1216	1284	725	881
V/C Ratio	0.454	0.349	0.121	0.136
Control Delay, s/veh	7.7	6.0	6.3	5.4
LOS	A	A	A	A
95th %tile Queue, veh	2	2	0	0

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	2	605	1	0	380	10	0	0	2	30	0	10
Future Vol, veh/h	2	605	1	0	380	10	0	0	2	30	0	10
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	85	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	1	1	1	1	1	1
Mvmt Flow	2	644	1	0	413	11	0	0	2	33	0	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	425	0	0	646	0	0	1074	1075	649	1073	1070	420
Stage 1	-	-	-	-	-	-	650	650	-	420	420	-
Stage 2	-	-	-	-	-	-	424	425	-	653	650	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1134	-	-	939	-	-	198	220	472	199	222	635
Stage 1	-	-	-	-	-	-	460	467	-	613	591	-
Stage 2	-	-	-	-	-	-	610	588	-	458	467	-
Platoon blocked, %		-	-	-	-	-						
Mov Cap-1 Maneuver	1133	-	-	938	-	-	194	219	470	197	221	634
Mov Cap-2 Maneuver	-	-	-	-	-	-	194	219	-	197	221	-
Stage 1	-	-	-	-	-	-	459	466	-	611	590	-
Stage 2	-	-	-	-	-	-	600	587	-	454	466	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0			12.7			23.5		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	470	1133	-	-	938	-	-	238
HCM Lane V/C Ratio	0.005	0.002	-	-	-	-	-	0.183
HCM Control Delay (s)	12.7	8.2	-	-	0	-	-	23.5
HCM Lane LOS		B	A	-	-	A	-	C
HCM 95th %tile Q(veh)		0	0	-	-	0	-	0.7

Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	↶		↷	↶		↷
Traffic Vol, veh/h	620	15	15	390	0	60
Future Vol, veh/h	620	15	15	390	0	60
Conflicting Peds, #/hr	0	1	1	0	4	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	140	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	92	92	92	92
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	639	15	16	424	0	65

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	655	0	- 648
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	4.13	-	- 6.22
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	2.227	-	- 3.318
Pot Cap-1 Maneuver	-	-	927	-	0 470
Stage 1	-	-	-	-	0 -
Stage 2	-	-	-	-	0 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	926	-	- 470
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NE
HCM Control Delay, s	0	0.3	13.9
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	470	-	-	926	-
HCM Lane V/C Ratio	0.139	-	-	0.018	-
HCM Control Delay (s)	13.9	-	-	9	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

Intersection					
Intersection Delay, s/veh	9.0				
Intersection LOS	A				
Approach	EB	WB		NB	SB
Entry Lanes	1	2		1	1
Conflicting Circle Lanes	1	1		1	1
Adj Approach Flow, veh/h	732	391		294	33
Demand Flow Rate, veh/h	746	403		338	33
Vehicles Circulating, veh/h	33	372		636	494
Vehicles Exiting, veh/h	494	602		143	281
Ped Vol Crossing Leg, #/h	15	0		1	0
Ped Cap Adj	0.998	1.000		1.000	1.000
Approach Delay, s/veh	9.0	6.2		13.0	4.7
Approach LOS	A	A		B	A
Lane	Left	Left	Right	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized					
Lane Util	1.000	0.764	0.236	1.000	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609	2.609
Critical Headway, s	4.976	4.544	4.544	4.976	4.976
Entry Flow, veh/h	746	308	95	338	33
Cap Entry Lane, veh/h	1334	1012	1012	721	834
Entry HV Adj Factor	0.981	0.972	0.968	0.871	0.990
Flow Entry, veh/h	732	299	92	294	33
Cap Entry, veh/h	1306	984	980	628	826
V/C Ratio	0.560	0.304	0.094	0.469	0.040
Control Delay, s/veh	9.0	6.8	4.5	13.0	4.7
LOS	A	A	A	B	A
95th %tile Queue, veh	4	1	0	2	0

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	1	75	20	0	0	0
Future Vol, veh/h	1	75	20	0	0	0
Conflicting Peds, #/hr	1	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	6	6	1	1
Mvmt Flow	1	82	22	0	0	0

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	23	0	-	0	107 23
Stage 1	-	-	-	-	23 -
Stage 2	-	-	-	-	84 -
Critical Hdwy	4.11	-	-	-	6.41 6.21
Critical Hdwy Stg 1	-	-	-	-	5.41 -
Critical Hdwy Stg 2	-	-	-	-	5.41 -
Follow-up Hdwy	2.209	-	-	-	3.509 3.309
Pot Cap-1 Maneuver	1599	-	-	-	893 1057
Stage 1	-	-	-	-	1002 -
Stage 2	-	-	-	-	942 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1597	-	-	-	890 1056
Mov Cap-2 Maneuver	-	-	-	-	890 -
Stage 1	-	-	-	-	1000 -
Stage 2	-	-	-	-	941 -

Approach	EB	WB	SE
HCM Control Delay, s	0.1	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1597	-	-	-	-
HCM Lane V/C Ratio	0.001	-	-	-	-
HCM Control Delay (s)	7.3	0	-	-	0
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Intersection												
Int Delay, s/veh	6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations				↕			↕			↕		
Traffic Vol, veh/h	0	0	0	10	30	15	1	60	0	0	20	10
Future Vol, veh/h	0	0	0	10	30	15	1	60	0	0	20	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	11	33	16	1	65	0	0	22	11

Major/Minor	Major2	Minor1	Minor2
Conflicting Flow All	0	0	80
Stage 1	-	-	0
Stage 2	-	-	80
Critical Hdwy	4.12	-	7.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	6.12
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	908
Stage 1	-	-	-
Stage 2	-	-	929
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	881
Mov Cap-2 Maneuver	-	-	881
Stage 1	-	-	-
Stage 2	-	-	895

Approach	WB	NE	SW
HCM Control Delay, s		9.8	9.2
HCM LOS		A	A

Minor Lane/Major Mvmt	NELn1	WBL	WBT	WBR	SWLn1
Capacity (veh/h)	820	-	-	-	886
HCM Lane V/C Ratio	0.081	-	-	-	0.037
HCM Control Delay (s)	9.8	-	-	-	9.2
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0.3	-	-	-	0.1

Intersection						
Int Delay, s/veh	3.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations				↖ ↗	↖ ↗	
Traffic Vol, veh/h	0	0	15	30	25	0
Future Vol, veh/h	0	0	15	30	25	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	16	33	27	0

Major/Minor	Major2	Minor1
Conflicting Flow All	0	0 65
Stage 1	-	- 0
Stage 2	-	- 65
Critical Hdwy	4.12	- 6.42
Critical Hdwy Stg 1	-	- -
Critical Hdwy Stg 2	-	- 5.42
Follow-up Hdwy	2.218	- 3.518
Pot Cap-1 Maneuver	-	- 941 0
Stage 1	-	- - 0
Stage 2	-	- 958 0
Platoon blocked, %		-
Mov Cap-1 Maneuver	-	- 941 -
Mov Cap-2 Maneuver	-	- 941 -
Stage 1	-	- - -
Stage 2	-	- 958 -

Approach	WB	NB
HCM Control Delay, s		8.9
HCM LOS		A

Minor Lane/Major Mvmt	NBLn1	WBL	WBT
Capacity (veh/h)	941	-	-
HCM Lane V/C Ratio	0.029	-	-
HCM Control Delay (s)	8.9	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↑			↑
Traffic Vol, veh/h	0	0	35	10	0	10
Future Vol, veh/h	0	0	35	10	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	1	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	38	11	0	11

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

Approach	WB	SB
HCM Control Delay, s	0	8.5
HCM LOS		A

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	1026
HCM Lane V/C Ratio	-	-	0.011
HCM Control Delay (s)	-	-	8.5
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

Intersection						
Int Delay, s/veh	1.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	40	5	130	55	15	80
Future Vol, veh/h	40	5	130	55	15	80
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	-	-	-	56	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	3	3	4	4
Mvmt Flow	43	5	141	60	16	87

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	290	171	0	0	201
Stage 1	171	-	-	-	-
Stage 2	119	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.14
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.236
Pot Cap-1 Maneuver	703	875	-	-	1359
Stage 1	861	-	-	-	-
Stage 2	909	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	695	875	-	-	1359
Mov Cap-2 Maneuver	695	-	-	-	-
Stage 1	861	-	-	-	-
Stage 2	898	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.4	0	1.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	711	1359
HCM Lane V/C Ratio	-	-	0.069	0.012
HCM Control Delay (s)	-	-	10.4	7.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0

Intersection				
Intersection Delay, s/veh	14.2			
Intersection LOS	B			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	908	870	105	125
Demand Flow Rate, veh/h	926	878	105	126
Vehicles Circulating, veh/h	116	135	964	794
Vehicles Exiting, veh/h	804	934	78	219
Ped Vol Crossing Leg, #/h	0	1	3	1
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	15.4	14.4	9.8	8.5
Approach LOS	C	B	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	926	878	105	126
Cap Entry Lane, veh/h	1226	1202	516	614
Entry HV Adj Factor	0.980	0.991	0.998	0.991
Flow Entry, veh/h	908	870	105	125
Cap Entry, veh/h	1202	1191	515	608
V/C Ratio	0.755	0.730	0.203	0.205
Control Delay, s/veh	15.4	14.4	9.8	8.5
LOS	C	B	A	A
95th %tile Queue, veh	8	7	1	1

Intersection												
Int Delay, s/veh	5.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	15	825	10	2	795	50	0	0	2	45	0	15
Future Vol, veh/h	15	825	10	2	795	50	0	0	2	45	0	15
Conflicting Peds, #/hr	1	0	2	2	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	85	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	93	93	93	92	92	92	94	94	94
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	16	897	11	2	855	54	0	0	2	48	0	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	910	0	0	910	0	0	1831	1851	905	1823	1829	883
Stage 1	-	-	-	-	-	-	937	937	-	887	887	-
Stage 2	-	-	-	-	-	-	894	914	-	936	942	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	753	-	-	753	-	-	59	75	336	60	77	346
Stage 1	-	-	-	-	-	-	319	345	-	340	364	-
Stage 2	-	-	-	-	-	-	337	353	-	319	343	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	752	-	-	752	-	-	55	73	335	58	75	346
Mov Cap-2 Maneuver	-	-	-	-	-	-	55	73	-	58	75	-
Stage 1	-	-	-	-	-	-	312	337	-	333	363	-
Stage 2	-	-	-	-	-	-	321	352	-	310	335	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0			15.8			168.2		
HCM LOS							C			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	335	752	-	-	752	-	-	73
HCM Lane V/C Ratio	0.006	0.022	-	-	0.003	-	-	0.874
HCM Control Delay (s)	15.8	9.9	-	-	9.8	-	-	168.2
HCM Lane LOS	C	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	0	0.1	-	-	0	-	-	4.4

Intersection						
Int Delay, s/veh	1.6					
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	↶		↷	↶		↷
Traffic Vol, veh/h	845	25	50	840	1	110
Future Vol, veh/h	845	25	50	840	1	110
Conflicting Peds, #/hr	0	3	3	0	7	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	140	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	94	94	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	918	27	53	894	1	120

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	948	0	1942 935
Stage 1	-	-	-	-	935 -
Stage 2	-	-	-	-	1007 -
Critical Hdwy	-	-	4.11	-	6.41 6.21
Critical Hdwy Stg 1	-	-	-	-	5.41 -
Critical Hdwy Stg 2	-	-	-	-	5.41 -
Follow-up Hdwy	-	-	2.209	-	3.509 3.309
Pot Cap-1 Maneuver	-	-	728	-	72 323
Stage 1	-	-	-	-	384 -
Stage 2	-	-	-	-	355 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	726	-	66 322
Mov Cap-2 Maneuver	-	-	-	-	191 -
Stage 1	-	-	-	-	383 -
Stage 2	-	-	-	-	327 -

Approach	EB	WB	NE
HCM Control Delay, s	0	0.6	22.6
HCM LOS			C

Minor Lane/Major Mvmt	NELn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	322	-	-	726	-
HCM Lane V/C Ratio	0.371	-	-	0.073	-
HCM Control Delay (s)	22.6	-	-	10.3	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	1.7	-	-	0.2	-

Intersection					
Intersection Delay, s/veh	26.1				
Intersection LOS	D				
Approach	EB	WB		NB	SB
Entry Lanes	1	2		1	1
Conflicting Circle Lanes	1	1		1	1
Adj Approach Flow, veh/h	1032	632		334	282
Demand Flow Rate, veh/h	1042	638		337	288
Vehicles Circulating, veh/h	235	305		1003	924
Vehicles Exiting, veh/h	977	1035		274	19
Ped Vol Crossing Leg, #/h	1	0		0	2
Ped Cap Adj	1.000	1.000		1.000	1.000
Approach Delay, s/veh	38.2	11.1		24.8	17.1
Approach LOS	E	B		C	C
Lane	Left	Left	Right	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized					
Lane Util	1.000	0.997	0.003	1.000	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609	2.609
Critical Headway, s	4.976	4.544	4.544	4.976	4.976
Entry Flow, veh/h	1042	636	2	337	288
Cap Entry Lane, veh/h	1086	1076	1076	496	538
Entry HV Adj Factor	0.990	0.990	1.000	0.991	0.981
Flow Entry, veh/h	1032	630	2	334	282
Cap Entry, veh/h	1075	1066	1076	492	527
V/C Ratio	0.960	0.591	0.002	0.679	0.536
Control Delay, s/veh	38.2	11.1	3.4	24.8	17.1
LOS	E	B	A	C	C
95th %tile Queue, veh	17	4	0	5	3

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	4	90	45	25	15	10
Future Vol, veh/h	4	90	45	25	15	10
Conflicting Peds, #/hr	0	0	0	0	3	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	4	98	49	27	16	11

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	76	0	-	0	172 63
Stage 1	-	-	-	-	63 -
Stage 2	-	-	-	-	109 -
Critical Hdwy	4.11	-	-	-	6.41 6.21
Critical Hdwy Stg 1	-	-	-	-	5.41 -
Critical Hdwy Stg 2	-	-	-	-	5.41 -
Follow-up Hdwy	2.209	-	-	-	3.509 3.309
Pot Cap-1 Maneuver	1529	-	-	-	820 1004
Stage 1	-	-	-	-	962 -
Stage 2	-	-	-	-	918 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1529	-	-	-	818 1004
Mov Cap-2 Maneuver	-	-	-	-	818 -
Stage 1	-	-	-	-	959 -
Stage 2	-	-	-	-	918 -

Approach	EB	WB	SE
HCM Control Delay, s	0.3	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1529	-	-	-	883
HCM Lane V/C Ratio	0.003	-	-	-	0.031
HCM Control Delay (s)	7.4	0	-	-	9.2
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection												
Int Delay, s/veh	5.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations					↔			↔			↔	
Traffic Vol, veh/h	0	0	0	25	85	10	0	80	0	0	30	25
Future Vol, veh/h	0	0	0	25	85	10	0	80	0	0	30	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	27	92	11	0	87	0	0	33	27

Major/Minor	Major2	Minor1	Minor2
Conflicting Flow All	0	0	182
Stage 1	-	-	0
Stage 2	-	-	182
Critical Hdwy	4.12	-	7.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	6.12
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	779
Stage 1	-	-	-
Stage 2	-	-	820
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	731
Mov Cap-2 Maneuver	-	-	731
Stage 1	-	-	-
Stage 2	-	-	763

Approach	WB	NE	SW
HCM Control Delay, s		10.6	9.7
HCM LOS		B	A

Minor Lane/Major Mvmt	NELn1	WBL	WBT	WBR	SWLn1
Capacity (veh/h)	735	-	-	-	825
HCM Lane V/C Ratio	0.118	-	-	-	0.072
HCM Control Delay (s)	10.6	-	-	-	9.7
HCM Lane LOS	B	-	-	-	A
HCM 95th %tile Q(veh)	0.4	-	-	-	0.2

Intersection						
Int Delay, s/veh	3.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations				↖ ↗	↖ ↗	
Traffic Vol, veh/h	0	0	15	70	45	0
Future Vol, veh/h	0	0	15	70	45	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	16	76	49	0

Major/Minor	Major2	Minor1		
Conflicting Flow All	0	0	108	-
Stage 1	-	-	0	-
Stage 2	-	-	108	-
Critical Hdwy	4.12	-	6.42	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.42	-
Follow-up Hdwy	2.218	-	3.518	-
Pot Cap-1 Maneuver	-	-	889	0
Stage 1	-	-	-	0
Stage 2	-	-	916	0
Platoon blocked, %			-	
Mov Cap-1 Maneuver	-	-	889	-
Mov Cap-2 Maneuver	-	-	889	-
Stage 1	-	-	-	-
Stage 2	-	-	916	-

Approach	WB	NB
HCM Control Delay, s		9.3
HCM LOS		A

Minor Lane/Major Mvmt	NBLn1	WBL	WBT
Capacity (veh/h)	889	-	-
HCM Lane V/C Ratio	0.055	-	-
HCM Control Delay (s)	9.3	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↶			↷
Traffic Vol, veh/h	0	0	80	10	0	5
Future Vol, veh/h	0	0	80	10	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	1	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	87	11	0	5

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

Approach	WB	SB
HCM Control Delay, s	0	8.8
HCM LOS		A

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	964
HCM Lane V/C Ratio	-	-	0.006
HCM Control Delay (s)	-	-	8.8
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

Intersection						
Int Delay, s/veh	1.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	40	10	240	40	20	145
Future Vol, veh/h	40	10	240	40	20	145
Conflicting Peds, #/hr	1	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	56	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	2	2	2	2
Mvmt Flow	43	11	261	43	22	158

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	486	284	0	0	304	0
Stage 1	283	-	-	-	-	-
Stage 2	203	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218	-
Pot Cap-1 Maneuver	542	757	-	-	1257	-
Stage 1	767	-	-	-	-	-
Stage 2	833	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	532	756	-	-	1257	-
Mov Cap-2 Maneuver	532	-	-	-	-	-
Stage 1	767	-	-	-	-	-
Stage 2	817	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12	0	1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	566	1257
HCM Lane V/C Ratio	-	-	0.096	0.017
HCM Control Delay (s)	-	-	12	7.9
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1

***Intersection Capacity Worksheets:
2028 Background +
Project***

Intersection				
Intersection Delay, s/veh	6.0			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	484	387	70	99
Demand Flow Rate, veh/h	493	395	71	100
Vehicles Circulating, veh/h	86	42	542	371
Vehicles Exiting, veh/h	385	571	37	66
Ped Vol Crossing Leg, #/h	0	3	3	1
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.7	5.5	5.5	4.8
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	493	395	71	100
Cap Entry Lane, veh/h	1264	1322	794	945
Entry HV Adj Factor	0.982	0.980	0.986	0.989
Flow Entry, veh/h	484	387	70	99
Cap Entry, veh/h	1241	1296	782	934
V/C Ratio	0.390	0.299	0.089	0.106
Control Delay, s/veh	6.7	5.5	5.5	4.8
LOS	A	A	A	A
95th %tile Queue, veh	2	1	0	0

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖				↖		↔	
Traffic Vol, veh/h	2	531	4	0	332	7	0	0	14	23	0	6
Future Vol, veh/h	2	531	4	0	332	7	0	0	14	23	0	6
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	1	1	1	1	1	1
Mvmt Flow	2	565	4	0	361	8	0	0	15	25	0	7

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	370	0	0	-	-	0	-	-	571	948	940	366
Stage 1	-	-	-	-	-	-	-	-	-	366	366	-
Stage 2	-	-	-	-	-	-	-	-	-	582	574	-
Critical Hdwy	4.12	-	-	-	-	-	-	-	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.11	5.51	-
Follow-up Hdwy	2.218	-	-	-	-	-	-	-	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1189	-	-	0	-	-	0	0	522	242	265	681
Stage 1	-	-	-	0	-	-	0	0	-	655	624	-
Stage 2	-	-	-	0	-	-	0	0	-	501	505	-
Platoon blocked, %		-	-	-	-	-	-	-				
Mov Cap-1 Maneuver	1188	-	-	-	-	-	-	-	520	234	264	680
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	357	372	-
Stage 1	-	-	-	-	-	-	-	-	-	653	623	-
Stage 2	-	-	-	-	-	-	-	-	-	484	503	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0	12.1	14.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	520	1188	-	-	-	-	396
HCM Lane V/C Ratio	0.029	0.002	-	-	-	-	0.08
HCM Control Delay (s)	12.1	8	-	-	-	-	14.9
HCM Lane LOS	B	A	-	-	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	-	-	0.3

Intersection						
Int Delay, s/veh	1.2					
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	↶		↷	↶		↷
Traffic Vol, veh/h	554	14	23	340	0	72
Future Vol, veh/h	554	14	23	340	0	72
Conflicting Peds, #/hr	0	1	1	0	4	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	140	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	92	92	92	92
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	571	14	25	370	0	78

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	586	0	- 579
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	4.13	-	- 6.22
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	2.227	-	- 3.318
Pot Cap-1 Maneuver	-	-	984	-	0 515
Stage 1	-	-	-	-	0 -
Stage 2	-	-	-	-	0 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	983	-	- 515
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NE
HCM Control Delay, s	0	0.6	13.2
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	515	-	-	983	-
HCM Lane V/C Ratio	0.152	-	-	0.025	-
HCM Control Delay (s)	13.2	-	-	8.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

Intersection					
Intersection Delay, s/veh	7.5				
Intersection LOS	A				
Approach	EB	WB		NB	SB
Entry Lanes	1	2		1	1
Conflicting Circle Lanes	1	1		1	1
Adj Approach Flow, veh/h	641	337		247	23
Demand Flow Rate, veh/h	654	347		284	23
Vehicles Circulating, veh/h	22	318		556	425
Vehicles Exiting, veh/h	426	522		120	240
Ped Vol Crossing Leg, #/h	15	0		1	0
Ped Cap Adj	0.998	1.000		1.000	1.000
Approach Delay, s/veh	7.7	5.5		10.1	4.3
Approach LOS	A	A		B	A
Lane	Left	Left	Right	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized					
Lane Util	1.000	0.764	0.236	1.000	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609	2.609
Critical Headway, s	4.976	4.544	4.544	4.976	4.976
Entry Flow, veh/h	654	265	82	284	23
Cap Entry Lane, veh/h	1349	1063	1063	783	895
Entry HV Adj Factor	0.981	0.972	0.976	0.870	0.992
Flow Entry, veh/h	641	257	80	247	23
Cap Entry, veh/h	1320	1033	1037	681	888
V/C Ratio	0.486	0.249	0.077	0.363	0.026
Control Delay, s/veh	7.7	5.9	4.1	10.1	4.3
LOS	A	A	A	B	A
95th %tile Queue, veh	3	1	0	2	0

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	4	61	20	10	21	3
Future Vol, veh/h	4	61	20	10	21	3
Conflicting Peds, #/hr	1	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	6	6	1	1
Mvmt Flow	4	66	22	11	23	3

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	34	0	-	0	103 29
Stage 1	-	-	-	-	29 -
Stage 2	-	-	-	-	74 -
Critical Hdwy	4.11	-	-	-	6.41 6.21
Critical Hdwy Stg 1	-	-	-	-	5.41 -
Critical Hdwy Stg 2	-	-	-	-	5.41 -
Follow-up Hdwy	2.209	-	-	-	3.509 3.309
Pot Cap-1 Maneuver	1584	-	-	-	898 1049
Stage 1	-	-	-	-	996 -
Stage 2	-	-	-	-	951 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1582	-	-	-	894 1048
Mov Cap-2 Maneuver	-	-	-	-	894 -
Stage 1	-	-	-	-	992 -
Stage 2	-	-	-	-	950 -

Approach	EB	WB	SE
HCM Control Delay, s	0.4	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1582	-	-	-	911
HCM Lane V/C Ratio	0.003	-	-	-	0.029
HCM Control Delay (s)	7.3	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection												
Int Delay, s/veh	6.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations					↔			↔			↔	
Traffic Vol, veh/h	0	0	0	6	23	13	1	51	0	0	21	5
Future Vol, veh/h	0	0	0	6	23	13	1	51	0	0	21	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	7	25	14	1	55	0	0	23	5

Major/Minor	Major2	Minor1	Minor2
Conflicting Flow All	0	0	60
Stage 1	-	-	0
Stage 2	-	-	60
Critical Hdwy	4.12	-	7.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	6.12
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	936
Stage 1	-	-	-
Stage 2	-	-	951
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	912
Mov Cap-2 Maneuver	-	-	912
Stage 1	-	-	-
Stage 2	-	-	921

Approach	WB	NE	SW
HCM Control Delay, s		9.6	9.2
HCM LOS		A	A

Minor Lane/Major Mvmt	NELn1	WBL	WBT	WBR	SWLn1
Capacity (veh/h)	839	-	-	-	878
HCM Lane V/C Ratio	0.067	-	-	-	0.032
HCM Control Delay (s)	9.6	-	-	-	9.2
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1

Intersection						
Int Delay, s/veh	3.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations				↕	↕	
Traffic Vol, veh/h	0	0	12	23	19	0
Future Vol, veh/h	0	0	12	23	19	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	13	25	21	0

Major/Minor	Major2	Minor1
Conflicting Flow All	0	0 51 -
Stage 1	-	- 0 -
Stage 2	-	- 51 -
Critical Hdwy	4.12	- 6.42 -
Critical Hdwy Stg 1	-	- - -
Critical Hdwy Stg 2	-	- 5.42 -
Follow-up Hdwy	2.218	- 3.518 -
Pot Cap-1 Maneuver	-	- 958 0
Stage 1	-	- - 0
Stage 2	-	- 971 0
Platoon blocked, %		-
Mov Cap-1 Maneuver	-	- 958 -
Mov Cap-2 Maneuver	-	- 958 -
Stage 1	-	- - -
Stage 2	-	- 971 -

Approach	WB	NB
HCM Control Delay, s		8.8
HCM LOS		A

Minor Lane/Major Mvmt	NBLn1	WBL	WBT
Capacity (veh/h)	958	-	-
HCM Lane V/C Ratio	0.022	-	-
HCM Control Delay (s)	8.8	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↶			↷
Traffic Vol, veh/h	0	0	28	8	0	6
Future Vol, veh/h	0	0	28	8	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	1	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	30	9	0	7

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

Approach	WB	SB
HCM Control Delay, s	0	8.5
HCM LOS		A

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	1038
HCM Lane V/C Ratio	-	-	0.006
HCM Control Delay (s)	-	-	8.5
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

Intersection						
Int Delay, s/veh	1.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	40	4	110	48	12	67
Future Vol, veh/h	40	4	110	48	12	67
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	-	-	-	56	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	3	3	4	4
Mvmt Flow	43	4	120	52	13	73

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	245	146	0	0	172
Stage 1	146	-	-	-	-
Stage 2	99	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.14
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.236
Pot Cap-1 Maneuver	746	904	-	-	1393
Stage 1	884	-	-	-	-
Stage 2	927	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	739	904	-	-	1393
Mov Cap-2 Maneuver	739	-	-	-	-
Stage 1	884	-	-	-	-
Stage 2	919	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	1.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	751	1393
HCM Lane V/C Ratio	-	-	0.064	0.009
HCM Control Delay (s)	-	-	10.1	7.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔		↔	
Traffic Vol, veh/h	534	6	4	334	20	3
Future Vol, veh/h	534	6	4	334	20	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	580	7	4	363	22	3

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	587	0	955
Stage 1	-	-	-	-	584
Stage 2	-	-	-	-	371
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	988	-	287
Stage 1	-	-	-	-	557
Stage 2	-	-	-	-	698
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	988	-	286
Mov Cap-2 Maneuver	-	-	-	-	410
Stage 1	-	-	-	-	557
Stage 2	-	-	-	-	695

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	14.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	421	-	-	988	-
HCM Lane V/C Ratio	0.059	-	-	0.004	-
HCM Control Delay (s)	14.1	-	-	8.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection				
Intersection Delay, s/veh	10.8			
Intersection LOS	B			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	806	769	83	104
Demand Flow Rate, veh/h	822	776	83	105
Vehicles Circulating, veh/h	93	106	853	704
Vehicles Exiting, veh/h	716	830	62	178
Ped Vol Crossing Leg, #/h	0	1	3	1
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	11.6	10.9	8.0	7.2
Approach LOS	B	B	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	822	776	83	105
Cap Entry Lane, veh/h	1255	1238	578	673
Entry HV Adj Factor	0.980	0.990	0.998	0.990
Flow Entry, veh/h	806	769	83	104
Cap Entry, veh/h	1230	1226	577	666
V/C Ratio	0.655	0.627	0.144	0.156
Control Delay, s/veh	11.6	10.9	8.0	7.2
LOS	B	B	A	A
95th %tile Queue, veh	5	5	0	1

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖				↗		↔	
Traffic Vol, veh/h	12	717	13	0	702	40	0	0	10	36	0	12
Future Vol, veh/h	12	717	13	0	702	40	0	0	10	36	0	12
Conflicting Peds, #/hr	1	0	2	2	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	93	93	93	92	92	92	94	94	94
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	13	779	14	0	755	43	0	0	11	38	0	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	799	0	0	-	-	0	-	-	788	1596	1599	778
Stage 1	-	-	-	-	-	-	-	-	-	778	778	-
Stage 2	-	-	-	-	-	-	-	-	-	818	821	-
Critical Hdwy	4.11	-	-	-	-	-	-	-	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	-	-	-	-	-	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	828	-	-	0	-	0	0	0	393	87	107	398
Stage 1	-	-	-	0	-	0	0	0	-	391	408	-
Stage 2	-	-	-	0	-	0	0	0	-	371	390	-
Platoon blocked, %		-	-	-	-							
Mov Cap-1 Maneuver	827	-	-	-	-	-	-	-	392	84	105	398
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	207	228	-
Stage 1	-	-	-	-	-	-	-	-	-	384	408	-
Stage 2	-	-	-	-	-	-	-	-	-	355	383	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	14.4	24.5
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	392	827	-	-	-	-	235
HCM Lane V/C Ratio	0.028	0.016	-	-	-	-	0.217
HCM Control Delay (s)	14.4	9.4	-	-	-	-	24.5
HCM Lane LOS	B	A	-	-	-	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	-	-	0.8

Intersection						
Int Delay, s/veh	1.6					
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	↶		↷	↶		↷
Traffic Vol, veh/h	742	21	64	744	0	105
Future Vol, veh/h	742	21	64	744	0	105
Conflicting Peds, #/hr	0	3	3	0	7	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	140	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	94	94	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	807	23	68	791	0	114

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	833	0	- 822
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	4.11	-	- 6.21
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	2.209	-	- 3.309
Pot Cap-1 Maneuver	-	-	804	-	0 375
Stage 1	-	-	-	-	0 -
Stage 2	-	-	-	-	0 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	802	-	- 374
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NE
HCM Control Delay, s	0	0.8	18.8
HCM LOS			C

Minor Lane/Major Mvmt	NELn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	374	-	-	802	-
HCM Lane V/C Ratio	0.305	-	-	0.085	-
HCM Control Delay (s)	18.8	-	-	9.9	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	1.3	-	-	0.3	-

Intersection					
Intersection Delay, s/veh	15.7				
Intersection LOS	C				
Approach	EB	WB		NB	SB
Entry Lanes	1	2		1	1
Conflicting Circle Lanes	1	1		1	1
Adj Approach Flow, veh/h	920	569		299	241
Demand Flow Rate, veh/h	930	575		302	245
Vehicles Circulating, veh/h	195	275		886	833
Vehicles Exiting, veh/h	883	913		239	17
Ped Vol Crossing Leg, #/h	1	0		0	2
Ped Cap Adj	1.000	1.000		1.000	1.000
Approach Delay, s/veh	20.2	9.3		16.6	12.6
Approach LOS	C	A		C	B
Lane	Left	Left	Right	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized					
Lane Util	1.000	0.997	0.003	1.000	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609	2.609
Critical Headway, s	4.976	4.544	4.544	4.976	4.976
Entry Flow, veh/h	930	573	2	302	245
Cap Entry Lane, veh/h	1131	1106	1106	559	590
Entry HV Adj Factor	0.990	0.990	1.000	0.990	0.982
Flow Entry, veh/h	920	567	2	299	241
Cap Entry, veh/h	1119	1095	1106	553	579
V/C Ratio	0.822	0.518	0.002	0.540	0.415
Control Delay, s/veh	20.2	9.4	3.3	16.6	12.6
LOS	C	A	A	C	B
95th %tile Queue, veh	10	3	0	3	2

Intersection						
Int Delay, s/veh	1.9					
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	8	76	40	40	27	7
Future Vol, veh/h	8	76	40	40	27	7
Conflicting Peds, #/hr	0	0	0	0	3	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	9	83	43	43	29	8

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	86	0	-	0	169
Stage 1	-	-	-	-	65
Stage 2	-	-	-	-	104
Critical Hdwy	4.11	-	-	-	6.41
Critical Hdwy Stg 1	-	-	-	-	5.41
Critical Hdwy Stg 2	-	-	-	-	5.41
Follow-up Hdwy	2.209	-	-	-	3.509
Pot Cap-1 Maneuver	1517	-	-	-	824
Stage 1	-	-	-	-	960
Stage 2	-	-	-	-	923
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1517	-	-	-	819
Mov Cap-2 Maneuver	-	-	-	-	819
Stage 1	-	-	-	-	954
Stage 2	-	-	-	-	923

Approach	EB	WB	SE
HCM Control Delay, s	0.7	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1517	-	-	-	851
HCM Lane V/C Ratio	0.006	-	-	-	0.043
HCM Control Delay (s)	7.4	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection												
Int Delay, s/veh	5.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations					↕			↕			↕	
Traffic Vol, veh/h	0	0	0	19	71	8	0	73	0	0	29	18
Future Vol, veh/h	0	0	0	19	71	8	0	73	0	0	29	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	21	77	9	0	79	0	0	32	20

Major/Minor	Major2	Minor1	Minor2
Conflicting Flow All	0	0	150
Stage 1	-	-	0
Stage 2	-	-	150
Critical Hdwy	4.12	-	7.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	6.12
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	818
Stage 1	-	-	-
Stage 2	-	-	853
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	776
Mov Cap-2 Maneuver	-	-	776
Stage 1	-	-	-
Stage 2	-	-	803

Approach	WB	NE	SW
HCM Control Delay, s		10.3	9.6
HCM LOS		B	A

Minor Lane/Major Mvmt	NELn1	WBL	WBT	WBR	SWLn1
Capacity (veh/h)	763	-	-	-	835
HCM Lane V/C Ratio	0.104	-	-	-	0.061
HCM Control Delay (s)	10.3	-	-	-	9.6
HCM Lane LOS	B	-	-	-	A
HCM 95th %tile Q(veh)	0.3	-	-	-	0.2

Intersection						
Int Delay, s/veh	3.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations				↖ ↗	↖ ↗	
Traffic Vol, veh/h	0	0	9	60	39	0
Future Vol, veh/h	0	0	9	60	39	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	10	65	42	0

Major/Minor	Major2	Minor1
Conflicting Flow All	0	85
Stage 1	-	0
Stage 2	-	85
Critical Hdwy	4.12	6.42
Critical Hdwy Stg 1	-	-
Critical Hdwy Stg 2	-	5.42
Follow-up Hdwy	2.218	3.518
Pot Cap-1 Maneuver	-	916
Stage 1	-	0
Stage 2	-	938
Platoon blocked, %	-	-
Mov Cap-1 Maneuver	-	916
Mov Cap-2 Maneuver	-	916
Stage 1	-	-
Stage 2	-	938

Approach	WB	NB
HCM Control Delay, s		9.1
HCM LOS		A

Minor Lane/Major Mvmt	NBLn1	WBL	WBT
Capacity (veh/h)	916	-	-
HCM Lane V/C Ratio	0.046	-	-
HCM Control Delay (s)	9.1	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↶			↷
Traffic Vol, veh/h	0	0	65	6	0	4
Future Vol, veh/h	0	0	65	6	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	1	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	71	7	0	4

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

Approach	WB	SB
HCM Control Delay, s	0	8.7
HCM LOS		A

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	986
HCM Lane V/C Ratio	-	-	0.004
HCM Control Delay (s)	-	-	8.7
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

Intersection						
Int Delay, s/veh	1.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y ^T		T ^B		T ^B	T ^B
Traffic Vol, veh/h	38	5	207	37	14	123
Future Vol, veh/h	38	5	207	37	14	123
Conflicting Peds, #/hr	1	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	56	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	2	2	2	2
Mvmt Flow	41	5	225	40	15	134

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	410	246	0	0	265
Stage 1	245	-	-	-	-
Stage 2	165	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218
Pot Cap-1 Maneuver	600	795	-	-	1299
Stage 1	798	-	-	-	-
Stage 2	867	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	592	794	-	-	1299
Mov Cap-2 Maneuver	592	-	-	-	-
Stage 1	798	-	-	-	-
Stage 2	856	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	610	1299
HCM Lane V/C Ratio	-	-	0.077	0.012
HCM Control Delay (s)	-	-	11.4	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.2	0

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔		↔	
Traffic Vol, veh/h	740	14	8	690	14	3
Future Vol, veh/h	740	14	8	690	14	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	804	15	9	750	15	3

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	819	0	1580
Stage 1	-	-	-	-	812
Stage 2	-	-	-	-	768
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	810	-	120
Stage 1	-	-	-	-	437
Stage 2	-	-	-	-	458
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	810	-	118
Mov Cap-2 Maneuver	-	-	-	-	256
Stage 1	-	-	-	-	437
Stage 2	-	-	-	-	449

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	19.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	272	-	-	810	-
HCM Lane V/C Ratio	0.068	-	-	0.011	-
HCM Control Delay (s)	19.2	-	-	9.5	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

***Intersection Capacity Worksheets:
2043 Background +
Project***

Intersection				
Intersection Delay, s/veh	6.7			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	553	448	88	120
Demand Flow Rate, veh/h	564	457	89	121
Vehicles Circulating, veh/h	104	51	620	430
Vehicles Exiting, veh/h	447	658	48	78
Ped Vol Crossing Leg, #/h	0	3	3	1
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.7	6.0	6.3	5.4
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	564	457	89	121
Cap Entry Lane, veh/h	1241	1310	733	890
Entry HV Adj Factor	0.980	0.981	0.989	0.990
Flow Entry, veh/h	553	448	88	120
Cap Entry, veh/h	1216	1284	725	881
V/C Ratio	0.454	0.349	0.121	0.136
Control Delay, s/veh	7.7	6.0	6.3	5.4
LOS	A	A	A	A
95th %tile Queue, veh	2	2	0	0

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖				↖		↔	
Traffic Vol, veh/h	2	608	4	0	384	10	0	0	14	30	0	10
Future Vol, veh/h	2	608	4	0	384	10	0	0	14	30	0	10
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	94	94	94	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	1	1	1	1	1	1
Mvmt Flow	2	647	4	0	417	11	0	0	15	33	0	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	429	0	0	-	-	0	-	-	653	1088	1080	424
Stage 1	-	-	-	-	-	-	-	-	-	424	424	-
Stage 2	-	-	-	-	-	-	-	-	-	664	656	-
Critical Hdwy	4.12	-	-	-	-	-	-	-	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.11	5.51	-
Follow-up Hdwy	2.218	-	-	-	-	-	-	-	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1130	-	-	0	-	0	0	0	469	194	219	632
Stage 1	-	-	-	0	-	0	0	0	-	610	589	-
Stage 2	-	-	-	0	-	0	0	0	-	452	464	-
Platoon blocked, %		-	-	-	-	-	-	-				
Mov Cap-1 Maneuver	1129	-	-	-	-	-	-	-	467	187	218	631
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	313	334	-
Stage 1	-	-	-	-	-	-	-	-	-	608	588	-
Stage 2	-	-	-	-	-	-	-	-	-	435	463	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	0		0		13		16.4	
HCM LOS					B		C	

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	467	1129	-	-	-	-	358
HCM Lane V/C Ratio	0.033	0.002	-	-	-	-	0.121
HCM Control Delay (s)	13	8.2	-	-	-	-	16.4
HCM Lane LOS	B	A	-	-	-	-	C
HCM 95th %tile Q(veh)	0.1	0	-	-	-	-	0.4

Intersection						
Int Delay, s/veh	1.2					
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	↶		↷	↶		↷
Traffic Vol, veh/h	632	18	25	394	0	81
Future Vol, veh/h	632	18	25	394	0	81
Conflicting Peds, #/hr	0	1	1	0	4	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	140	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	92	92	92	92
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	652	19	27	428	0	88

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	672	0	- 663
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	4.13	-	- 6.22
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	2.227	-	- 3.318
Pot Cap-1 Maneuver	-	-	914	-	0 461
Stage 1	-	-	-	-	0 -
Stage 2	-	-	-	-	0 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	913	-	- 461
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NE
HCM Control Delay, s	0	0.5	14.6
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	461	-	-	913	-
HCM Lane V/C Ratio	0.191	-	-	0.03	-
HCM Control Delay (s)	14.6	-	-	9.1	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.7	-	-	0.1	-

Intersection					
Intersection Delay, s/veh	9.0				
Intersection LOS	A				
Approach	EB	WB		NB	SB
Entry Lanes	1	2		1	1
Conflicting Circle Lanes	1	1		1	1
Adj Approach Flow, veh/h	731	391		294	33
Demand Flow Rate, veh/h	745	403		338	33
Vehicles Circulating, veh/h	33	372		635	494
Vehicles Exiting, veh/h	494	601		143	281
Ped Vol Crossing Leg, #/h	15	0		1	0
Ped Cap Adj	0.998	1.000		1.000	1.000
Approach Delay, s/veh	9.0	6.2		13.0	4.7
Approach LOS	A	A		B	A
Lane	Left	Left	Right	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized					
Lane Util	1.000	0.764	0.236	1.000	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609	2.609
Critical Headway, s	4.976	4.544	4.544	4.976	4.976
Entry Flow, veh/h	745	308	95	338	33
Cap Entry Lane, veh/h	1334	1012	1012	722	834
Entry HV Adj Factor	0.981	0.972	0.968	0.871	0.990
Flow Entry, veh/h	731	299	92	294	33
Cap Entry, veh/h	1306	984	980	629	826
V/C Ratio	0.560	0.304	0.094	0.468	0.040
Control Delay, s/veh	9.0	6.8	4.5	13.0	4.7
LOS	A	A	A	B	A
95th %tile Queue, veh	4	1	0	2	0

Intersection						
Int Delay, s/veh	1.9					
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	4	75	23	10	21	3
Future Vol, veh/h	4	75	23	10	21	3
Conflicting Peds, #/hr	1	0	0	1	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	6	6	1	1
Mvmt Flow	4	82	25	11	23	3

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	37	0	-	0	122 32
Stage 1	-	-	-	-	32 -
Stage 2	-	-	-	-	90 -
Critical Hdwy	4.11	-	-	-	6.41 6.21
Critical Hdwy Stg 1	-	-	-	-	5.41 -
Critical Hdwy Stg 2	-	-	-	-	5.41 -
Follow-up Hdwy	2.209	-	-	-	3.509 3.309
Pot Cap-1 Maneuver	1580	-	-	-	876 1045
Stage 1	-	-	-	-	993 -
Stage 2	-	-	-	-	936 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1578	-	-	-	872 1044
Mov Cap-2 Maneuver	-	-	-	-	872 -
Stage 1	-	-	-	-	989 -
Stage 2	-	-	-	-	935 -

Approach	EB	WB	SE
HCM Control Delay, s	0.4	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1578	-	-	-	890
HCM Lane V/C Ratio	0.003	-	-	-	0.029
HCM Control Delay (s)	7.3	0	-	-	9.2
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection												
Int Delay, s/veh	6.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations				↕			↕			↕		
Traffic Vol, veh/h	0	0	0	10	30	15	1	63	0	0	26	10
Future Vol, veh/h	0	0	0	10	30	15	1	63	0	0	26	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	11	33	16	1	68	0	0	28	11

Major/Minor	Major2		Minor1		Minor2	
Conflicting Flow All	0	0	0	83	71	-
Stage 1	-	-	-	0	0	-
Stage 2	-	-	-	83	71	-
Critical Hdwy	4.12	-	-	7.12	6.52	-
Critical Hdwy Stg 1	-	-	-	-	-	5.52
Critical Hdwy Stg 2	-	-	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	3.518	4.018	-
Pot Cap-1 Maneuver	-	-	-	904	819	0
Stage 1	-	-	-	-	-	842
Stage 2	-	-	-	925	836	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	871	819	828
Mov Cap-2 Maneuver	-	-	-	871	819	828
Stage 1	-	-	-	-	-	842
Stage 2	-	-	-	885	836	-

Approach	WB	NE	SW
HCM Control Delay, s		9.8	9.3
HCM LOS		A	A

Minor Lane/Major Mvmt	NELn1	WBL	WBT	WBRSWLn1
Capacity (veh/h)	820	-	-	876
HCM Lane V/C Ratio	0.085	-	-	0.045
HCM Control Delay (s)	9.8	-	-	9.3
HCM Lane LOS	A	-	-	A
HCM 95th %tile Q(veh)	0.3	-	-	0.1

Intersection						
Int Delay, s/veh	3.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations				↖ ↗	↖ ↗	
Traffic Vol, veh/h	0	0	15	30	25	0
Future Vol, veh/h	0	0	15	30	25	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	16	33	27	0

Major/Minor	Major2	Minor1
Conflicting Flow All	0	0 65
Stage 1	-	- 0
Stage 2	-	- 65
Critical Hdwy	4.12	- 6.42
Critical Hdwy Stg 1	-	- -
Critical Hdwy Stg 2	-	- 5.42
Follow-up Hdwy	2.218	- 3.518
Pot Cap-1 Maneuver	-	- 941 0
Stage 1	-	- - 0
Stage 2	-	- 958 0
Platoon blocked, %		-
Mov Cap-1 Maneuver	-	- 941 -
Mov Cap-2 Maneuver	-	- 941 -
Stage 1	-	- - -
Stage 2	-	- 958 -

Approach	WB	NB
HCM Control Delay, s		8.9
HCM LOS		A

Minor Lane/Major Mvmt	NBLn1	WBL	WBT
Capacity (veh/h)	941	-	-
HCM Lane V/C Ratio	0.029	-	-
HCM Control Delay (s)	8.9	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↑			↑
Traffic Vol, veh/h	0	0	35	10	0	10
Future Vol, veh/h	0	0	35	10	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	1	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	38	11	0	11

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

Approach	WB	SB
HCM Control Delay, s	0	8.5
HCM LOS		A

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	1026
HCM Lane V/C Ratio	-	-	0.011
HCM Control Delay (s)	-	-	8.5
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

Intersection						
Int Delay, s/veh	1.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	46	5	130	58	15	80
Future Vol, veh/h	46	5	130	58	15	80
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	-	-	-	56	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	3	3	4	4
Mvmt Flow	50	5	141	63	16	87

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	292	173	0	0	204
Stage 1	173	-	-	-	-
Stage 2	119	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.14
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.236
Pot Cap-1 Maneuver	701	873	-	-	1356
Stage 1	860	-	-	-	-
Stage 2	909	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	693	873	-	-	1356
Mov Cap-2 Maneuver	693	-	-	-	-
Stage 1	860	-	-	-	-
Stage 2	898	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.5	0	1.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	707	1356
HCM Lane V/C Ratio	-	-	0.078	0.012
HCM Control Delay (s)	-	-	10.5	7.7
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0

Intersection						
Int Delay, s/veh	0.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔		↔	
Traffic Vol, veh/h	613	6	4	385	20	3
Future Vol, veh/h	613	6	4	385	20	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	666	7	4	418	22	3

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	673	0	1096
Stage 1	-	-	-	-	670
Stage 2	-	-	-	-	426
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	918	-	236
Stage 1	-	-	-	-	509
Stage 2	-	-	-	-	659
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	918	-	235
Mov Cap-2 Maneuver	-	-	-	-	366
Stage 1	-	-	-	-	509
Stage 2	-	-	-	-	655

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	15.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	376	-	-	918	-
HCM Lane V/C Ratio	0.066	-	-	0.005	-
HCM Control Delay (s)	15.3	-	-	8.9	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection				
Intersection Delay, s/veh	14.9			
Intersection LOS	B			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	929	885	105	125
Demand Flow Rate, veh/h	948	893	105	126
Vehicles Circulating, veh/h	116	135	985	809
Vehicles Exiting, veh/h	819	955	78	219
Ped Vol Crossing Leg, #/h	0	1	3	1
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	16.2	14.9	10.0	8.6
Approach LOS	C	B	B	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	948	893	105	126
Cap Entry Lane, veh/h	1226	1202	505	605
Entry HV Adj Factor	0.980	0.991	0.998	0.991
Flow Entry, veh/h	929	885	105	125
Cap Entry, veh/h	1202	1191	504	599
V/C Ratio	0.773	0.743	0.208	0.208
Control Delay, s/veh	16.2	14.9	10.0	8.6
LOS	C	B	B	A
95th %tile Queue, veh	8	7	1	1

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗			↖				↗		↔	
Traffic Vol, veh/h	15	827	15	0	803	50	0	0	10	45	0	15
Future Vol, veh/h	15	827	15	0	803	50	0	0	10	45	0	15
Conflicting Peds, #/hr	1	0	2	2	0	1	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	-	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	93	93	93	92	92	92	94	94	94
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	16	899	16	0	863	54	0	0	11	48	0	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	918	0	0	-	-	0	-	-	909	1836	1840	891
Stage 1	-	-	-	-	-	-	-	-	-	891	891	-
Stage 2	-	-	-	-	-	-	-	-	-	945	949	-
Critical Hdwy	4.11	-	-	-	-	-	-	-	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	-	-	-	-	-	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	747	-	-	0	-	-	0	0	335	59	76	343
Stage 1	-	-	-	0	-	-	0	0	-	338	362	-
Stage 2	-	-	-	0	-	-	0	0	-	316	340	-
Platoon blocked, %		-	-	-	-	-	-	-				
Mov Cap-1 Maneuver	746	-	-	-	-	-	-	-	334	56	74	343
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	169	192	-
Stage 1	-	-	-	-	-	-	-	-	-	331	362	-
Stage 2	-	-	-	-	-	-	-	-	-	299	332	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0	16.1	32.4
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBT	WBR	SBLn1
Capacity (veh/h)	334	746	-	-	-	-	194
HCM Lane V/C Ratio	0.033	0.022	-	-	-	-	0.329
HCM Control Delay (s)	16.1	9.9	-	-	-	-	32.4
HCM Lane LOS	C	A	-	-	-	-	D
HCM 95th %tile Q(veh)	0.1	0.1	-	-	-	-	1.4

Intersection						
Int Delay, s/veh	2					
Movement	EBT	EBR	WBL	WBT	NEL	NER
Lane Configurations	↶		↷	↶		↷
Traffic Vol, veh/h	853	27	72	848	0	124
Future Vol, veh/h	853	27	72	848	0	124
Conflicting Peds, #/hr	0	3	3	0	7	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	140	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	94	94	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	927	29	77	902	0	135

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	959	0	- 945
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	-	4.11	-	- 6.21
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	-	2.209	-	- 3.309
Pot Cap-1 Maneuver	-	-	721	-	0 319
Stage 1	-	-	-	-	0 -
Stage 2	-	-	-	-	0 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	719	-	- 318
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	WB	NE
HCM Control Delay, s	0	0.8	24.4
HCM LOS			C

Minor Lane/Major Mvmt	NELn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	318	-	-	719	-
HCM Lane V/C Ratio	0.424	-	-	0.107	-
HCM Control Delay (s)	24.4	-	-	10.6	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	2	-	-	0.4	-

Intersection					
Intersection Delay, s/veh	29.0				
Intersection LOS	D				
Approach	EB	WB		NB	SB
Entry Lanes	1	2		1	1
Conflicting Circle Lanes	1	1		1	1
Adj Approach Flow, veh/h	1056	655		343	282
Demand Flow Rate, veh/h	1067	661		346	288
Vehicles Circulating, veh/h	235	314		1021	956
Vehicles Exiting, veh/h	1009	1053		281	19
Ped Vol Crossing Leg, #/h	1	0		0	2
Ped Cap Adj	1.000	1.000		1.000	1.000
Approach Delay, s/veh	43.1	11.8		27.3	18.2
Approach LOS	E	B		D	C
Lane	Left	Left	Right	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized					
Lane Util	1.000	0.997	0.003	1.000	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609	2.609
Critical Headway, s	4.976	4.544	4.544	4.976	4.976
Entry Flow, veh/h	1067	659	2	346	288
Cap Entry Lane, veh/h	1086	1067	1067	487	520
Entry HV Adj Factor	0.990	0.990	1.000	0.991	0.981
Flow Entry, veh/h	1056	653	2	343	282
Cap Entry, veh/h	1075	1057	1067	483	510
V/C Ratio	0.983	0.618	0.002	0.710	0.553
Control Delay, s/veh	43.1	11.8	3.4	27.3	18.2
LOS	E	B	A	D	C
95th %tile Queue, veh	19	4	0	6	3

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	9	90	47	47	29	12
Future Vol, veh/h	9	90	47	47	29	12
Conflicting Peds, #/hr	0	0	0	0	3	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	10	98	51	51	32	13

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	102	0	-	0	198 77
Stage 1	-	-	-	-	77 -
Stage 2	-	-	-	-	121 -
Critical Hdwy	4.11	-	-	-	6.41 6.21
Critical Hdwy Stg 1	-	-	-	-	5.41 -
Critical Hdwy Stg 2	-	-	-	-	5.41 -
Follow-up Hdwy	2.209	-	-	-	3.509 3.309
Pot Cap-1 Maneuver	1496	-	-	-	793 987
Stage 1	-	-	-	-	949 -
Stage 2	-	-	-	-	907 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1496	-	-	-	787 987
Mov Cap-2 Maneuver	-	-	-	-	787 -
Stage 1	-	-	-	-	942 -
Stage 2	-	-	-	-	907 -

Approach	EB	WB	SE
HCM Control Delay, s	0.7	0	9.5
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1496	-	-	-	837
HCM Lane V/C Ratio	0.007	-	-	-	0.053
HCM Control Delay (s)	7.4	0	-	-	9.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection												
Int Delay, s/veh	5.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations					↔			↔			↔	
Traffic Vol, veh/h	0	0	0	25	85	10	0	85	0	0	35	25
Future Vol, veh/h	0	0	0	25	85	10	0	85	0	0	35	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	27	92	11	0	92	0	0	38	27

Major/Minor	Major2	Minor1	Minor2
Conflicting Flow All	0	0	184
Stage 1	-	-	0
Stage 2	-	-	184
Critical Hdwy	4.12	-	7.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	6.12
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	777
Stage 1	-	-	-
Stage 2	-	-	818
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	725
Mov Cap-2 Maneuver	-	-	725
Stage 1	-	-	-
Stage 2	-	-	756

Approach	WB	NE	SW
HCM Control Delay, s		10.6	9.8
HCM LOS		B	A

Minor Lane/Major Mvmt	NELn1	WBL	WBT	WBRSWLn1
Capacity (veh/h)	735	-	-	818
HCM Lane V/C Ratio	0.126	-	-	0.08
HCM Control Delay (s)	10.6	-	-	9.8
HCM Lane LOS	B	-	-	A
HCM 95th %tile Q(veh)	0.4	-	-	0.3

Intersection						
Int Delay, s/veh	3.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations				↖ ↗	↖ ↗	
Traffic Vol, veh/h	0	0	15	70	45	0
Future Vol, veh/h	0	0	15	70	45	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	16	76	49	0

Major/Minor	Major2	Minor1		
Conflicting Flow All	0	0	108	-
Stage 1	-	-	0	-
Stage 2	-	-	108	-
Critical Hdwy	4.12	-	6.42	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	5.42	-
Follow-up Hdwy	2.218	-	3.518	-
Pot Cap-1 Maneuver	-	-	889	0
Stage 1	-	-	-	0
Stage 2	-	-	916	0
Platoon blocked, %			-	
Mov Cap-1 Maneuver	-	-	889	-
Mov Cap-2 Maneuver	-	-	889	-
Stage 1	-	-	-	-
Stage 2	-	-	916	-

Approach	WB	NB
HCM Control Delay, s		9.3
HCM LOS		A

Minor Lane/Major Mvmt	NBLn1	WBL	WBT
Capacity (veh/h)	889	-	-
HCM Lane V/C Ratio	0.055	-	-
HCM Control Delay (s)	9.3	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↶			↷
Traffic Vol, veh/h	0	0	80	10	0	5
Future Vol, veh/h	0	0	80	10	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	1	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	87	11	0	5

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

Approach	WB	SB
HCM Control Delay, s	0	8.8
HCM LOS		A

Minor Lane/Major Mvmt	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	964
HCM Lane V/C Ratio	-	-	0.006
HCM Control Delay (s)	-	-	8.8
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	44	10	240	45	20	145
Future Vol, veh/h	44	10	240	45	20	145
Conflicting Peds, #/hr	1	1	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	56	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	2	2	2	2
Mvmt Flow	48	11	261	49	22	158

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	489	287	0	0	310
Stage 1	286	-	-	-	-
Stage 2	203	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12
Critical Hdwy Stg 1	5.41	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218
Pot Cap-1 Maneuver	540	754	-	-	1250
Stage 1	765	-	-	-	-
Stage 2	833	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	530	753	-	-	1250
Mov Cap-2 Maneuver	530	-	-	-	-
Stage 1	765	-	-	-	-
Stage 2	817	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.2	0	1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	561	1250
HCM Lane V/C Ratio	-	-	0.105	0.017
HCM Control Delay (s)	-	-	12.2	7.9
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔		↔		↔	
Traffic Vol, veh/h	850	14	8	805	14	3
Future Vol, veh/h	850	14	8	805	14	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	924	15	9	875	15	3

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	939	0	1825
Stage 1	-	-	-	-	932
Stage 2	-	-	-	-	893
Critical Hdwy	-	-	4.12	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	-	-	2.218	-	3.518
Pot Cap-1 Maneuver	-	-	730	-	85
Stage 1	-	-	-	-	383
Stage 2	-	-	-	-	400
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	730	-	83
Mov Cap-2 Maneuver	-	-	-	-	214
Stage 1	-	-	-	-	383
Stage 2	-	-	-	-	390

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	22.2
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	228	-	-	730	-
HCM Lane V/C Ratio	0.081	-	-	0.012	-
HCM Control Delay (s)	22.2	-	-	10	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

PHASE I DRAINAGE REPORT FOR
SOUTH GOLDEN ROAD & MOUNT VERNON
MIXED-USE
JEFFERSON COUNTY, CO

August 1st, 2023

CENTERPOINT ENGINEERING, LLC PROJECT NO: 1907
JEFFERSON COUNTY PROJECT NO: 23-102360PA

PREPARED FOR: GRAND AMERICAN, INC
1776 PLATTE STREET
DENVER, COLORADO 80202
ATTENTION: PHIL HODGKINSON

PREPARED BY: CENTERPOINT ENGINEERING
1626 COLE BOULEVARD, SUITE 125
LAKEWOOD, CO 80401
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1. GENERAL LOCATION AND DESCRIPTION

A. LOCATION

The purpose of this report is to analyze and address the drainage impacts resulting from future development associated with the rezoning of the properties described herein.

The overall site is situated adjacent to South Golden Road and Mount Vernon Road within a portion of Burdick Heights Subdivision in the County of Jefferson (unincorporated), State of Colorado. More specifically, the overall site encompasses Lot 2 (Rec No. 91056575) and Tract 2 (Rec No. F0858629) of the Burdick Heights Subdivision, as well as an unplatted property located at 16005 South Golden Road (Rec No. 83116644), within the Northwest ¼ of Section 1, Township 4 South, Range 70 West of the Sixth Principal Meridian. The proposed project will rezone a portion of the encompassed properties to a Mixed-Use Planned Development (PD) zone district that will allow for mixture of land uses including residential, commercial, and retail services. Refer to *Figure 1* for a Vicinity Map for the proposed development.



Figure 1: Vicinity Map for the Project Site

The extents of the project site are bound to the north by South Golden Road, to the southeast by Mount Vernon Road and Lena Gulch, to the south by West 10th Avenue, and to the west by portions of Burdick Heights Subdivision and the Golden Pines Condominiums.

The site's current condition does not exhibit any visible drainageways on the surface. Consequently, any stormwater from the project site that does not infiltrate into the soil will flow west to east via overland flow into a series of existing stormwater inlets situated within the public right of way of

South Golden Road near the northeast corner of the site. In addition, the overall site is located within the Lena Gulch Sub-Basin of the Clear Creek Watershed, per the “Lena Gulch Flood Warning Plan”, by Urban Drainage Flood Control District, dated April 2009 (hereby after known as Lena Gulch FWP), and per the “Flood Insurance Study, Volume 1 of 8”, by the Federal Emergency Management Agency, Flood Insurance Study Number 0859CV001D, last dated December 20, 2019 (hereby after known as the FIS Vol 1).

B. DESCRIPTION OF PROPERTY

The overall site consists of approximately 5.54 acres of partially developed area. In the existing condition, the project site encompasses several buildings including a single-story commercial building known as Rock Rest Lodge, and a few single family and multifamily residential homes. The remaining portion of the project site is bare and consists of gravel lots and parking areas, asphalt drives and parking areas, native landscape, and several small to medium sized deciduous trees.

The project site is adjacent and tributary to Lena Gulch, which is located east of the property and flows northeast into Maple Grove Reservoir before its convergence with Clear Creek and ultimately to South Platte River, per the Lena Gulch FWP. There are no significant irrigation facilities in the existing condition.

The existing zoning of the overall site consists of Planned-Development (P-D) and Commercial-One (C-1) zone districts. The proposed project will rezone Lot 2 and Tract 2 of the Burdick Heights Subdivision, as well as the unplatted property located at 16005 South Golden Road, to a Mixed-Use Planned-Development (P-D) zone district that will allow for a mixture of land uses including residential, commercial, and retail services. The proposed rezoning creates a project boundary or developed acreage of approximately 5.54 acres.

Future improvements within the project boundary will include the construction of a mixed-use building containing approximately 174 multifamily residential dwelling units, an underground structured parking facility, and multiple commercial and retail facilities on the first floor that will face South Golden Road. The future improvements will also include the construction of associated parking lots, asphalt drives, and concrete sidewalks to serve the site and accommodate the required parking spaces within the Mixed-Use Planned-Development zoning district.

The Flood Insurance Rate Map (FIRM) Number 08059C0281F Panel 281 of 675, dated February 5, 2014, indicates that a portion of the project site is within the designated 100-year floodway area, more specifically the Lena Gulch North Overflow area. Additionally, this portion of the project site falls within the boundaries of the Special Flood Hazard Areas (SFHAs), thereby rendering it susceptible to inundation resulting from a 1% annual chance flood event. Furthermore, the areas identified as SFHAs are classified as Zone AE, indicating that base flood elevations have been determined. This FIRM can be found in Appendix A.

Soil information was derived from the United States Department of Agriculture, Natural Resources Conservation Service (NRCS), “Custom Soil Resource Report for Golden Area, Colorado, Parts of Denver, Douglas, Jefferson, and Park Counties,” date of survey being September 7, 2022. Surface soil consists primarily of a Denver-Urban land complex with 2 to 9 percent slopes and with a small section of Haverson loam with 0 to 3 percent slopes. The Denver-Urban land complex is a well-drained soil with a high runoff class. The holding capacity is defined as moderately low to moderately high (0.06 to 0.20 in/hr) and is considered within NRCS Hydrologic Soil Group “C”. The Haverson loam is a well-drained soil with a low runoff class. The holding capacity is defined as moderately high to high (0.20

to 2.00 in/hr) and is considered within NRCS Hydrological Soil Group “B”. The NRCS Soils Report can be found in Appendix A.

2. DRAINAGE BASINS AND SUB-BASINS

A. MAJOR BASIN DESCRIPTION

The overall project site lies west of and is tributary to Lena Gulch, which is a major drainageway that travels northeast through Golden, Jefferson County (unincorporated), Wheat Ridge, and Lakewood, and into Maple Grove Reservoir before its convergence with Clear Creek and the ultimate outfall, South Platte River, per the Lena Gulch FWP and the FIS Vol 1. The Lena Gulch FWP describes certain locations along Lena Gulch that are at risk during a flooding event, including surrounding areas in and around the subject property, specifically the culverts underneath Orchard Street, 10th Avenue, and South Golden Road.

The Lena Gulch Improvement Project (hereby after referred to as Lena Gulch IP), created by the City of Golden and Mile High Flood District, describes future improvements and development to Lena Gulch upstream of Zeta Street, and will evaluate opportunities to reduce flood risks downstream of Zeta Street, per the “City of Golden StoryMap”, by Patrick Nicholson and Joseph Lammers, dated 2023. All future improvements and modifications to Lena Gulch Drainageway outlined in the Lena Gulch Improvement Project, Lena Gulch FWP, and FIS Vol 1, and may improve the floodplain conditions on the overall project site. However, future development within the overall project site boundaries may require a Letter of Map Revisions (LOMR), which is to be determined upon coordination with Jefferson County and/or other authorities having jurisdiction.

The existing overall site consists of P-D and C-1 land uses. The proposed project will rezone Lot 2 and Tract 2 of the Burdick Heights Subdivision, and the unplatted property located at 16005 South Golden Road, to a Mixed-Use Planned-Development (P-D) zone district that will allow for a mixture of land uses including residential, commercial, and retail services.

According to Jefferson County’s “Storm Drainage Design and Technical Criteria Manual”, last dated December 17, 2019 (hereby after known as the CRITERIA), stormwater runoff release rates, volumes, and drain times for a proposed or future development are determined from 90% of the pre-developed flow conditions. The CRITERIA also references Mile High Flood District’s “Urban Storm Drainage Criteria Manual, Volumes 1-3”, latest revision (hereby after known as the MANUAL), for additional technical criteria, including impervious values and runoff coefficients for certain land uses.

In the future Mixed-Use P-D condition, impervious values and stormwater runoff values will increase, thus the drainage design must be accommodating to its corresponding criteria as described in the CRITERIA and the MANUAL. Additionally, future irrigation facilities present must be adequately distributed back into the system without any anticipated additional runoff.

B. SUB-BASIN DESCRIPTION

The overall site slopes west to east at mild slopes ranging from 0.5%-10% and experiences approximately 20-25 feet of elevation change. In the existing condition, stormwater runoff from the project site utilizes overland flow to direct stormwater northeast towards two existing stormwater inlets within the intersection of South Golden Road (right of way) and Mount Vernon Road. Stormwater flows through existing storm infrastructure and into Lena Gulch just east of the project site, and eventually outfalls into Maple Grove Reservoir before its convergence with Clear Creek and ultimately to South Platte River.

The project site has an upstream elevation, or high point, of approximately 5817.00 ft and a downstream elevation, or low point, of 5796.00 ft. During a minor storm event, or the 5-year storm event per the CRITERIA, the existing project site utilizes overland flow as described and is collected by the existing drainage system located within the right of way near the low point of the site. However, per the Lena Gulch FWP, the Lena Gulch culvert located under South Golden Road and east of the overall site is at risk of flooding in a 10-year storm event due to an undersized 20'x3' concrete box culvert.

Additionally, during the major storm event, or the 100-year storm event, approximately one third of the overall project site is within the Lena Gulch floodway area and experiences flood levels ranging from 5796.00 feet to 5810.00 feet, per the FIRM Flood Insurance Rate Map (FIRM) Number 08059C0281F Panel 281 of 675. It is assumed that the existing stormwater infrastructure located at the low point of the site is submerged during a 100-year storm event.

Future improvements will increase the impervious area, thus requiring stormwater detention before releasing flows off site. All future development and drainage design must also be coordinated with the Federal Emergency Management Agency (FEMA), Mile High Flood District, The City of Golden, and The County of Jefferson (Unincorporated) to ensure appropriate emergency floodway measures are taken place. Furthermore, any and all future development within the overall site must adhere to requirements set forth in the Lena Gulch FWP, Lena Gulch IP, CRITERIA, the MANUAL.

3. DRAINAGE FACILITY DESIGN

A. GENERAL CONCEPT

The future drainage system shall be designed in accordance with the CRITERIA and the MANUAL. Per the CRITERIA, the minor and major storms are considered to have a 5-year and 100-year recurrence interval, respectively. The Rational Method was used to quantify rainfall and peak runoff values for the project site. The one-hour point rainfall depths were determined from NOAA Atlas 14, Volume 8, Version 2, Rainfall Data and are summarized in *Table 1* below. See Appendix A for the full chart of Point Precipitation Frequency Estimates.

Table 1: One Hour Point Precipitation Frequency Estimates per NOAA Atlas 14, Volume 8, Version 2.

One (1) Hour Point Rainfall (inches)	
Minor (5-Year)	Major (100-Year)
1.04	2.21

The future drainage design shall accommodate the minor and major storm event runoff without adversely affecting existing conditions. Future development will include the design and construction of curb & gutter, concrete pans, storm inlets, and storm sewer to convey drainage through the project site. Future development will also include the design and construction of an underground water quality and detention pond, per the CRITERIA and the MANUAL. The design of all stormwater infrastructure within shall be coordinated with the appropriate authorities having jurisdiction.

B. SPECIFIC DETAILS

Stormwater flows were analyzed in the existing and future (mixed-use zoning) conditions to better understand how future development will affect the project site. Existing and developed flow rates were calculated using imperviousness coefficient values and runoff coefficients per the MANUAL. Refer to Appendix B for detailed calculations and design aids.

The overall site was analyzed as one drainage basin that is tributary to the existing stormwater inlets located within South Golden Road right of way near the low point of the site and Lena Gulch. In the existing condition, the overall project site is approximately 5.54 acres and consists of varying land features such as landscape, roofs, asphalt drives, and concrete walks. Existing flow rates were calculated using a composite imperviousness, per the MANUAL. In the existing condition, the overall project site is 39.9% impervious and produces an existing stormwater runoff rate of 3.90 cfs and 10.48 cfs in the 5-year and 100-year storm events, respectively.

Table 2: Existing Project Site Runoff Summary

EXISTING RUNOFF SUMMARY						
BASIN	AREA	IMP (%)	C ₅	C ₁₀₀	Q ₅ (CFS)	Q ₁₀₀ (CFS)
EX-01	5.54	39.9%	0.34	0.43	3.90	10.48

The future condition assumes the final buildout of the overall project site, which encompasses approximately 5.54 acres as a Mixed-Use Planned-Development zoning district. Developed flow rates were calculated using a future/final buildout condition imperviousness of 95%, which produces an undetained stormwater runoff rate of 15.83 cfs and 36.13 cfs in the 5-year and 100-year storms, respectively.

Table 3: Future Project Site Runoff Summary

FUTURE RUNOFF SUMMARY						
BASIN	AREA	IMP (%)	C ₅	C ₁₀₀	Q ₅ (CFS)	Q ₁₀₀ (CFS)
F-01	5.54	95.0%	0.81	0.87	15.83	36.13

Per standards and regulations set forth in the CRITERIA, the developed or future stormwater runoff rate must be equal to or lesser than 90% of the pre-developed flow conditions. Therefore, future development is held to a maximum release rate of 9.43 cfs. This release rate is to be confirmed with the authorities having jurisdiction over the subject property and the 100-year floodway. It is assumed that the future design will include an underground full spectrum detention pond which will treat stormwater for water quality and detain flows in the minor and major year storm events before being released to downstream drainageways. Design and analysis of onsite stormwater mitigation, underground detention, and the 100-year floodway condition must be provided with future development plans and drainage reports.

Development within the overall project site boundaries may also require a Letter of Map Revisions (LOMR), which is to be determined upon coordination with Jefferson County and/or other authorities having jurisdiction. It is recommended that future development refers to the Lena Gulch IP, Lena Gulch FWP, and FIS Vol 1, for design recommendations in and around the Lena Gulch Floodway. Future development and drainage design practices must be coordinated with the authorities having jurisdiction over the subject property and Lena Gulch tributaries. Future development must also follow design guidelines set forth by the Floodplain Stormwater & Criteria Manual which designates and approves the state's floodplains under the provisions of its Rules and Regulations for the Regulatory Floodplains in Colorado.

4. REFERENCES

1. Urban Storm Drainage Criteria Manual, Volumes 1-3, Mile High Flood District, latest revision.
2. Jefferson County Storm Drainage Design & Technical Criteria, WRC Engineering, Inc. and the Board of County Commissioners of Jefferson County, Colorado, last dated December 17, 2019.
3. Jefferson County Zoning Resolution, adopted by the Board of County Commissioners of Jefferson County, Colorado, last dated December 6, 2022.
4. Flood Insurance Study, Volume 1 of 8, Flood Insurance Study Number 08059CV001D, Federal Emergency Management Agency, last dated December 20, 2019.
5. City of Golden Lena Gulch Improvement Project, City of Golden StoryMap, by Patrick Nicholson and Joseph Lammers, dated 2023.
6. Lena Gulch Flood Warning Plan, Urban Drainage and Flood Control District and Mile High Flood District, dated April 2009.
7. Colorado Floodplain and Stormwater Criteria Manual, Colorado Water Conservation Board, latest revision.

5. APPENDIX

APPENDIX A: MAPS AND DESIGN AIDS

VICINITY MAP

FEMA FIRMETTE

FEMA FIRM MAP

NRCS SOILS REPORT

NOAA ATLAS RAINFALL DATA

S GOLDEN ROAD / MT VERNON MIXED-USE



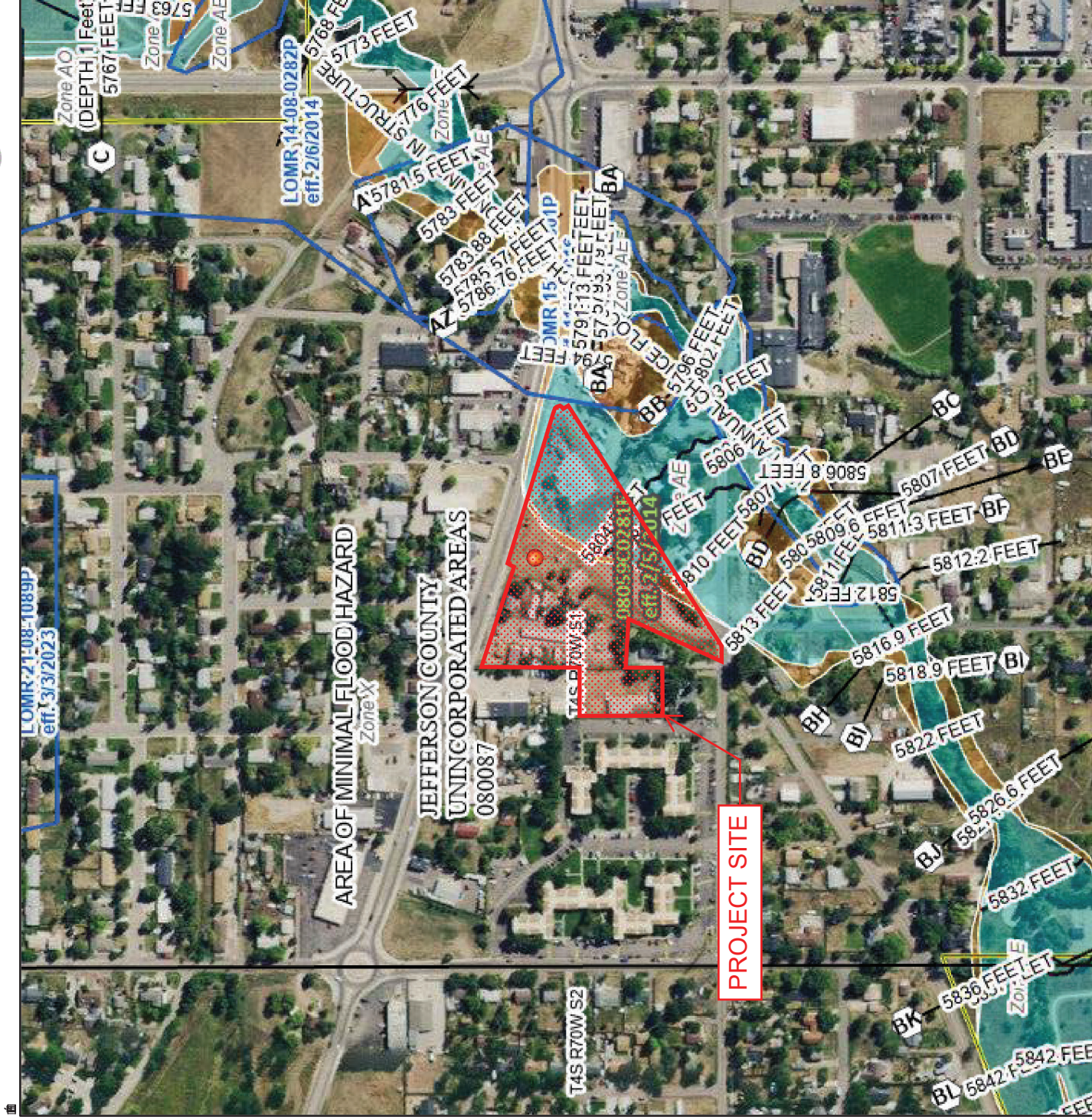
VICINITY MAP

NTS

DWL R000 00 PRGEDUGDU 16MWWH



FUG



%DLFBS;DPLU6RUHF 080DML R000 0S0

0.687 785.000 0.000 0.000

LWWRW 19 DHD RRG0H0VL R0 19 0	266862
LWK09UFUBWK #R0 13 13 3 3 3	266865
\$H0DVRUJDRGZ	

10000 800H0PRG0JG\$3HV	266867
R10000 1R00H0IRGZWKXHUH	266868
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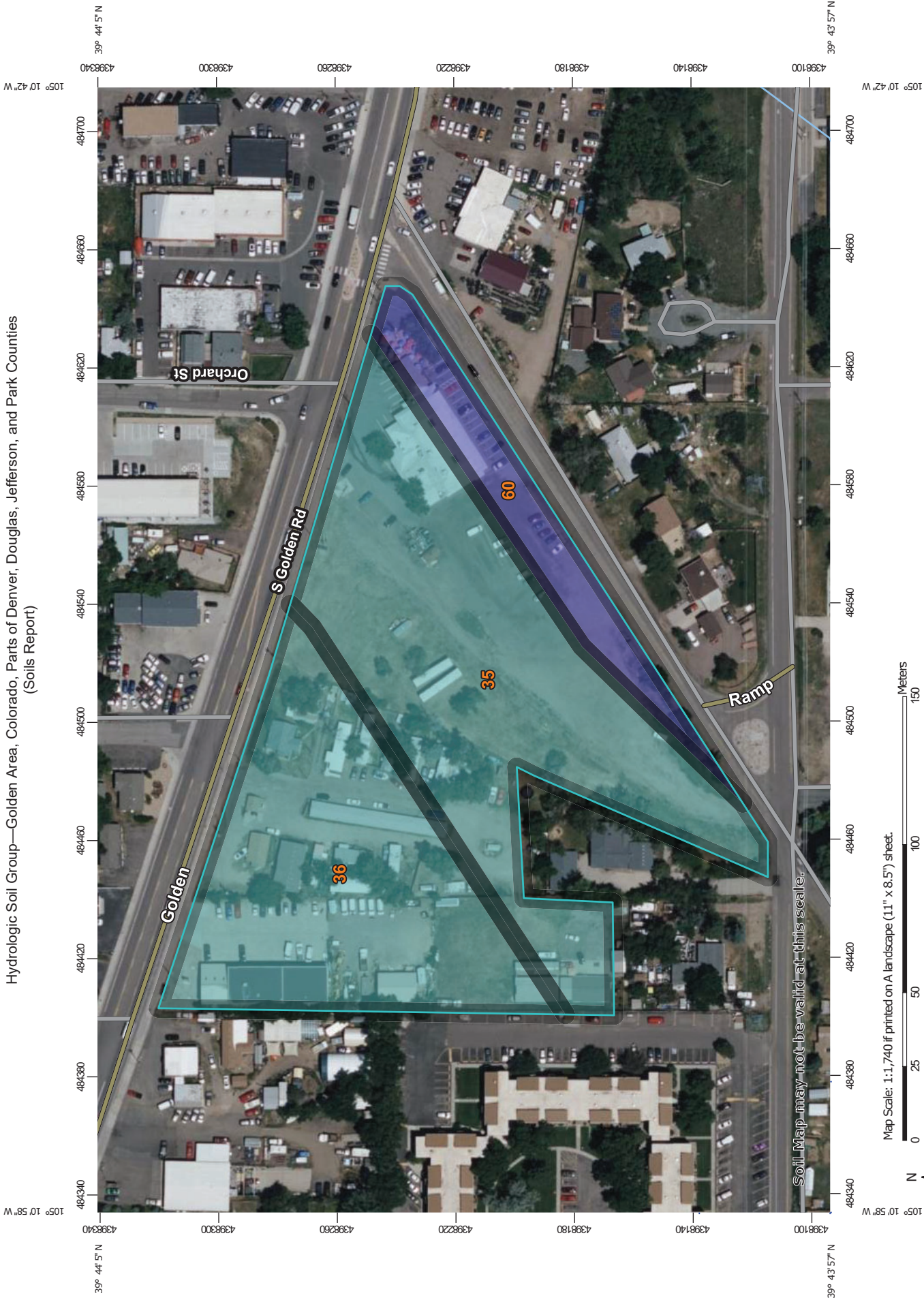
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080886	

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D0D0R0R0R0R0R0R0R0R0R0R0R0R0R0R0R0R0

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Hydrologic Soil Group—Golden Area, Colorado, Parts of Denver, Douglas, Jefferson, and Park Counties
(Soils Report)



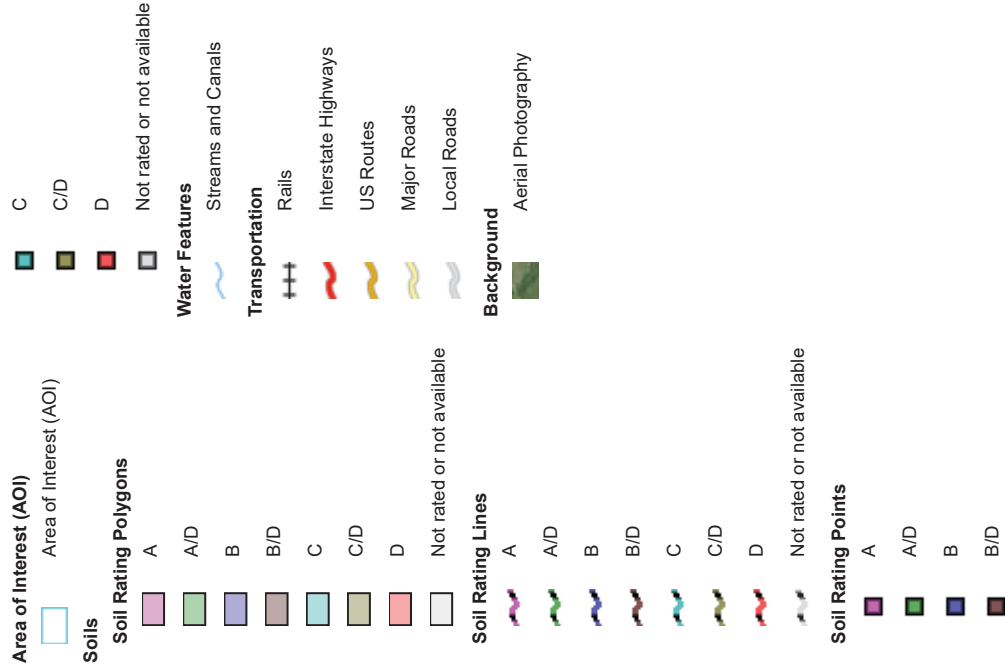
Soil Map may not be valid at this scale.

Map Scale: 1:1,740 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND



MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Golden Area, Colorado, Parts of Denver, Douglas, Jefferson, and Park Counties
 Survey Area Data: Version 17, Sep 7, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 1, 2020—Jul 2, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
35	Denver-Urban land complex, 2 to 5 percent slopes	C	3.2	50.3%
36	Denver-Urban land complex, 5 to 9 percent slopes	C	2.4	37.7%
60	Haverson loam, 0 to 3 percent slopes	B	0.7	11.9%
Totals for Area of Interest			6.3	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Deborah Martin, Sandra Pavlovic, Ishani Roy, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Michael Yekta, Geoffrey Bonnin

NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps & aeriels](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.200 (0.154-0.259)	0.253 (0.195-0.328)	0.346 (0.266-0.449)	0.427 (0.327-0.557)	0.546 (0.407-0.740)	0.643 (0.467-0.879)	0.744 (0.523-1.04)	0.852 (0.576-1.22)	1.00 (0.652-1.46)	1.12 (0.710-1.65)
10-min	0.292 (0.226-0.379)	0.371 (0.286-0.481)	0.506 (0.389-0.658)	0.625 (0.478-0.815)	0.799 (0.595-1.08)	0.941 (0.684-1.29)	1.09 (0.766-1.52)	1.25 (0.843-1.78)	1.47 (0.955-2.14)	1.64 (1.04-2.41)
15-min	0.356 (0.275-0.462)	0.452 (0.349-0.586)	0.617 (0.475-0.802)	0.763 (0.583-0.994)	0.975 (0.726-1.32)	1.15 (0.834-1.57)	1.33 (0.935-1.86)	1.52 (1.03-2.17)	1.79 (1.16-2.61)	2.00 (1.27-2.94)
30-min	0.482 (0.372-0.625)	0.612 (0.472-0.793)	0.836 (0.643-1.09)	1.03 (0.789-1.35)	1.32 (0.982-1.79)	1.55 (1.13-2.12)	1.80 (1.26-2.51)	2.06 (1.39-2.93)	2.42 (1.57-3.52)	2.70 (1.71-3.97)
60-min	0.593 (0.458-0.768)	0.756 (0.583-0.980)	1.04 (0.796-1.34)	1.28 (0.978-1.67)	1.63 (1.21-2.21)	1.92 (1.39-2.62)	2.21 (1.56-3.09)	2.53 (1.71-3.60)	2.96 (1.93-4.32)	3.30 (2.09-4.86)
2-hr	0.704 (0.548-0.903)	0.900 (0.700-1.16)	1.24 (0.957-1.59)	1.52 (1.18-1.97)	1.94 (1.46-2.60)	2.28 (1.67-3.08)	2.63 (1.87-3.63)	3.00 (2.04-4.24)	3.51 (2.30-5.07)	3.91 (2.50-5.70)
3-hr	0.780 (0.610-0.995)	0.993 (0.776-1.27)	1.36 (1.06-1.73)	1.67 (1.29-2.14)	2.12 (1.60-2.82)	2.48 (1.83-3.34)	2.86 (2.04-3.93)	3.26 (2.23-4.57)	3.80 (2.51-5.46)	4.23 (2.72-6.13)
6-hr	0.982 (0.775-1.24)	1.22 (0.958-1.54)	1.62 (1.27-2.05)	1.97 (1.54-2.51)	2.48 (1.89-3.28)	2.90 (2.15-3.86)	3.33 (2.40-4.53)	3.79 (2.62-5.28)	4.42 (2.95-6.30)	4.93 (3.20-7.08)
12-hr	1.29 (1.03-1.62)	1.54 (1.23-1.93)	1.98 (1.57-2.49)	2.37 (1.87-2.99)	2.96 (2.28-3.88)	3.44 (2.58-4.55)	3.94 (2.87-5.33)	4.49 (3.14-6.21)	5.26 (3.55-7.44)	5.87 (3.86-8.37)
24-hr	1.63 (1.31-2.02)	1.92 (1.54-2.38)	2.43 (1.94-3.02)	2.88 (2.29-3.60)	3.55 (2.76-4.61)	4.10 (3.11-5.37)	4.68 (3.44-6.26)	5.29 (3.74-7.25)	6.16 (4.20-8.63)	6.84 (4.54-9.67)
2-day	1.92 (1.55-2.35)	2.28 (1.85-2.80)	2.90 (2.34-3.57)	3.43 (2.75-4.24)	4.19 (3.27-5.36)	4.80 (3.66-6.20)	5.42 (4.01-7.16)	6.08 (4.33-8.21)	6.97 (4.79-9.65)	7.66 (5.14-10.7)
3-day	2.08 (1.70-2.54)	2.47 (2.01-3.02)	3.12 (2.53-3.82)	3.68 (2.96-4.52)	4.47 (3.51-5.68)	5.11 (3.92-6.56)	5.77 (4.29-7.57)	6.45 (4.63-8.68)	7.39 (5.12-10.2)	8.13 (5.49-11.3)
4-day	2.22 (1.81-2.70)	2.61 (2.13-3.17)	3.27 (2.66-3.99)	3.85 (3.11-4.71)	4.67 (3.68-5.90)	5.32 (4.10-6.81)	6.00 (4.49-7.85)	6.72 (4.84-8.99)	7.69 (5.35-10.6)	8.46 (5.74-11.7)
7-day	2.55 (2.10-3.08)	2.98 (2.44-3.59)	3.69 (3.02-4.46)	4.29 (3.50-5.21)	5.16 (4.09-6.47)	5.85 (4.54-7.42)	6.56 (4.94-8.50)	7.30 (5.30-9.69)	8.30 (5.82-11.3)	9.09 (6.22-12.5)
10-day	2.86 (2.36-3.43)	3.30 (2.73-3.96)	4.05 (3.33-4.87)	4.68 (3.83-5.65)	5.58 (4.44-6.94)	6.28 (4.90-7.92)	7.00 (5.30-9.02)	7.75 (5.66-10.2)	8.76 (6.18-11.9)	9.55 (6.57-13.1)
20-day	3.75 (3.12-4.45)	4.26 (3.54-5.05)	5.09 (4.22-6.06)	5.78 (4.78-6.91)	6.75 (5.42-8.29)	7.50 (5.90-9.33)	8.25 (6.30-10.5)	9.02 (6.65-11.8)	10.0 (7.15-13.5)	10.8 (7.54-14.7)
30-day	4.48 (3.75-5.28)	5.06 (4.24-5.98)	6.02 (5.02-7.12)	6.80 (5.64-8.08)	7.86 (6.33-9.58)	8.68 (6.85-10.7)	9.48 (7.27-12.0)	10.3 (7.62-13.3)	11.3 (8.12-15.1)	12.1 (8.50-16.4)
45-day	5.37 (4.52-6.30)	6.11 (5.14-7.16)	7.28 (6.10-8.56)	8.22 (6.86-9.70)	9.46 (7.65-11.4)	10.4 (8.24-12.7)	11.3 (8.70-14.1)	12.2 (9.05-15.6)	13.3 (9.55-17.5)	14.1 (9.93-18.9)
60-day	6.12 (5.17-7.14)	7.01 (5.92-8.19)	8.41 (7.08-9.85)	9.52 (7.98-11.2)	11.0 (8.88-13.1)	12.0 (9.56-14.6)	13.0 (10.1-16.2)	14.0 (10.4-17.8)	15.2 (10.9-19.9)	16.0 (11.3-21.4)

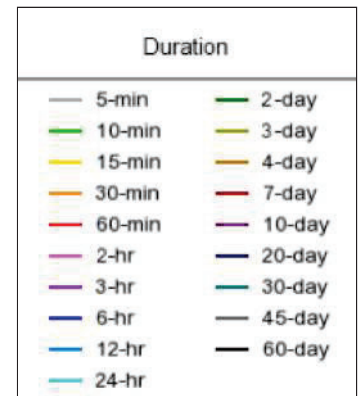
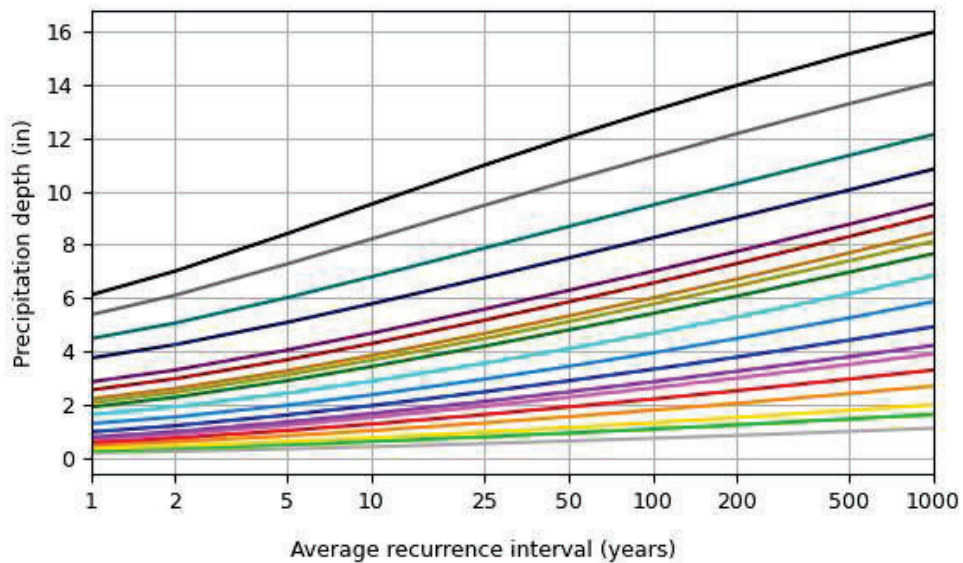
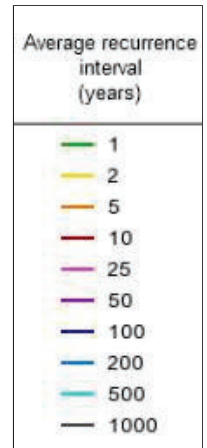
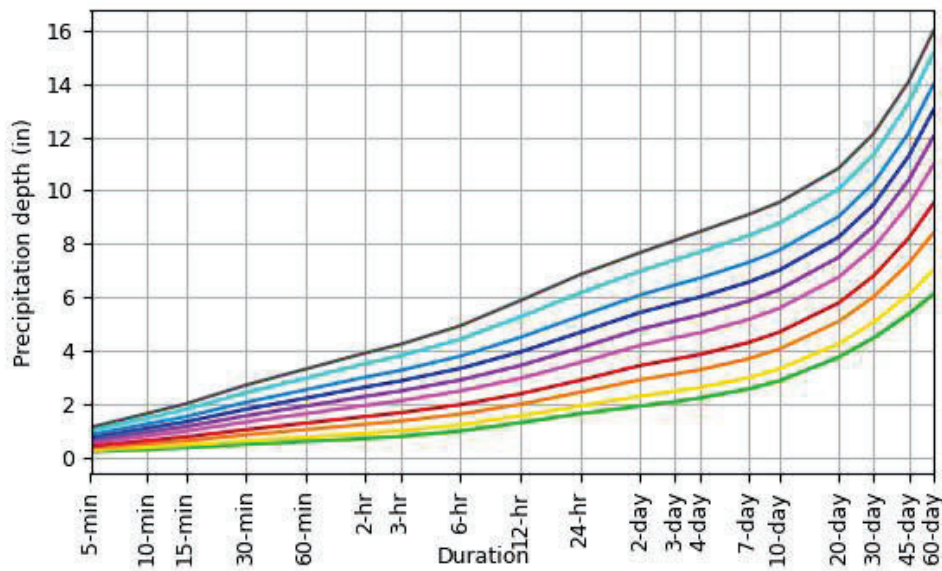
¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

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PF graphical

PDS-based depth-duration-frequency (DDF) curves

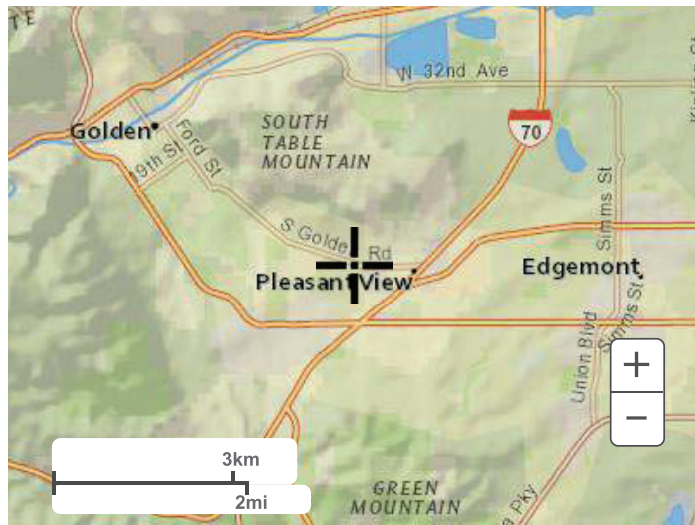
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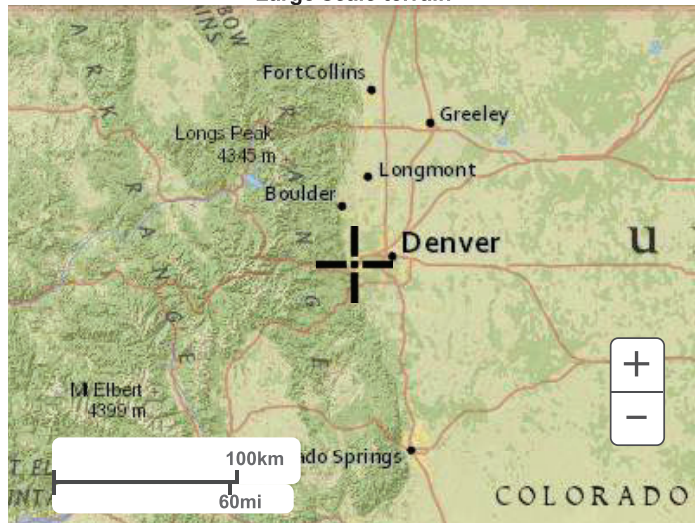
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Maps & aerials

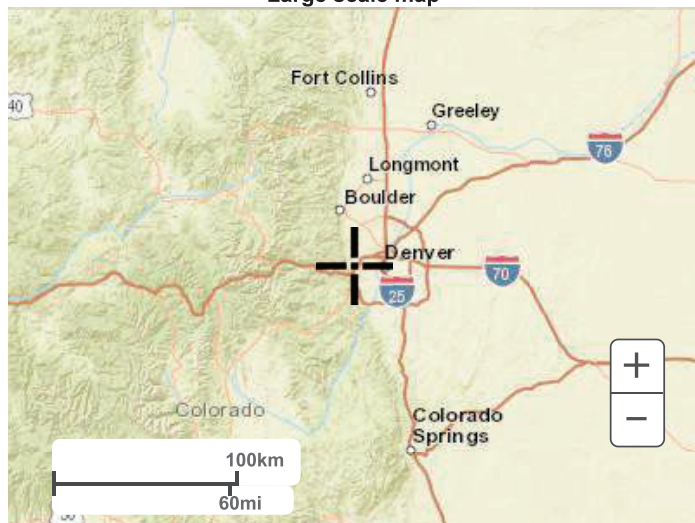
Small scale terrain



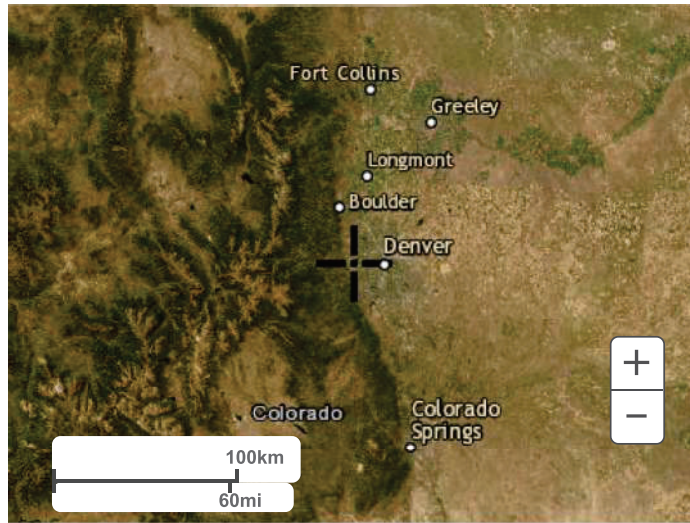
Large scale terrain



Large scale map



Large scale aerial



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Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

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APPENDIX B: HYDROLOGIC CALCULATIONS

MILE HIGH FLOOD DISTRICT – IMPERVIOUSNESS VALUES AND RUNOFF COEFFICIENTS

EXISTING AND FUTURE RATIONAL CALCULATIONS

Table 6-3. Recommended percentage imperviousness values

Land Use or Surface Characteristics	Percentage Imperviousness (%)
Business:	
Downtown Areas (MIXED-USE)	95
Suburban Areas	75
Residential lots (lot area only):	
Single-family	
2.5 acres or larger	12
0.75 – 2.5 acres	20
0.25 – 0.75 acres	30
0.25 acres or less	45
Apartments	75
Industrial:	
Light areas	80
Heavy areas	90
Parks, cemeteries	10
Playgrounds	25
Schools	55
Railroad yard areas	50
Undeveloped Areas:	
Historic flow analysis	2
Greenbelts, agricultural	2
Off-site flow analysis (when land use not defined)	45
Streets:	
Paved	100
Gravel (packed)	40
Drive and walks	90
Roofs	90
Lawns, sandy soil	2
Lawns, clayey soil	2

MILE HIGH FLOOD DISTRICT

Table 6-5. Runoff coefficients, *c*

Total or Effective % Impervious	NRCS Hydrologic Soil Group A						
	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year	500-Year
2%	0.01	0.01	0.01	0.01	0.04	0.13	0.27
5%	0.02	0.02	0.02	0.03	0.07	0.15	0.29
10%	0.04	0.05	0.05	0.07	0.11	0.19	0.32
15%	0.07	0.08	0.08	0.1	0.15	0.23	0.35
20%	0.1	0.11	0.12	0.14	0.2	0.27	0.38
25%	0.14	0.15	0.16	0.19	0.24	0.3	0.42
30%	0.18	0.19	0.2	0.23	0.28	0.34	0.45
35%	0.21	0.23	0.24	0.27	0.32	0.38	0.48
40%	0.25	0.27	0.28	0.32	0.37	0.42	0.51
45%	0.3	0.31	0.33	0.36	0.41	0.46	0.54
50%	0.34	0.36	0.37	0.41	0.45	0.5	0.58
55%	0.39	0.4	0.42	0.45	0.49	0.54	0.61
60%	0.43	0.45	0.47	0.5	0.54	0.58	0.64
65%	0.48	0.5	0.51	0.54	0.58	0.62	0.67
70%	0.53	0.55	0.56	0.59	0.62	0.65	0.71
75%	0.58	0.6	0.61	0.64	0.66	0.69	0.74
80%	0.63	0.65	0.66	0.69	0.71	0.73	0.77
85%	0.68	0.7	0.71	0.74	0.75	0.77	0.8
90%	0.73	0.75	0.77	0.79	0.79	0.81	0.84
95%	0.79	0.81	0.82	0.83	0.84	0.85	0.87
100%	0.84	0.86	0.87	0.88	0.88	0.89	0.9
Total or Effective % Impervious	NRCS Hydrologic Soil Group B						
	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year	500-Year
2%	0.01	0.01	0.07	0.26	0.34	0.44	0.54
5%	0.03	0.03	0.1	0.28	0.36	0.45	0.55
10%	0.06	0.07	0.14	0.31	0.38	0.47	0.57
15%	0.09	0.11	0.18	0.34	0.41	0.5	0.59
20%	0.13	0.15	0.22	0.38	0.44	0.52	0.61
25%	0.17	0.19	0.26	0.41	0.47	0.54	0.63
30%	0.2	0.23	0.3	0.44	0.49	0.57	0.65
35%	0.24	0.27	0.34	0.47	0.52	0.59	0.66
40%	0.29	0.32	0.38	0.5	0.55	0.61	0.68
45%	0.33	0.36	0.42	0.53	0.58	0.64	0.7
50%	0.37	0.4	0.46	0.56	0.61	0.66	0.72
55%	0.42	0.45	0.5	0.6	0.63	0.68	0.74
60%	0.46	0.49	0.54	0.63	0.66	0.71	0.76
65%	0.5	0.54	0.58	0.66	0.69	0.73	0.77
70%	0.55	0.58	0.62	0.69	0.72	0.75	0.79
75%	0.6	0.63	0.66	0.72	0.75	0.78	0.81
80%	0.64	0.67	0.7	0.75	0.77	0.8	0.83
85%	0.69	0.72	0.74	0.78	0.8	0.82	0.85
90%	0.74	0.76	0.78	0.81	0.83	0.84	0.87
95%	0.79	0.81	0.82	0.85	0.86	0.87	0.88
100%	0.84	0.86	0.86	0.88	0.89	0.89	0.9

Table 6-5. Runoff coefficients, *c* (continued)

Total or Effective % Impervious	NRCS Hydrologic Soil Group C						
	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year	500-Year
2%	0.01	0.05	0.15	0.33	0.40	0.49	0.59
5%	0.03	0.08	0.17	0.35	0.42	0.5	0.6
10%	0.06	0.12	0.21	0.37	0.44	0.52	0.62
15%	0.1	0.16	0.24	0.4	0.47	0.55	0.64
20%	0.14	0.2	0.28	0.43	0.49	0.57	0.65
25%	0.18	0.24	0.32	0.46	0.52	0.59	0.67
30%	0.22	0.28	0.35	0.49	0.54	0.61	0.68
35%	0.26	0.32	0.39	0.51	0.57	0.63	0.7
40%	0.3	0.36	0.43	0.54	0.59	0.65	0.71
45%	0.34	0.4	0.46	0.57	0.62	0.67	0.73
50%	0.38	0.44	0.5	0.6	0.64	0.69	0.75
55%	0.43	0.48	0.54	0.63	0.66	0.71	0.76
60%	0.47	0.52	0.57	0.65	0.69	0.73	0.78
65%	0.51	0.56	0.61	0.68	0.71	0.75	0.79
70%	0.56	0.61	0.65	0.71	0.74	0.77	0.81
75%	0.6	0.65	0.68	0.74	0.76	0.79	0.82
80%	0.65	0.69	0.72	0.77	0.79	0.81	0.84
85%	0.7	0.73	0.76	0.79	0.81	0.83	0.86
90%	0.74	0.77	0.79	0.82	0.84	0.85	0.87
95%	0.79	0.81	0.83	0.85	0.86	0.87	0.89
100%	0.83	0.85	0.87	0.88	0.89	0.89	0.9

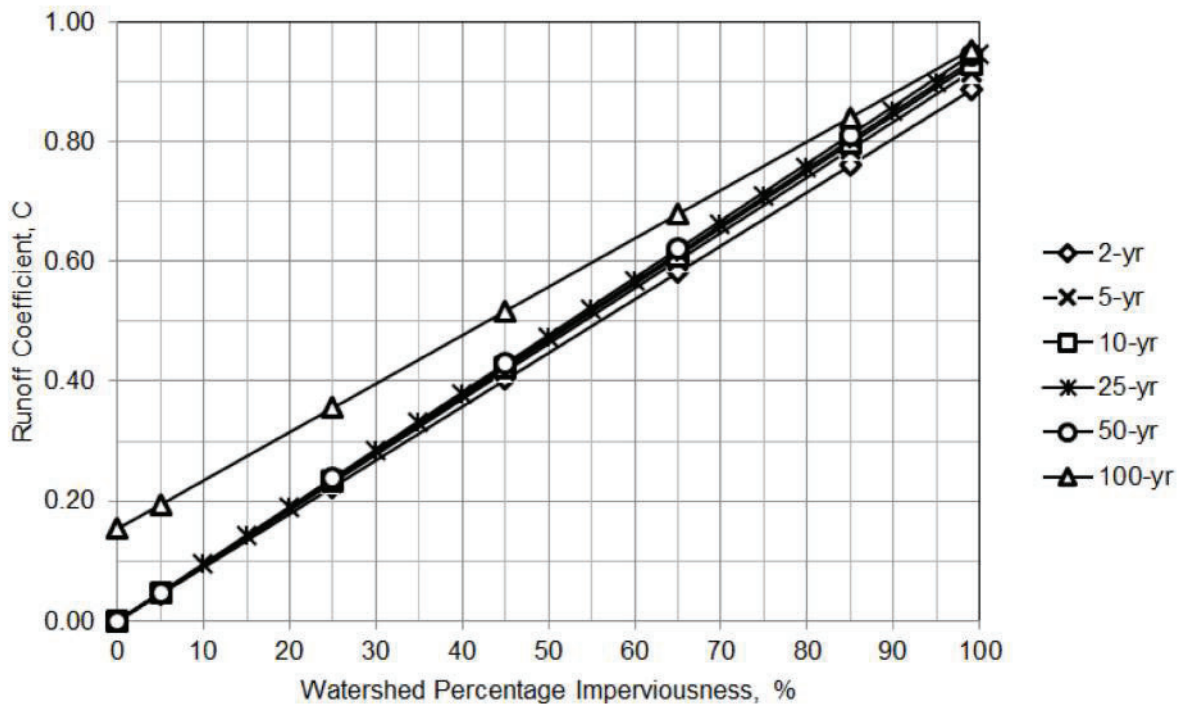


Figure 6-1. Runoff coefficient vs. watershed imperviousness NRCS HSG A

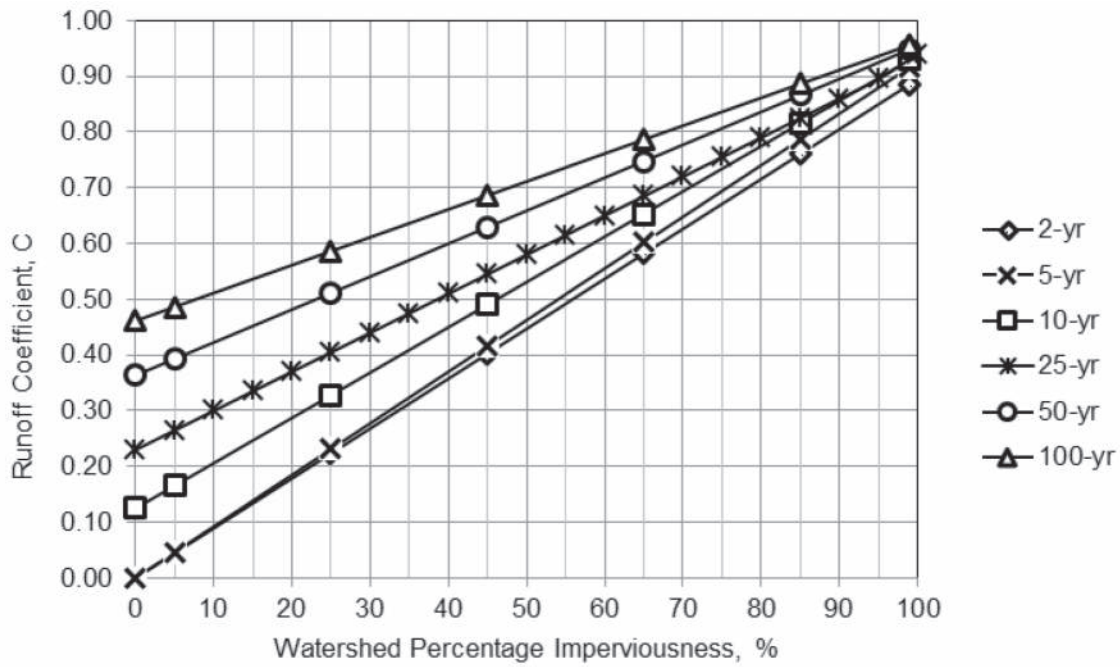


Figure 6-2. Runoff coefficient vs. watershed imperviousness NRCS HSG B

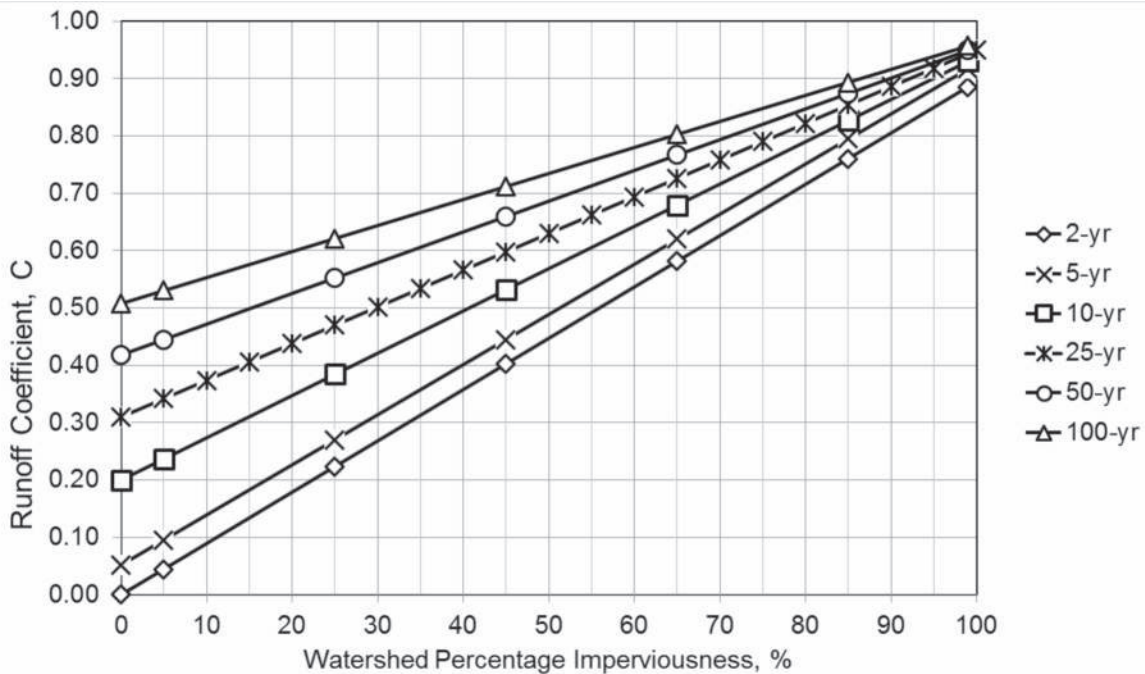
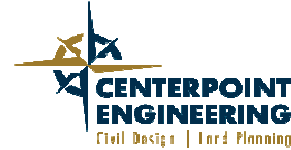


Figure 6-3. Runoff coefficient vs. watershed imperviousness NRCS HSG C and D

RATIONAL CALCULATIONS - EXISTING CONDITIONS

PROJECT INFORMATION	
PROJECT NAME:	ROCK REST
PROJECT NO.:	1907
DESIGN BY:	JJW
JURISDICTION:	JEFFERSON COUNTY, CO
DATE:	7/31/2023



Project Location	
User Input	

IDF Rainfall Data

T _d	P ₁ : 1-hour Rainfall Depths (inches)	
	Minor Storm	Major Storm
	5-Year	100-Year
	1.04	2.21
5	3.53	7.50
10	2.81	5.98
20	2.05	4.35
30	1.63	3.47
40	1.37	2.91
50	1.19	2.52
60	1.05	2.23
120	0.65	1.37

Equation 5-1:
$$I = \frac{28.5P_1}{(10 + T_d)^{0.786}}$$

= FORMULA CELLS
 = USER INPUT CELLS

I = rainfall intensity (inches per hour)
 P₁ = 1-hour point rainfall depth (inches)
 T_d = storm duration (minutes)

Reference:

- 1) Mile High Flood District - Urban Storm Drainage Criteria Manual Volume 1, 2017
- 2) NOAA Atlas 14 Precipitation-Frequency Atlas of the United States, Volume 8 Version 2.0
https://www.weather.gov/media/owp/oh/hdsc/docs/Atlas14_Volume8.pdf

RATIONAL CALCULATIONS - EXISTING CONDITIONS



PROJECT INFORMATION	
PROJECT NAME:	ROCK REST
PROJECT NO.:	1907
DESIGN BY:	JJW
JURISDICTION:	JEFFERSON COUNTY, CO
DATE:	7/31/2023

JURISDICTIONAL STANDARD	% IMPERV	C2	C5	C10	C100
PAVEMENT	100%	0.83	0.85	0.87	0.89
CONCRETE DRIVES AND WALKS	90%	0.74	0.77	0.79	0.85
ROOF	90%	0.74	0.77	0.79	0.85
LANDSCAPE 2% (C/D SOILS)	2%	0.01	0.05	0.15	0.49
GRAVEL	40%	0.30	0.36	0.43	0.65

Composite C Values

SOIL TYPE: (use equation from Table 6-4)

EXISTING COMPOSITE IMPERVIOUSNESS

SUB-BASIN	SURFACE CHARACTERISTICS	AREA (ACRES)	PERCENT IMPERVIOUSNESS	COMPOSITE RUNOFF COEFFICIENTS			
				C2	C5	C10	C100
EX-01	PAVEMENT	1.04	100%	0.83	0.85	0.87	0.89
	CONCRETE DRIVES AND WALKS	0.07	90%	0.74	0.77	0.79	0.85
	ROOF	0.68	90%	0.74	0.77	0.79	0.85
	GRAVEL	1.39	40%	0.30	0.36	0.43	0.65
	LANDSCAPE 2% (C/D SOILS)	2.36	2%	0.01	0.05	0.15	0.49
BASIN COMPOSITE		5.54	39.9%	0.32	0.34	0.37	0.43

RATIONAL CALCULATIONS - EXISTING CONDITIONS

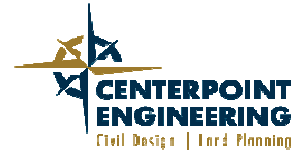
PROJECT INFORMATION	
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PROJECT NO.:	1907
DESIGN BY:	JJW
JURISDICTION:	JEFFERSON COUNTY, CO
DATE:	7/31/2023



EXISTING RUNOFF SUMMARY							
BASIN	DESIGN POINT	AREA	IMP (%)	C ₅	C ₁₀₀	Q ₅ (CFS)	Q ₁₀₀ (CFS)
EX-01	EX-01	5.54	39.9%	0.34	0.43	3.90	10.48
TOTAL SITE COMPOSITE		5.54	39.9%	0.34	0.43	3.90	10.48

RATIONAL CALCULATIONS - FUTURE CONDITIONS

PROJECT INFORMATION	
PROJECT NAME:	SOUTH GOLDEN ROAD (GOLDEN, CO)
PROJECT NO.:	1907
DESIGN BY:	JJW
JURISDICTION:	JEFFERSON COUNTY, CO
DATE:	7/31/2023



Project Location	
User Input	

IDF Rainfall Data

T _d	P ₁ : 1-hour Rainfall Depths (inches)	
	Minor Storm	Major Storm
	5-Year	100-Year
	1.04	2.21
5	3.53	7.50
10	2.81	5.98
20	2.05	4.35
30	1.63	3.47
40	1.37	2.91
50	1.19	2.52
60	1.05	2.23
120	0.65	1.37

Equation 5-1:
$$I = \frac{28.5P_1}{(10 + T_d)^{0.786}}$$

	= FORMULA CELLS
	= USER INPUT CELLS

I = rainfall intensity (inches per hour)

P₁ = 1-hour point rainfall depth (inches)

T_d = storm duration (minutes)

Reference:

- 1) Mile High Flood District - Urban Storm Drainage Criteria Manual Volume 1, 2017
- 2) NOAA Atlas 14 Precipitation-Frequency Atlas of the United States, Volume 8 Version 2.0
https://www.weather.gov/media/owp/oh/hdsc/docs/Atlas14_Volume8.pdf

RATIONAL CALCULATIONS - FUTURE CONDITIONS



PROJECT INFORMATION	
PROJECT NAME:	SOUTH GOLDEN ROAD (GOLDEN, CO)
PROJECT NO.:	1907
DESIGN BY:	JJW
JURISDICTION:	JEFFERSON COUNTY, CO
DATE:	7/31/2023

JURISDICTIONAL STANDARD	% IMPERV	C2	C5	C10	C100
DOWNTOWN AREAS (MIXED USE)	95%	0.79	0.81	0.83	0.87

Composite C Values

SOIL TYPE: (use equation from Table 6-4)

EXISTING COMPOSITE IMPERVIOUSNESS

SUB-BASIN	SURFACE CHARACTERISTICS	AREA (ACRES)	PERCENT IMPERVIOUSNESS	COMPOSITE RUNOFF COEFFICIENTS			
				C2	C5	C10	C100
F-01	DOWNTOWN AREAS (MIXED USE)	5.54	95%	0.79	0.81	0.83	0.87
BASIN COMPOSITE		5.54	95.0%	0.79	0.81	0.83	0.87

RATIONAL CALCULATIONS - FUTURE CONDITIONS

PROJECT INFORMATION	
PROJECT NAME:	SOUTH GOLDEN ROAD (GOLDEN, CO)
PROJECT NO.:	1907
DESIGN BY:	JJW
JURISDICTION:	JEFFERSON COUNTY, CO
DATE:	7/31/2023



FUTURE RUNOFF SUMMARY							
BASIN	DESIGN POINT	AREA	IMP (%)	C ₅	C ₁₀₀	Q ₅ (CFS)	Q ₁₀₀ (CFS)
F-01	F-01	5.54	95.0%	0.81	0.87	15.83	36.13
TOTAL SITE COMPOSITE		5.54	95.0%	0.81	0.87	15.83	36.13

APPENDIX C: HYDRAULIC CALCULATIONS

JEFFERSON COUNTY – VOLUME AND RELEASE RATES

FURTHER HYDRAULIC CALCULATIONS TO BE PROVIDED WITH FUTURE DEVELOPMENT

Chapter 14 – Detention

14.1 Introduction

The criteria presented in this chapter will be used in the design and evaluation of all facilities. The review of all planning submittals (refer to Chapter 2) will be based on the criteria presented in this section.

The main purpose of a detention facility is to store the excess storm runoff associated with an increased basin imperviousness and discharge this excess at a rate similar to the rate experienced from the basin without development. Any special design condition which cannot be defined by these *CRITERIA* will be reviewed by Planning and Zoning before proceeding with design.

Dams and water diversion/detention areas should be designed and constructed to appear as natural features, creating site amenities. Techniques to achieve this include creation of topographic changes that mimic natural conditions (including a variety of slope changes), using natural materials such as stone, blending with the textures and patterns of the surrounding landscape and using materials that match the local environment. When possible, preserve existing drainage patterns.

14.2 Detention Methods

The various detention methods are defined on the basis of where the facility is constructed, such as open space detention, parking lot or underground. Full spectrum detention is required for all new storm drainage facilities. Full spectrum detention is required for all modified facilities if additional pond volume is necessary due to an increase in the proposed development area and/or increased designed impervious area. Full Spectrum Detention will be designed as outlined in Chapter 13 and the *Manual*.

14.3 Design Criteria

14.3.1 Volume and Release Rates

The maximum release rates, volumes and drain times are determined from 90% of pre-developed flow conditions or the latest update from the *Manual* and design spreadsheets.

When designing water quality and detention facilities reference the latest version of Urban Drainage UD-Detention software.

Drain times must be in conformance with CRS 37-92-602 (8).

14.3.2 Design Frequency

All detention facilities are to be designed for the 100-year recurrence interval flood.

14.3.3 Hydraulic Design

Hydraulic design data for sizing of detention facilities outlet works is as follows:

1. Weir flow

The general form of the equation for horizontal crested weirs is:

$$Q = CLH^{3/2}$$

Where Q = discharge (cfs)

C = weir coefficient

(Table 1401)

L = horizontal length (feet)

H = total energy head (feet)

APPENDIX D: DRAINAGE STUDIES AND MAPS

EXISTING SITE PLAN

JEFFERSON COUNTY MAP 40-012

UDFCD LENA GULCH FWP – BASIN DESCRIPTION

UDFCD LENA GULCH FWP – WATERSHED MAP

UDFCD LENA GULCH FWP – 100-YEAR FLOOD HAZARD TABLES

UDFCD LENA GULCH FWP – 100-YEAR FLOOD HAZARD MAPS

UDFCD LENA GULCH FWP – DISCHARGE/PROBABILITY PLOT


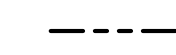
FIS VOL 1 – LENA GULCH DESCRIPTION

FIS VOL 1 – LENA GULCH DISCHARGES

FIS VOL 1 – LENA GULCH FLOODWAY DATA

D1 DRAINAGE PLAN

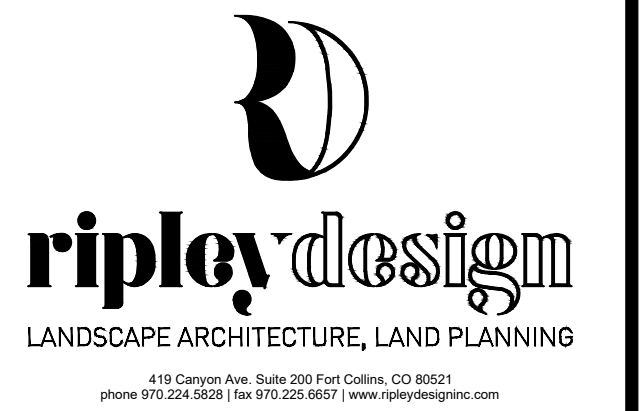
LEGEND

-  PROPERTIES PART OF APPLICATION
-  EXISTING LOT LINE

S. GOLDEN ROAD / MT VERNON MIXED-USE

REZONING APPLICATION

JEFFERSON COUNTY, CO
PREPARED BY:

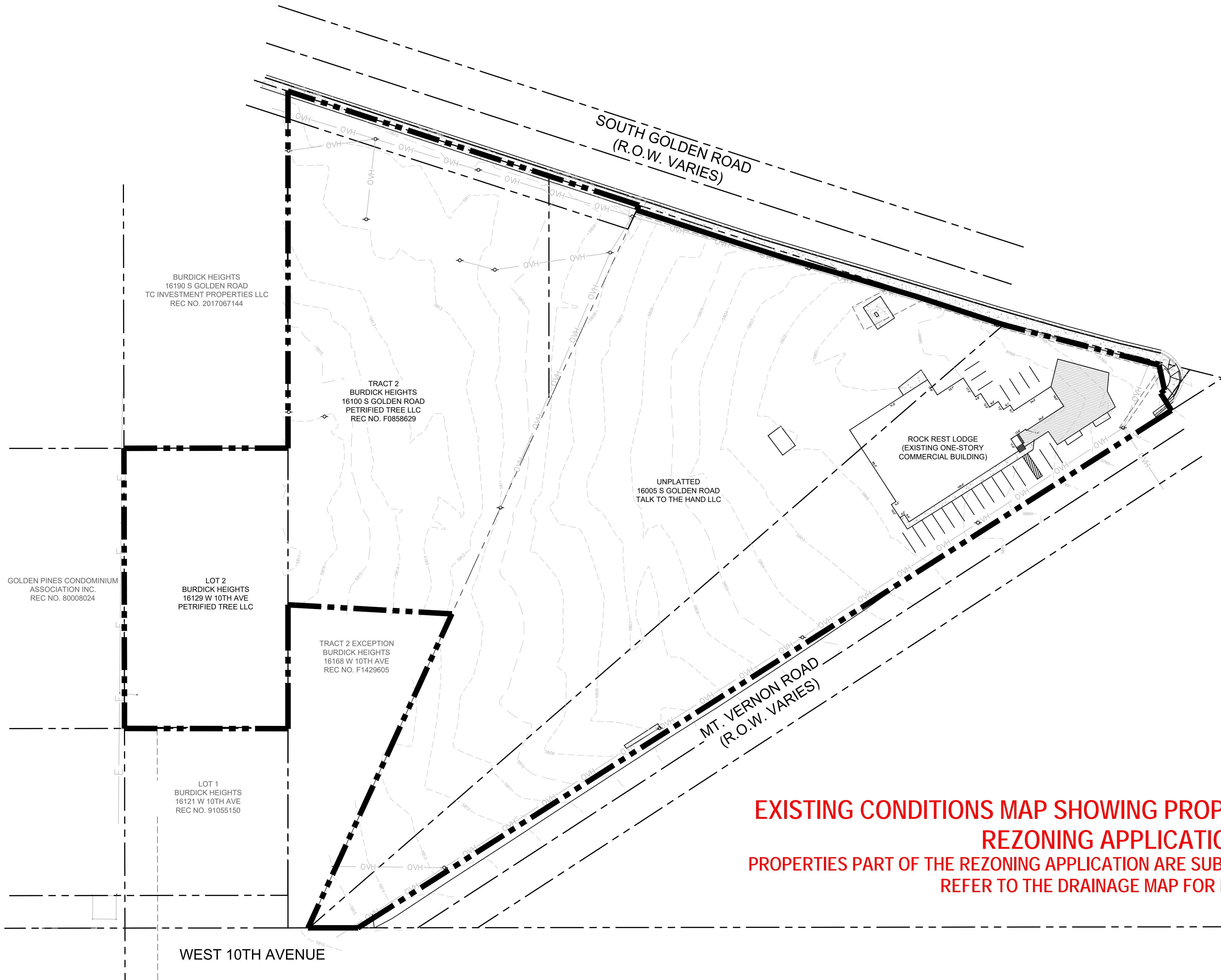


APPLICANT

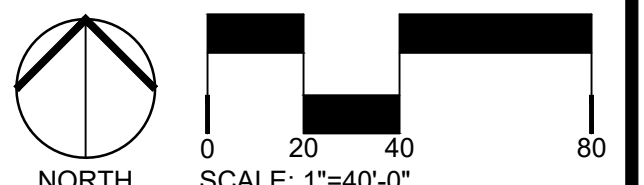
RIPLEY DESIGN INC.
Joel Weikert
419 Canyon Ave. Suite 200
Fort Collins, CO 80521
p. 970.224.5828

OWNER

Grand American, Inc
Phil Hodgkinson
1776 Platte St.
Denver, CO 80202
p. 970.402.8244



EXISTING CONDITIONS MAP SHOWING PROPERTIES A PART OF THE REZONING APPLICATION
PROPERTIES PART OF THE REZONING APPLICATION ARE SUBJECT TO FUTURE DEVELOPMENT REFER TO THE DRAINAGE MAP FOR DETAILS



ORIGINAL SIZE 24X36

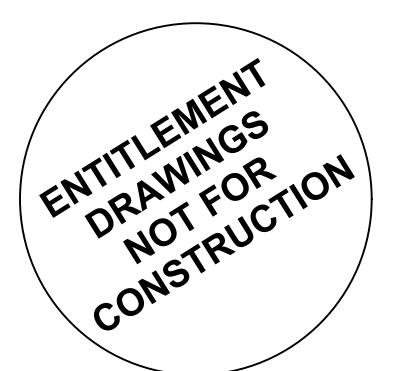
ISSUED

No.	DESCRIPTION	DATE

REVISIONS

No.	DESCRIPTION	DATE

SEAL:



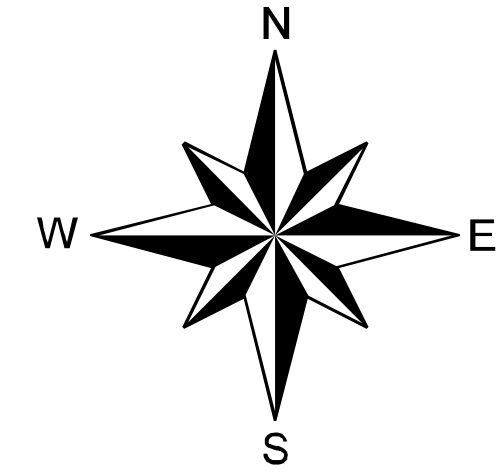
PROJECT No.:	R22-045.1
DRAWN BY:	JW
REVIEWED BY:	RL
DRAWING NUMBER:	

MAP 40-012



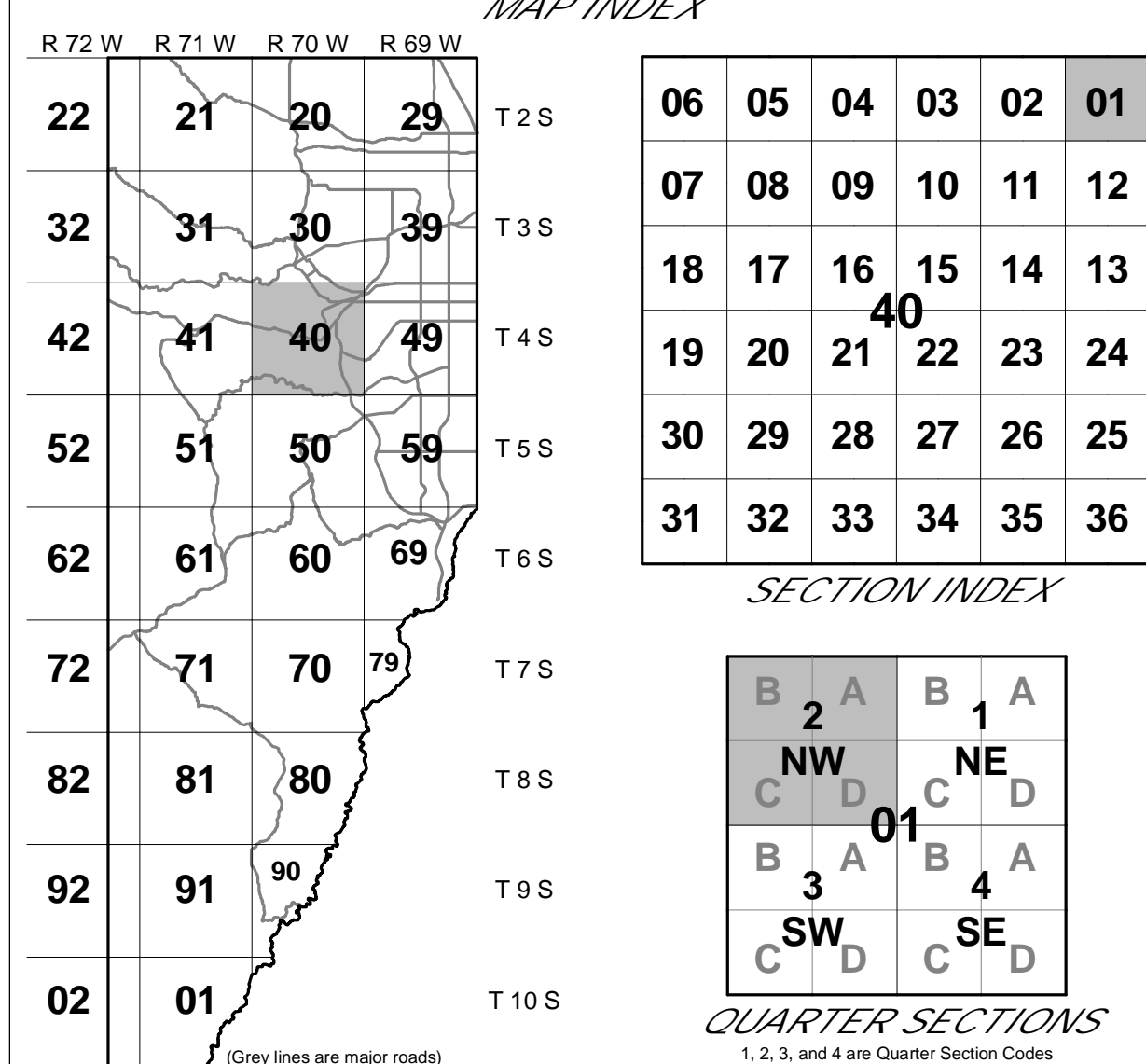
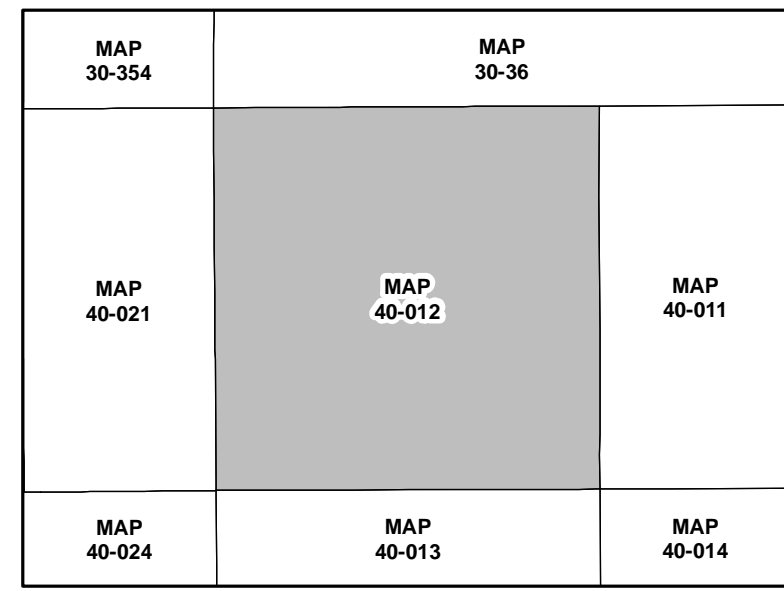
JEFFERSON
COUNTY COLORADO

Scot Kersgaard
Assessor



FEET

0 100 200 300
(Initially plotted at 1 inch = 100 feet, or 1:1,200)



SECTION INDEX

06	05	04	03	02	01
07	08	09	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

QUARTER SECTIONS

B	2	B	1
NW	D	C	NE
B	A	01	A
SW	C	D	SE

TOWNSHIP INDEX (State Assigned 4-Digit Township Code: 19E7)

Parcel Identification Numbers (PINs) in Jefferson County are based on the township, section, and quarter section the parcel falls within. PINs follow the pattern TT-SSQ-BB-LLL. TT is the two-digit township code; SS is the two-digit section number; Q is the quarter section code; BB is the two-digit parcel block number; LLL is the three-digit parcel lot number. When a parcel falls within two or more quarter sections, in most cases the PIN will be based on the quarter section (along with its associated township and section) with the most area within the parcel. Township codes, section numbers, and quarter section codes can be found in the indices above. Parcel block numbers are found enclosed in hexagons (⬡) on the map. Parcel lot numbers are found enclosed in ovals (⊖) on the map.

DISCLAIMER
Caution: This map is for assessment purposes only. It is not necessarily accurate by surveying standards. **DO NOT USE FOR LEGAL CONVEYANCE.** Subsequent editions with updated information will be published on a continual basis. Therefore, the information contained on this map may be modified or altered.

- KEY**
- Section Lines
 - Tie Bar Lines
 - Subdivision Lines
 - Quarter Section/Tie Bar Lines
 - Township Lines
 - County Boundaries
 - All Others
 - Mapsheet Boundaries
 - Rights of Way, Water, and Railroads (areas without parcel numbers)
 - Metes and Bounds Associated Parcels (block numbers 99 and 00)



PROJECT SITE

This map was last updated on Wednesday, July 19, 2023 at 05:02 PM.
<https://aprsimages.jeffco.us/aprs/pdfs/map40-012.pdf>
 Projection Information:
 State Plane Coordinate System
 Colorado Central Zone (3476)
 North American Datum 1983 (NAD83)
 GRS1980 Spheroid, Units Feet

PAGES FROM LENA GULCH FWP

II. THE LENA GULCH DRAINAGE BASIN

This section provides an overview of the watersheds and flood hazards associated with Lena Gulch including descriptions of the drainage basin, historic floods, flood hydrology and flooding extents. Much of the information in this section of the warning plan was excerpted from the following flood studies:

1. Urban Drainage and Flood Control District, Flood Hazard Area Delineation, Lower Lena Gulch, prepared by George K. Cotton Consulting, Inc., October 2007.
2. Urban Drainage and Flood Control District, Flood Hazard Area Delineation, Upper Lena Gulch, prepared by Boyle Engineering Corporation, January 1993.
3. Urban Drainage and Flood Control District, Lena Gulch Master Drainage Plan, prepared by Wright-McLaughlin Engineers, June 1975.
4. FEMA, Digital Flood Insurance Rate Map (FIRM) and Flood Insurance Study for Lena Gulch, June 2003.
5. NOAA, National Climatic Data Center, Flood Event Record Details, Lena Gulch.

DRAINAGE BASIN DESCRIPTION

Lena Gulch is a tributary of Clear Creek with its confluence near 41st Avenue and Kipling Street in Wheat Ridge. The Lena Gulch drainage originates in Apex Gulch and Jackson Gulch on the southeast slopes of Lookout Mountain in Golden. From Lookout Mountain, the stream flows approximately 11 miles to its confluence with Clear Creek.

Lena Gulch drains 13.3 square miles at its confluence with Clear Creek (Figure II-1). The natural stream is rugged and steep in the foothills where Jackson Gulch and Apex Gulch join to form Lena Gulch. Channel slopes in the upper basin exceed 400 feet per mile. In the central portion of the basin, above Maple Grove Reservoir, slopes average 80 feet per mile (Boyle Engineering Corporation, January 1993).

The Lena Gulch main channel follows a northerly alignment, along U.S. Highway 40 from near the intersection with Interstate 70 (I-70), to a point downstream where it joins with Apex Gulch and crosses through a hogback. The channel continues downstream in an easterly direction, crossing several streets and mixed residential and commercial areas in Golden, until it empties into a rectangular concrete-lined channel upstream of 6th Avenue. The channel passes through a culvert under 6th Avenue. **Downstream of 6th Avenue, the channel continues northeasterly through various residential and undeveloped properties in unincorporated Jefferson County and then crosses under South Golden Road.** Below South Golden Road, the channel crosses open space in Camp George West and is joined by the Pleasant View and Green Mountain tributaries just upstream of the Denver West Office Park and I-70. The channel passes through box culverts under I-70 and into a series of ponds in the lower portion of the Denver West Office Park. Downstream of Denver West, the channel consists of various improved sections and meanders through residential areas and then under Youngfield Street into Lakewood. Downstream of Youngfield Street, the unimproved channel continues downstream through residential properties to an improved crossing under 20th Avenue and into Maple Grove Reservoir.

PAGES FROM LENA GULCH FWP

Substantial development has occurred in the floodplain upstream of Maple Grove Reservoir. In some locations, development has severely restricted the flood carrying capacity of the channel and floodplain. Newer, more recent, developments have been more cognizant of the need to address the flood hazard but developed areas exist which remain subject to significant hazard within the 100-year floodplain.

Maple Grove Reservoir, with a tributary area of 10.5 square miles, is a significant feature in the Lena Gulch basin. Improvements completed in 1977, on the dam and spillway, allow for safe passage of the Standard Project Flood (SPF) while allowing for the attenuation of incoming flood peaks up through the 100-year flood.

Flowing from the Maple Grove Dam spillway, Lena Gulch enters Portsmouth Park and flows to a drop structure at 29th Avenue. The main channel falls 29 feet from the dam spillway to 32nd Avenue, which gives an average channel gradient of 1.2 percent. The valley is narrow, steep and the channel is an improved boulder-lined rectangular section. The channel velocities are swift (10 to 13 ft/s) and flood stage will change quickly once the spillway is in operation.

The culvert at 32nd Avenue is sufficient to convey the 100-year flood in Lena Gulch. The valley is slightly wider below 32nd Avenue to Union Street but it is still narrow and steep. The main channel has an improved boulder-lined main channel very similar to the reach upstream of 32nd Avenue. The main channel falls over 14 feet from 32nd Avenue to Union Street, which gives an average channel gradient of 1.2 percent. Channel velocities are still high, in the range of 9 to 12 ft/s.

From Union Street to Simms Street, Lena Gulch enters the Lewis Meadows open space, where velocity slows and width of inundation significantly increases. The main channel is eroded, irregular and narrow. Channel velocities are high due to the lack of vegetation and bare earth banks. The channel capacity is decreased relative to the improved upper reaches. The main channel falls nearly 16 feet from Union to Simms Street, which gives an average gradient of 0.7 percent.

From Simms Street to Parfet Street, Lena Gulch passes through undeveloped land and open space. The main channel is eroded, irregular and narrow. Overbank areas are dry meadows used as pasture. Channel velocities are high and the average slope is 0.8 percent. There are three drop structures between Simms and Parfet Street: at Quail Street, 400 feet downstream, and at Quail Court. Below Quail Street, Lena Gulch is effectively channelized.

At Parfet Street, Lena Gulch transitions to a confined channel that is between two retaining walls. The channel varies between a rectangular section and a trapezoidal section. There are seven bridges, all with vertical abutments between Parfet and Kipling Street. The rectangular channel sections are a transition in and out of each bridge. The average channel gradient between Parfet Street and Kipling Street is 0.8 percent.

PAGES FROM LENA GULCH FWP

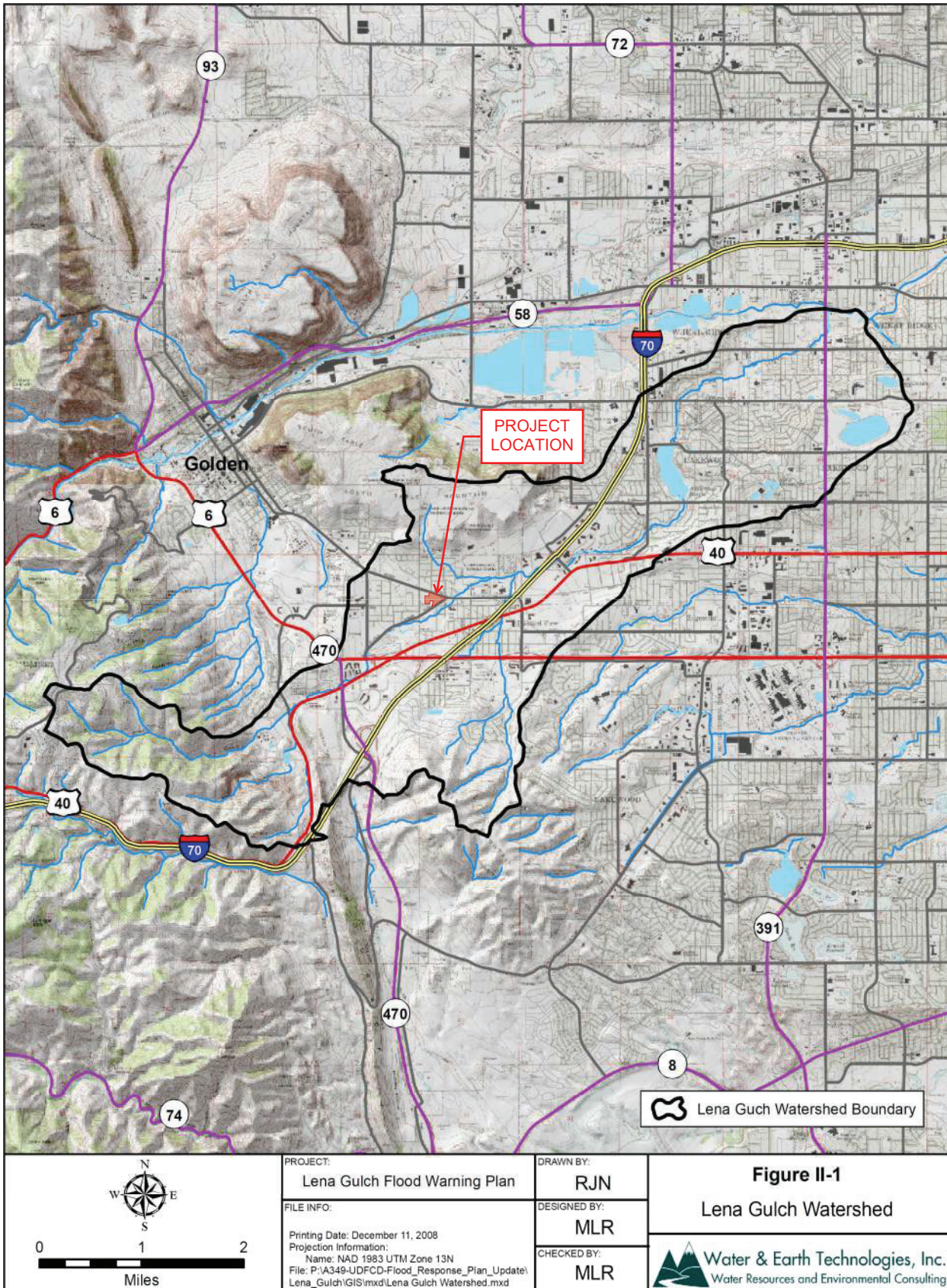
Downstream of Kipling Street to the Lena Gulch confluence with Clear Creek, the channel is improved and graded to provide a wetland. Upstream of 41st Avenue there is a drop structure. From Kipling Street to this drop there is less than one foot of fall in the channel and the channel gradient is less than 0.1 percent. Below the drop structure, Lena Gulch enters a constructed wetland that is flat. The drop structure separates Lena Gulch from the backwater of the Clear Creek except for during the largest floods.

Land use in the basin is largely low density residential (80%), parks and open space (9%), commercial (5%), medium density residential (4%), and schools (2%). The lower portion of the basin (east of Parfet Street) is higher density. Between Maple Grove Reservoir and Parfet Street, the land use is entirely low density residential and parks and open space. From Parfet Street to the Clear Creek confluence, the land use consists of medium density residential and commercial.

Since completion of the Master Planning study for Lena Gulch in 1975, significant improvements have been made in the stream corridor. The channel was improved from the Clear Creek confluence to Parfet Street and from Maple Grove Reservoir to Union Street. UDFCD and the City of Wheat Ridge have also performed a number of maintenance projects to address local channel erosion problems in the basin.

PAGES FROM LENA GULCH FWP

Figure II-1 Lena Gulch Watershed



PAGES FROM LENA GULCH FWP

FLOODING EXTENT (100-YEAR FLOODPLAIN)

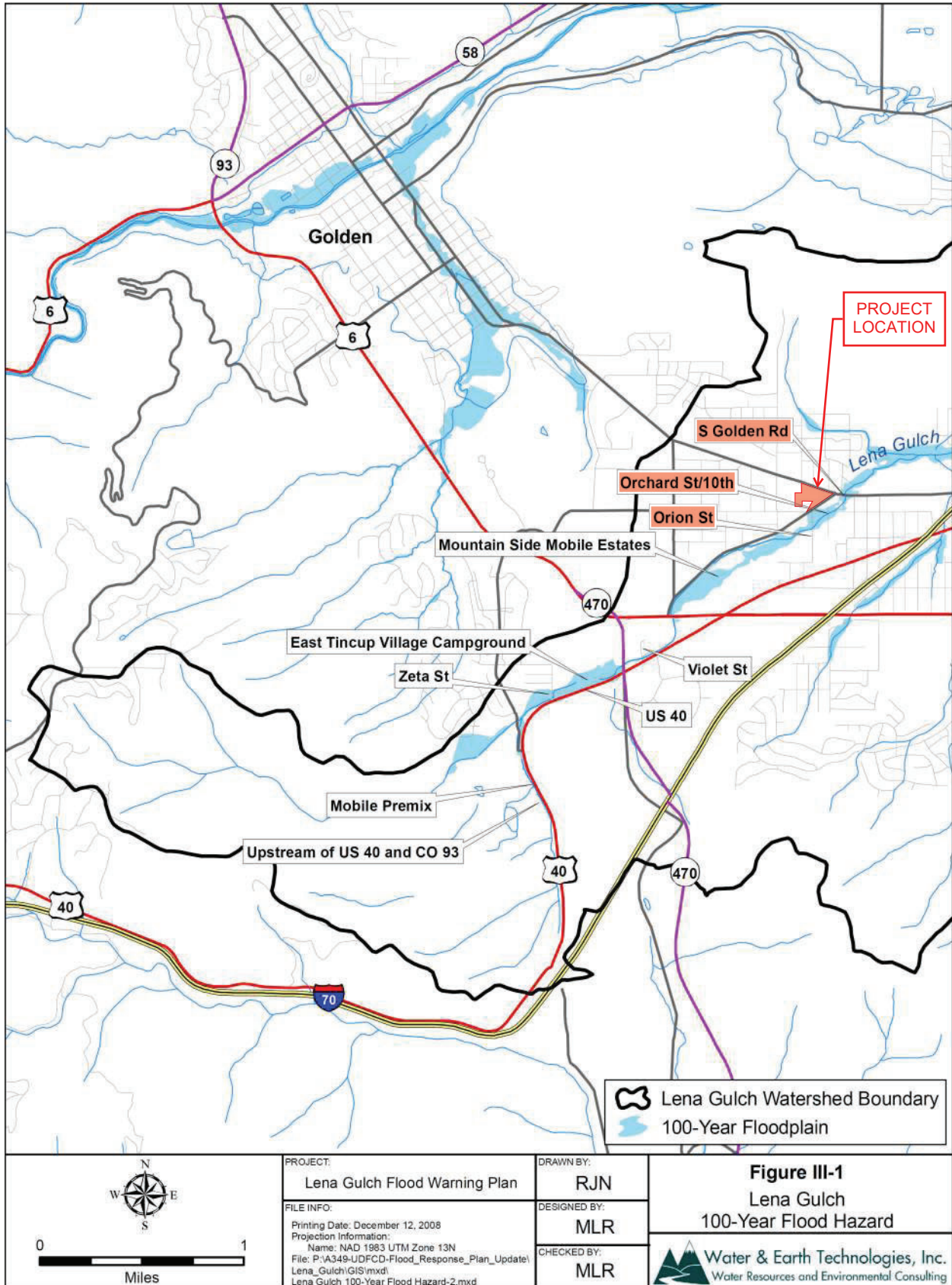
A number of residential and commercial structures are located within the floodplain of Lena Gulch. Due to split flow conditions, some areas along Lena Gulch may become isolated by surrounding floodwaters. A large flood would cut off access in and out of some areas. This would exacerbate problems and affect the use and movement of emergency vehicles and equipment. The following locations are at risk during a flooding event (Table II-7).

Table II-7 Description of 100-Year Flood Hazard

Location	Comments
Heritage Square development (Apex Gulch) and Highway 93	The Heritage Square development will experience sheet flow up to 1 foot in depth. Water will overtop Highway 93.
Upstream of the intersection between U.S. Highway 40 and State Highway 93	The floodplain is narrow. Channel slopes and flow velocities are high. No structures located in the floodplain. Some road damage will occur due to overtopping.
Mobile Premix driveway	Water will overtop the driveway.
Zeta Street	Water will overtop the roadway. One residential property located in floodplain upstream of Zeta Street.
East Tincup Village Campground along U.S. Hwy 40 (at risk in a 10-year event)	Inundation of campground will occur due to an undersized 5'x8' concrete box culvert downstream of Zeta Drive.
U.S. Highway 40	Overtopping of Hwy 40 to the south will cause flooding at the Amoco Gas Station.
Violet Street	Two residential/commercial structures upstream of Violet Street have encroached into the floodplain and are at risk.
Mountain Side Mobile Estates	High damage potential exists in this reach due to heavy encroachment of the floodplain by the mobile home park and inadequate channel capacity. The floodplain covers most of the mobile home park.
Orion Street	Water will overtop the roadway for a length of 600 feet. Several residential properties located in floodplain are at risk.
Orchard Street/10 th Avenue	Inundation of several residential properties located in the floodplain will occur due to undersized corrugated metal culverts.
South Golden Road (at risk in a 10-year event)	Inundation of several residential properties located in the floodplain will occur due to undersized 20' x3' concrete box culvert.
Camp George West (below South Golden Road)	Two undersized bridges create backwater that inundates a large extent of land causing damage to several residential properties just upstream.
West 13 th Avenue and Isabell Street	Inundation of residential properties in the floodplain will occur due to undersized culvert at Isabell Street.
Denver West Office Park downstream of I-70	Minor flooding will result from overland flow. The flooding will be shallow creating minimal damage.
Agricultural Ditch, Alkire Street, Arbutus Street (at risk in a 10-year event)	High damage potential exists to several single-family homes in the floodplain below the Agricultural Ditch. The channel capacity in this reach is adequate only for the 2-year flow.
Youngfield Street (at risk in a 50-year event)	Concrete box culvert under Youngfield is undersized causing flooding in a 50-year event. Single-family homes in the floodplain are at risk downstream of Youngfield.
Orchard Street	Residential structures located immediately adjacent to the floodplain are at risk just of upstream of Orchard Street.
29 th Avenue to 32 nd Avenue	Seven residential structures between 29 th Avenue and 32 nd Avenue are in the floodplain.
32 nd Avenue to Union Street	Three residential structures between 32 nd Avenue and Union Street are in the floodplain.
Union Street to Simms Street	Fifteen residential structures between Tabor Court and Simms Street are in the floodplain.

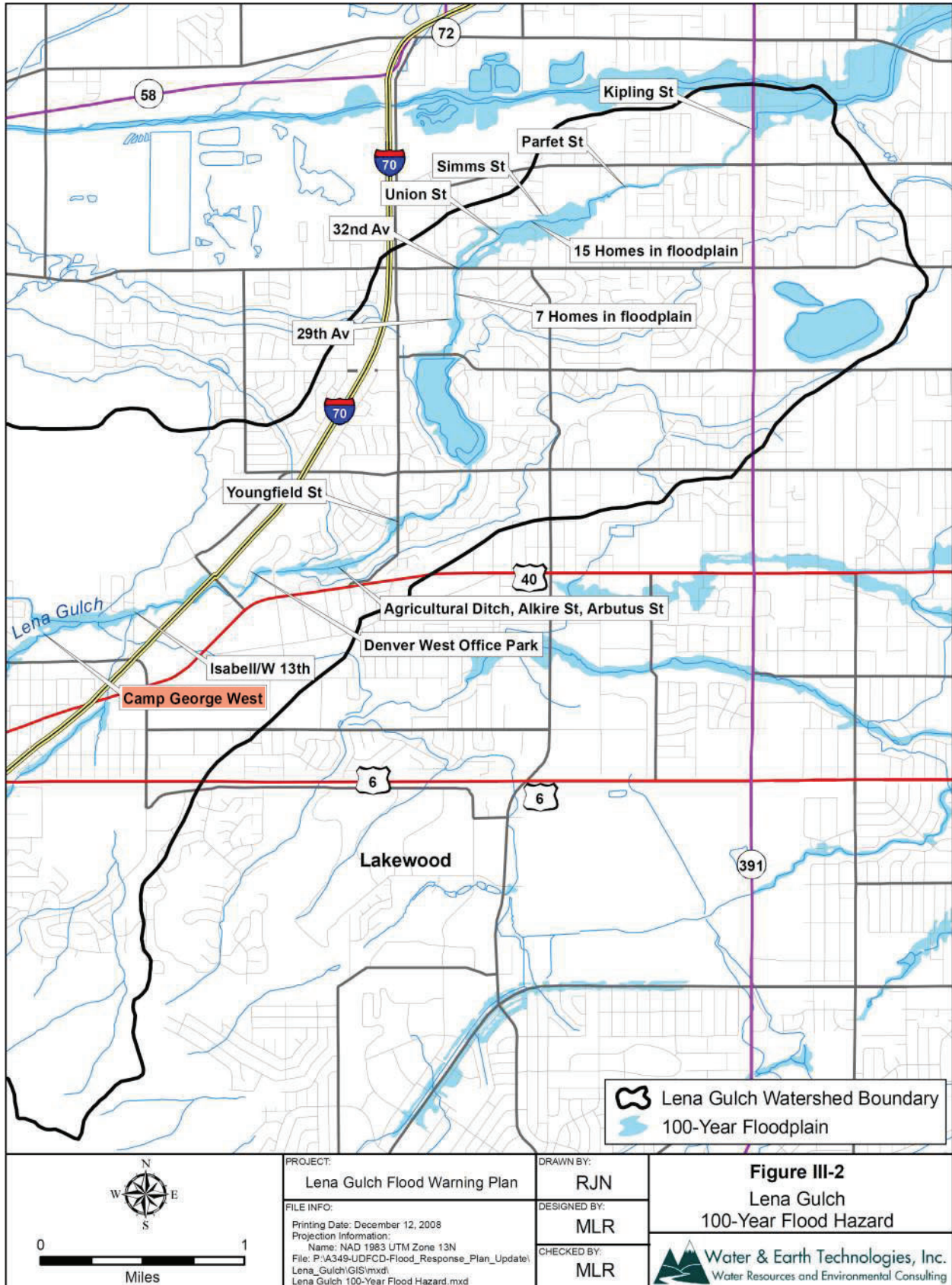
PAGES FROM LENA GULCH FWP

Figure III-1 Upper Lena Gulch Floodplain Boundary and Flood Hazard Areas



PAGES FROM LENA GULCH FWP

Figure III-2 Lower Lena Gulch Floodplain Boundary and Flood Hazard Areas



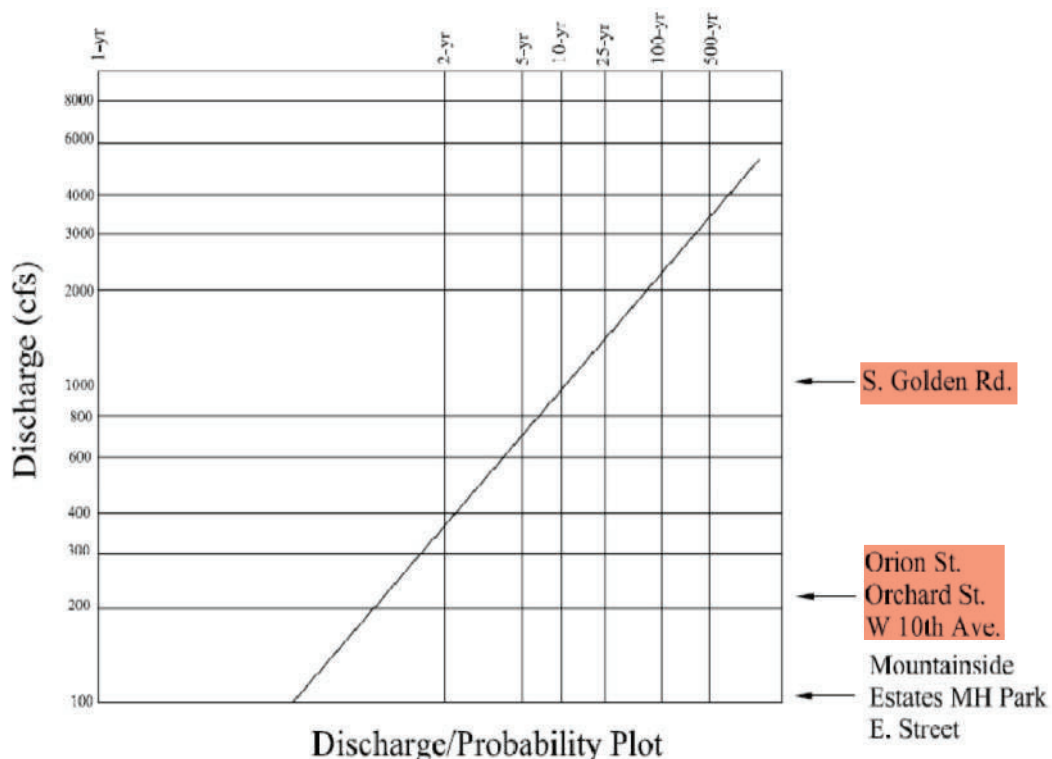
PAGES FROM LENA GULCH FWP

Lena Gulch Flood Warning Plan:

Location: HFP#2-U.S. Highway 6

Typical Thunderstorm Characteristics:

Freq.	Peak Rain Periods			
	10-min	30-min	60-min	120-min
2-yr	0.4	0.8	1.0	1.2
5-yr	0.5	1.0	1.4	1.6
10-yr	0.6	1.2	1.6	1.9
25-yr	0.7	1.4	1.9	2.2
50-yr	0.8	1.6	2.2	2.6
100-yr	1.0	1.9	2.6	3.0



Station Name: US Highway 6

Station Gage ID: 1043

Rain Gage ID(s): 1040, 1060

Structures: twin (10'x10' RCB)

Capacity: 2000+ cfs

Drainage Area: 3.7 sq. mi.

Stream Station: 327+00

Drawing Nos. 4,5,6 & 7

Study Reference: FHAD, Upper Lena Gulch
January, 1993

- Problem Areas: 1) Runoff response time of approximately 30 minutes
& 2) Mountainside Mobile Home Park at high risk downstream of U.S.6

- Tech Notes Private drive access with low capacity culvert, isolation problem likely, use caution when excavating
- 3) High capacity concrete channel upstream of U.S.6, except dangerous flow velocities
 - 4) Mount Vernon Road closure likely for large events.

PAGES FROM FIS VOL 1

Jefferson County lies within the South Platte River drainage basin. The major streams originate in the mountains in the west and flow generally to the east toward the South Platte River, which forms the southeast border of the county.

East of the foothills, the climate is continental. The general features are low relative humidity; an extensive amount of sunshine; light rainfall, confined largely to the warmer half of the year; moderately high wind movement; a large daily range in temperature; high day temperature in summer; and generally, in the winter, a few protracted cold spells.

The climate is characterized by cold winters and warm summers. Mean monthly temperatures range from approximately 30 degrees Fahrenheit (°F) in January to approximately 75°F in July, with an average annual temperature of approximately 50°F. Recorded temperature extremes are a high of 102°F to a low of —26°F. The average annual precipitation is 14.95 inches, falling mainly from April to August (Reference 27). The heaviest recorded general rainfalls have come in late May and early June, when the temperature contrast between warm surface air and cool upper air is greatest. The Front Range foothills of the Rocky Mountains area are also subject to a meteorological phenomenon known as cloudbursts. They are confined chiefly to the eastern foothills regions below an elevation of 7,500 feet and extend eastward toward the plains for approximately 50 miles. Cloudbursts develop when there is a marked temperature range within a relatively small area and occur in the afternoon or early evening of an unusually warm day. Cloudbursts are characterized by intense rainfall of short duration that is confined to a very small area. These storms have rarely occurred where precipitation could be measured at a weather station (Reference 28). In the area, the peak discharge from a cloudburst is greater than that caused by rainfall during a period of snowmelt.

The City of Golden, which is the county seat, was founded in 1859 and was first called Golden City. Golden was the capital of the Jefferson Territory from 1862 to 1867.

Golden is located in northern Jefferson County, approximately 8 miles west of Denver and 18 miles south of Boulder. The city lies at the base of the Front Range foothills of the Rocky Mountains. Golden encompasses an area of 7.1 square miles and had a population of 18,867 in 2010 (Reference 26).

The stream network in Golden is composed of Clear Creek, which flows from west to east, and its tributaries. Tucker Gulch is a left-bank tributary, providing drainage for areas north of Clear Creek. Kenneys Run and Lena Gulch are right-bank tributaries, providing drainage from areas south of Clear Creek. The confluences of Tucker Gulch and Kenneys Run with Clear Creek occur within the City of Golden. The confluence of Lena Gulch with Clear Creek occurs downstream of the city.

Clear Creek has its source in the Rocky Mountains at the Continental Divide. After flowing easterly through the mountains, Clear Creek enters the high plains at Golden and flows northeasterly to Commerce City, where it joins the South Platte River. The 400-square-mile drainage area of Clear Creek above Golden is characterized by steep slopes, rugged terrain, and forests. Within Golden, the Clear Creek floodplain contains heavily developed areas as well as parks and campgrounds.

PAGES FROM FIS VOL 1

Tucker Gulch begins in the foothills northwest of Golden and winds its way through Golden Gate Canyon before flowing into Clear Creek in Golden. Tucker Gulch drains an area of 11.22 square miles above Clear Creek. Cressmans Gulch is a left-bank tributary to Tucker Gulch, whose 1.48-square-mile drainage area covers the foothills and valley area west of North Table Mountain. The drainage areas in the upper portions of these stream basins have steep slopes and cover complexes that vary from forested areas to rangeland with rock outcroppings.

West Fork Kenneys Run and its tributaries drain a 3.43-square-mile basin that starts on the eastern face of Lookout Mountain and extends across the plains southwest of Golden. East Fork Kenneys Run drains a 1.78-square-mile basin that starts on the western face of South Table Mountain and extends across the plains southeast of Golden. The upper portions of both these basins have steep slopes and rugged terrain. The plains portion of the West Fork Kenneys Run basin is primarily hilly rangeland, with heavy urban development beginning north of 24th Street. The plains portion of the East Fork Kenneys Run basin has the same hilly topography as the West Fork Kenneys Run basin; but, overall, it has been more heavily developed. The forks join at 20th Street to form Kenneys Run, which flows northeasterly through a buried 8-foot diameter corrugated metal pipe culvert to its confluence with Clear Creek. The intervening 1-square-mile basin between the confluence of East and West Forks Kenneys Run and the mouth of Kenneys Run is a heavily urbanized area lying in the valley between Lookout and South Table Mountains. The floodplain areas for the entire length of Kenneys Run and the low portions of East and West Forks Kenneys Run have been densely developed.

Lena Gulch has its source on Lookout Mountain and flows northeasterly, where it joins Clear Creek in Wheat Ridge. Apex and Jackson Gulches drain the foothill area south of Lookout Mountain before joining below Heritage Square at the base of the foothills to form Lena Gulch. Lena Gulch then flows parallel to the north side of U.S. Highway 40 through the City of Golden. This reach also receives runoff from the northwestern slope of Green Mountain. The total drainage area of Lena Gulch affecting Golden is 3.68 square miles and is characterized by steep slopes, bedrock outcrops, some forested areas in the foothills, and by heavily developed floodplain areas in Golden. At several locations along Lena Gulch, the natural channel has been diverted and partially filled.

The City of Arvada is located on the east slope of the Rocky Mountains, about 6 miles northwest of the State Capitol building in Denver. The population of Arvada in 2010 was 106,433 (Reference 26).

The majority of the streams that were studied within Arvada flow through somewhat dense residential and commercial areas. All of the study streams have their source of flow in the Rocky Flats area and eastern foothills of the Rocky Mountains. Ralston Creek is tributary to both the Ralston and Arvada Reservoirs and Leyden Creek is tributary to the Leyden Reservoir. Little Dry Creek flows through, or is adjacent to, both Lake Arbor and the Pomona Lakes, which are recreational facilities owned and maintained by the City of Arvada. The total basin area draining the study streams is approximately 104 square miles. The elevations within the drainage basins for the streams range from over 10,000 feet in the upper portion of the Ralston Creek basin to 5,250 feet at the confluence of Ralston Creek and Clear Creek. For the most part, the study streams have a relatively small base flow for most of the year.

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located at South Platte (Gage No. 06707500) and below Cheesman Lake (Gage No. 06701500) were used in the frequency analysis.

The hydrologic analyses for Lena Gulch upstream of West 6th Avenue, Jackson Gulch, Kenneys Run, and Clear Creek, upstream of the Burlington Northern Railroad were developed as part of the FIS for the City of Golden (Reference 5). In that study, the peak discharges for Clear Creek above the Burlington Northern Railroad were obtained from the USACE, Omaha District (Reference 43). The USACE established peak discharge frequency relationships for floods of 10-, 2-, 1-, and 1-percent-annual-chance events. A log-Pearson Type III analysis (Reference 41) was conducted on the discharge records for the Clear Creek USGS stream gages at Golden (1911-76) and Derby (1934-76); however, the statistical parameters computed by these methods were not sufficiently reliable to predict the frequency of extreme events. In lieu of a discharge-frequency analysis, a rainfall-runoff approach was used. The Massachusetts Institute of Technology Catchment Model (Reference 44) was constructed for the 400-square-mile area above the Golden gage, and a storm water management model (Reference 45) was constructed for the 175-square-mile area between the Golden and Derby gages. The rainfall depths used in the analysis were based on data obtained from the 1973 National Oceanic and Atmospheric Administration (NOAA) report, "Precipitation-Frequency Atlas of the Western United States, Volume III, Colorado" (Reference 46). The runoff models were calibrated against the discharge records available at the respective stream gages.

The 10-, 2-, and 1-percent-annual-chance peak discharges for Kenneys Run were calculated using the CUHP (Reference 42). The design rainfall data were supplied by the UDFCD based on values obtained from NOAA (Reference 46). Peak discharges at selected locations in the study reaches were obtained by routing the flood hydrographs for each subbasin computed by the CUHP.

The peak discharges for Lena Gulch, upstream of West 6th Avenue, and Jackson Gulch were obtained from a 1975 study done for the UDFCD by Wright-McLaughlin Engineers (Reference 47). In this study, the CUHP was used to calculate the 10-, 4-, and 1-percent-annual-chance discharges for present and future development conditions. The design rainfall used in the study was supplied by the UDFCD, based on information from the NOAA (Reference 46). During the study, the drainage area of Lena Gulch was field checked to determine that current development conditions would be properly reflected by the estimated future development conditions reported in the 1975 UDFCD study. The future development conditions for flood discharge values from the 1975 study (Reference 47) were determined to be valid for this FIS. The 2- and 0.2-percent-annual-chance discharges were estimated from the frequency curves based on the 10-, 4-, and 1-percent-annual-chance discharge values.

A revised detailed study was prepared for Bear Creek and North Turkey Creek (Reference 8) as follows:

1. Approximately 8.4 miles of Bear Creek, including the reach at Idledale, the reach from Kittredge to Evergreen, and the reach upstream of Evergreen Lake. These detailed study reaches are separated by reaches of approximate study and are therefore noncontinuous.

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Table 3: Summary of Discharges

Flooding Source and Location	Drainage Area (Square miles)	Peak Discharges (Cubic Feet per Second)				
		10-percent	4-percent	2-percent	1-percent	0.2-percent
EAST FORK KENNEYS RUN						
At confluence with Kenneys Run	1.78	720	-- *	1,230	1,500	-- *
ELK CREEK						
At mouth	63.80	455	-- *	650	760	1,020
JACKSON GULCH						
At confluence with Lena Gulch	0.91	590	-- *	890	1,030	1,400
KENNEYS RUN						
At confluence with Clear Creek	5.62	1,620	-- *	3,300	4,020	-- *
KERRY GULCH						
At mouth	3.95	585	-- *	1,395	1,945	3,300
At confluence with Swede Gulch	1.84	310	-- *	660	1,040	1,900
At upstream limit of detailed study	0.96	175	-- *	460	590	1,180
LENA GULCH						
At U.S. Highway 6	3.68	1,000	-- *	1,800	2,200	3,300
At confluence with Apex and Jackson Gulches	2.38	900	-- *	1,500	1,810	2,600
LENA GULCH TRIBUTARY						
At mouth	0.39	140	-- *	285	350	570
LEYDEN CREEK						
At Simms Street	11.80	1,000	-- *	2,000	2,500	4,000
Below Leyden Lake	9.00	850	-- *	1,150	2,200	3,400
Above Leyden Lake	9.15	1,180	1,772	2,603	3,382	5,186
At Foothills Road	3.66	523	792	1,144	1,476	2,215

* Data Not Available

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER-SURFACE ELEVATION (FEET NAVD 88)			
CROSS SECTION	DISTANCE ¹	WIDTH (FEET)	SECTION AREA (SQUARE FEET)	MEAN VELOCITY (FEET PER SECOND)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
LENA GULCH								
A	531	64	423	7.2	5367.1	5367.1	5367.1	0.0
B	718	97	738	3.8	5371.8	5371.8	5371.8	0.0
C	1,707	110	647	3.6	5381.5	5381.5	5381.5	0.0
D	2,154	29	293	7.6	5385.3	5385.3	5385.3	0.0
E	2,722	45	241	9.0	5391.3	5391.3	5391.3	0.0
F	3,399	94	439	5.0	5397.3	5397.3	5397.3	0.0
G	4,482	44	319	6.8	5408.1	5408.1	5408.1	0.0
H	5,380	112	286	6.8	5416.2	5416.2	5416.2	0.0
I	6,417	150	285	6.8	5427.9	5427.9	5428.3	0.4
J	7,446	173	325	5.9	5438.6	5438.6	5438.8	0.2
K	8,198	280	469	4.1	5443.5	5443.5	5443.9	0.4
L	9,025	85	210	9.1	5452.5	5452.5	5452.5	0.0
M	9,845	85	309	6.6	5463.4	5463.4	5463.4	0.0
N	10,576	46	175	11.0	5470.8	5470.8	5470.8	0.0
O	11,226	52	221	8.7	5478.4	5478.4	5478.4	0.0
P	11,810	45	173	11.1	5488.5	5488.5	5488.5	0.0
BX	37,005	58	193	11.4	5927.6	5927.6	5927.6	0.0
BY	37,189	29	158	13.3	5934.8	5934.8	5934.8	0.0
BZ	37,544	34	168	12.5	5942.7	5942.7	5942.7	0.0
CA	38,792	62	209	10.1	5974.0	5974.0	5975.0	1.0
CB	39,479	93	236	8.9	5994.3	5994.3	5994.3	0.0
CC	39,935	80	195	8.5	6009.8	6009.8	6009.9	0.1
CD	40,580	79	217	8.8	6037.4	6037.4	6037.4	0.0
CE	41,000	22	135	14.1	6053.7	6053.7	6053.7	0.0

CROSS SECTIONS BA-BH ARE NEAREST TO PROJECT SITE, PER THE FIRM MAP. IT IS RECOMMENDED THAT ANY AND ALL FUTURE DEVELOPMENT OBTAIN CROSS SECTIONS OF LENA GULCH NEAREST TO THE PROJECT SITE.

¹ Stream distance in feet above confluence with Clear Creek

TABLE 7

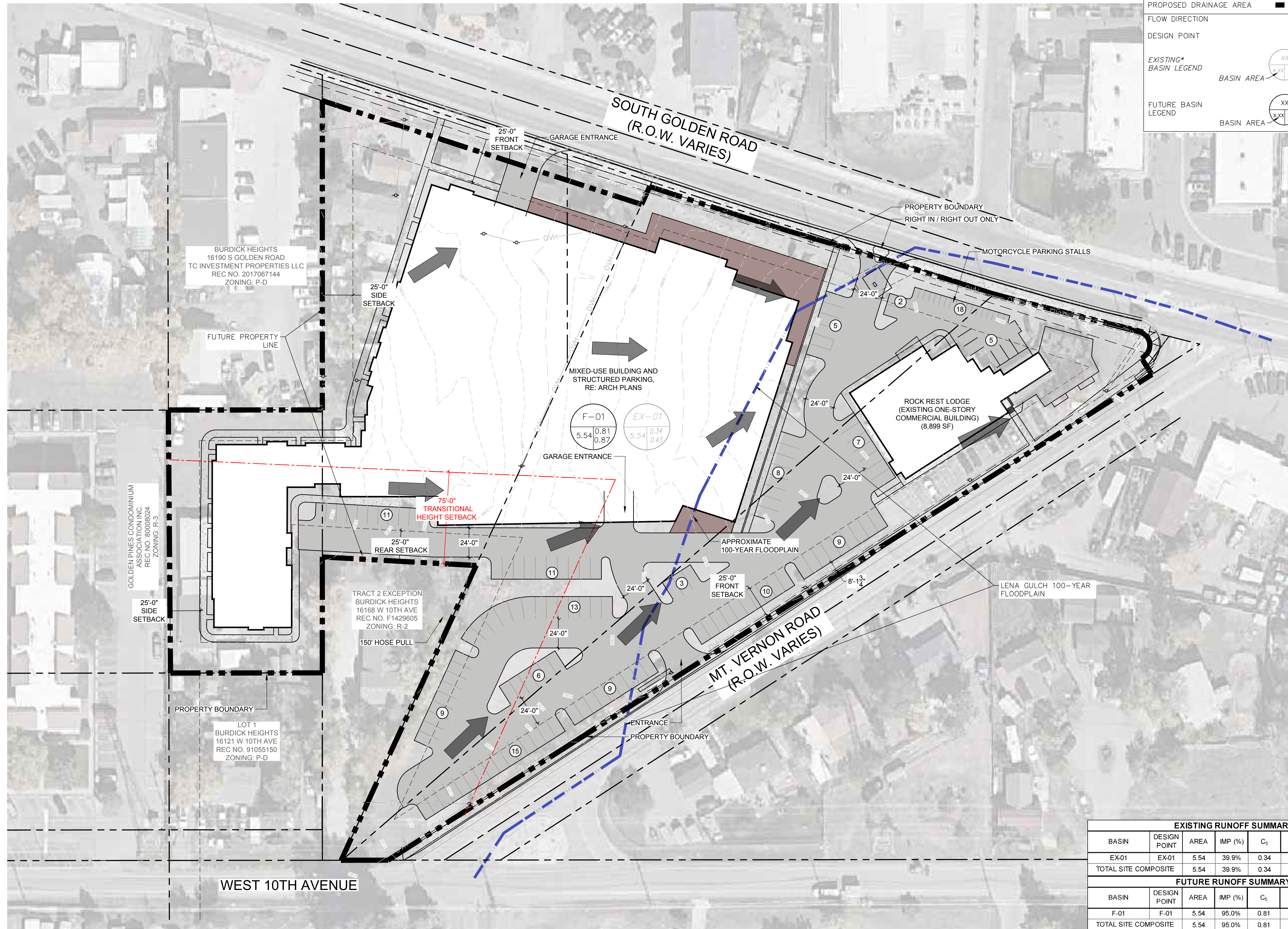
FEDERAL EMERGENCY MANAGEMENT AGENCY
JEFFERSON COUNTY, CO
 AND INCORPORATED AREAS

FLOODWAY DATA

Lena Gulch

SOUTH GOLDEN ROAD / MT. VERNON MIXED-USE OFFICIAL DEVELOPMENT PLAN

DRAINAGE PLAN LEGEND	
PROPERTY LINE	
LOT LINE	
EXISTING RIGHT OF WAY	
EXISTING EASEMENT	
EXISTING BUILDING	
EXISTING CURB & GUTTER	
EXISTING MAJOR CONTOUR	
EXISTING MINOR CONTOUR	
EXISTING 100-YR FLOODPLAIN	
PROPOSED BUILDING	
PROPOSED CURB	
PROPOSED DRAINAGE AREA	
FLOW DIRECTION	
DESIGN POINT	
EXISTING* BASIN LEGEND	BASIN ID MINOR C-VALUE MAJOR C-VALUE
FUTURE BASIN LEGEND	BASIN ID MINOR C-VALUE MAJOR C-VALUE



S. GOLDEN ROAD / MT VERNON MIXED-USE

REZONING APPLICATION

JEFFERSON COUNTY, CO
PREPARED BY:



LANDSCAPE ARCHITECT | LAND PLANNER

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Joel Weikert
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p. 970.224.5628

OWNER | APPLICANT

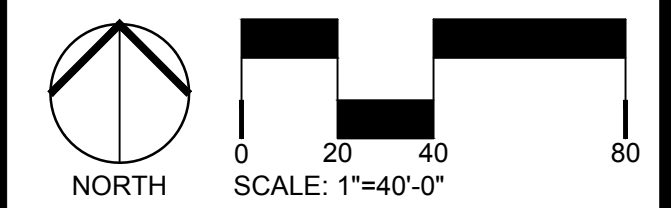
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CENTERPOINT ENGINEERING
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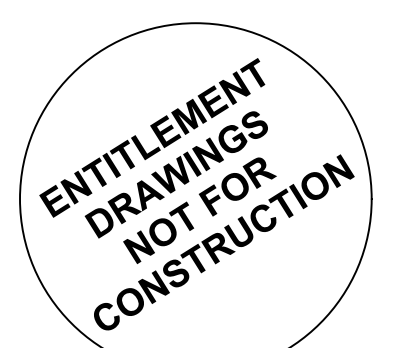


ORIGINAL SIZE 24X36

ISSUED		
No.	DESCRIPTION	DATE
01	REZONING APPLICATION	TBD
REVISIONS		
No.	DESCRIPTION	DATE

OFFICIAL DEVELOPMENT PLAN

SEAL:



PROJECT No.: R22-045.1

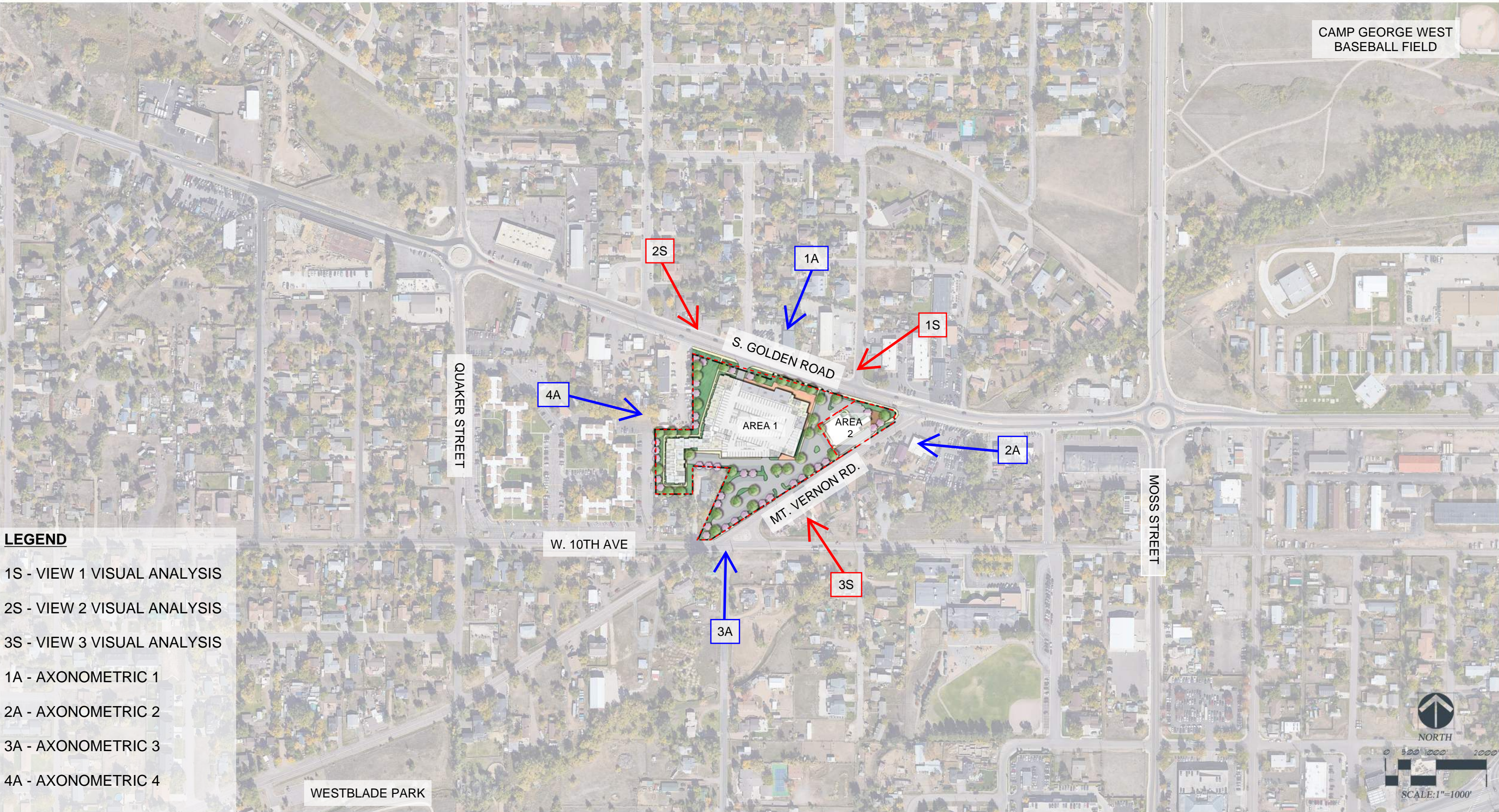
DRAWN BY: JW

REVIEWED BY: RL

DRAWING NUMBER:

EXISTING RUNOFF SUMMARY							
BASIN	DESIGN POINT	AREA	IMP (%)	C _s	C ₁₀₀	Q _s (CFS)	Q ₁₀₀ (CFS)
EX-01	EX-01	5.54	39.9%	0.34	0.43	3.90	10.48
TOTAL SITE COMPOSITE		5.54	39.9%	0.34	0.43	3.90	10.48
FUTURE RUNOFF SUMMARY							
BASIN	DESIGN POINT	AREA	IMP (%)	C _s	C ₁₀₀	Q _s (CFS)	Q ₁₀₀ (CFS)
F-01	F-01	5.54	95.0%	0.81	0.87	15.83	36.13
TOTAL SITE COMPOSITE		5.54	95.0%	0.81	0.87	15.83	36.13

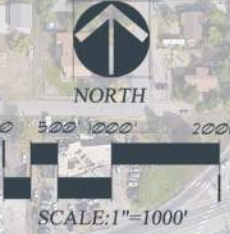
CAMP GEORGE WEST
BASEBALL FIELD



LEGEND

- 1S - VIEW 1 VISUAL ANALYSIS
- 2S - VIEW 2 VISUAL ANALYSIS
- 3S - VIEW 3 VISUAL ANALYSIS
- 1A - AXONOMETRIC 1
- 2A - AXONOMETRIC 2
- 3A - AXONOMETRIC 3
- 4A - AXONOMETRIC 4

WESTBLADE PARK





EXISTING CONDITIONS



EXISTING CONDITIONS



EXISTING CONDITIONS





EXISTING CONDITIONS





EXISTING CONDITIONS





EXISTING CONDITIONS











VISUAL ANALYSIS - AXONOMETRIC 4

S GOLDEN ROAD & MT VERNON MIXED-USE

07.31.23

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