



CITY OF REDMOND

CITY HALL
411 SW 9th STREET
REDMOND, OR 97756
541.923.7710
FAX: 541.548.0706
info@redmondoregon.gov
redmondoregon.gov

CITY COUNCIL

April 26, 2022
Council Chambers • 411 SW 9th Street

COUNCIL MEMBERS

George Endicott
Mayor

Jay Patrick
Council President

Krisanna
Clark-Endicott
Councilor

Clifford Evelyn
Councilor

Ed Fitch
Councilor

Shannon Wedding
Councilor

Cat Zwicker
Councilor

APRIL 26, 2022

REGULAR MEETING AGENDA

6:00 PM

I. CALL TO ORDER / ESTABLISH A QUORUM

II. BLESSING - Pastor Randy Folkenberg, Redmond Seventh-Day Adventist Church

III. PLEDGE OF ALLEGIANCE

IV. COMMENTS FROM CITIZENS AT THE MEETING

V. CONSENT AGENDA

A. Minutes of December 21, 2021, Council Workshop

VI. PROCLAMATIONS

A. Asian American Pacific Islander Heritage Month

VII. PRESENTATIONS

A. Jericho Road Annual Report

VIII. BID AWARDS / BID REJECTIONS

A. Award a contract of up to five-years to BMS Technologies for Billing and Collections Mailing Services: \$529,764.

IX. PUBLIC HEARINGS

A. Ordinance #2022-02 - An ordinance concerning the vacation of a portion of the alley through Block 34, Townsite of Redmond.

B. Ordinance #2022-03 - An ordinance approving a Tentative Subdivision, Modification to the Highway Area Plan, and an Amendment to the 2040 Greater Redmond Area Comprehensive Plan and Zone Map. Project Name - 121 West

X. ACTION ITEMS

A. Resolution #2022-10 - A resolution of the City of Redmond, Oregon, extending the Sewer Line D Reimbursement District.

XI. MAYOR'S COMMENTS

A. Appointment of Jennifer Palmer to the Redmond Commission for Art in Public Places, term expiring December 31, 2025.

XII. COUNCIL COMMENTS

XIII. CITY MANAGER COMMENTS

XIV. ADDITIONAL COMMENTS FROM CITIZENS AT THE MEETING

XV. EXECUTIVE SESSION

Oregon Law permits public bodies to meet in executive session to discuss specific matters which are not open to the public. Final actions or decisions on these matters will be made during regular session.

- A. Labor Negotiations – ORS 192.660(2)(d) authorizes executive sessions “to conduct deliberations with persons designated by the governing body to carry on labor negotiations.”

Under the provisions of the Oregon Public Meetings Law, the proceedings of this executive session are for background information only for media attending and not for publication or broadcast.

XVI. MOTIONS AS A RESULT OF EXECUTIVE SESSION

XVII. ADJOURN

Regular Council meetings are broadcast live on COTV11 – BendBroadband Channel 11 beginning at 6:00 p.m. on the 2nd and 4th Tuesdays of each month. Rebroadcasts are scheduled for the non-meeting Tuesdays at 6:00 p.m.

The City of Redmond encourages all citizens to participate in its programs and activities. This meeting location is accessible to people with disabilities. Requests for accommodation may include sign language interpreter service, assistive listening devices, materials in an alternate format or any other accommodation. If any accommodations are needed, please contact the ADA Coordinator at 541-504-3036 or access@redmondoregon.gov. Requests should be made as soon as possible, but at least 3 business days prior to the scheduled meeting.

The City of Redmond does not discriminate on the basis of disability status in the admission or access to, or treatment, or employment in, its programs or activities

SPECIAL CITY COUNCIL WORKSHOP OF THE CITY OF REDMOND WAS HELD DECEMBER 21, 2021, VIA GOTOMEETING.

COUNCIL MEMBERS PRESENT: Krisanna Clark-Endicott – George Endicott – Clifford Evelyn – Ed Fitch – Jay Patrick – Shannon Wedding – Cat Zwicker

STAFF PRESENT: City Manager Keith Witcosky – City Attorney Keith Leitz – Airport Director Zachary Bass – Police Chief Dave Tarbet – Police Captain Devin Lewis – Public Works Director Bill Duerden – City Engineer Mike Caccavano – Assistant to the Recorder's Office Trish Pinkerton – Deputy City Manager John Roberts – IT Specialist Joe Cron – Chief Financial Officer Jason Neff – Accounting and Financial Reporting Director Brooks Slyter – Communications Director Heather Cassaro – Urban Renewal Program Analyst Meghan Gassner

MEDIA PRESENT: None

Mayor Endicott called the meeting to order at 6:00 p.m. A quorum was established.

PRESENTATIONS

A. Keys to the City

Mayor Endicott presented Police Chief Dave Tarbet, and City Engineer Mike Caccavano with Key to the City plaques. He praised their service to the City and wished them well in their retirements.

B. Infrastructure Panel #1

Mayor Endicott announced that this is the first of two work sessions designed to help Council prioritize Redmond's list of requests associated with the \$1.2 trillion federal Build Back Better transportation bill.

Oregon Department of Transportation (ODOT) Region 4 Manager Gary Farnsworth gave an overview of Region 4, the amount of money ODOT expects to receive from the transportation bill over the next five years, the types of projects eligible for funding, how ODOT prioritizes and funds projects statewide, and Central Oregon and Redmond projects on ODOT's list of priorities. He answered questions from Council.

Deputy City Manager John Roberts presented the City's lists of priority projects based on different viewpoints.

Regional significance:

- South Highway 97 corridor improvements project,
- Airport terminal expansion,
- Redmond Wetlands Complex,
- South Redmond track, and
- Large Lot Industrial.

Staff priorities and shovel-ready projects:

- South Highway 97,
- Redmond Wetlands Complex,
- Well 9,
- East Side industrial arterial, Highway 126-Airport Way and NE Hemlock-Highway 126, and
- SW Reservoir Drive/Wickiup Avenue, 39th Helmholtz.

Mr. Caccavano discussed specifics of the East Side arterial, Well 9, and the SW Reservoir Drive/Wickiup Avenue projects.

Mr. Roberts discussed which projects would have the least impact on the General Fund. He also discussed the projects the General Fund could best support, which resulted in lower ranges of projected costs. The top projects in this list included:

- the East Side industrial arterial,
- Americans with Disabilities Act (ADA) improvements, mostly downtown,
- SW 6th and Salmon Avenue extension,
- SW Reservoir Drive/Wickiup, and
- 7th Street upgrade.

Mr. Roberts stated when looking at current growth and development in Redmond, the biggest issue was mobility and congestion. The top projects that would address transportation-related issues included:

- South Highway 97 Corridor improvements,
- Eastside industrial arterial,
- Highway 126 intersection improvements – SW 35th and SW Helmholtz,
- East-west connections – Quartz Avenue, Odem Medo Road or Airport Way grade separation, and
- SW 6th Street/Salmon Avenue extension.

Redmond Economic Development, Inc. Senior Director Jon Stark noted that investing in infrastructure was a catalyst to economic development, both with jobs creation through infrastructure projects, and through improvements to freight corridors and as infrastructure corridors for utilities, such as water and wastewater.

Mayor Endicott asked Council to review the list of potential projects and be prepared to discuss what projects should be prioritized in anticipation of the next workshop in January and the goal-setting session on February 5, 2022.

Councilor Fitch noted the South Highway 97 project would have a profound impact on many businesses in that corridor. He stated the only way the project would work long term was if there was a viable East Side route to relieve the pressure on the South Highway 97 corridor. He stated it was paramount to gain the full support of the federal delegation and state legislators, as well as Deschutes County, for what the Council and ODOT determined to be the highest priorities. Their support would go a long way to access some of the discretionary funds in play.

Councilor Zwicker stated that since Redmond may be in competition with other areas for the infrastructure funds, the City should determine how best to position itself for the requests which may be considered the most attractive.

Councilor Clark-Endicott commented that semis need a new route through Redmond, because Redmond was continuing to grow as a light industrial area.

OTHER BUSINESS

There being no further business, the meeting was adjourned at 7:16p.m.

Prepared by ABC Transcription Service
Reviewed by Trish Pinkerton, Assistant to the Recorder's Office

APPROVED by the City Council and SIGNED by the Mayor this 26th day of April 2022.

George Endicott, Mayor

ATTEST:

Kelly Morse, City Recorder

City of Redmond PROCLAMATION

A proclamation designating May 2022, as

ASIAN AMERICAN PACIFIC ISLANDER HERITAGE MONTH

WHEREAS, Redmond recognizes diversity as strength; and

WHEREAS, Asians and Pacific Islanders have lived and worked in Oregon for more than 200 years, contributing to the state's history, economy, and culture; and

WHEREAS, Asians and Pacific Islanders have been a part of Redmond since the City's founding; and

WHEREAS, Asian American Pacific Islander Heritage Month is a time to celebrate the achievements and pay tribute to the generations of Asians and Pacific Islanders that have contributed to American history, society and culture; and

WHEREAS, the month of May was chosen for this heritage month to commemorate the immigration of the first Japanese to the United States on May 7, 1843, and the anniversary of the completion of the transcontinental railroad on May 10, 1869, for which the majority of the tracks were laid by Chinese immigrants; and

WHEREAS, Asian and Pacific Islander communities have persevered over discrimination, exclusion, persecution, and incarceration and continue to experience injustices today; and

WHEREAS, we recognize the generations of Asian and Pacific Islanders who have enriched Redmond's history, local economy and cultural vibrancy, and who are instrumental to our future success.

NOW, THEREFORE BE IT RESOLVED THAT the City Council of the City of Redmond, Oregon, hereby designates May 2021, as **ASIAN AMERICAN PACIFIC ISLANDER HERITAGE MONTH**.

APPROVED by the City Council and **SIGNED** by the Mayor this 26th day of April 2022.

The City of Redmond, Oregon

George Endicott, Mayor

ATTEST:

Kelly Morse, City Recorder



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STAFF REPORT

DATE: April 26, 2022
TO: Redmond City Council
Keith Witcosky, City Manager
THROUGH: Jason Neff, Chief Financial Officer
Brooks Slyter, Accounting & Financial Reporting Director
FROM: Valerie Taylor, Billing and Collections Manager
SUBJECT: Award a contract of up to five-years to BMS Technologies for Billing and Collections Mailing Services: \$529,764.

Addresses Council Goal:

1. A. Sustain Operations: Maintain critical and necessary services for the entire City.

Report in Brief:

This action requests Council award the Billing and Collections Mailing Services contract to BMS Technologies (BMS). The contract term is for three years, with two optional one-year extensions.

Background:

The City's current utility statement mailing contract with BMS Technologies expires June 30, 2022. The existing contract provides for printing and mailing of approximately 13,500 utility billing statements each month. Additionally, the City has approximately 250 customers that are billed out monthly through our Accounts Receivables.

On February 28, 2022, the City issued a Request for Proposals (RFP) for Billing and Collections Mailing Services which includes printing and mailing of utility billing statements, accounts receivables statements, newsletters, shut-off notices, and inserts. The City received two proposals in response to the RFP: BMS and MetroPresort. After reviewing both proposals, BMS received the highest score. Because of the complexity of the City's mailing needs, proposers were informed that technical qualifications, experience, and approach would be prioritized in scoring, with cost being a secondary consideration.

Discussion:

BMS is the City's current service provider and has demonstrated sufficient technical ability, experience, and has provided excellent customer service. While their per piece cost was higher than MetroPresort, selection was based on their staff coverage, supply backup, state of the art equipment and emergency protocols, experience with municipalities of all sizes, and extensive experience working with our billing software provider. BMS is consistently available to assist with any last minute needs and will be able to support the addition of our Accounts Receivables billing and offer those customers additional options for online payment currently unavailable. BMS remains current with cutting-edge technology and because they are the City's current mailing service provider, there will not be a disruption to the current process and customers will continue to receive a familiar statement in a timely manner.

Fiscal Impact:

This BMS proposal has an average annual estimated cost of \$94,293, which includes postage. The estimated proposed cost for the five-year contract period is \$529,764 based on the per piece pricing in BMS's proposal and includes an annual 2.75% cost increase as well as a 3% increase for growth. The actual cost of this contract will vary based on the monthly volume which will increase as the City continues to grow.

Alternative Courses of Action:

1. Award contract to BMS Technologies and authorize the City Manager to sign the contract.
2. Request additional information.
3. Do not approve the contract award.

Recommendation / Suggested Motion:

Action #1: "I move to authorize the City Manager to sign a three-year contract with two optional one-year extensions for Billing and Collections Mailing Services to BMS Technologies in the estimated amount of \$529,764."



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STAFF REPORT

DATE: April 26, 2022
TO: City Council
THROUGH: Keith Witcosky, City Manager
John Roberts, Deputy City Manager
FROM: Mike Caccavano, City Engineer
SUBJECT: Ordinance #2022-02 - An ordinance concerning the vacation of a portion of the alley through Block 34, Townsite of Redmond.

Addresses Council Goal:

9. Urban Renewal: Deploy resources to encourage investment and advance the goals of the City's urban renewal areas.

- Advance objectives of the Downtown Urban Renewal Plan to maintain the vitality of the downtown core; provide sufficient parking; make productive use of land; create opportunities for new development; relieve traffic problems and improve pedestrian safety; and provide new public amenities and open spaces.

Report in Brief:

This item is the second step in the Right-Of-Way (ROW) vacation process for the alley in Block 34, Townsite of Redmond. The process was initiated on March 29, 2022.

Background:

The subject alley is located between the Becky Johnson Community Center (BJCC) located at 412 SW 8th Street and the Patrick Building located at 708 SW Deschutes Avenue. It is to the south of Deschutes Avenue, kitty-corner from the Deschutes Public Library (see attached map). The alleyway also runs through the City-owned Centennial Park, but this section is not used as an alley.

A portion of the alley between the BJCC and Patrick Building is currently used by the BJCC and Deschutes Children's Foundation as a Head-Start child care play area. The Patrick Building has recently been successfully redeveloped into eight executive suites and a coffee shop.

The alleyway and development of the BJCC daycare play area currently prevents use of the alleyway as an alley.

Discussion:

This ROW vacation request works in conjunction with a proposed Settlement Agreement between the City, Deschutes County and the owners of the Patrick Building. The agreement will be considered by the Council on April 26, as a separate agenda item. If the agreement is approved, alley vacation is one of the first steps in meeting the conditions.

Vacation of ROW is a two-step process. Council initiated the vacation at their March 29, 2022 meeting. Tonight's second step is to hold a public hearing and consider an ordinance to vacate the ROW.

Consent is required of all property owners immediately adjacent to the ROW vacation. The adjacent owners and position regarding consent status includes:

- City of Redmond (Centennial Park); consent granted by Council.
- Deschutes County (BJCC); to be approved by the Board of County Commissioners in April.
- Patrick Building (708 SW Deschutes Ave.); consent not yet received.

All utility companies in the area were contacted to determine if they have or plan to have utilities in the alley. Pacific Power and Cascade Natural Gas responded that they have existing lines in the alley. The attached vacation ordinance retains an easement for these utilities.

Fiscal Impact:

There is a cost associated with redesigning the play area that is discussed in more detail in the forthcoming Settlement Agreement. The cost will be paid for with urban renewal resources.

Alternative Courses of Action:

At the time of this writing report, staff awaits consent from the Patrick Building owners. Therefore, this item will likely be continued to the May 24, 2022 City Council meeting.

If consent occurs prior to the April 26 Council meeting, then:

1. Conduct the public hearing and approve Ordinance #2022-02.
2. Deny Ordinance #2022-02.
3. Request additional information.

As required by City Charter, notices were posted in three public places (the Library, Police Department, and Redmond Chamber of Commerce) in addition to City Hall on April 19, 2022. Three copies for review were also available at City Hall.

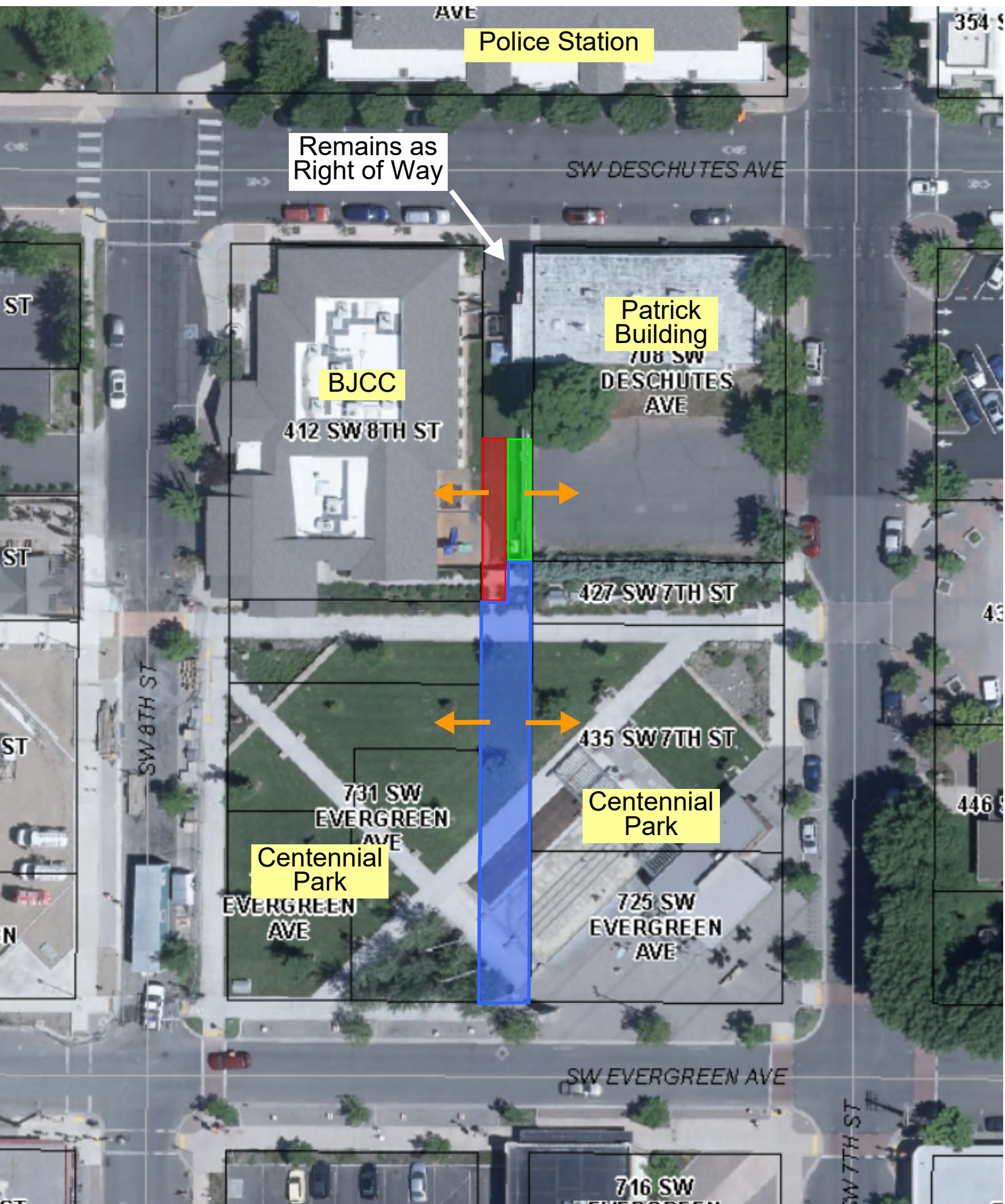
Recommendation / Suggested Motion:

Option #1. "I move to have a first and second reading of Ordinance #2022-02, by title only." (Voice vote)

(City Attorney will read ordinance by title only, twice.)

"I move to adopt Ordinance #2022-02." (Roll call vote)

Proposed Alley Vacation - Block 34 Townsite of Redmond



AFTER RECORDING RETURN TO:
City Recorder's Office
City of Redmond
411 SW 9th Street
Redmond, OR 97756

**CITY OF REDMOND
ORDINANCE NO. 2022-02**

**AN ORDINANCE CONCERNING THE VACATION OF A PORTION OF THE ALLEY THROUGH
BLOCK 34, TOWNSITE OF REDMOND**

WHEREAS, the City Council, pursuant to ORS 271.130, initiated vacation proceedings for the public right-of-way referred to above and shown in Exhibit A attached hereto; and

WHEREAS, a hearing was held April 26, 2022, at the regularly scheduled City Council meeting and notice for that meeting was duly published.

NOW, THEREFORE, THE CITY OF REDMOND ORDAINS AS FOLLOWS:

SECTION ONE - FINDINGS

The City Council finds that this vacation is in the best interest of the City of Redmond and will not prejudice any public interest and will not adversely affect the market value of the affected properties.

SECTION TWO – VACATION:

The public right-of-way and traveled way shown in Exhibit A attached hereto should be and hereby is vacated as public right-of-way.

SECTION THREE – TITLE TO VACATED RIGHT-OF-WAY

Pursuant to ORS 271.140, title to the vacated right-of-way shall attach to Lots 1 through 24 Block 34 Townsite of Redmond, Deschutes County, Oregon.

SECTION FOUR – RESERVATION OF PUBLIC UTILITY EASEMENT

The City of Redmond reserves the south 215 feet of the alley in Block 34, Townsite of Redmond as a public utility easement for the location of future underground and overhead public utilities, maintenance of existing underground and overhead public utilities, and for unrestricted ingress and egress to the property as shown in Exhibit A. The City reserves the right to permit any public utility it approves to use this easement. The purpose of this easement is for installing, repairing, testing, maintaining, and replacing utilities and related facilities, including but not limited to city sewer and water, electrical and cable services.

PASSED by the City Council and **APPROVED** by the Mayor this 26th day of April, 2022.

George Endicott, Mayor

ATTEST:

Kelly Morse, City Recorder

State of Oregon

County of Deschutes

On April 26, 2022, George Endicott, Mayor of the City of Redmond, Oregon personally appeared before me

___X___ who is personally known to me

_____ whose identity I proved on the basis of _____

_____ whose identity I proved on the oath/affirmation of _____,
a credible witness

to be the signer of the above document, and he/she acknowledged that he/she signed it.

Notary Public

LEGAL DESCRIPTION: The south
215 feet of the alley located in
Block 34, Townsite of Redmond,
Deschutes County, Oregon.

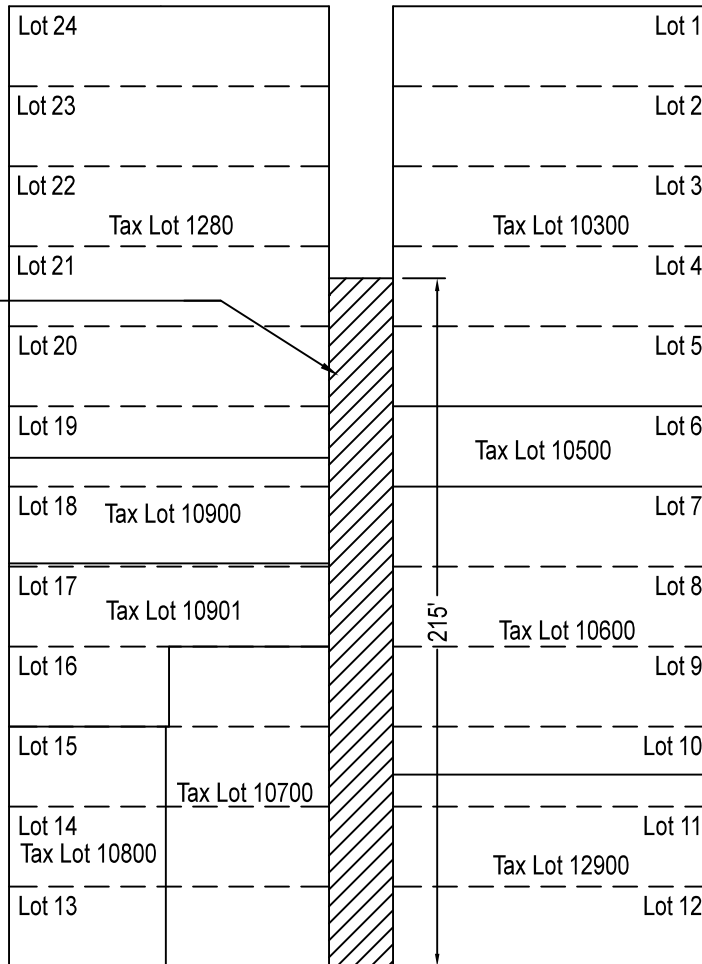
SW Deschutes Ave.

Alley Vacation and
Easement Reservation

SW 8th St.

SW 7th St.

SW Evergreen Ave.



DATE :
4-20-22

SCALE :
1"=60'

DRAWING NO.
ROWMAPS

DRAWN BY :
MPC

EXHIBIT A
ALLEY VACATION LEGAL DESCRIPTION
IN THE NW $\frac{1}{4}$ OF THE NE $\frac{1}{4}$ OF
SECTION 16 T15S R13E W.M.

CITY OF REDMOND
ENGINEERING DIVISION





CITY OF REDMOND

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STAFF REPORT

DATE: April 26, 2022
TO: Redmond City Council
THROUGH: Keith Witcosky, City Manager
John Roberts, Deputy City Manager
FROM: Kyle Roberts, Senior Planner
SUBJECT: Ordinance #2022-03 - An ordinance approving a Tentative Subdivision, Modification to the Highway Area Plan, and an Amendment to the 2040 Greater Redmond Area Comprehensive Plan and Zone Map. Project Name - 121 West

Addresses Council Goal:

7.COMPREHENSIVE PLANNING: Enhance the quality of life through adoption of programs, policies, and standards that manage growth while maintaining Redmond's small-town feel.
A. Promote quality development.

Report in Brief:

This item requests City Council approve various land use actions associated with the 35.06-acre, 121 West Project, located north of NW Upas.

Background:

The applicant for the 121 Project is SGS Development LLC. The property owner is North Canyon Properties, LLC.

The subject property is located at 3211 North US Highway 97 in north Redmond. It is adjacent to US Highway 97, east of the Cinder Butte subdivision, and north of NW Upas Avenue. The property is 35.06 acres in size, has five zoning districts, and was annexed in 2017 as part of the Central Christian Master Plan.

The property is also part of the Highway Area Plan (HAP), which was adopted in 2007. The HAP is used to help guide future development of land that was brought into the Redmond Urban Growth Boundary. The HAP recommends a variety of uses within its boundary, including medium and high density residential, mixed use neighborhood and mixed use employment, open space park reserve, and public facility uses.

Discussion:

The applicant is requesting modifications to the HAP and the Central Christian Master Plan. Specifically:

- Subdividing the property into 157 lots across four zoning districts and three tracts in the Mixed Use Employment (MUE) zoning district.
- Creating four tracts for pocket parks and a 1.86-acre tract for a City park.
- Increasing the size of the residential and open space/park reserve zoning districts and decreasing the mixed use zoning districts.
- Reconfiguring the shape and location of the R-5 (High Density Residential), MUN (Mixed Use Neighborhood), and MUE (Mixed Use Employment) zones as well as adding a strip of OSPR along the property's eastern edge.
- Developing the project in six phases.

No specific development is being proposed as part of this land use application package.

Conditions have been included to ensure all appropriate street, access, water and sewer improvements, and dedications

are completed (Exhibit A).

Staff reviewed the applicant's Burden of Proof and determined the proposal complies with all required findings. The Conclusionary Findings are contained in Ordinance No. 2022-03 (Exhibit A) and indicate how the proposal complies with all applicable criteria and the Redmond Development Code (Chapter 8).

Attachments included as part of this staff report and ordinance include:

- Attachment A - Project Plans
- Attachment B - Burden of Proof
- Attachment C - Department & Agency Comments
- Attachment D - Public Comments
- Attachment E - Traffic Impact Analysis
- Attachment F - Annexation Agreement

On April 4, 2022, the Redmond Urban Area Planning Commission held a public hearing to review the proposal. There were no public comments. The Planning Commission voted unanimously to recommend the Council approve the request.

Fiscal Impact:

There is no direct fiscal impact associated with this action. All applicable System Development Charges (SDCs) will be paid prior to permit issuance.

Alternative Courses of Action:

After conducting the public hearing and considering all evidence and testimony:

1. Accept the Planning Commission recommendation to approve.
2. Accept the Planning Commission recommendation, make additional modifications and approve.
3. Continue the public hearing and leave the written record open to request additional information.
4. Do not approve the actions.

As required, on April 21, 2022, notices regarding this public hearing were posted in three places (the Library, the Police Department, and the Redmond Chamber of Commerce) in addition to City Hall. Three copies of the Ordinance were available for review at City Hall prior to the hearing.

Recommendation / Suggested Motion:

"I move to have a first and second reading of Ordinance No. 2022-03 by title only." (Voice vote)

(City Attorney will read ordinance by title only, twice.)

"I move to approve Ordinance No. 2022-03." (Roll call vote)

**CITY OF REDMOND
ORDINANCE NO. 2022-03**

AN ORDINANCE APPROVING A TENTATIVE SUBDIVISION, MODIFICATION TO THE HIGHWAY AREA PLAN, AND AN AMENDMENT TO THE 2040 GREATER REDMOND AREA COMPREHENSIVE PLAN AND ZONE MAP.

WHEREAS, an application has been made to modify the boundaries of five zoning districts of 3211 North US Highway 97 (Deschutes County Tax Lots #141333D000200 and 141333D000400), Redmond, OR 97756; and

WHEREAS, the request is to increase R-4 (General Residential) from 9.5 to 11.1 acres; increase R-5 (High Density Residential) from 11.4 to 11.6 acres; increase OSPR (Open Space Park Reserve) from 2.4 to 3.1 acres; decrease MUN (Mixed Use Neighborhood) from 2.7 to 1.5 acres; and, decrease MUE (Mixed Use Employment) from 9.0 to 7.7 acres for the 121 West Subdivision; and

WHEREAS, the City of Redmond has adopted, and the state has acknowledged the 2040 Greater Redmond Area Comprehensive Plan and Zone Map; the City has adopted zoning and planning regulations in accordance with Oregon Revised Statutes Chapter 227 that regulate and control the development of land within the City; and

WHEREAS, the City of Redmond City Council has adopted a set of goals that include: "Enhance the quality of life through adoption of programs, policies, and standards that manage growth while maintaining Redmond's small-town feel"; and

WHEREAS, the 2040 Redmond Comprehensive Plan is the product of hundreds of citizens from the public and private sector who participated in the outreach and planning process; and

WHEREAS, the 2040 Redmond Comprehensive Plan contains multiple visioning statements, including statements on improving urban form and community design; and

WHEREAS, the City of Redmond has set the action steps necessary to implement the goals and policies in the 2040 Redmond Comprehensive Plan related to the vision; and

WHEREAS, the Redmond Urban Area Planning Commission held a public hearing on April 4, 2022 and, after reviewing the record and gathering public testimony, has recommended that the Redmond City Council approve the Tentative Subdivision, Modification to the Highway Area Plan, and Amendment to the 2040 Greater Redmond Area Comprehensive Plan and Zone Map, subject to conditions of approval; and

WHEREAS, the City Council held a public hearing on April 26, 2022 to consider the recommendation of the Redmond Urban Area Planning Commission, review the existing record and gather additional evidence and public testimony; and

WHEREAS, the City Council has received the Planning Commission's recommendation and, after receiving additional evidence and testimony, determined that the requested Tentative Subdivision, Modification to the Highway Area Plan, and Amendment to the 2040 Greater Redmond Area Comprehensive Plan and Zone Map is in compliance with the Redmond Development Code and would contribute to the 2040 Redmond Comprehensive Plan goals and policies; and

WHEREAS, the City Council finds the findings for the Tentative Subdivision, Modification to the Highway Area Plan, and Amendment to the 2040 Greater Redmond Area Comprehensive Plan and Zone Map have fully addressed the City's Comprehensive Plan amendment process, the applicable state law, the Statewide Planning Goals and the City's standards and criteria for an amendment to the Redmond Development Code; and,

WHEREAS, the City Council finds that the proposed Tentative Subdivision, Modification to the Highway Area Plan, and Amendment to the 2040 Greater Redmond Area Comprehensive Plan and Zone Map, furthers the interests of the City.

NOW, THEREFORE, THE CITY OF REDMOND ORDAINS AS FOLLOWS:

SECTION ONE: The City of Redmond hereby approves the Tentative Subdivision, Modification to the Highway Area Plan, and Amendment to the 2040 Greater Redmond Area Comprehensive Plan and Zone Map, subject to the conditions of approval. The Decision and Conditions, Findings, and Project Plans are attached hereto as Exhibit A.

SECTION TWO: In support of the approval, the City of Redmond hereby adopts the findings, which are attached hereto as Exhibit A, which were prepared by City staff and demonstrate compliance with the Redmond Development Code, Section 8.2335 – Tentative Subdivisions, Section 8.1400 – Modifications of Approval, and Section 8.0760 – Amendments, and the applicable Statewide Planning Goals.

SECTION THREE: SEVERABILITY. The provisions of this Ordinance are severable. The invalidity of any section, clause, sentence, or provision of this Ordinance shall not affect the validity of any other part of this Ordinance, which can be given without such invalid part, or parts.

PASSED by the City Council and **APPROVED** by the Mayor this 26th day of April 2022.

George Endicott, Mayor

ATTEST:

Kelly Morse, City Recorder

121 WEST ZONING MAP AMENDMENT, MODIFICATION TO HIGHWAY 97 AREA PLAN & CENTRAL CHRISTIAN MASTER PLAN, AND 157-LOT TENTATIVE SUBDIVISION

HEARING DATE: April 26, 2022 at 6:00 PM in Redmond City Hall Council Chambers and via digital conference (GoTo Meeting)

HEARINGS BODY: Redmond City Council

FILE NUMBER: 711-21-000260-SUB, 711-21-000261-MC, 711-21-000328-ZMA

FILE NAME: 121 West

REQUEST: Approval of a Zoning Map Amendment, Modification to the Highway 97 Area Plan & Central Christian Master Plan, and 157-lot Tentative Subdivision on 35.05 acres

LOCATION: 3211 North US Highway 97 (Tax Lots #141333D000200, 141333D000400) in Redmond, OR 97756

APPLICANT: Margo Clinton, SGS Development, LLC

PROPERTY OWNER: SGS Development, LLC

REVIEWING STAFF: Kyle Roberts, AICP, Interim Planning Director

RECOMMENDATION: Approval with Conditions



Figure 1 - Vicinity Map

I. BACKGROUND

Site Description:

The project area is generally described as 3211 North US Highway 97 located in north Redmond; Tax Map and Lots #141333D000200 and 141333D000400. The subject property is 35.06 acres in size and is located at the north end of Redmond and abuts NW Upas Avenue to the south, Cinder Butte subdivision to the west, county lands to the north, and US Highway 97 to the east. The property consists of typical high desert vegetation, mostly cleared farmland, and old farm structures. The property is located in city limits, is part of the Highway 97 Area Plan, and consists of five zoning districts: R-4 (General Residential), R-5 (High Density Residential), OSPR (Open Space Park Reserve), MUN (Mixed Use Neighborhood), and MUE (Mixed Use Employment). See area outlined in red in *Figure 1* on page 1.

Land Use History:

In 2006, Redmond added more than 2,300 acres of “urbanizable” land along the City’s western and northern boundaries to its Urban Growth Boundary (UGB), including the subject property. At the same time, a Framework Plan was adopted by the City as part of the expanded UGB to provide general guidance for future land uses, densities, neighborhood amenities and the necessary public facilities and services to serve the parcels. The Framework Plan envisioned a number of neighborhood centers distributed throughout the newly urbanized lands. These centers called for high density residential and mixed use, transitioning to lower residential density moving outward and to the periphery.

To provide more specificity to the future land uses, in 2007 the City adopted the Highway 97 Area Plan (HAP) that encompasses nearly 190 acres. The area straddles US Highway 97 in the northern part of the City, generally south of NW Pershall Way, east of NW 10th Street, west of NW Canal Boulevard, and a strip north of NW Spruce Avenue and east of NW 8th Street. The applicant’s property is located within the HAP.

2017 to present

The property owner, North Canyon Properties, LLC¹ and Central Christian School nonprofit annexed the subject property into the city in June 2017 as part of the Central Christian Master Plan. At that time, the original property was approximately 55 acres in size and was annexed for the intended purpose of constructing Central Christian School on the western 19 acres of the property. Because the property is part of the Highway 97 Area Plan (HAP), the property had multiple city zoning designations to be formally assigned at time of annexation in accordance with the HAP. However, at time of annexation, and as part of the Central Christian Master Plan, was a request to amend the configuration and sizes of the HAP-designated zoning districts. The current zoning of the subject property is the result of the approved Central Christian Master Plan and rezone (Ordinance 2017-06). Also, as part of Ordinance 2017-06, no lots were created and thus no development occurred as part of the master plan.

Ultimately, the Central Christian School was not built on the western 19 acres and instead the property was partitioned into three parcels in 2018. The western 19 acres (Parcel 1) was sold to Hayden Homes who then subdivided the land as Cinder Butte subdivision. SGS Development, LLC (applicant) is now requesting to amend the zoning, modify the HAP and Central Christian Master Plan, and subdivide the remaining 35 acres (Parcels 2 and 3).

¹ North Canyon Properties, LLC sold subject property to SGS Development, LLC in March 2022.

The applicant is proposing to modify the HAP and Central Christian Master Plan by way of an amendment to the property's current zoning – specifically, reconfiguring the size and shape of each zoning district. Additionally, the applicant is proposing to subdivide the property into a grand total of 157 lots in four zoning districts and three tracts in the Mixed Use Employment (MUE) zoning district. The creation of four tracts for pocket parks and Tract A for a City park is also proposed and development will occur in six phases.

As shown in *Table 1* and *Figures 3 and 4* on page 4, the applicant is proposing to increase the size of the residential and open space/park reserve zoning districts and decrease the mixed use zoning districts. Additionally, the applicant is proposing to reconfigure, primarily, the shape and location of the R-5 (High Density Residential), MUN (Mixed Use Neighborhood), and MUE (Mixed Use Employment) zones as well as add a strip of OSPR along the property's eastern edge.

The applicant believes the proposed modification to the HAP and Central Christian Master Plan does not conflict with said plans and that the applicant's proposal complies with the intent and purpose of the property's annexation agreement.



Figure 2 - Proposed project layout. H.A. McCoy Engineering, LLC

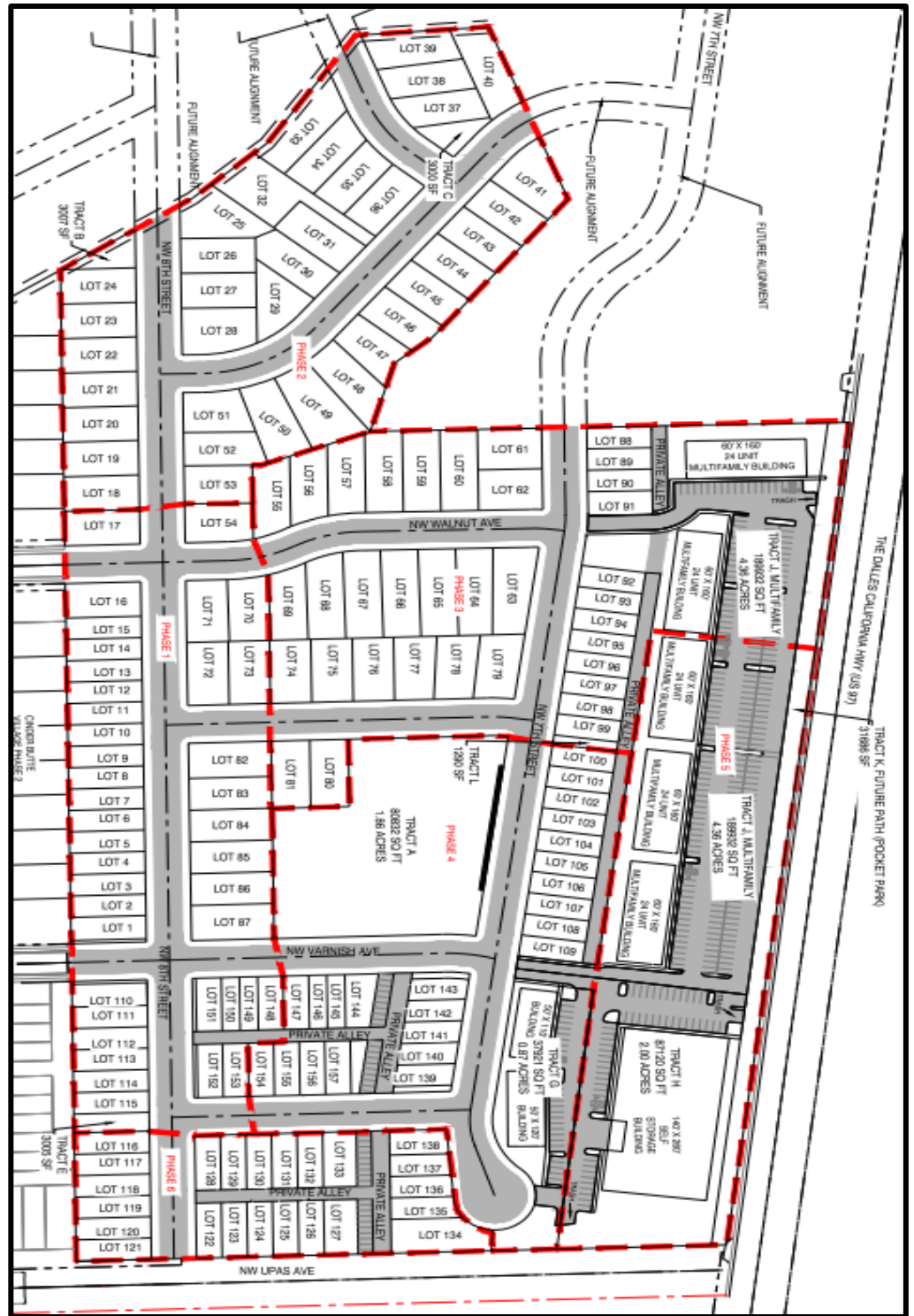


Figure 2 - Proposed project layout. H.A. McCoy Engineering, LLC

Table 1 – Proposed Zone Changes			
Zones	Existing (gross acres)	Proposed (gross acres)	Difference (gross acres)
R-4	9.5	11.1	+1.6
R-5	11.4	11.6	+0.2
OSPR	2.4	3.1	+0.7
MUN	2.7	1.5	-1.2
MUE	9.0	7.7	-1.3

Figure 3 – Subject Property's Existing Zoning

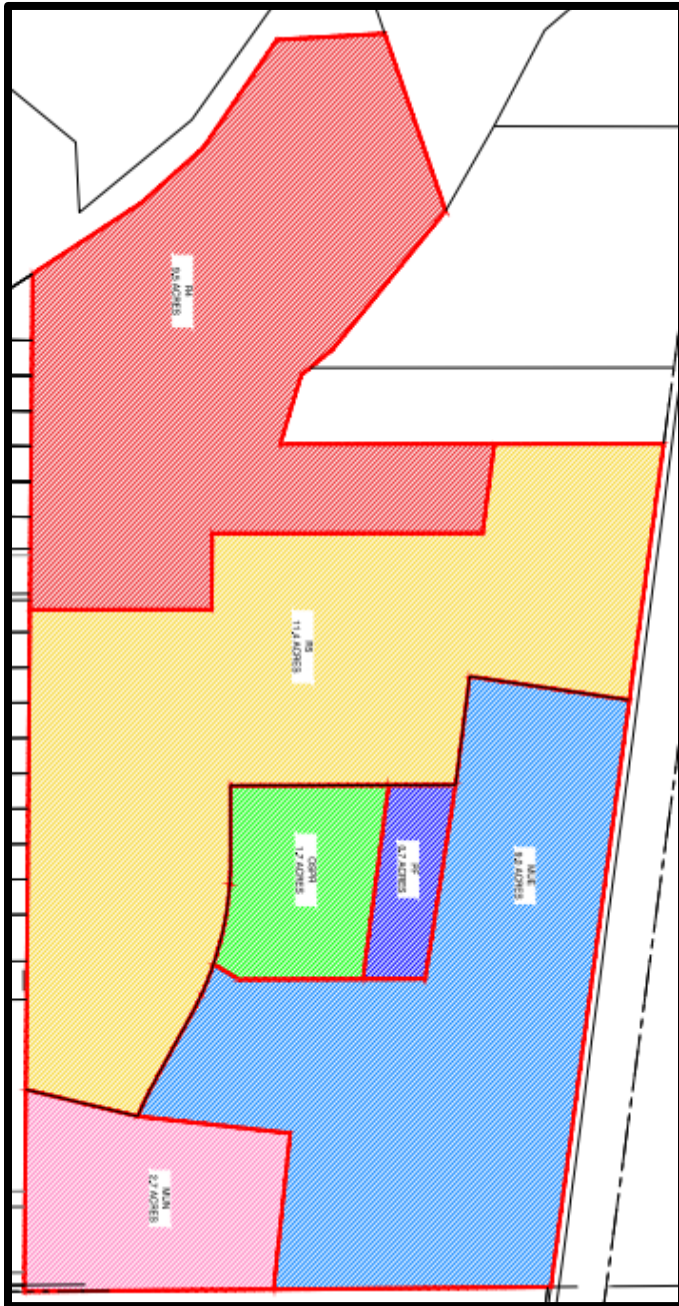
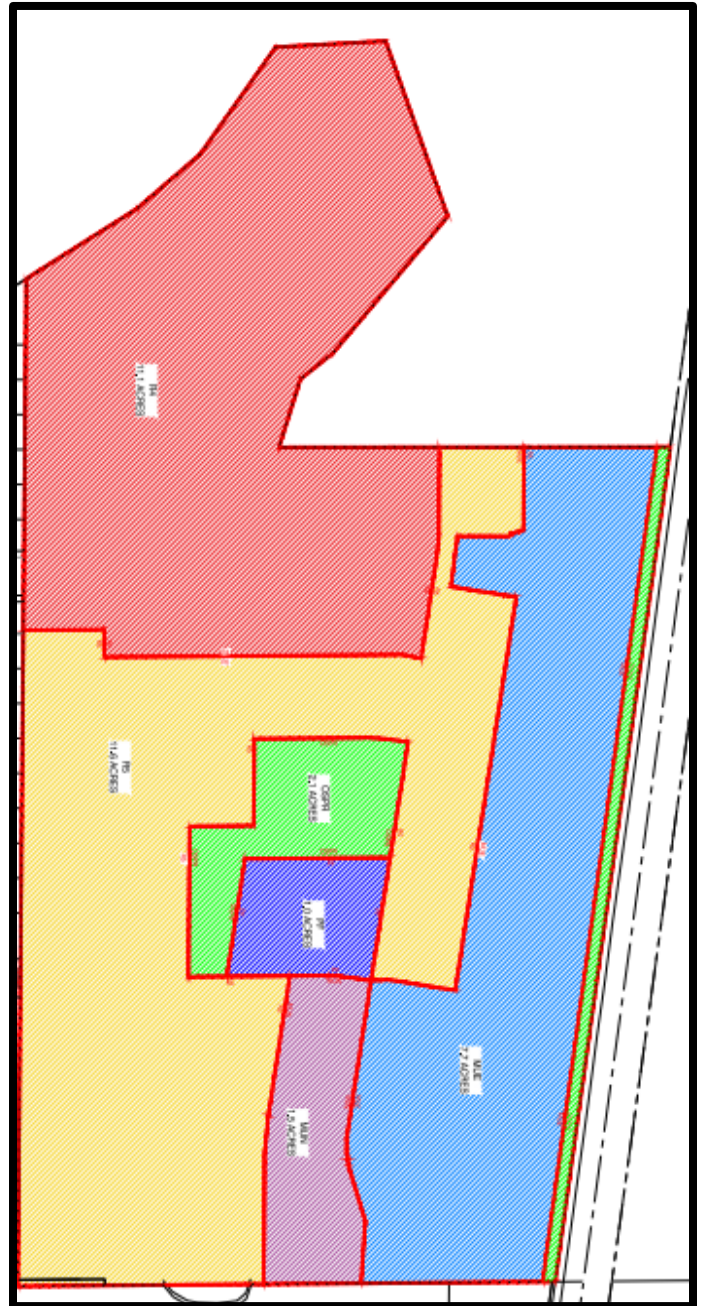


Figure 4 – Subject Property's Proposed Zoning



Adjacent Zoning & Land Uses:

	Zoning	Land Use
North	Urban Holding (UH-10)	Rural development on large lots
East	Multiple Use Agricultural (MUA10) (Deschutes County Zoning)	Rural/agricultural development on large lots on eastside of US Highway 97
South	General Residential (R-4)	Club organization (semi-public use) on large lot
West	General Residential (R-4) & High Density Residential (R-5)	Residential subdivision (under construction)

Comments:

At the time of the completion of this staff report, there was no public comment received from notified property owners by the Planning Department concerning this application during the comment period.

Attachments:

Attachment A – Project Plans, September 10, 2021
Attachment B – Applicant Burden of Proof
Attachment C – City Department and Related Agency Comments
Attachment D – Letters Received from the Public
Attachment E – Transportation Impact Analysis
Attachment F – Annexation Agreement

Application Timeline:

The following items are included herein by reference in this land use decision and are located in the record for this matter and are on-file with the Community Development Department, Planning Division:

- Modification of Approval and Subdivision applications and materials submitted by the applicant on September 20, 2021
- Application deemed incomplete for review on October 11, 2021
- Comprehensive Plan Amendment application and revised burden of proof submitted by the applicant on December 6, 2021
- Application deemed complete for review on January 3, 2022
- City department and related agency request for comments routed on February 17, 2022
- Department of Land Conservation and Development (DLCD) notice posted February 26, 2022
- Adjacent property owner notices mailed on March 10, 2022 and April 5, 2022
- Public Hearing Notices published in *The Redmond Spokesman* on March 23, 2022 and April 13, 2022
- Public Hearing held with the Redmond Urban Area Planning Commission on April 4, 2022
- Final action 120-day deadline (ORS 227.178) is May 3, 2022

Applicable Criteria:

The following are the applicable sections from the Oregon Revised Statutes, Oregon Administrative Rules, the City of Redmond Urban Area Comprehensive Plan, and the Redmond Development Code:

- City of Redmond Comprehensive Plan 2040
- City of Redmond Framework Plan
- City of Redmond Highway 97 Area Plan (HAP)
- City of Redmond Transportation System Plan
- City of Redmond Public Facility Master Plans
- City of Redmond Park Master Plan
- Oregon Revised Statutes (ORS) – ORS 197.250

- Oregon Administrative Rules (OAR), Chapter 660:
 - Division 12, Transportation Planning Rule
 - Division 15, Statewide Planning Goals and Guidelines
- City of Redmond Development Code:
 - Article I – Zoning Standards
 - Section 8.0065: Establishment of Zones and Districts
 - Section 8.0070: Location of Zones
 - Section 8.0135: Table A, (Residential Zones), Uses Permitted
 - Section 8.0140: Table B, Minimum Standards
 - Section 8.0220: Table E, (Other Zones), Uses Permitted
 - Section 8.0225: Table F, Minimum Standards
 - Section 8.0260: Table G, (Mixed Uses), Uses Permitted
 - Section 8.0265: Table H, Minimum Standards
 - Section 8.0750: Authorization to Initiate Amendments
 - Section 8.0760: Criteria for Amendments
 - Article II – Land Use Procedures
 - Section 8.1400: Modifications of Approval
 - Article III – Land Division Standards
 - Section 8.2200: Pre-application Meeting
 - Section 8.2220: Phased Development Plan
 - Section 8.2225: Approval of Phased Development Plan
 - Section 8.2230: Development Following Approval
 - Sections 8.2235 & 8.2236: Required Findings for Tentative Subdivision Approval
 - Section 8.2240: Improvement Requirements
 - Section 8.2700: Compliance Required
 - Section 8.2705: Blocks, Lots and Parcels
 - Section 8.2710: Streets
 - Section 8.2715: Fundamental Design Elements
 - Section 8.2720: Grading of Building Sites
 - Section 8.2815: Transportation Impact Analysis
 - Section 8.2820: Access Management Standards
 - Section 8.2825: Street Dedications

II. FINDINGS & CONCLUSIONS

Findings:

Redmond Development Code, Article I – Zoning Standards: Sections 8.0065, 8.0070, 8.0135, 8.0140, 8.0220, 8.0225, 8.0260, 8.0265, 8.0750, and 8.0760; Article II – Land Use Procedures: Section 8.1400; and Article III – Land Division Standards: Sections 8.2200, 8.2220-8.2240, 8.2700-8.2720, and 8.2815-8.2825 set forth the procedure and standards for approval. Staff findings for all applicable standards are presented below.

ARTICLE I – ZONING STANDARDS > INTRODUCTORY PROVISIONS

RDC Sections 8.0065 and 8.0070

8.0065 Establishment of Zones and Districts.

...

R-4 General Residential Zone. To provide high density residential neighborhoods with a mix of single-family residences, duplexes and some conditionally permitted multi-family residential development. Limited commercial uses such as offices are also conditionally permitted where compatible with surrounding development.

FINDING: The applicant is proposing to create 56 standard residential lots in the R-4 zone that allow for a variety of residential uses.

R-5 High Density Residential Zone. To provide high density residential neighborhoods with an emphasis on multi-family development and smaller lot single family and duplex developments. Limited commercial uses such as offices are also conditionally permitted where compatible with surrounding development.

FINDING: The applicant is proposing to create 75 townhome lots and 16 standard residential lots that allow for a variety of residential uses in the R-5 zone.

OSPR Open Space Park Reserve Zone. To preserve and provide for open space areas of natural, scenic, historical or geological significance and to provide areas for recreational development and use, both passive and active. The OSPR zone also provides for private development appropriate with the goals and master plan for the canyon and the transfer of development rights to areas suitable for higher density development.

FINDING: The applicant is proposing to create two tracts: Tract A for a 1.86-acre City park and Tract K for a 31,686 square foot pocket park along the property's eastern edge, abutting US Highway 97.

MUE Mixed-Use Employment Zone. The purposes of this zone are to:

1. Areas designated MUE are intended for development as employment centers developed as campus-type or light industrial with some limited commercial and residential development contained within the MUE area. Stand alone residential projects are not permitted within the MUE area. The City may provide for mixed use projects located within the MUE through planned developments.
2. Commercial uses must be of a type and scale that is designed to support surrounding industrial and employment uses and may not be used for commercial development that serves a regional retail function, such as large merchandise retailers, home improvement centers, and mini-mall developments.
3. Development within the district should be oriented to pedestrians and support non-motorized and mass transportation modes.

FINDING: The applicant is proposing to create three tracts for future development in the Mixed Use Employment Zone. Although no specific development is being proposed as part of this subdivision application, the applicant's plans show multi-family complexes located in MUE. It should be noted, as stated in 1. above, stand alone residential projects are not permitted within the MUE. Furthermore, the HAP the MUE zone's purpose as providing opportunities for office and limited light industrial employment in close proximity to neighborhoods.

MUN Mixed-Use Neighborhood Zone. This minimum size for this zoning district is 3 acres. The purposes of this zone are to:

1. Establish an area in which a critical mass of retail, service and other commercial uses together with civic uses can be located which can provide everyday goods and services to residents of the surrounding neighborhoods. Residential uses may be combined with commercial uses (as horizontal or vertical mixed-uses or live/work units) or may be allowed as standalone uses when developed as multi-family housing subject to site and design standards.
2. Encourage development that exhibits the physical design characteristics of pedestrian-oriented, storefront-style shopping streets; and
3. Promote the health and well-being of residents by encouraging physical activity, alternative transportation, and greater social interaction.

FINDING: The applicant is proposing to create 10 lots for the potential purpose of live/work units in the Mixed Use Neighborhood Zone.

8.0070 Location of Zones. The boundaries of the zones listed in these standards shall be as indicated on the City of Redmond Zoning Map of 1980 which is hereby adopted by reference. The boundaries shall be modified in accordance with zoning map amendments pursuant to this section and shall be adopted by reference.

FINDING: Because the applicant is proposing to modify existing zoning district boundaries, a zoning map amendment application is required in addition to complying with the Amendments criteria presented later in this staff report.

ARTICLE I – ZONING STANDARDS > RESIDENTIAL USE ZONES
RDC Sections 8.0135 and 8.0140

8.0135 Table A, Residential Zones, Uses Permitted. The following uses are allowed outright or conditionally in each of the Residential zones as follows:

"O" means Permitted Outright
"C" means Permitted Conditionally
"N" means Not Allowed

LAND USE:	ZONE:					RESTRICTIONS AND REQUIREMENTS:
Residential Uses:	R-1	R-2	R-3	R-4	R-5	
Accessory Building:						
Sheds, shops, garages excluding railroad cars not in railroad right of way, and movable shipping containers or similar storage containers that are not classified as structures.*	O	O	O	O	O	Detached; includes greenhouse, workshops, potting sheds, and the like must be located within the property and not in the yard setback areas.
Guest House	O	O	O	O	O	No kitchen; uses main houses' sewer & water
Accessory Dwelling Unit / Accessory Suite	O	O	O	O	O	Uses main houses' sewer & water or individual City Services; may have kitchen
Accessory Use	O	O	O	O	O	Includes Home Occupations
Apartments						See Multi-Family Complex / Dwelling
Bed and Breakfast	C	C	C	C	C	
Boarding or Rooming House	N	N	C	O	O	
Cluster Development	O	O	O	O	O	
Cottage Development	O	O	O	O	O	
Condominium	O	O	O	O	O	Condo plats are State regulated
Duplex	O	O	O	O	O	
Duplex Lot	O	O	O	O	O	
Manufactured Home	O	O	O	O	O	See Single Family Dwelling
Manufactured Home Park	N	N	C	C	C	
Manufactured Home Subdivision	N	N	O	O	O	Subject to compliance w/ applicable ORS
Multi Family Complex (5 + units)	C	C	C	O	O	

Multi Family Dwelling (3 & 4 plex)	O	O	O	O	O	
Nursing, Convalescent, and Assisted Living Facility	N	N	C	C	C	More than 15 people
Planned Unit Development	N	N	C	C	C	
Residential Care Facility	N	N	C	C	O	Defined in and regulated by ORS
Residential Care Home	O	O	O	O	O	Defined in and regulated by ORS
Single Family Dwelling	O	O	O	O	O	
Townhouse	O	O	O	O	O	

FINDING: The applicant is proposing to create 75 townhome lots in the R-5 zoning district that are outright permitted uses. Fifty-six standard residential lots are being proposed in R-4 and 16 in R-5. Although no specific development of these lots are being proposed at this time, these lots allow for a variety of outright permitted residential uses.

8.0140 Table B, Minimum Standards. The following minimum standards apply in each of the Residential zones as follows:

Zone:					
Standard:	R-1	R-2	R-3	R-4	R-5
Minimum Lot size - Square Feet					
Single Family	9,000	9,000	7,500	5,500	5,500
Duplex	NA	10,000	8,000	7,500	7,500
Duplex Lot			4,250	3,750	3,750
Townhouse			E	E	E
Multi-family Dwelling	NA	NA	NA	F	F
Multi-family Complex	NA	NA		F	F
Maximum Density/Gross Acre	4	4	5	10	15
Minimum Setback Distance – See C, F, and H below					
Front Façade, excluding garage which must be 20 feet back from property line	15	15	15	10	10
Interior Side	B 5/10	B 5/10	B 5/10	B 5/10	5
Street Side	15	15	15	15	15
Rear	20	20	20	20	5
Garage	20	20	20	20	20
Maximum Building Height ^F	32	32	32	40,E	40,E
Minimum Street Frontage					
Standard Street	50	50	50	50	50
Cul-de-sac	30	30	30	30	30
Flag Lot	20	20	20	20	20
Duplex lot (non flag or cul de sac)	N/A	N/A	25	25	25
Townhouse				E	E
A Interior side yards must provide a minimum of 5 feet on one side and 10 feet on the other side for single family and duplex residences. Where alley access is provided, both interior side yards may be reduced to 5'. Exceptions to this 10' setback are allowed (1) when the lot was created prior to the adoption of this standard (November 9, 2006); or (2) on cul de sac lots; or (3) on flag lots, or (4) parcels created by partition.					

B	Does not include solar setbacks, which are calculated separately
D	Pursuant to the Townhouse Development Standards in Chapter 8, Article IV Site and Design Review Standards, Section 8.3035.4.f.2, Table A.
E	Does not apply to development standards for Multi-family Dwellings and Multi-family Complexes which are located in Chapter 8, Article IV, Site and Design Review Standards, Section 8.3035.4.E.2., Table A
F.	Street trees are required to be provided in accordance with Section 8.3035(5)(K)
G.	ADU Rear-Yard and Other Setbacks (Zones R-1 and R-2 – <i>no change to setbacks since the lot sizes are quite large.</i>) For all other zones: 2 story ADUs – 20-foot rear yard setback; 2 story ADU that abuts an alley – 10-foot rear yard setback (driveway, if proposed, must still be 20 feet deep) 1 story ADU – 10-foot rear yard setback 1 story ADU that abuts a 20-foot-wide alley – 5-foot rear yard setback (driveway must still be 20 feet deep) ADU abutting a street corner – maintain front yard setback – side may be 5 feet for either 1 or 2 stories (driveway must still be 20 feet deep) ADU cannot extend in front of the house or front yard setback. ADU on lot abutting a commercial/industrial property – 5-foot rear yard setback regardless of height.
	N/A = "not allowed"

FINDING: Seventy-two standard residential lots are proposed and all meet the minimum lot size of 5,500 square feet as well as the minimum street frontage requirement. The HAP envisioned the R-4 zone to consist of mostly single-family dwellings with densities that may range from 5.6 to 14 units per net acre. The applicant has stated in their burden of proof that no specific development is being proposed for the standard residential lots in R-4 at this time. That said, the calculation of 7 units per net acre was calculated assuming that only single-family dwellings would be constructed on these lots. The unit per net acre could certainly be higher which would bring it closer to compliance with the Redmond Development Code's minimum of 10 units per net acre in R-4 for single-family dwellings. In any case, at this time the calculated minimum of 7 units per net acre reflects the HAP's vision and is generally in compliance with the development code.

The 75 townhome lots are subject to specification standards found in Section 8.3035(4)(F)(2) of the Redmond Development Code and shown below:

8.3035 Design Review Criteria. Prior to issuance of a building permit, the following applicable criteria shall be met.

(***)

F. Townhouse Design and Development Standards.

1. **Definitions:**

a. **Corner Lot.** A lot that abuts a public or private street on the front and one side, or a detached single family dwelling unit.

- b. **End Unit Lot.** A lot that abuts a public or private street, alley, driveway, or other right-of-way or common open space on one side and a townhouse lot on one side.
- c. **Interior Lot.** A lot that abuts townhouse lots on two sides.
2. Table A: Minimum Standards.

	R-4	R-5	PUD/CLD A
Maximum Density	8 units	8 units	As approved
Maximum Density Per Net Acre	14 units	24 units unless within the Higher Density Overlay Zone – 30 units per Net Acre	through a PUD/CLD
Minimum Lot Sizes – Square Feet			
Corner Lot	3000	2400	1800
End Unit Lot	2400	1800	1500
Interior Lot	1800	1500	1200
Maximum Height			
Corner Lot With Garage	30	30	40
End Unit Lot With Garage	35	35	40
Interior Lot With Garage	35	35	40
Corner Lot Without Garage	25	25	35
End Unit Lot Without Garage	30	30	35
Interior Lot Without Garage	30	30	35
Building Separation	15	10	10
Minimum Street Frontage			
Corner Lot	38	30	26
End Unit Lot	26	26	20
Interior Lot	18	18	15
Minimum Setback Distance B			
Front with alley or other rear access	10	5	0
Front without alley or other rear access	15	10	10
Front garage setback from street	20	20	20
Interior Side	0	0	0
Corner Lot Side Yard	10	5	5
End Unit Side Yard	15	10	5
Rear With Garage	5	5	5
Rear Without Garage	20	20	20
Private Open Space Per Unit	250	200	Per PUD/CLD
Common Open Space Per Unit	75 C	75 C	Per PUD/CLD
Off-Street Parking Spaces Per Unit D	2	2	Per PUD/CLD
A Hearings Body may vary minimum standards through the Planned Unit Development or Cluster Development process.			
B Increased setbacks on collector and higher order streets may be required per the City's Standards & Specifications.			
C Open Space may be common or private for 5 or fewer townhouse units.			
D If on-street parking is not available (e.g., narrow streets, collector or higher order streets), then one (1) parking space per four (4) dwelling units shall be provided on-site for guest parking.			

FINDING: All proposed townhome lots are located in the R-5 zone and meet the minimum lot sizes, minimum street frontages, and the maximum density per net acre for townhomes. Although no buildings are proposed at this time, setback and open space requirements are met based upon the building envelopes shown on the plans as well as the fact that the proposed lots exceed the minimum lot size requirement.

ARTICLE I – ZONING STANDARDS > OTHER ZONES

RDC Sections 8.0220, 8.0225, 8.0260, and 8.0265

8.0220 Table E, Permitted Uses. The following land uses are permitted outright or conditionally in each respective zone:

“O” means Permitted Outright

“C” means Permitted Conditionally

“N” mean Not Allowed

LAND USE:	ZONE:					COMMENTS:
<i>Residential:</i>	FG	OSPR	PF	Park	Airport	
Homeless Shelter	N	O*	C	N	N	
Single Family Dwelling	O	C	N	N	N	In conjunction with a use permitted by this section or a caretaker residence or in OSPR with approved density transfer.
<i>Farm Uses:</i>						
Grazing of livestock and horses	N	O	N	N	N	
Production of crops	N	O	O	N	N	
Livestock stabling	O	N	N	N	N	
Other Farm Uses	N	C	N	N	N	
<i>Non Residential Uses:</i>						
Public or Private Schools	C	N	C	N	N	
Parks, trails, reserve areas	O	O	O	O	N	
Public Facilities incl. Cemetery	N	O/C	O/C	O/C	N	Outright only when approved in the Comp Plan or Other Public Facilities Plan for OSPR and Park Zones. Conditional use if adjacent to “R” zone (applies to the PF zone only)
Expo Center Arenas	O	N	N	N	N	
Plaza, Amphitheater for Outdoor Events	O	C	O	O	N	
Campground for use during Events	O	N	N	N	N	
Recreational and Sports Facilities	O	C	O	O	N	In the Public Facility Zone, recreation facilities shall be in public ownership.
Museum, Theater, Community Center	O	C	O/C	C	O	In the Public Facility Zone, outright uses for public and non-profit agencies. Conditional use permits are required for commercial uses

						exceeding six (6) consecutive months or six (6) months within the same calendar year.
Commercial use accessory to permitted use	O	O	O	O	O	In the Public Facility Zone, commercial uses are limited to no more than 50% of the total floor area, building footprint or lot area, whichever is most restrictive. Commercial use subject to special use permit review, requirements and standards.
RV Park	O	N	N	N	N	
Airport:						
Airfields					O	
General Aviation					O	
Passenger Terminal Complexes					O	
Air Cargo & Maintenance Facilities					O	
Support Facilities (Airlife, Fire, etc)					O	
Any use complimentary to Aviation					O	

- Eastside OSPR location only (former Juniper Golf Course)

FINDING: The applicant is proposing parks for the two tracts of OSPR. Parks are outright permitted uses in OSPR.

8.0225 Table F, Minimum Standards. The following minimum standards are required in each respective zone (all distances are measured in feet):

Minimum Setbacks/Yards - Feet	FG	OSPR	PF	Park	Airport
Front	10	10	10	10	10
Local Street	35	40	25	25	25
Collector	50	40	50	50	50
Arterial					
Interior Side					
Standard	10	20	F 10-15	F 10-15	F 10-15
Adjacent to R-Zone	25	25	25		
Street Side					
Local Street	10	25	10	10	10
Collector	25	25	25	25	25
Arterial	50	50	50	50	50
Rear					
Interior	10	20	10	10	10
Local Street	10	25	10	10	10
Collector	25	25	25	25	25
Arterial	50	50	50	50	50

Adjacent to R-Zone	25	25	25	25	25
Maximum Building Height - Feet	A 60	25	60	40	A 60/45
Minimum Street Frontage - Feet					
Standard Street	50	50	50	50	50
Cul-de-sac	30	30	30	30	30
Minimum Landscaping	15%	15%	15%	15%	15%
Lot Coverage Maximum					
Non-commercial use					
Use adjacent to residential			E 75%		
Minimum Lot Size/Other	B*	N/A*	N/A*	N/A*	N/A*

*The minimum lot size shall be determined based on demonstration of the ability to develop the site in accordance with the zone standards, off-street parking standards, Site & Design Review Standards, landscaping requirements and other applicable Development Code provisions without adverse impact to water and land resource quality and adjoining properties.

^A Unless applicant provides written documentation from the Fire Department that the structure will not exceed the capability of available fire-fighting equipment. The maximum building height for all structures in the Airport Zone is 60 feet. If the structure is within 200 feet of the airfield security/perimeter fence, the maximum building height for all structures is 45 feet. No building permit will be issued in the Airport Zone until the FAA Form 7460-1 is received by the City of Redmond from the FAA. See the Airport Control Zone (RDC 8.0230) for additional building height restrictions.

^B Except for annual fair, any activity of use anticipated to generate 500 or more pm peak traffic trips shall not be permitted unless approved by the City in conjunction with traffic impacts mitigation including but not limited to alternate transportation routes to serve the use, and/or provision of ODOT and City approved temporary traffic control.

^E No use adjacent to or across the street from a residential zone shall exceed 75% of the lot area including buildings, storage or facilities.

^F The minimum side yard shall be 10 feet for 1 and 2 story buildings and 15 feet for 3 story buildings.

FINDING: Proposed Tract A is 1.86 acres in size and meets minimum street frontage standards and because of its size, will be able to meet all other minimum standards when being developed. Tract K is proposed to be a pocket park along the eastern edge of the development and abutting US Highway 97. Although nearly 32,000 square feet in size, the applicant's plans show that it will only be about 20 feet in width. This tract shall meet the minimum street frontage width of 50 feet as it will have direct access to/from NW Upas Avenue. Furthermore, consistent with the vision of the HAP, a vegetated berm shall be proposed along the west side of US Highway 97 to buffer adjacent uses (and those recreating in the Tract K pocket park) from traffic noise and to improve the visual experience for drivers in this section of the Highway 97 corridor.

8.0260 Table G, Uses Permitted. The following land uses are permitted outright or conditionally in each respective Zone as follows:

"O" means Permitted Outright

"C" means Permitted Conditionally

"N" means Not Allowed

LAND USE:	ZONE:			REFERENCE / STANDARDS:
	MUN	MUE	MULW	
<u>Residential Uses:**</u>				All stand-alone residential uses listed in Table G may not occupy more than 20% of the net land area in the MUN zone.
Assisted Living Facility	O	O		
Bed and Breakfast	C	N		
Multi-Family Complex (5+ units)	O*	O		See RDC Section 8.3035, Design Review Criteria.
Residential use above ground floor (mixed-use unit)	O	O		
Live/Work Dwelling	O	O		See definitions of live/work houses, townhouses and apartments, and standards in RDC Section 8.3035, Design Review Criteria Live/work units must be a minimum of 2 stories
Residential Care Facility	C*	C		
Townhouse (3 or 4 units)	O*	O		See RDC Section 8.3035, Design Review Criteria.
<u>Eating and Drinking</u>				
Bakery (retail/sit-down)	O	O		
Bar/tavern (where food is also served) Brew Pub	O	O		
Café, sit-down restaurant, diner	O	O		
<u>Entertainment</u>				
Indoor commercial recreation	O	O		See building area restrictions in Table H, Minimum Standards
Walk-in movie theater	C	O		
<u>Automobiles/Trucks/RV Uses:</u>				
Gas stations	C	C		
Auto services	C	C		Includes auto lube shops (same day service)
Manufacturing (light industrial)	C/N	O		Includes "craftsman" such as glassblowing, etc.
Medical research facility	O	O		
Precision machine shop	N	O		
Retail uses in support of primary industrial use	O	O		
<u>Office and Office Products:</u>				
Office	O	O		Includes medical offices and professional services
Corporate Headquarters	O	O		Less than 50,000 sq ft foot print
Office service and supplies	O	O		

LAND USE:	ZONE:			REFERENCE / STANDARDS:
	MUN	MUE	MULW	
Printing, publishing	O	O		
Telemarketing, call center	O/C	O		Outright allowed use on upper floors of a multi-story building or allowed as a conditional use on ground floor and limited to 50% of total floor area on ground floor in the MUN zone.
Public and Semi Public Uses:				
Churches, religious institutions	C	C		
Lodge, club, non-profit/fraternal organization	C	C		
Park (public or private)	O	O		
Public transportation station or public utility facility	O	O		See definitions.
Schools (public or private)	C	C		
Recreation Facility (public or private)	O	O		
Private utility facility	C	C		
Commercial Uses:				
Retail Uses	O/C	C***		In the MUN zone, single retail uses are permitted outright up to 25,000 square feet in floor area; single retail uses between 25,000 and 40,000 square feet in floor area require a Conditional Use Permit.
Service Commercial Uses	O	O		
Veterinarian Services	O	O		
Drive through / up facilities as part of an approved use (facilities must include an inside use component such as seating or a service area, except for voting drop offs and postal drop boxes):	O	O		
Residential Uses:				
Existing Single Family Residential Use prior to May 2011			O	
Live/Work Uses:				
Live/Work Units			O	
Eating and Drinking				
Bakery (retail/sit-down)			O	
Bar, tavern			O	
Café, sit-down restaurant, diner, brew pub			O	
Entertainment				

LAND USE:	ZONE:			REFERENCE / STANDARDS:
	MUN	MUE	MULW	
Indoor commercial recreation			O	
Automotive Uses:				
Auto service and repair			C	
Gas Stations			C	
Industrial Uses:				
Light Industrial Uses including manufacturing, fabrication, and assembly	C	O	O	
Office			O	
Distribution center			O	
Wholesaler			O	
Precision machine shop			O	
Research and development facility			O	
Contractor Service and Supply			O	Retail associated with this use is limited to 5,000 square feet.
Shop or studio (including woodworking and other artisans)			O	
Warehousing and Manufacturing			O	
Office-Type Uses:				
Office service and supplies			O	
Printing and publishing			O	
Telemarketing, call center, back office			O	
Public and Semi Public Uses:				
Churches, religious institutions			C	
Lodge, club, non-profit/fraternal organization			C	
Park (public or private)			O	
Public transportation station			O	
Recreation Facility (public or private)			O	
Schools (public or private)			O	
Private utility facility			C	
Public utility facility			O	
Commercial Uses:				
Retail Uses			O	In the MULW zone, retail use shall be only allowed as an accessory to an outright permitted or conditional use and shall be limited to 2,500 square feet per use.
Service Commercial Uses			O	In the MULW zone, service commercial uses shall support the neighborhood (such as

LAND USE:	ZONE:			REFERENCE / STANDARDS:
	MUN	MUE	MULW	
				beauty and barber shops, day care, dry cleaners) and shall be limited to 2,500 square feet per use.
Convenience Store			O	Limited to 2,500 square feet in size
New drive through / up facilities as part of an approved use (facilities must include an inside use component such as seating or a service area, except for voting drop offs and postal drop boxes)			C	Drive through or drive up facilities shall not be located within 600 feet of any arterial or collector intersection with a state highway, within 400 feet of a local street intersection with a state highway, and not adjacent to or have access to a state highway. Otherwise, drive through or drive up facilities may be located within 100 feet of a collector or arterial street intersection, and shall be separated from other drive through and drive up facilities by a minimum of 300 feet.

**** Any residential use is prohibited within 1 mile of the Redmond Airport Runway Protection Zone.**

***** In the MUE zone, commercial uses must be of a type and scale that is designed to support surrounding industrial and employment uses and may not be used for commercial development that serves a primarily regional retail function.**

FINDING: The applicant has stated that no specific development is being proposed for the creation of lots and tracts in the mixed use zones at this time.

8.0265 Table H, Minimum Standards. The following minimum standards are required in each respective zone (all distances are measured in feet):

STANDARDS:	ZONE:			REFERENCE / STANDARDS:
	MUN	MUE	MULW and MULW-SD	
Minimum Yard Setbacks				
Front Local Street	0**	10 ft.	10 ft.	
Collector Arterial		15 ft. 25 ft.	15 ft. 25 ft.	
Interior Side Standard	No minimum	No minimum	No minimum	

STANDARDS:	ZONE:			REFERENCE / STANDARDS:
	MUN	MUE	MULW and MULW-SD	
Adjacent to R zone	25 ft.	25 ft.		
Street Side Same as Front Local Street Collector Arterial	0 ft.	10 ft. 15/25 ft.	10 ft. 15 ft. 25 ft.	Shall meet minimum setback to local, collector or arterial street.
Rear Interior	0 ft.	10 ft.	10 ft.	
Adjacent to alley	0 ft.	25 ft.	10 ft.	
Maximum Building Height	45 ft.***	45 ft.****	45 ft.	
Minimum Street Frontage	25 ft.	25 ft.	25 ft.	
Minimum Landscaping	15%	15%	10%	In the MUN zone, can be satisfied with street trees or shared open space
Maximum Lot Coverage	80%	80%	N/A	
Minimum Lot Size	2,500 sq. ft.	6,000 sq. ft.	5,000 sq. ft.	Only applies to non-residential uses.
Maximum Building Footprint Per Single Use	40,000 sq. ft.	60,000 sq. ft.		Only applies to non-residential uses.
Outdoor Storage	Not allowed as a permanent use	80% of primary building		Only permitted through site design review. Maximum size of storage area shall not exceed 40,000 square feet for any single use.

Note: Residential uses permitted in Mixed-Use zones shall be subject to the density standards for the R-5 zone.

**Buildings shall be built to a minimum of 0 feet and a maximum of 15 feet of the front property line. A greater front yard setback may be approved through Site and Design Review if the setback area incorporates enhanced public spaces and pedestrian amenities such as plazas, arcades, outdoor cafe, benches, street furniture, public art, kiosks, or additional landscaping.

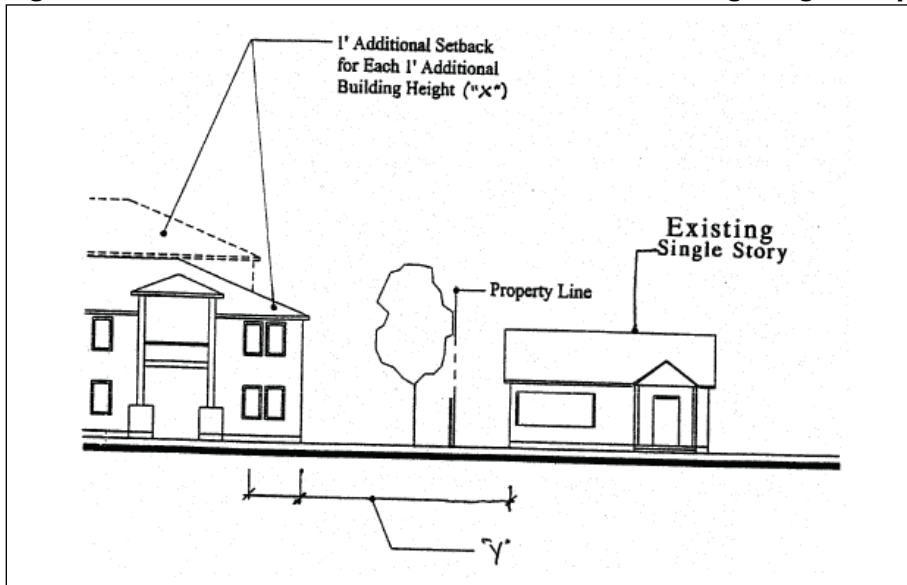
***To foster compatibility between new multi-story buildings and existing single-story dwellings, multi-story buildings and structures in Mixed Use Neighborhood (MUN) district shall “step-down” to create a building height transition to adjacent single-story building(s) in low-density residential districts (R-1 and R-2), as provided in subsections 1-3, below:

1. This standard applies to new and vertically expanded buildings and structures in the MUN district that are within [25] feet (as measured horizontally) of an existing single-story building in low-density residential (R-1 and R-2) districts with a height of [20] feet or less, as shown in the figure below.
2. The transition standard is met when the height of the taller structure (“X”) does not

exceed one (1) foot of height for every one (1) foot separating the two structures ("y"), as shown in the figure below.

3. Exception: The provisions of subsections 1-2 do not apply when the approval body finds that the subject single-story buildings located within [25] of the subject site are redevelopable. "Redevelopable," for the purposes of this Section, means a lot either has an assessed market value that exceeds the assessed market value of all improvements on the lot, based on the most recent data from Deschutes County Assessor's Office; or the front yard of the subject lot is large enough that it could be subdivided based on the residential district standards.

Figure for Section 8.0265 Table H: Maximum Building Height Step-Down/Transition



FINDING: Although the applicant is not proposing any specific development as part of this subdivision application, the proposed mixed use lots and tracts meet the minimum street frontage and minimum lot size requirements.

ARTICLE I – ZONING STANDARDS > AMENDMENTS

RDC Sections 8.0750 and 8.0760

8.0750 Authorization to Initiate Amendments. An amendment to the text of these standards, or to the City Comprehensive Plan Map may be initiated by either City Council, or the Planning Commission. A property owner may initiate a request for a map or text amendment by filing an application with the Community Development Department.

FINDING: The applicant has submitted a zoning map amendment application with the Community Development Department, requesting an amendment to the boundaries of five zoning districts.

8.0760 Criteria for Amendments. The burden of proof is upon the applicant. The applicant shall show the proposed change is:

1. In conformity with all applicable State statutes;

FINDING: Staff has examined the record in this matter and finds the applicant meets this criterion. The State Statutes that directly apply to this application include:

ORS 197.610: *Submission of proposed comprehensive plan or land use regulation changes to Department of Land Conservation and Development*
ORS 197.250: *Compliance with Goals Required*
ORS 197.797: *Local Quasi-Judicial Land Use Hearings*

The applicable City of Redmond Code standards (sections 8.0750 to 8.0775, *Amendments*, and sections 8.1010 through 8.1035, and 8.1300 through 8.1380, *Land Use Procedures*) were developed in compliance with the applicable State Statutes listed above regarding noticing and public hearings. Applicability of the Statewide Planning Goals is addressed in subsection 2. below. Those findings, incorporated by reference herein, show compliance with the applicable Statutes listed above.

With regard to the Statutory noticing requirements referenced above, notice of the proposed amendment has been provided to DLCD and the public hearings advertised in the local newspaper as required by City Code and State Statute.

With regard to the Statutory public hearing requirements referenced above, this proposal is subject to Sections 8.1300 through 8.1380 of the Redmond Development Code, which implement the quasi-judicial Statutory requirements. The Planning Commission and City Council's public hearings and review processes meet the statutory requirements for the purpose of the review.

Oregon Administrative Rule 660-012: Transportation Planning Rule.
Notwithstanding the Statutory requirements addressed herein, the Oregon Administrative Rules (OARs) also implement the Statutes. The applicable Rule addressed in this document is OAR 660-012, the Transportation Planning Rule (TPR). The proposed findings addressing the specific elements of the TPR are included in the Transportation Impact Analysis (TIA) submitted with this application. These findings are incorporated by reference herein as evidence of compliance with the TPR.

Based on the City of Redmond's conformance with the procedural requirements of this land use process and the conformance with the TPR, the proposed zone change amendment conforms to applicable State Statutes and Administrative Rules.

2. In conformity with the State-wide planning goals whenever they are determined to be applicable;

FINDING: Staff has examined the record in this matter and finds the applicant meets this criterion. The subject property is located within the existing and approved area plan (HAP) and master development plan (Central Christian Master Plan). As part of the review process for said plans, the City found that they were in conformance with all applicable State statutes and Statewide planning goals.

3. In conformity with the Redmond Comprehensive Plan, land use requirements and policies; and

FINDING: The applicant's proposed zoning amendment will not eliminate or add any new zoning districts to the subject property. Furthermore, the proposal to modify boundaries to the subject property's existing zoning districts will not change each district's requirements, or the intent of the HAP, Central Christian Master Plan, or terms agreed to in the subject property's annexation agreement.

Because this is considered a modification to the HAP and Central Christian Master Plan, the proposal must demonstrate general compliance with the HAP and the City's Great Neighborhood Principles. Through review and approval of the Central Christian Master Plan, the City found that the master plan complied with the HAP. In summary, the applicant is proposing the following modifications: 1) Spreading the MUE zone out along the highway frontage making it longer and narrower. By doing so, a portion of the R-5 zone (residential buildings) will no longer be adjacent to the highway. Reducing some of the MUE zone will be the proposed added OSPR green strip (Tract K), which will provide a buffer

along the highway as was originally envisioned in the HAP. 2) The reconfiguration of R-5 is intended to place more high-density residential surrounding and closer to the proposed park (Tract A). Additionally, R-5 is extended into the southwest corner of the property to be adjacent to similar development in the adjacent Cinder Butte subdivision. 3) The aforementioned modifications, in addition to a proposed modest increase to the R-4 zone, will cause a modest reduction in the MUN zone. The MUN zone is intended to support surrounding residential neighborhoods with small-scale retail and service commercial uses. Although the applicant is proposing a reduction of nearly 45% of the MUN zone, an analysis of anticipated demand for neighborhood retail and commercial services prepared during and for the creation of the HAP, potentially supports the applicant's proposed reduction. The analysis considered total demand for retail services and then eliminated all services except those uses typically found in a neighborhood center. The total land area needed to support these limited range of commercial retail services in the HAP was found to be only one to two acres.² Bear in mind, the analysis and HAP were completed 15 years ago. The applicant is proposing to reduce the MUN zone from 2.7 to 1.5 gross acres (the HAP envisioned 2.1 gross acres).

Although the proposal will result in a relatively minor increase to residential zoning and decrease in mixed use zoning, housing policy 10-1-1 of the Redmond Comprehensive Plan speaks to ensuring that there is sufficient land in each residential zone to meet the land needs identified in the Housing Needs Analysis (HNA). After reviewing residential land sufficiency in the HNA, staff has determined the proposal will have a negligible impact on residential land supply. Additionally, of note is that while the HNA identifies a land surplus of just two gross acres for mixed use, it is specifically addressing the Mixed Use Live/Work (MULW) zone, not the MUN or MUE zones.³

Staff finds that the proposed amendment to the subject property's zoning will still result in a proposed development that will meet the Great Neighborhood Principles. Each are presented below:

a. Transportation. Connect people and places through a complete grid street network and trail system that invites walking and bicycling and provides convenient access to parks, schools, neighborhood service centers, and possible future transit stops. Traffic calming techniques and devices may be required to slow vehicles. Curves streets are encouraged to provide interest and variety in neighborhood design. Trails shall be provided to link with other pedestrian facilities existing, or planned in the future.

The proposed subdivision includes a complete interconnected system of public streets, sidewalks, and a multi-use trail that provide convenient and efficient access throughout and within the neighborhood. Furthermore, curves have been incorporated into the design of some of the proposed streets.

b. Housing. A mix of housing types and densities shall be integrated into the design of new neighborhoods unless a variance is approved. Housing developments containing more than five attached units must be designed to be consistent with the Higher Density Multifamily Design Guidelines.

The proposed subdivision includes a mix of standard residential lots as well as townhome lots. Additionally, while no specific development is proposed as part of this application package, there's the potential to develop some multi-family in the mixed use zones. Altogether, generally the proposed subdivision will provide for a mix of housing types and densities.

c. Open spaces, greenways, recreation. All new neighborhoods shall provide useable open spaces with recreation amenities that are integrated to the larger community. Central

² City of Redmond Highway 97 Area Plan, page 13.

³ City of Redmond Housing Needs Analysis, page 81.

parks and plazas shall be used to create public gathering places. Incorporate significant geological features such as rock outcroppings, stands of clustered native trees, etc. into the design of new neighborhoods. Neighborhood and community parks shall be shown in appropriate locations consistent with policies in Redmond's Parks Master Plan.

The proposed subdivision has proposed a large 1.86-acre park in the center of the neighborhood, consistent with the subject property's annexation agreement. Furthermore, roughly 40,000 square feet of pocket parks will be provided throughout the neighborhood.

d. Integrated design elements. Streets, civic spaces, signage, and architecture shall be coordinated to establish a coherent and distinct character for the Master Development Plan. Plans may integrate design themes with adjacent developed or planned areas.

Although no specific development is being proposed at this time, the applicant has stated that they intend to work with the City through their Planning, Building, and Public Works departments to create approvable designs during the construction plan development and reviews with the goal of creating an integrated design theme. Relevant to this application is that the design of the open spaces will contribute to providing a distinct character for the neighborhood. Project signage will also lend to the integration of the community.

e. Diverse mix of activities. A variety of uses is encouraged in order to create vitality and bring many activities of daily living within walking and biking distance or a short drive of homes. Amenities including, but not limited to, trails, recreation areas, open spaces, shall be constructed before occupancy of any residential unit, unless a phasing plan is approved. Commercial service areas must be supported by a market analysis and phasing program which will be used by the City to determine construction timing.

The proposed neighborhood with its five zoning districts lends itself to providing a diverse mix of activities. Although nearly two-thirds of the neighborhood consists of residential zones, located in the center of the neighborhood will be a large park as well as pocket parks located throughout the neighborhood. The pocket park in Tract K will have a pedestrian pathway and with nearly nine acres of mixed use zones, some commercial uses will, like the parks, be within walking and biking distance or a short drive of homes.

f. Public art. Public art is encouraged at the gateways to neighborhoods and/or in and around the center of neighborhoods to provide focal points.

Although, per the property's annexation agreement, the applicant will donate \$100 per housing unit to the Redmond Committee for Arts in Public Places, the applicant will need to identify potential areas in the neighborhood for the installation of public art.

g. Scenic views. Identify and preserve scenic views and corridors of the Cascade Range, Ochoco Mountains, and Smith Rock. Streets and common or public open spaces should be located and oriented to capture and preserve scenic views for the public. Minimize visual clutter within scenic corridors.

Although no development is being proposed at this time, staff finds the applicant has met the criteria to the extent that it can given that the property is relatively flat with no slopes facing the mountain views to the west. Nonetheless, scenic views of the Cascade Range can potentially be preserved in areas like the Tract K pocket park, the Tract A central park, and with east-west street corridors that provide views shared by pedestrians, bicyclists, and motorists.

h. Urban – rural interface. Urban development shall interface with rural areas through open space buffers at least 100 feet wide and the length of the urban development, excluding public streets, or shall be transitioned from higher density development to lower density development at the urban - rural interface, or utilize other appropriate and equivalent transitional elements.

The proposed subdivision does not interface with any rural areas located outside of the urban growth boundary or urban area reserve; therefore, this Great Neighborhood Principle is not applicable.

i. Fully developed “pocket parks” or “tot lots” shall be incorporated into medium and high density zoned residential subdivisions and site plans. These areas shall be developed for every twenty-five lots/units, a minimum of 3,000 square feet and privately maintained. Park amenities shall, at a minimum, include turf areas, benches, trees, and decorative features.

The proposed subdivision includes a total of 147 lots located in R-4 and R-5, high density zones. Therefore, the proposed subdivision is required to provide at least 17,640 square feet of privately maintained pocket park space(s). The applicant has proposed Tracts B, C, E, and K to be pocket parks, equating to a grand total of 40,698 square feet of pocket park space.

j. Canal trails. If canals or laterals are present, multi-use trails at least 10 feet wide shall be provided, subject to the Central Oregon Irrigation District’s review and approval. Pedestrian amenities such as benches and trash receptacles shall be provided at appropriate locations.

No canals or laterals are present on the subject property; therefore, this Great Neighborhood Principle is not applicable. However, the applicant is proposing to construct a multi-use trail throughout the length of the pocket park in Tract K, along the neighborhood’s eastern boundary.

k. Green Design. Environmentally friendly and energy efficient design is encouraged for public and private infrastructure, architecture and building orientation, open spaces and natural areas and transportation facilities. In addition, the planting of native, drought-resistant trees is encouraged to provide shade and to minimize water usage.

Although the applicant did not specifically address this Great Neighborhood Principle in their burden of proof, they are encouraged nonetheless to incorporate green design into the neighborhood where there is an opportunity.

4. That there is a change of circumstances, further studies justifying the amendment or mistake in the original zoning.

FINDING: The Central Christian Master Plan simply established the current zoning districts and their layout – no lots were created, and no development was proposed at the time. It was a visionary plan that essentially left the specifics of development to later land use applications. The change in circumstances leading to and justifying this zoning amendment is that the applicant foresees future development is now looking to create lots and plan for development. As such, modifying the property’s existing zoning district boundaries will better align with the applicant’s future development plans.

ARTICLE II – LAND USE PROCEDURES > LAND USE ACTION

RDC Section 8.1400

8.1400 Modifications of Approval

1. Modifications

- A. A Modification shall be processed as an Administrative Land Use Action as provided for in Section 8.1300 - 1315. Modifications are requests for revision or deletion of a condition of approval or a change to a site development plan that is the result of changed circumstances, an error in the original decision or inconsistency with the current code.
- B. The applicant for a modification shall include reasons for the modification and demonstrate that the request is consistent with the provisions of the code and is necessary due to a change of circumstances, an error in the original decision or inconsistency with the current code.
- C. An application as a modification to an approval shall be directed to one or more specific aspects of the approval. The review shall be limited to the criteria applicable to that particular aspect of the proposal.
- D. Proposals that would modify an approval in multiple areas with a scope greater than allowable as a modification shall be treated as an application for a new proposal.
- E. Modifications shall not be accepted in such cases where a variance would be required. (Added 2/98)

FINDING: The subject property's current zoning is a result of the Central Christian Master Plan (City File #711-16-000129-CP) that was approved in 2017. At that time the subject property was annexed into the City and received master plan approval that simply established the current zoning districts and their layout – no lots were created, and no development was proposed. It was a visionary plan that essentially left the specifics of development to later land use applications.

Since that time, the master plan has been modified as Central Christian School never developed on the western portion of the master planned property and was eventually sold to Hayden Homes and is being developed with residential subdivisions. The applicant, SGS Development LLC, is proposing to create lots and tracts through the subdivision process as part of this application package. In doing so, the applicant is also requesting a modification to the existing zoning district boundaries to better align with future development plans.

The applicant provides the rationale for the proposed reconfiguration of the existing zoning districts in the applicant's burden of proof and supplemental narrative. Staff has examined these and finds the applicant's modification is in general compliance with the HAP and Central Christian Master Plan.

ARTICLE III – LAND DIVISION STANDARDS > SUBDIVISION APPLICATION PROCEDURE *RDC Sections 8.2200, 8.2220 – 8.2240*

8.2200 Pre-Application Meeting. Prior to submitting a tentative subdivision plat each applicant or their representative is required to meet with the Community Development Director or a designated staff member(s) to review the proposal.

FINDING: A pre-development meeting on the proposed project was held with City staff on March 11, 2021.

8.2220 Phased Development Plan. An overall phased development plan shall be submitted for all developments for which phased development is contemplated. The phased development plan shall include but not be limited to, the following elements:

- 1. Overall development plan, including phase or unit sequence.
- 2. Show compliance with all applicable land division standards and policies as described in this Article.
- 3. Schedule of improvements initiation and completion.

4. Overall transportation and traffic pattern plan showing compliance with grid street standards, and for land within the North Redmond US 97 Interchange Area Management Plan (IAMP), compliance with the Local Street Connectivity Plan (Comprehensive Plan Addendum Chapter 9 Transportation Element figure 1).
5. General program for phasing timetable projection.
6. Development plans for any common elements or facilities.
7. If the proposed subdivision is believed to have an additional impact upon adjacent lands or lands within the general vicinity, the Hearings Body may require an additional impact analysis for various aspects of the development thought to cause such impacts.
8. Street tree plan.
9. Program for addressing applicable Great Neighborhood Principles in Section 8.0330(3)(C)(13) and adopted Area Plans.

FINDING: The applicant has proposed that the development will be developed in six phases: 13 standard residential lots, 27 townhome lots, and Tract E in phase 1; 36 standard residential lots and Tracts B and C developed in phase 2; 23 standard residential lots, 12 townhome lots, Tract L, and a portion of Tracts J and K in phase 3; 18 townhome lots, 5 mixed use neighborhood lots, and Tracts A and G in phase 4; Tract H and a portion of Tracts J and K in phase 5; and 18 townhome lots and 5 mixed use neighborhood lots in phase 6.

The applicant has not provided a phasing timetable projection or street tree plan. This standard is not fully met.

8.2225 Approval of Phased Development Plan. The Hearings Body shall review a phased development plan at the same time a tentative plat for the first phase is reviewed. A phased development plan may be approved before the tentative plat for the first phase is submitted. The Hearings Body may approve, modify, or disapprove the phased development plan and shall set forth findings for such decision. The Hearings Body may also attach conditions necessary to bring the plan into compliance with all applicable land use standards and policies. Any tentative plat submitted for the plan area shall conform to the phased development plan unless approved otherwise by the City.

FINDING: This section is procedural.

8.2230 Development Following Approval. Once a phased development plan is approved by the City, the plan shall be binding, upon both the City and the developer. The Hearings Body may attach conditions to any changes proposed that are deemed necessary to insure compliance with the Comprehensive Plan and implementing regulations. After five (5) years from the date of approval of the plan, the City may initiate a review of the plan for conformance with applicable City regulations. If necessary, the City may require changes in the plan to bring it into conformance with new applicable city regulations.

FINDING: This section is procedural. The proposed application is for a revised master development plan and subdivision, developed in six phases.

8.2235 Required Findings for Tentative Subdivision Approval.

1. The Hearings Body shall approve no application for a subdivision unless the following requirements are met:
 - A. Proposal is in compliance with ORS Chapter 92, the Comprehensive Plan, the Transportation System Plan (TSP), applicable zoning and the applicable Track in Section 8.2236.

FINDING: Upon approval by the City of Redmond, the applicant will have a licensed professional land surveyor prepare a final subdivision plat map in accordance with ORS 92.010 to 92.192. The subdivision plat map will be establishing 157 lawfully established lots, and dedications of all public streets. No lots shall be sold prior to final plat recording. The subject property is currently zoned R-4, R-5, OSPR, MUE, and MUN on the 2040 Greater Redmond Area Comprehensive Plan Map. The submittal requirements for a subdivision application require a traffic impact study if there are more than 20 lots, and as this development will have 157 lots, a traffic impact study has been submitted. The applicant is proposing sidewalks for pedestrian access and paved roads for vehicular access. Applicable zoning criteria is addressed in the applicant's burden of proof.

- B. Proposal does not conflict with acquired public access easements within or adjacent to the subdivision.

FINDING: The Central Oregon Irrigation District (COID) F-1 lateral has a 20-foot easement located along the subject property's northern property boundary. The applicant will need to contact the COID to discuss the proposed project as proposed Lots 25, 32, 33, and 39 overlap within COID's easement. This easement shall allow for unobstructed and convenient access for COID operations and maintenance.

- C. Each lot is suited for the use intended or offered.

FINDING: All proposed 147 residential lots suited for potential use(s) intended or offered. The applicant's 10 proposed MUN lots are suited for potential live/work units as shown on the applicant's plans. Finally, the three proposed tracts for MUE are sizable, which will allow some flexibility when specific development is identified for a later date. However, as mentioned earlier, is it recommended that the applicant revisit the purpose and intent of the MUE zone as well as the HAP's vision for the zoning district.

- D. The subdivision will not exceed the operational capacity of public facilities and services as identified in the city's Water and Wastewater Master Plan and the Transportation System Plan, which are required to serve the development, or a determination that sufficient capacity can be provided.

FINDING: The proposed development will require the extension of public streets and public utilities, which are being proposed. Refer to Condition #13 for information regarding wastewater capacity.

- E. A water rights division plan has been approved by the applicable irrigation district.

FINDING: Per the Central Oregon Irrigation District (COID), Parcel 3 has an adjudicated 10.30 acres of water right and Parcel 2 has 19.15 acres of water right on Certificates issued to COID. The 29.45 acres of water right have been quitclaimed to COID; however, these water rights remain appurtenant to these lands until completion of a water right transfer to remove the 29.45 acres from the described parcels. Upon issuance of an Order by OWRD, no water rights will remain within the boundaries of these parcels.

- F. The subdivision contributes to orderly development and land use patterns in the area, and provides for the preservation of natural features and resources such as streams, lakes, natural vegetation, special terrain features.

FINDING: The proposed subdivision will contribute to orderly development and land use patterns in the area. Water and sewer infrastructure and local grid streets will be extended from the west as well as

NW Upas Avenue. Streets, including but not limited to NW 7th and 8th Streets, will be stubbed at the subdivision's northern boundary for future development. Residential development in the R-4 and R-5 zones will be adjacent to respective zones in the adjacent Cinder Butte subdivision. While no specific development is being proposed as part of this application package, staff has found that the proposed subdivision and modification to zoning districts are in general compliance with the HAP and Central Christian Master Plan.

Due to the existing site's agricultural uses, natural features are not existent. There are no unique natural features on the property.

2. Access Management proposals comply with the standards set forth in Section 8.2820 and all other applicable standards.

FINDING: Findings for these standards are presented in Section 8.2820 below.

8.2236 Subdivisions may be created following two tracks: Track 1 (General Criteria) and Track 2 (Clear and Objective Standards)

Track 2 – Subdivision, Tentative Plan Approval Criteria (Needed Housing). General. The planning division shall approve, approve with conditions, or deny a proposed subdivision. Approval, or approval with conditions shall be based on compliance with the following criteria:

- A. The applicant has demonstrated that the proposed housing is needed housing as defined by State statutes.

FINDING: The proposed development includes 72 standard residential lots and 75 townhome lots. At a very minimum, the proposed development will include 72 single family dwellings and 75 townhome units. These are needed housing in Redmond.

- B. The proposed land uses and densities are consistent with the land use designation(s) shown on the comprehensive plan, in this code, and as refined in any applicable area plan, master plan, or framework plan.

FINDING: As discussed earlier in Sections 8.0135, 8.0140, 8.0220, 8.0225, and 8.0260, the proposed potential uses and proposed lots and tracts are generally consistent with the each zoning district's and the HAP's land use designations and densities.

- C. The proposed subdivision complies with all of the following, unless specifically exempt from compliance through a code provision applicable to a special area zone or overlay zone. The proposed subdivision will:
 1. Not create risk of fire, flood, geological hazards, or other public health and safety concerns;
 2. Provide adequate transportation systems, water supply, sewage disposal, drainage, and other public utilities consistent with City Standards and Specifications.

FINDING: The proposed subdivision has been designed in a manner that will not create risk of fire, flood, geological hazards, or other public health and safety concerns. Adequate transportation systems, water supply, sewage disposal, drainage, and other public utilities will be provided as proposed and by complying with conditions of approval.

- D. The proposed subdivision provides direct bicycle and pedestrian access to any adjacent residential areas, transit stops, neighborhood activity centers, commercial areas, and employment areas.

FINDING: The proposed subdivision will provide direct bicycle and pedestrian access to adjacent residential areas via sidewalks and the proposed trail on the eastern edge of the development.

- E. The proposed subdivision is designed and sited such so roads, infrastructure, utilities, and future development of proposed lots will minimize impacts to the natural landscape by addressing the following:
1. Tree Preservation. The proposed project shall be designed and sited to preserve trees having the following characteristics:
 - a. Healthy trees that have a reasonable chance of survival considering the base zone or special area zone designation and other applicable approval criteria;
 - b. Trees located within vegetated corridors and stands rather than individual isolated trees subject to windthrow;
 - c. Trees that fulfill a screening function, provide relief from glare, or shade expansive areas of pavement;
 - d. Trees that provide a buffer between potentially incompatible land uses;
 - e. Trees located along the perimeter of the lot(s) and within building setback areas;
 - f. Trees and stands of trees located along ridgelines and within view corridors;
 - g. Trees with significant habitat value;
 - h. Trees adjacent to public parks, open space and streets.
 - i. Trees along water features.
 - j. Heritage trees.

FINDING: As shown on pages MP2.1 and MP2.2 of the proposed project plans, the majority of existing trees are located in the central-eastern portion of the subject property. The applicant has stated “The few existing trees on grounds within the proposed subdivision are not registered significant trees and appear to be in poor health, including those which may be considered to be located in critical areas as described in 8.2236.1.G (2). The steppe nature and prior farm use of the subject land, along with the projected future Hwy 97 access have compromised the functionality of the existing trees in their respective location. Therefore, the applicant is not considering tree preservation to be applicable to the proposed project.” Staff concurs with the applicant’s response.

2. Restoration or Replacement.
 - a. For areas not included on the City’s acknowledged Goal 5 inventory, the proposal mitigates, to the greatest degree attainable or feasible, the loss of significant natural features described in criteria (a) above, through the restoration or replacement of natural features such as:
 - i. Planting of replacement trees within common areas; or
 - ii. Re-vegetation of slopes, ridgelines, and pedestrian corridors; or
 - iii. Restoration of native plant habitat.
 - b. For areas included on the City’s acknowledged Goal 5 inventory, any loss of natural features shall be consistent with the acknowledged level of protection provided for the resource.

Street Trees. If the proposal includes removal of any street tree(s), removal of those street tree(s) has been approved or approved with conditions by the City.

FINDING: The subject property does not contain any Goal 5 resources. Although many, if not all of the existing trees will need to be removed, as the applicant has stated, the proposed central park will be landscaped with trees and vegetation that thrive well in central Oregon. Furthermore, the proposed park will include trees and vegetation and all proposed streets will have street trees.

- F. On R-1 zoned property, if the subdivision results in a lot greater than 13,500 square feet in size the application shall indicate the location of lot lines and other details of layout that show future division of the lot may be made without violating the requirements of this development code and without interfering with the orderly extension of adjacent streets, bicycle paths, and accessways.

FINDING: The proposed subdivision does not include any land zoned R-1; therefore, this standard does not apply.

- G. Lot side lines shall run at right angles to the street upon which the lots face, except that on curved streets they shall be radial to the curve.

FINDING: All side lot lines within the proposed subdivision are at right angles to street lines or radial to curved street lines.

- H. There shall be no proposed grading on portions of the development site that meet or exceed 15% slope.

FINDING: The subject property is relatively flat with no portions meeting or exceeding 15% slope.

- I. The proposal complies with the Traffic Impact Analysis Review provisions.

FINDING: The submitted Traffic Impact Analysis (TIA) has been reviewed by City Engineering and Engineering has provided recommendations as outlined in Condition #11.

- J. The street layout of the proposed subdivision shall disperse motor vehicle traffic onto more than one public local street unless approved by the City Engineer.

FINDING: The street layout of the proposed subdivision will disperse motor vehicle traffic onto more than one public local street.

- K. Urban development shall interface with rural areas (rural areas are those that lie within areas outside of the UGB or UAR) through landscaped open space buffers at least 100 feet wide and the length of the urban development, excluding public streets, or shall be transitioned from higher density development to lower density development at the urban - rural interface, or utilize other appropriate and equivalent transitional elements.

FINDING: The proposed subdivision does not interface with any rural areas located outside of the urban growth boundary or urban area reserve; therefore, this standard is not applicable.

- L. Fully developed “pocket parks” or “tot lots” shall be incorporated into medium and high density zoned residential subdivisions and site plans. These areas shall be developed for every twenty-five lots/units, a minimum of 3,000 square feet and privately maintained.

Park amenities shall, at a minimum, include turf areas for at least 50% of the lot, benches, trees, shrubs, and other landscape features.

FINDING: The proposed subdivision includes a total of 147 lots located in R-4 and R-5, high density zones. Therefore, per this standard, the proposed subdivision is required to provide at least 17,640 square feet of privately maintained pocket park space(s). The applicant has proposed Tracts B, C, E, and K to be pocket parks, equating to a grand total of 40,698 square feet of pocket park space. The applicant shall provide details on the parks' landscaping and amenities.

- M. No site grading of the site shall occur until the City has approved the subdivision application.

FINDING: A subdivision site grading and drainage plan with erosion/sediment control plan and drainage report shall be submitted and approved upon development of each project phase.

8.2240 Improvement Requirements (For Track 1 and Track 2 Subdivisions).

- 1. In the approval of a subdivision, the Community Development Director or Hearings Body shall consider the need for street and other improvements. All streets in new subdivisions, except for private streets, shall be dedicated to the public without reservation or restriction.

FINDING: All proposed streets as part of this subdivision will be dedicated to the public without reservation or restriction.

- 2. Private Alley Access. The Community Development Director or Hearings Body may require the applicant to improve a private alley access easement serving two or more lots according to the adopted City of Redmond Public Works Standards and Specifications, as amended.
 - A. Such access easements shall include provisions for permanent, long-term maintenance, including: maintenance measures to be employees; responsible parties; funding; design; timing; and, enforceability. These provisions shall be included as recorded Covenants, Conditions and Restrictions (CCR's) appurtenant to the affected properties.

FINDING: Proposed alleys will provide access to townhome lots and potential live/work units. The project plans indicate alleys providing access to townhome lots will have a pavement width of 20 feet and alleys providing access to live/work units will have a pavement width of 24 feet. The applicant shall submit draft CCR's that include provisions for the long-term maintenance of alleys. The final plat shall grant access easements across private alleys.

- 3. The subdivider shall record the required (including but not limited to) land division agreement, public improvement agreement, shared access agreement or shared well agreement, as may be applicable, with the Deschutes County Clerks office at the time of recording of the final subdivision plat.

FINDING: The applicant will record any required land division agreements, public improvement agreements, or shared access agreements with the County Clerk at the time of recording the final plat.

- 4. Paved access is guaranteed to each lot.

FINDING: The proposed development is proposing paved access/streets to all lots.

- 5. Each lot is to be connected to the City water and sewer system pursuant to Section 4.007 of the Code of the City of Redmond.

FINDING: The applicant is proposing connection to the City of Redmond water and sewer system. Upon receiving land use approval for the subdivision, the developer will submit detailed civil plans to the City's Engineering Department for review and approval prior to construction of the subdivision.

6. All required public utilities are available.

FINDING: All required public utilities are available and will be extended by the developer in order to provide services to the proposed development.

ARTICLE III – LAND DIVISION STANDARDS > DESIGN STANDARDS & IMPROVEMENTS
RDC Sections 8.2700 – 8.2720

8.2700 Compliance Required.

1. Any land division or development shall be in compliance with the design and improvement standards and requirements of this section, and all other applicable provisions, as set forth in this Chapter.

8.2705 Blocks, Lots and Parcels.

1. Blocks. The resulting or proposed length, width and shape of blocks shall take into account the requirements for adequate building lot sizes, street widths, access needs and topographical limitations.

A. No block shall be more than 660 feet in length between street center lines unless it is adjacent to an arterial street, or unless topography or the location of adjoining streets justifies an exception and is so approved by the reviewing authority. In MUN, MUE and MULW zones, block lengths shall be an average of 330 feet, except where required to meet grid street or access management requirements.

FINDING: The proposed subdivision does not include any blocks with lengths greater than 660 feet in the R-4, R-5, and OSPR zones. This standard calls for block lengths to average 330 feet in the MUN and MUE zones, except where required to meet grid street requirements. The small block sizes for the mixed use zones are likely because these zones are intended to promote and facilitate pedestrian movement to/from and within the zone. That said, while the block length of Tract J (MUE) is greater than 330 feet, the applicant has proposed a pedestrian pathway (Tract L) at roughly the block's midpoint and therefore, this standard is generally met.

B. The recommended minimum length of a block along an arterial street is 1,320 feet, except that along such blocks, a public right-of-way for pedestrian and bicycle access shall be dedicated at or nearest the mid-point of the block length as is practical. The right-of-way shall be a minimum of 10 feet wide, with an all weather surface a minimum of 5 feet wide, constructed and centered within the right-of-way.

FINDING: Adjacent to the east of the proposed development is US Highway 97, a major arterial. There will be no vehicular or pedestrian accesses onto US Highway 97 from the development. For the purposes of this standard, it is met.

C. A block shall have sufficient width to provide for 2 tiers of lots unless topography, the location of adjoining streets, or adjacency to an arterial street justifies an exception.

FINDING: Given that NW 8th Street is identified in the HAP to be a main north-south connection on the

west side of Highway 97, its proposed location is important. And although the subdivision's proposed block located on its western boundary is only one tier in width, the block will be adjacent to a block of lots in the adjacent Cinder Butte subdivision. It can be found that the proposed subdivision is in general conformance with this standard.

- D. Where appropriate at approved cul-de-sacs, dead-end streets, or along blocks approved at more than the maximum block length standard, pedestrian and bicycle access corridors shall be required to be constructed between lots to minimize travel distance between subdivisions, parks, school, and collector or arterial streets. Access corridors shall be located to provide a reasonably direct connection between likely pedestrian destinations and shall be consistent with the City of Redmond Bicycle Refinement Plan where applicable. A reasonably direct connection is a route which minimizes out of direction travel for people likely to use the connection considering terrain, safety and likely destination. The Community Development Director or Hearings Body may determine based on evidence in the record that construction of a separate access corridor is inappropriate or impractical. Such evidence may include but is not limited to:
1. When the nature of abutting existing development makes construction of an access corridor impractical.
 2. When the access corridor would cross a natural area with significant natural habitat and construction would be incompatible with protection of natural values.
 3. When the access corridor would cross topography where slopes exceed 30% or where path grade would exceed 12% slope; or
 4. When a cul-de-sac or dead-end street abuts rural resource land at the urban growth boundary. In industrial zones, this standard may be waived at the discretion of the Community Development Director or Hearings Body when it is determined that the City's grid street standards should not be applied to the industrial development.

FINDING: The proposed subdivision does not include any blocks that exceed the maximum block length standard. However, because the proposed subdivision includes a 1.86-acre park in its center, the applicant is proposing Tract L that includes a pedestrian path for the purpose of reducing out-of-direction pedestrian travel to the central park from future development on Tract J.

2. Lots and Parcels. The size, width, and orientation of newly created lots and parcels shall be appropriate for the location of the land division and for the type of development and use contemplated. Lots and parcels shall be generally rectangular in shape and shall be consistent with the lot size provisions of the zoning standards and the density requirements as established in the City of Redmond Comprehensive Plan. Notwithstanding these requirements, the following exceptions may apply:
- A. In areas beyond the City Limits where public sewer is not currently available, minimum lot and parcel sizes shall permit compliance with the requirements of the Department of Environmental Quality and shall be sufficient to permit adequate sewage disposal. Any problems posed by soil structure and water table as related to sewage disposal by septic tank shall be addressed and resolved in the applicant's initial plan.
- B. Where property is zoned and planned for business or industrial use, other widths and areas may be permitted by the Community Development Director or Hearings Body. Depth and width of properties reserved or laid out for commercial and industrial purposes shall be adequate to provide for the off-street service and parking facilities required by the type of use and development contemplated.

- C. In steep terrain, increased lot or parcel sizes may be required to avoid excessive cuts, fills, and steep driveways.

FINDING: The proposed subdivision's lot sizes, widths, and orientation are appropriate for the location and potential uses. Each zoning district has different lot size and density requirements and these findings are presented in Sections 8.0140, 8.0225, and 8.0260.

The proposed development is located in an area where public sewer is available and does not include steep terrain. Although no specific development is planned for the MUE-zoned Tracts G, H, and J, are being proposed of generous size that should be able to provide for a wide variety of types and uses' off-street services and parking facilities needed.

3. **Frontage.** Each newly created lot and parcel shall abut upon a public street other than an alley for at least 50 feet, except for lots fronting on the bulb of a cul-de-sac, then the minimum frontage shall be 30 feet. Flag lots shall have no less than 20' of street frontage measured at the property line. Lots created as part of a Planned Unit Development shall meet the same frontage requirements listed herein, except such frontage may be allowed along private streets. Vehicular access shall be provided as specified in Section 8.2820, Access Management Standards, of this Chapter, or as specified in Section 8.2705(6) below, for residential lots and parcels abutting collector and arterial streets. All lot and parcels shall be addressed from the primary public street frontage, not including alleys.

FINDING: All proposed lots meet the frontage standards of their respective zoning districts and proposed Lot 32 meets the minimum frontage of 20 feet for a flag lot. This standard is met.

4. **Side Lot or Parcel Lines.** All side lot lines shall be at right angles to street lines or radial to curved streets wherever practical except as provided for in subsection (10) of this section.

FINDING: All side lot lines within the proposed subdivision are at right angles to street lines or radial to curved street lines.

5. **Through/Double Frontage Lots and Parcels.** Through lots or parcels, and lots or parcels with double frontage shall be avoided whenever possible, including lots or parcels created adjacent to Collector and Arterial Streets, but not including alley frontage as described in Section 8.2705(6) below, except when they are necessary due to an irregular parent lot or parcel configuration, or are necessitated by topography or other unique circumstance.

FINDING: None of the proposed lots are considered through/double frontage lots.

6. **Residential Lots and Parcels Abutting Collector and Arterial Streets.** Lots and parcels created adjacent to Collector and Arterial streets shall be oriented so that the front elevation of the residential development faces the Collector or Arterial Street. Vehicular access shall be provided pursuant to Section 8.2820, Access Management Standards, of this Chapter. In instances where direct vehicular driveway access to lot or parcel from the Collector or Arterial street is not permissible, alley access shall be provided to the rear of the lot or parcel in accordance with the design standards included in Section 8.2710(3) of this Chapter.

FINDING: Proposed residential lots 122-127 are adjacent to NW Upas Avenue, a collector street, and are oriented so that the front elevations of the development will face NW Upas Avenue. Vehicular access will be provided to lots 122-127 via a private alley to the rear of the lots. Proposed residential lots 120 and 121 are adjacent to NW Upas but are oriented in a manner that won't allow the development's front elevations to face NW Upas Avenue. These two lots do not meet this standard.

7. Corner Lots and Parcels. Corner lots and parcels shall be 5 feet more in width than other lots and parcels and also shall have sufficient extra width to meet the additional side yard requirements of the zoning district in which they are located.

FINDING: All proposed corner lots have widths at least five feet greater than the required minimum and have sufficient extra width to meet the additional side yard requirements.

8. Special Building Setback Lines. If special building setback lines, in addition to those required by the applicable zoning, are to be established in a development, they shall be shown on the final plat of the development and included in the deed restrictions.

FINDING: As shown on the applicant's plans, the proposed setback for the future NW Upas Avenue overpass right-of-way imposed on proposed lots 122-127 & 134 shall be shown on the final plat.

9. Large Building Lots; Re-division. In the case where lots or parcels are of a size and shape that future redivision is possible, the Community Development Director or Hearings Body may require that the blocks be of a size and shape so that they may be redivided into building sites, and the development approval and site restrictions may require provision for the extension and opening of streets at intervals which will permit a subsequent redivision of any tract of land into lots or parcels of smaller sizes than originally platted, and in conformance with the density provisions established in the City of Redmond Comprehensive Plan for the existing or intended Zone. A plan indicating the ability for re-division according to these standards may be required as part of the initial land division process.

FINDING: Proposed MUE-zoned tracts G, H, and J are sizable tracts. The applicant has not determined a specific development(s) for these tracts as part of this application package. However, as the Redmond Development Code and the HAP call out, areas designated MUE are intended for development as employment centers developed as campus-type or light industrial with some limited commercial and residential development. These primary uses are typically located on large building lots; therefore, a plan indicating the ability for re-division of proposed tracts G, H, and J is not required as part of this application.

10. Solar Access. As much solar access as feasible shall be provided each lot and parcel in every new subdivision or partition considering topography, development pattern, and existing vegetation. The boundary lines of lots and parcels, as far as feasible, shall be oriented to provide solar access at ground level at the southern building line of the adjoining lot to the north two hours before and after the solar zenith from September 22 to March 21. If it is not feasible to provide solar access to the southern building line the solar access, if feasible, shall be provided at 10 feet above ground level at the southern boundary line two hours before and after the solar zenith from September 22 to March 21, and three hours before and after the solar zenith from March 22 to September 21. This solar access shall be protected by solar height restrictions on burdened properties for the benefit of lots receiving the solar access pursuant to Section 8.0370, of the City of Redmond Development Code, Solar Access Standards. If the solar access for any lot, either at the southern building line or at 10 feet above the southern building line, is not feasible, supporting information may be required with the application.

FINDING: Section 8.0370(2)(C)(i) exempts solar setback requirements for all property zoned MUN, MUE, and OSPR. Proposed lots in the R-4 and R-5 zones are generally oriented in a manner that provides for as much solar access as feasible.

11. Curvilinear Street and Block Design. Although a basic grid street design with minimum and maximum block lengths are requirements of this section, a curvilinear street/block design is encouraged for the purpose of adding interest to new subdivision development.

FINDING: The applicant has provided the proposed streets in a basic grid design with some incorporation of curvilinear street design, adding interest to the subdivision design and layout.

12. Flag Lots. A flag lot shall be considered as a “flag lot” if the pole of the flag lot is less than half the width of the average lot width. For flag lots, the following shall be required:
 - A. Flag poles shall be no less than 20’ wide.
 - B. Flag lot development, if allowed by the zone, is limited to one duplex or single-family dwelling per lot. All zone regulations apply, including the minimum required lot size and setbacks unless setback reductions are allowed as described in (E).
 - C. Each flag lot shall contain a minimum 16’ wide paved driveway.
 - D. A flag lot is exempt from the 50-foot street frontage requirement; however, a minimum of 20 feet of street frontage is required.
 - E. Front and/or rear yard setbacks may be reduced to no less than 10’ subject to review and approval by the Community Development Director. The orientation of any structure (determination of front) may be suggested by the property owner and is subject to the review and approval of the Community Development Director or designee. The location(s) of all structures immediately adjacent to any flag lot shall be shown on a site plan (1) during planning review and during the act of creating any new flag lot, and (2) during a building permit review for any structure built on a flag lot.
 - F. No flag lot shall be partitioned or further divided.
 - G. The “pole” of the flag lot shall be no longer than 150’ measured from the street intersection to the beginning of the base of the flag.
 - H. The “pole” of the flag shall not be included in the minimum lot size calculation.
 - I. Flag lots shall be exempt from street tree requirements unless the street frontage portion of the flag lot is 30’ or greater.
 - J. Flag lots are prohibited along or abutting the Dry Canyon Rim.
 - K. Two off-street parking spaces shall be provided for each dwelling unit on a flag lot.

FINDING: Proposed Lot 32 is considered a flag lot. The lot meets the required 20 feet of street frontage, minimum lot size in R-4, and the pole is not longer than 150 feet in length.

8.2710 Streets.

1. General. Streets shall be in conformance with the City of Redmond Transportation System Plan as specified herein.
 - A. Except along Arterial Street, public streets shall be spaced a maximum of 660 feet between centerlines. The purpose is to provide a street grid pattern of through streets to facilitate traffic movement. Street designs shall conform to topography and other existing natural and man-made conditions. Illustrative examples of other conditions include the dry canyon, main COID canal, Highway 97, and the Burlington Northern Railroad tracks.

FINDING: All proposed public streets are spaced under the maximum of 660 feet between centerlines with the purpose of creating a street grid pattern throughout the subdivision to facilitate traffic movement.

- B. All proposed streets, sidewalks, bike lanes and pedestrian pathways shall connect to other streets, sidewalks bike lanes and pedestrian pathways within a development and

to existing and planned streets, sidewalks, bike lanes and pedestrian pathways outside the development. Such facilities shall serve existing and planned parks, schools or other public lands within a neighborhood.

FINDING: The proposed subdivision includes streets, complete with sidewalks that will provide for pedestrian connectivity to Cinder Butte subdivision to the west. Additionally, proposed is Tract K that will include a pedestrian trail that will provide connectivity to future developments to the south and north. Complete sidewalks and pedestrian pathways will provide pedestrian connectivity to the proposed park located in the central portion of the development.

- C. To the maximum extent possible, new local streets shall align and connect with existing local streets and collectors, and in certain special cases arterial streets. Cul-de-sac streets shall be permitted only where no feasible connection with an adjacent street exists, or if the local street connection would be to an arterial street and the function of the arterial street may be diminished as determined through the land use review process, or the block length would be less than that which is permitted by Section 8.2705(1)(B).

FINDING: The applicant's plans have demonstrated that new local streets will align and connect with existing and proposed streets adjacent to the subdivision. The southern end of proposed NW 7th Street will end with a cul-de-sac per the City's request. This request was made because it would be undesirable to have NW 7th Street connect to the portion of NW Upas Avenue slated for an overpass in the future.

- D. Consideration should be given to alternative street designs other than required herein in the City's non-residential land use zones to allow for more effective developments. Such designs may be considered and approved during the subdivision or partition process without need for variance.

FINDING: The proposed subdivision is not proposing any alternative street designs in the non-residential portions of the subdivision; therefore, this standard is not applicable.

- E. All proposed or required streets and alleys shall comply with Section 8.2820 Access Management Standards, the Transportation System Plan, and with Local Street Connectivity Plans adopted as part of the transportation element of the Comprehensive Plan.

FINDING: The proposed development has been reviewed by City Engineering and will comply with this standard by complying with transportation-related conditions of approval.

- 2. Existing Streets. Whenever existing streets, adjacent to or within a tract, are of inadequate width to accommodate the increase in traffic expected from the land division or by the City's transportation policies as determined through a transportation impact analysis, additional right-of-way shall be provided at the time of the land division by the applicant. During consideration of the tentative plat for the subdivision or partition, the Hearings Body shall determine whether the improvements to existing streets, adjacent to or within the tract, are required. If so determined, such improvements shall be required as a condition of approval of the tentative plat. Improvements to adjacent streets shall be required where traffic on said streets shall be directly affected by the proposed subdivision. Notwithstanding these provisions, off-site improvements to streets not within or adjacent to the development may be required when impacts resulting from the development necessitate such improvements as demonstrated through a transportation impact analysis.

FINDING: NW Upas Avenue is an existing street adjacent to the proposed development and is of inadequate width and not built to City standards currently. Furthermore, the City's TSP has identified that NW Upas will cross US Highway 97 via an overpass in the future. Shown on the applicant's plans and as outlined in Condition #11, right-of-way dedication will be required to bring NW Upas to City standards and additional right-of-way will be needed in the future for the overcrossing.

3. Minimum Right-of-Way and Roadway Width. The street right-of-way and roadway surfacing widths shall be in conformance with the standards as specified in Table 1 below:

Table 1 - City of Redmond Right of Way and Roadway Design and Cross-Section Standards

Functional Class	Width (ft)		Right-of-Way	Travel Lanes	Sidewalks	Bike Lanes**	Parking**
	Pavement Standard	Pavement (minimum)					
Residential Alley	16 ft		20 ft	n/a	none	shared	none
Commercial Alley	20 ft		20 ft	n/a	none	shared	none
Local Residential*****	36 ft		60 ft	2***	5 ft	shared	both sides (unstriped)
	28 ft*		60 ft	2***	5 ft	shared	one side (unstriped)
	24 ft*		60 ft	2***	5 ft	shared	none
	40 ft	38 ft	60 ft	2***	5 ft	shared	optional (unstriped)
Local Industrial	40 ft	38 ft	80 ft	2	5 ft	6 ft	none
Industrial Collector	40 ft	36 ft****	60 ft	2	5 ft	shared	both sides (8 ft)
Minor Collector	40 ft	36 ft****	80 ft	2	5 ft	6 ft	none
Major Collector	36-50 ft	36 ft****	100 ft	3	7 ft	6 ft	none
Minor Arterial (3-lane)	50 ft	48 ft	100 ft	5	7 ft	6 ft	none
Minor Arterial (5-lane)	74 ft	72 ft	100 ft				

Notes:

*May be constructed only in conjunction with the creation of covenants, conditions and restrictions (CCR's) and the establishment of a homeowners association (HOA) for the development. The CCR's shall provide that the primary responsibility for parking enforcement shall be the HOA, with the City of Redmond also being acknowledged in the CCR's as a beneficiary for such parking enforcement as a violation of the land use decision and/or city code.

**In certain cases, bike lanes may be reduced to 5 ft, parking may be reduced to 7 ft, and travel lanes to 11 ft at the discretion of the City Engineer.

***Unstriped travel lanes

****36 ft in existing built-out areas

*****All streets less than 28 feet wide shall be no longer than 300 feet in length, unless such streets include at least one (1) parking bay per lot, located along each lot frontage for the entire length of such street, up to the maximum block length. Streets 300 feet or less in length shall not have any direct driveway access. In no case shall any street less than 28 feet wide intersect with any other street less than 28 feet wide.

FINDING: All proposed streets and right-of-way widths have been reviewed by the City Engineering Department and are found to be in conformance with the standards in Table 1 above. Requirements are detailed in Condition #11.

4. Future Extension of Streets. When necessary to give access to or permit a satisfactory future division of adjoining land, streets shall be extended to the boundary of the subdivision or partition and the resulting dead-end streets may be approved without a permanent turn around if they are 150 feet or less in length, although, an adequate temporary turn around to ensure emergency vehicle access must be provided if such streets are greater than 150 feet in length.

FINDING: The proposed development will provide stubbed streets to the adjoining properties to the north and proposed NW Walnut and Varnish Avenues will connect to Cinder Butte subdivision to the west as shown on the project plans. Doing so will facilitate interconnectivity between neighborhoods upon development of the adjoining parcels. The proposed NW 7th Street will terminate with a cul-de-sac at the southern end. No dead end (stubbed) streets are less than 150 feet in length, therefore, no temporary turnarounds are not required.

5. Collector and Arterial Street Access. Notwithstanding the provisions of Section 8.2705 of this Chapter, if a land division abuts or contains an existing or proposed collector or arterial street, the Community Development Director or Hearings Body may require other treatments, including but not limited to frontage roads, necessary for adequate protection of residential properties and to afford separation of through and local traffic. Provision may be made for emergency access. All frontage roads shall comply with the City of Redmond Transportation System Plan.

FINDING: NW Upas Avenue, a collector street, abuts the proposed subdivision and will be improved to City standards in the future. However, no treatments are required as the proposed abutting lots will be taking direct access off NW 8th Street, NW 7th Street, and private alleys.

6. Streets Adjacent to Railroads, Freeways and Parkways. When the area to be subdivided or partitioned is residentially zoned and abuts a railroad, freeway, or parkway, a provision may be required for a street approximately parallel to and on each side of such right-of-way at a distance suitable for use of the land between the street and railroad, freeway or parkway. In the case of a railroad, there shall be a land strip of not less than 25 feet in width adjacent and along the railroad right-of-way for screen planting between the railroad right-of-way and residential property. If the intervening property between such parallel streets and a freeway or a parkway is less than 80 feet in width, such intervening property shall be dedicated to park or thoroughfare use. The intersections of such parallel streets, where they intersect with streets that cross a railroad, shall be determined with due consideration as cross streets of a minimum distance required for approach grades to a future grade separation and right-of-way widths of the cross street.

FINDING: The subject property abuts US Highway 97; however, no additional provision is needed for this proposed subdivision.

7. Continuation of Streets. Subdivision or partition streets which constitute the continuation of streets in contiguous territory shall be aligned so that their center lines coincide. Where straight line continuations are not possible, such center lines shall be continued as curves. These streets or the continuation of streets in contiguous territory may be required by the Community Development Director or Hearings Body where such continuation is necessary to maintain the function of the street or desirable in the surrounding area. Where solar orientation would not be possible if the street area continued, a new pattern may be started that is solar oriented.

FINDING: Refer to Section 8.2710(2) finding above.

8. Lot Layout. Local residential streets should be oriented on an east-west axis to the greatest possible extent to insure solar access for lots within the subdivision or partition.

FINDING: The proposed internal local residential streets are oriented on an east-west axis to the greatest extent practical.

9. Street Names. Except for extensions of existing streets, no street name shall be used which will duplicate or be confused with the name of an existing street in a nearby city or in the county. Street names and numbers shall conform to the established pattern in the City, including the continuation of street names across intersecting streets, and shall be subject to the approval of the Fire Department or the responsible agency.

FINDING: Street names will be reviewed and approved by the City of Redmond and/or Redmond Fire and Rescue prior to approval of the final plat.

10. Sidewalks. Sidewalks are required to be installed on both sides of a public street and in any special pedestrian way within the subdivision or partition except that in the case of collectors, arterials, special industrial districts or in steep terrain, the Hearings Body may approve a subdivision or partition without sidewalk if alternative pedestrian routes are available or provided by the developer. Sidewalks shall be required along routes to existing or future school and park sites.

FINDING: The proposed development will include sidewalks on both sides of all public streets as shown on the submitted project plans.

11. Bicycle Routes. If appropriate to the extension of a system of bicycle routes, existing or planned pursuant to the City of Redmond Bicycle Refinement Plan, the Community Development Director or the Hearings Body may require the installation of separate bicycle lanes within streets and/or separate bicycle paths.

FINDING: No bicycle routes are being proposed as part of this subdivision as none are planned pursuant to the City of Redmond Bicycle Refinement Plan.

12. Intersection Angles. Street intersections shall be as near right angles as possible except where topography or existing conditions requires a lesser angle, but in no case shall the acute angle be less than as permitted by the adopted City of Redmond Public Works Standards and Specifications.

FINDING: As proposed and shown on the submitted plans, all street intersections are as near right angles as possible. This standard is met.

13. Alignment. Staggered street alignment shall whenever possible leave a minimum of 200 feet distance between the center line of the streets, but in no case be less than as permitted by Standards and Specifications.

FINDING: The proposed development does not include staggered street alignments.

14. Narrow Streets. Local residential grid streets designed at widths less than 36 feet as described in Section 8.2710(3)(Table 1), shall be permitted when the subdivision design is found to be in compliance with the following:
- A. Narrow streets may only be permitted for continuous full length blocks internal to a Subdivision or Planned Unit Development with street connections at both ends.
 - B. Lots adjoining the narrow streets shall be a minimum of 5000 square feet and have a street minimum 50 feet of frontage.
 - C. Sidewalks shall be separated from the curb by a landscape strip with street trees conforming with Public Works Standards and Specifications.
 - D. Curb cuts along the narrow street shall not be less than the minimum width required within the adopted City of Redmond Public Works Standards and Specifications.

FINDING: The proposed development will include local residential streets with widths greater than 36 feet, as shown on the submitted plans. As such, the proposed streets are not considered narrow streets. This standard is not applicable.

8.2715 Fundamental Design Elements.

1. Lighting. The subdivider or partitioner shall provide underground wiring to the City standards and a base for any proposed ornamental streetlights at locations approved by the affected utility company.

FINDING: As stated by the applicant, underground wiring will be provided per City standards and a base for any agreed upon ornamental streetlights within the proposed project as agreed upon.

2. Multiple Access Points. Whenever possible, a minimum of two points of access to the subdivision or partition shall be provided to provide assured access for emergency vehicles and ease resident evacuation.

FINDING: The proposed development will include a minimum of two points of access.

3. Water/Sewer. All subdivisions and partitions shall provide water and sewer lines constructed to City standards and specifications approved by the City Engineer. All lots or parcels shall be served from the City of Redmond water and sewer systems or by water and sewer systems acceptable to the City. Water and sewer mains and service lines shall be installed prior to the curbing and paving of new streets in all new subdivisions or partitions.

FINDING: The proposed development will require the extension of water and sewer lines, which are being proposed. Refer to Conditions #12 and #13 for complete information.

4. Underground Utilities. All permanent utility service and minor power transmission lines that are within or immediately adjacent to lots in a subdivision or parcels in a partition shall be provided from underground facilities unless otherwise approved by the CDD Director or Hearings Body. The subdivider or partitioner or developer shall be responsible for complying with requirements of this section and shall:
 - A. Obtain a permit from Public Works for placement for all underground utilities within the public right-of-way.
 - B. Make all necessary arrangements with the utility companies and other persons or corporations affected by the installation of such underground utilities and facilities in accordance with rules and regulations of the Public Utility Commission of the State of Oregon.
 - C. All underground utilities, water lines, sanitary sewer lines and storm drains installed in streets shall be constructed prior to the surfacing of such streets to the extent practicable, and water and sanitary sewer service lines shall be placed to such lengths as will negate the necessity for disturbing the street improvements when service connections are made.

FINDING: The developer will provide underground new utilities and new minor power transmission lines in compliance with this standard.

5. Preservation of Natural Features. Existing trees, vegetation and natural features (i.e. rock outcrops) add character to the development and shall be preserved to the greatest extent practicable. All trees over 8 inches d.b.h. shall be noted and shown on the tentative plat.

FINDING: Staff concurs with the applicant's finding that there are no significant natural features inherent to the site. The applicant has stated the existing trees located on site are in declining health and are proposed for removal. Finally, all trees greater than 8 inches d.b.h are shown on pages MP2.1 and MP2.2 of the project plans.

6. Scenic Views. Significant views shall be taken into consideration during subdivision design. The establishment of view corridors, building envelopes, building height restrictions or similar methods shall be employed for the retention and protection of views from individual lots and from public spaces to the greatest degree practicable as determined through the land use review process. Such measures shall be shown on the final plat and included in the deed restrictions.

FINDING: This standard was addressed in Section 8.0760(3) above.

7. Land for Public Purposes.
 - A. If the City has an interest in acquiring a portion of a proposed development for a public purpose, it shall notify the property owner as soon as the City Council authorizes the transaction to proceed.
 - B. Within a development, or adjacent to a development in contiguous property owned by the developer, a parcel of land of not more than 5% of the gross area of the development may be required to be set aside and dedicated to the public for parks and recreation purposes by the developer. The parcel of land, if required, shall be determined to be suitable for the park and/or recreation purpose(s) intended, and the city may require the development of the land for the park or recreation use intended or identified as a need within the community.
 - C. In the event no such area is available that is found to be suitable for parks and/or recreation uses, the developer may be required, in lieu of setting aside land to pay to the appropriate parks and recreation agency a sum of money equal to the market value of the area required for dedication, plus the additional funds necessary for the development thereof if so required; if such is required, the money may only be utilized for capital improvements by the appropriate parks and recreation agency.
 - D. The foregoing land and development or money dedication (if require) may be provided for in lieu of an equal value of systems development charge assessment for parks if so approved by the collecting agency in accordance with the applicable provisions of the system development charge ordinance. If the collecting agency will not permit the land or money dedication in lieu of an applicable systems development charge, then the land and development or money dedication shall not be required.
 - E. If the nature and design, or approval, of a development is such that over 30% of the tract of land to be developed is dedicated to public uses such as streets, water or sewer system facilities and the like, then the requirements of this subsection shall be reduced so that the total obligation of the developer to the public does not exceed 30%.

FINDING: Consistent with the HAP, Central Christian Master Plan, and annexation agreement, the applicant is proposing a park in the center part of the development, to be 1.86 acres in size (about 5% of the development's gross area). This park will be constructed and dedicated to the City.

8. Easements.
 - A. Utility Easements. Easements shall be provided along property lines when necessary for the placement of underground utilities and to provide the subdivision or partition with electric power, communication facilities, street lighting, sewer lines, water lines, gas lines, or drainage. Such easements shall be labeled "Public Utility Easement" on the tentative and final plat; they shall be at least 12 feet in width and centered on lot lines where possible, unless determined otherwise by the City Engineer or designate. Excepting utility pole guylines easements along the rear of lots adjacent to unsubdivided land may be reduced to 10 feet in width, unless determined otherwise by the City Engineer or designate.

FINDING: As shown on the project plans, public utility easements (PUE) are proposed along all street rights-of-way, that meet City Engineering's requirement of PUEs at least five feet in width.

- B. Drainage. If a tract is traversed by a water course, such as a drainage way, channel or stream, there shall be provided a stormwater easement or drainage right-of-way conforming substantially with the lines of the water course or in such further width as will be adequate for the purpose. Streets or parkways parallel to major water courses and drainage ways may be required.

FINDING: The Central Oregon Irrigation District (COID) has an F-1 lateral that has a 20-foot easement and is located along the northern property boundary. Although the ditch appears to be located on the adjacent property, there are cases when an easement and ditch may overlap a property line. The applicant shall depict the easement on all maps if there is an overlap onto the property.

8.2720 Grading of Building Sites. Grading of building sites shall conform to the following standards unless physical conditions demonstrate the propriety of other standards:

1. Slopes shall be less than or equal to 3 to 1 (horizontal to vertical) unless slope reinforcement and low maintenance surfaces are provided. Cut slopes as steep as 1 to 1 are permitted in native rock material if that material is suitable to stand at the slope without raveling. Toe of full slopes steeper than 3 to 1 and top of cut slope shall be no closer than 2 feet from the property line.
2. Structural engineering must be provided for retaining walls higher than four feet from the base of the footing to the top of the retaining portion of the wall and for retaining walls of any height that support a surcharge such as a structure, roadway or slope greater than 4 to 1.
3. Stormwater must be controlled in accordance with the City of Redmond Public Works Standards and Specifications to avoid erosion and impacts to adjacent property.
4. Cuts and fills greater than 5 feet from original ground to final grade should be avoided.
5. Foundations should be stepped or other measures used to minimize cuts and fills. Slopes steeper than 3:1 shall be landscaped, terraced, or receive other treatment to reduce the visual impact and minimize the need for maintenance.
6. Areas that require engineered fill to support structures, roadways or for other reasons shall be noted in the grading plan. Design and placement of engineered fill shall be under the direction of a licensed professional engineer. Fill material shall be tested and approved by the engineer prior to placement and tested with suitable methods after compaction. Fill in areas that do not support a structure shall be suitable with a minimum of voids and organic material.
7. The composition of soil for fill and the characteristics of lots and parcels made useable by fill shall be suitable for the purpose intended.
8. When filling or grading is contemplated by the subdivider or partitioner, they shall submit plans showing existing and finished grades for the approval of the City Engineer. In reviewing these plans, the City Engineer shall consider the need for drainage and effect of filling an adjacent property.
9. Grading shall be finished in such a manner as not to create steep banks or unsightly areas to adjacent property.
10. Any land that requires engineered fill shall be so noted on the plat. Design and placement of engineered fill shall be under the direction of a licensed professional engineer.

FINDING: The applicant will submit a final grading and drainage plan to the City Engineering Department for review and approval as part of the civil plan review process.

ARTICLE III – LAND DIVISION STANDARDS > SUPPLEMENTARY PROVISIONS
RDC Sections 8.2815 – 8.2830

8.2815 Transportation Impact Analysis. It shall be the burden of the developer to evaluate transportation system impacts through studies prepared by a qualified registered professional engineer. When a transportation impact analysis is required it must demonstrate that the following standards are met:

1. The standard of measurement that will determine the acceptability of traffic flow on City streets will be a delay-based level of service as defined by the Highway Capacity Manual, Special Report 209, third Edition (2000 update or subsequent document updates) published by the Transportation Research Board. The determination of LOS shall be calculated by a methodology that is approved by the City Engineer. The acceptable standard of LOS for City streets shall be LOS E during the peak 15 minutes of the peak hours of the average weekday. A lesser standard shall be acceptable at unsignalized intersections with low volume minor street approaches if the volume-to-capacity ratio is less than 0.90 and the 95th percentile vehicle queue is less than four vehicles during the peak hour.
2. The Average Daily Traffic (ADT) volume of Local Street roadways within the City of Redmond shall be less than 1,200 vehicles per day (VPD). Developments which add vehicle trips to Local Streets with an ADT greater than 1,200 VPD may be asked to provide mitigation in the form of additional access to the site, when in the opinion of the City Engineer, the residential livability is degraded by excessive local street traffic volume.
3. New development that will cause degradation below those levels shall be required to provide mitigating transportation system improvements that will restore the LOS to the accepted standard, as is practical, as determined by the City Engineer and pursuant to the adopted City of Redmond Transportation System Plan. Where there are impacts to the State Highways, the City and ODOT shall work cooperatively to determine appropriate courses of action based on ODOT and City standards.
4. The following vehicle trip generation thresholds shall determine the level and scope of transportation analysis required for a new or expanded development. Trip ends shall be calculated as per the Institute of Transportation Engineers manual, Trip Generation, 8th edition (or subsequent document updates), or local trip generation studies prepared by a qualified registered professional engineer and approved by the City Engineer. The City Engineer shall determine when a TIA has satisfied the requirements of the development's impact analysis. The TIA shall bear the stamp and signature of a qualified registered professional Engineer with a license valid in the State of Oregon.
 - A. If a proposed development will generate 200 or more daily trip ends, or 20 or more p.m. peak hour trip ends, then a Transportation Impact Analysis (TIA) shall be required.
 - B. Projects that generate less than 200 daily or 20 p.m. peak hour trip ends may also be required to provide a Transportation Impact Analysis (TIA) when, in the opinion of the City Engineer or his/her designee, significant capacity and/or safety problem is caused, or adversely impacted by the development. The City Engineer or designee, shall determine the scope of this analysis.
 - C. A development may be required to provide a Trip Generation Report for developments which generate less than 200 daily or 20 p.m. peak hour vehicle trips.
5. The impact analysis area shall include at a minimum, the following intersections:
 - A. All site access intersections
 - B. Nearest intersecting collector or arterial street upstream and downstream of the development.
 - C. Any other collector or arterial street intersection that would experience an increase of 25 additional peak hour trips.
 - D. Additional intersections requested by staff in the basis of anticipated impacts resulting from the development.
6. The analysis shall include the following study time frames:
 - A. Existing conditions.

- B. Completion year of each significant phase of development.
- C. Five year forecast beyond final phase
- 7. The following Tables are required in the TIA:
 - A. Trip Generation (including phase breakdown if applicable)
 - B. LOS Table (LOS for every analysis scenario at every study area intersection. Report LOS, delay, V/C ratio, 95% vehicle queue, and any additional pertinent analysis results)
- 8. The following Figures are required in the TIA:
 - A. Vicinity Map
 - B. Site or Tentative Plan Map
 - C. Background Traffic Volumes (all study intersections, all analysis years)
 - D. Trip Distribution and Assignment
 - E. Background + Site Generated Traffic Volumes (all study intersections, all analysis years)
- 9. Other Analysis Standards (as required by the study)
 - A. Signal Warrants shall be performed where applicable per the Manual on Uniform Traffic Control Devices, current edition.
 - B. Left Turn Lane Warrants shall be provided where applicable per ODOT criteria based on the Texas Transportation Institute (TTI) curves.
 - C. Right Turn Lane Warrants shall be provided where applicable per ODOT criteria.
 - D. The acceptability of sight distance at all study area intersections shall be determined per AASHTO (current edition) standards.
 - E. Traffic signal progression analysis may be required if a new signal is proposed. The City Engineer shall approve the method of traffic signal progression analysis.
 - F. Roadway improvements are to be based on the City of Redmond Standards and Specifications and ODOT design standards.

FINDING: The applicant submitted a Traffic Impact Analysis (TIA) conducted by Ferguson & Associates, Inc., dated July 2021 (updated March 2022). The TIA has been reviewed by City Engineering and ODOT and will require revisions, additional review, and potential additional measures as outlined in Condition #11.

8.2820 Access Management Standards. All land divisions shall be in compliance with the following standards.

1. Driveway spacing and corner clearance as follows:

<u>Roadway Classification</u>	<u>Minimum Access Driveway Spacing</u>	<u>Minimum Access Clearance to Corner</u>	<u>Intersection Spacing (Min.)</u>
Local Street	No restrictions	30 feet	165 feet
Minor Collector	50 feet	80 feet	330 feet
Major Collector	165 feet	165 feet	330 feet
Minor Arterial	330 feet	330 feet	¼ mile
Major Arterial	ODOT Stds	ODOT Stds	ODOT Stds

2. In all instances, access near an intersection shall be located beyond the influence of standing queues and opposing left turns sharing a continuous two-way left turn lane. This requirement may result in greater corner clearance or access spacing than the minimum distance indicated.
3. Every lot or parcel shall be permitted an access. In the event that the access management standards cannot be achieved, shared access with adjacent property shall be explored and provided where available.
4. Access shall be taken from the lower order street or alley unless otherwise approved by Public Works and/or ODOT through the land use process.

5. Unless adequate demonstration of site necessity, intersection safety and functionality is provided, through the land use review process, new lots and/or parcels will be limited to a single vehicular access.
6. The access management standards apply to new development, redevelopment, subdivision and partitioning of land.
7. Corner clearance is measured from the edge of right-of-way to the nearest edge of access. Spacing is measured from centerline of access/intersection to centerline of access/intersection.
8. Adequate intersection sight distance and clear zone shall be maintained at all access/driveway locations per AASHTO standards (American Association of State Highway and Transportation Officials).
9. Public Works may require supporting information, including but not limited to traffic count data, trip generation, trip distribution, Transportation Impact Analysis study, etc., in order to make a proper determination of access/driveway location.
10. Access within the North Redmond US 97 Interchange Area Management Plan (IAMP) shall also conform to the "North Redmond US 97 Interchange Area Management Plan (IAMP)" provision of Chapter 9 Transportation Element of the Comprehensive Plan Addendum and Policy 12 n of Chapter 14 of the Comprehensive Plan.

FINDING: Driveway locations will be determined at time of building permit submittal. All proposed lots will have direct access to local streets. Staff has reviewed Access Management Standards and have found that the proposed development complies with all applicable standards.

8.2825 Street Dedications. Any person desiring to create a street not part of a subdivision or partition shall make written application to the Community Development Department.

1. Application. Said application shall be accompanied by the required information and appropriate filing fee. In cases where such dedication would have the effect of creating a land division, the dedication shall be treated as a new subdivision or partition as applicable.
2. Minimum Design Standards. The minimum standards of design and improvements for the dedication of a street shall be in compliance with the City of Redmond Public Works Standards and Specifications and all other applicable street standards and regulations as specified in Section 8.2710.
3. Procedure.
 - A. Upon receipt of written application and appropriate filing fee for street dedication, the Community Development Director shall refer the proposal to the City Engineer or designee for review and recommendation.
 - B. The City Engineer shall report his findings and recommendations regarding the proposed dedication to the Community Development Director
 - C. Upon receipt by the Community Development Director of written findings and recommendations from the City Engineer, the proposal shall be submitted to the City Council for a public hearing, unless part of a proposed project undergoing Planning Commission review.
 - D. The only notice required for a hearing under this section shall be by publication.
 - E. Following the hearing, the Council may accept or reject the proposed dedication.

FINDING: All proposed streets will be public and dedicated with the subdivision, with exception of the alleys providing direct access to townhome lots. These alleys will be privately owned and maintained.

Conclusion:

Based upon the submitted plans, materials, and the proposed findings and conditions of approval included herein, staff believes that all requirements can be fulfilled to support the Zoning Map

Amendment, Modification of Approval to the HAP and Central Christian Master Plan, and Tentative Subdivision of the subject property consistent with all applicable City policies, rules, and regulations.

III. RECOMMENDATION & CONDITIONS OF APPROVAL

Recommendation:

The Redmond Urban Area Planning Commission held a public hearing on April 4th and voted unanimously in support of staff's recommendation. Based on the submitted plans, staff findings and conclusions, staff and the Planning Commission recommend that City Council approve the 121 West project (City Files 711-21-000260-SUB, 711-21-000261-MC, 711-21-000328-ZMA), subject to the conditions of approval below.

Conditions of Approval:

The following conditions of approval shall be required:

1. Any substantial alteration to the approved plans, except as modified by the following conditions of approval, shall be subject to the standards and procedures in Section 8.1400 (*Modifications of Approval*) of the Redmond Development Code.
2. All land disturbed during construction shall be revegetated/landscaped immediately after construction is complete and dust created during construction shall be properly mitigated at all times, so as to not create significant impacts upon the neighboring properties.
3. Proposed Tract K (OSPR-zoned pocket park and green strip adjacent to US Highway 97) shall be revised to increase its width and include a vegetated berm throughout its entire length. The inclusion of a vegetated berm reflects the vision of the Highway Area Plan (HAP) and it will buffer adjacent uses (and those recreating in the Tract K pocket park) from traffic noise and improve the visual experience for drivers in this section of the Highway 97 corridor. Tract K revisions must be reviewed and approved by staff.
4. The applicant shall supply a phasing timetable projection as well as a street tree plan for review and approval as required in Section 8.2220 of the Redmond Development Code.
5. The applicant shall contact the Central Oregon Irrigation District (COID) to discuss the proposed subdivision as proposed lots 25, 32, 33, and 39 overlap within COID's F-1 lateral easement. This easement shall allow for unobstructed and convenient access for COID operations and maintenance.
6. Tracts B, C, E, and K are proposed pocket parks. The applicant shall submit for review and approval a landscaping and amenities plan for each of these four privately-maintained pocket parks.
7. Consistent with the subject property's annexation agreement, the proposed 1.86-acre park (Tract A) shall be constructed by the applicant and dedicated to the City. Dedication shall occur no later than the final plat for the residential development. The park must, at a minimum, include play area(s) for ages 2-12, restrooms, irrigated turf, sheltered picnic area, storm drainage improvements, underground sewer, water, and power stub outs, trash cans and benches constructed to City standards. The park design shall be approved by the City prior to construction.

8. The applicant shall submit for review draft CC&Rs that include provisions for the long-term maintenance of private alleys. The final plat shall grant access easements across private alleys.
9. Proposed townhome Lots 120 and 121 are adjacent to NW Upas Avenue, a collector street, and are oriented in a manner that will not allow for the building's front elevation to face NW Upas Avenue as required in Section 8.2705(6) of the Redmond Development Code. These lots shall be revised to meet this standard.
10. Proposed special building setbacks for the future NW Upas Avenue overpass right-of-way imposed on proposed Lots 122-127 and 134 shall be shown on the final plat.
11. Transportation: All public streets shall be designed, constructed and dedicated to current City of Redmond Standards & Specifications and Transportation System Plan (TSP) standards and extended to the limits of each project phase unless otherwise specified or approved. Five (5) ft. minimum width public utility easement (PUE) shall be dedicated along all street right-of-way per COR Standard Drawing 2-1. Street signage, lane striping, street lights and postal box installation shall be required. All street names shall be approved by Redmond Fire and Rescue and/or Deschutes County. The proposed revised master plan and public street system complies with City grid street and TSP standards subject to the following: *[COR Code 8.0300(3)(C)(10)] [COR Code 8.2240(1 & 4) 8.2320(2)(A) & 8.2710(1, 2, 3 & 10)] [CORPWSS Development Provisions 03]*
 - A) **North Highway 97 (US97)** - major arterial street (state highway). A paved highway with curb/gutter and ninety (90) ft. right-of-way exists, no sidewalks, along property frontage. Highway frontage/sidewalk improvement and dedication requirements deferred to ODOT. An ODOT permit may be required for any work or construction in state highway right-of-way.
 - B) **NW Upas Ave.** - major collector street. A paved street and eighty (80) ft. right-of-way exist 80 ft. ± west of subject property. Unimproved ten (10) ft. right-of-way exists just west of subject property and along the west 140 ft. ± of property frontage. Street and right-of-way centerline shall match existing. Ten (10) ft. minimum right-of-way dedication to 40 ft. width each side of centerline (where available) shall be required along property frontage. Street frontage improvements conforming to City major collector street standards shall be required as follows:
 - 1) West of 8th St. - partial major collector street improvements per COR Standard Drawing 2-1 and 2-3 with new pavement, curb and sidewalk on the north side, storm drainage and forty-five (45) ft. right-of-way dedication. At the discretion of the City Engineer, a cash contribution may be provided for the north half at local street standards in lieu of construction due to lack of available public right-of-way.
 - 2) East of 8th St. - at the discretion of the City Engineer, a cash contribution shall be provided for the north half at local street standards in lieu of construction due to the City's planned Upas Ave. overcrossing and bridge at US97. In the absence of a bridge and street design, the proposed setback for future right-of-way is acceptable subject to:
 - a) Projection of right-of-way line to the west shall match future southeast corner of 8th St./Upas Ave. right-of-way.
 - b) Future right-of-way shall be reserved until such time the bridge overcrossing and street design is final then dedicated. Additional public right-of-way shall be dedicated as deemed necessary with final bridge and street design.
 - c) Post dedication conformance to minimum lot size for Lots 122-127 & 134, minimum building setbacks and minimum parking requirements on Tract P.
 - C) **NW Walnut Ave.** - local grid street. Street improvements conforming to City local grid street standards shall be required per COR Standard Drawing 2-1 with new pavement, curb, sidewalk, storm drainage and sixty (60) ft. minimum right-of-way dedication. Street and right-of-way centerline shall match that of City approved Cinder Butte Subdivision to the west.
 - D) **NW Varnish Ave.** - local grid street. Varnish Ave. is currently under construction to the west of subject property per neighboring Cinder Butte Subdivision Phase 2. Street improvements

conforming to City local grid street standards shall be required per COR Standard Drawing 2-1 with new pavement, curb, sidewalk, storm drainage and sixty (60) ft. minimum right-of-way dedication. Street and right-of-way centerline shall match that of City approved Cinder Butte Subdivision to the west.

E) **NW 7th St. & 8th St.** - local grid/cul-de-sac streets. Street improvements conforming to City local/cul-de-sac street standards shall be required per COR Standard Drawing 2-1 and 2-4 with new pavement, curb, sidewalk, storm drainage, sixty (60) ft. right-of-way dedication and fifty (50) ft. cul-de-sac radius right-of-way dedication.

F) **Proposed Public Streets (Unnamed)** - local streets. Street improvements conforming to City local street standards shall be required per COR Standard Drawing 2-1 with new pavement, curb, sidewalk, storm drainage and sixty (60) ft. right-of-way dedication.

G) **Alleys** - proposed alleys shall be privately owned and maintained. Improvements conforming to City alley standards with twenty (20) ft. wide pavement are recommended. Approved alley connections to public streets shall be constructed to City driveway standards.

H) Street Storm Drainage:

1) Stormwater drainage systems in the public right-of-way shall be subject to current City design standards. *[COR Code 8.2825(2)] [CORPWSS Design Standards II(B)]*

2) New drywells shall comply with City/DEQ pretreatment and City testing requirements. Drywell drain rock shall not extend under any street pavement section. *[COR Code 8.2825(2)] [CORPWSS Design Standards II(B)]*

3) The location of drywells or other UIC's within City streets shall not conflict with existing active private water wells, community water wells or existing/future municipal drinking water wells. Identify all existing water wells that are within 500 ft. or the two-year time of travel zone of subject properties. *[COR Code 8.2825(2)] [CORPWSS Design Standards II(B)]*

I) Street Trees:

1) No street trees within 50 ft. of a street intersection per COR Standard Drawing 2-27.

2) No trees within 10 ft. of domestic water service, fire service or public storm facilities.

3) Trees shall not conflict with street or stop sign/control device and pedestrian crossing/ADA ramp line of sight.

4) No trees within driveway clear vision areas or blocking public street lighting.

5) Street tree species shall be selected from Redmond Parks Division approved tree list.

J) Lot Access:

1) Vehicular access to each new lot shall conform to City access management, corner clearance, clear vision and driveway construction standards. *[COR Code 3.300, 8.0305 & 8.2820]*

2) Direct vehicular access to US97, a major arterial street (state highway), and NW Upas Ave., a major collector street, shall not be permitted from any lot or alley except for emergency access connections with locked fire gate approved by ODOT and the City. Please note that all future vehicular and/or emergency access to Upas Ave. between 8th St. and US97 may be restricted due to the planned highway overcrossing bridge and embankment. *[COR Code 8.2820(4)]*

3) Corner lots and double fronting lots shall take vehicular access from the lower order street, alley or access easement. *[COR Code 8.2820(4)]*

4) Postal box installation shall be subject to US Postal Service standards and City Engineer approval. *[CORPWSS Design Standards II(A)(16)]*

K) Traffic Impacts: The "121 West Transportation Impact Analysis" (TIA) submitted by Ferguson & Associates Inc. dated 7-21-21 (updated March 2022) has been reviewed for master plan and subdivision approval per COR Code 8.0300(3)(C)(10) and 8.2815 and the following shall be required:

1) ODOT and Deschutes County shall review and approve. *[COR Code 8.2815(3)]*

2) Approved Area Development - Page 10; add Canyon Ridge Subdivision Ph1-6, 711-18-000032-SUB and Juniper Canyon Apartment Complex 711-21-000265-PLNG-SP.

3) Trip Generation - Page 18 and 19; revise per current ITE Trip Generation Manual 11th Edition.

4) NW Pershall Way/US97 (O'Neil Junction); near-term solutions and/or contribution shall be provided to mitigate impact on existing conditions compounded by proposed development subject to ODOT review/approval. *[COR Code 8.2815(3)]*

5) No other mitigation will be required beyond Transportation SDC's.

12. Water: A twelve (12) inch City water main exists in Upas Ave. 80 ft. ± west of subject property. An eight (8) inch City water main exists in Varnish Ave. west of subject property. A twelve (12) inch City water main is currently under construction in Walnut Ave. west of subject property per Cinder Butte Subdivision Phase 4.

A) Subject property is located within City water pressure zone PZ2 per draft City Water System Plan (WSP) update to be served by the future twelve (12) inch water main line identified in Walnut and Upas Ave. east of 10th St. and in 8th St between Walnut and Upas Avenue. Public water mains identified in the WSP update may be eligible for City Water SDC credits equal to the cost of additional construction required for conformance to WSP update standards. *[COR Code 8.0300(3)(C)(11), 8.2235(1)(D)] [CORPWSS Development Provisions 03]*

B) Connection to the City's public water system shall be required for each new lot. *[COR Code 8.2240(5) & 8.2715(3)]*

C) Proposed public water system shall be subject to City "to & through" Public Facility Requirement and draft WSP update standards for service to each new lot and adjacent property and the following: *[COR Code 8.0300(3)(C)(11) & CORPWSS Development Provisions 03]*

1) A twelve (12) inch public water main shall be extended in Walnut Ave. and 8th St. through subject properties per draft WSP update unless otherwise approved by the City Engineer.

2) A twelve (12) inch public water main shall be extended in Upas Ave. along property frontage per draft WSP update unless otherwise approved by the City Engineer. A cash contribution for one-half minimum standard water main improvement may be provided for any portion of construction restricted due to lack of available public right-of-way.

3) Design review of the public improvement construction plans for compliance to City standards.

4) Domestic and fire water systems located on-site and beyond public right-of-way shall be privately owned and maintained.

D) A separate domestic water service connection conforming to City standards shall be required for each new lot with meter located at the property/right-of-way line. A single water master meter shall be required for all multi-family lots. A City approved backflow prevention device shall be required for all multi-family and non-residential properties, water services larger than one (1) inch, fire sprinkler systems and irrigation systems. *[COR Code 4.200, 4.161, 8.2240(5) & 8.2715 (3 & 4(C))]*

E) Fire flow, fire hydrant locations and fire code requirements to be determined by Redmond Fire & Rescue (RFR).

1) A water system/fire flow analysis and mitigation plan prepared by a registered professional engineer shall be provided as required by the Redmond Fire Marshal. *[CORPWSS Development Provisions 04.2.00] [CORPWSS Design Standards II(D)(1(a) & 3(a))]*

2) Public water system improvements may be required as deemed necessary by the fire flow analysis mitigation plan to meet minimum fire code and fire flow requirements for the proposed development. *[COR Code 8.2235(1)(D)] [CORPWSS Design Standards II(D)(1(a) & 3(a))]*

F) New fire hydrants and fire/water lines located on-site shall be privately owned and maintained with City approved backflow prevention device located at the property/right-of-way line. *[COR Code 8.3035(7)(D)] [CORPWSS Design Standards II(D)(1)(d)]*

G) Abandonment of any existing water well, cistern or other private water facility located on subject properties shall be in accordance with Oregon Water Resource Department regulations. *[CORPWSS Development Provisions 04.7.00 & 22(13)]*

13. Wastewater: Ten (10) inch City gravity sewer main exists in Upas Ave. 80 ft. ± west of subject property. Eight (8) inch City gravity sewer main and an inactive/dry section of the twenty-four (24) inch Far East Sewer Interceptor (FESI) City gravity sewer trunk main per City Redmond Wastewater System Master Plan (RWSMP) exist in Varnish Ave. west of subject property current. Eight (8) inch City gravity sewer main is currently under construction in Walnut Ave. west of subject property per Cinder Butte Subdivision Phase 4.

A) Subject property is located within a sanitary gravity sewer basin to be served by the future twenty-four (24) inch City gravity sewer trunk main identified as the Far East Sewer Interceptor (FESI) per the current RWSMP. The FESI is currently located in Varnish Ave. just west of the proposed development but is inactive and incomplete until future extension southwest and connection to the City's Water Pollution Control Facility (WPCF) in the Dry Canyon. Based on the City's sewer system model, there is limited excess capacity available within existing City gravity sewer system including the ten (10) inch gravity sewer main in Upas Ave. and downstream to the WPCF. Therefore, in the absence of a complete and active FESI gravity system, the proposed connection to the existing active City gravity sewer system has been approved per Infrastructure Capacity Allocation Review memo by the City Engineer dated 4-19-21 subject to the following: *[COR Code 8.0300(3)(C)(11), 8.2235(D) & 8.2240(6)]*

- 1) Capacity allocation is limited to 115 gallons per minute (gpm).
- 2) Complete gravity sewer service.
- 3) FESI shall be constructed, dedicated and extended through subject property per RWSMP. Any part of the existing City sewer easement located on-site but not necessary for FESI location/construction shall be released and/or vacated.

B) Connection to the City's public sewer system shall be required for each new lot. *[COR Code 8.2240(5) & 8.2715(3)]*

C) Proposed public gravity sewer system shall be subject to City "to & through" Public Facility Requirement and RWSMP standards for service to each new lot and adjacent property and the following: *[COR Code 8.0300(3)(C)(11) & CORPWSS Development Provisions 03]*

- 1) A public gravity sewer main shall be extended in Upas Ave. east from existing and along Phase 6 project frontage prior to Phase 6 plat approval. A cash contribution for one-half minimum standard gravity sewer main improvement may be provided for any portion of construction restricted due to lack of available public right-of-way or easements.
- 2) Proposed sewer collection system shall be designed for both the interim connection to existing gravity sewer and future gravity connection to the FESI to the extent possible.
- 3) All public gravity sewer mains shall be designed and constructed to provide a gravity service to each new lot and neighboring properties unless otherwise approved by the City Engineer.
- 4) Sewer services shall be located to provide complete gravity service.
- 5) Sewer manholes shall be located on street centerline whenever possible, at 400 ft. max spacing and at any main line terminus. Manholes shall be added or moved accordingly to match street alignments and to avoid conflicts with public water.
- 6) Public sanitary sewer facilities located beyond public right-of-way will require dedication of City sewer and/or public utility easements that provide unobstructed City access and turnarounds. *[COR Code 8.2215(2)(E) & 3(B)), 8.2320(2)(B) & 8.2715(8)(4)]* *[CORPWSS Development Provisions 07]*
- 7) Design review of the public improvement construction plans for compliance to City standards.

D) A separate sanitary sewer service conforming to City standards shall be required for each new lot with cleanout located at the property/right-of-way or easement line. All sewer services shall be connected at right angles to the sewer mainline, and not to manholes, unless otherwise approved by the City Engineer. Sanitary sewer systems located on-site and beyond public right-of-way or easements shall be privately owned and maintained. [COR Code 8.2240(5) & 8.2715(3 & 4(C))]

E) Any existing sewage drill hole, septic tank or other private sewer facility located on subject property shall be permanently abandoned in accordance with Deschutes County and Oregon Dept. of Environmental Quality (DEQ) regulations. [COR Code 4.304(3)] [CORPWSS Development Provisions 04.7.00 & 22(13)]

14. Subdivision Grading and Drainage: A subdivision site grading and drainage plan with erosion/sediment control plan and drainage report shall be required upon development of each project phase per current City standards and the following: [COR Code 8.2720] [CORPWSS Development Provisions 23] [CORPWSS Design Standards II(B)]

A) Lot and Tract grading shall conform to current COR Development Code 8.2720 and shall not create steep banks, extreme cut/fills or areas unsightly to adjacent properties or lots.

B) All storm water runoff and drainage shall be maintained on each lot or tract and shall not drain onto public streets, neighboring properties or irrigation canals/ditches except as provided for in City standards.

C) Total contributing area to the public storm system shall include all right-of-way surface runoff and 100% of the future developed lots potential contributing areas unless otherwise approved by the City Engineer.

D) The stormwater system shall be designed to pass up-gradient flow through the site without damage to the proposed development, public stormwater facilities or neighboring properties.

E) Storm water runoff from private property shall not impact public right-of-way or easements unless otherwise approved by the Public Works Director or City Engineer.

F) New on-site private drywells and other underground injection control (UIC) systems not part of the public drainage system must be registered and approved or permitted by the Oregon Department of Environmental Quality (DEQ) prior to construction or building permit issuance. Contact DEQ UIC Program Coordinator at 503-229-5945. Send copy of UIC Registration Packet to DEQ and City of Redmond, 3100 NW 19th Street, Redmond, OR, 97756.

G) Private drywells serving paved areas may not be located within public or community wellhead protection areas or 500 ft. of existing irrigation or drinking water wells. The northeast and southern portions of this site are located within the 2-year time-of-travel of an adjacent water well and/or within 500 ft. of five adjacent water wells. Private drywell/UIC systems within the well head protection areas require issuance of a general or individual UIC permit from DEQ. Locate and identify existing water wells and wellhead protection zones that could affect the location of proposed drywells. [CORPWSS Development Provisions 23] [OAR 340-044-0018]

H) Maintenance agreement required for any on-site private storm system.

15. Construction Plans: Upon land use approval, a separate set of construction drawings may be submitted directly to the Engineering Department for design review of all required and/or proposed public improvements, utilities and subdivision site grading. [COR Code 8.2720 & 8.2800] [CORPWSS Development Provisions 04 & 23] [CORPWSS Design Standards]

//////////////////// **END OF CONDITIONS** //////////////////////

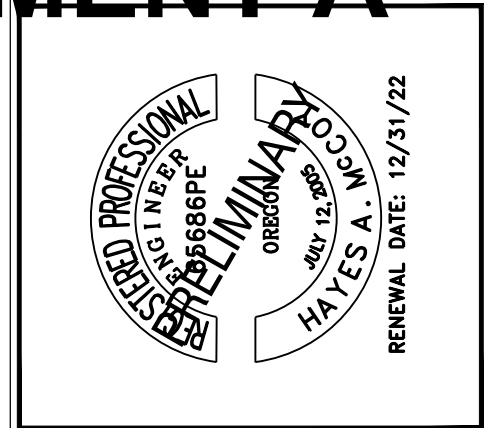
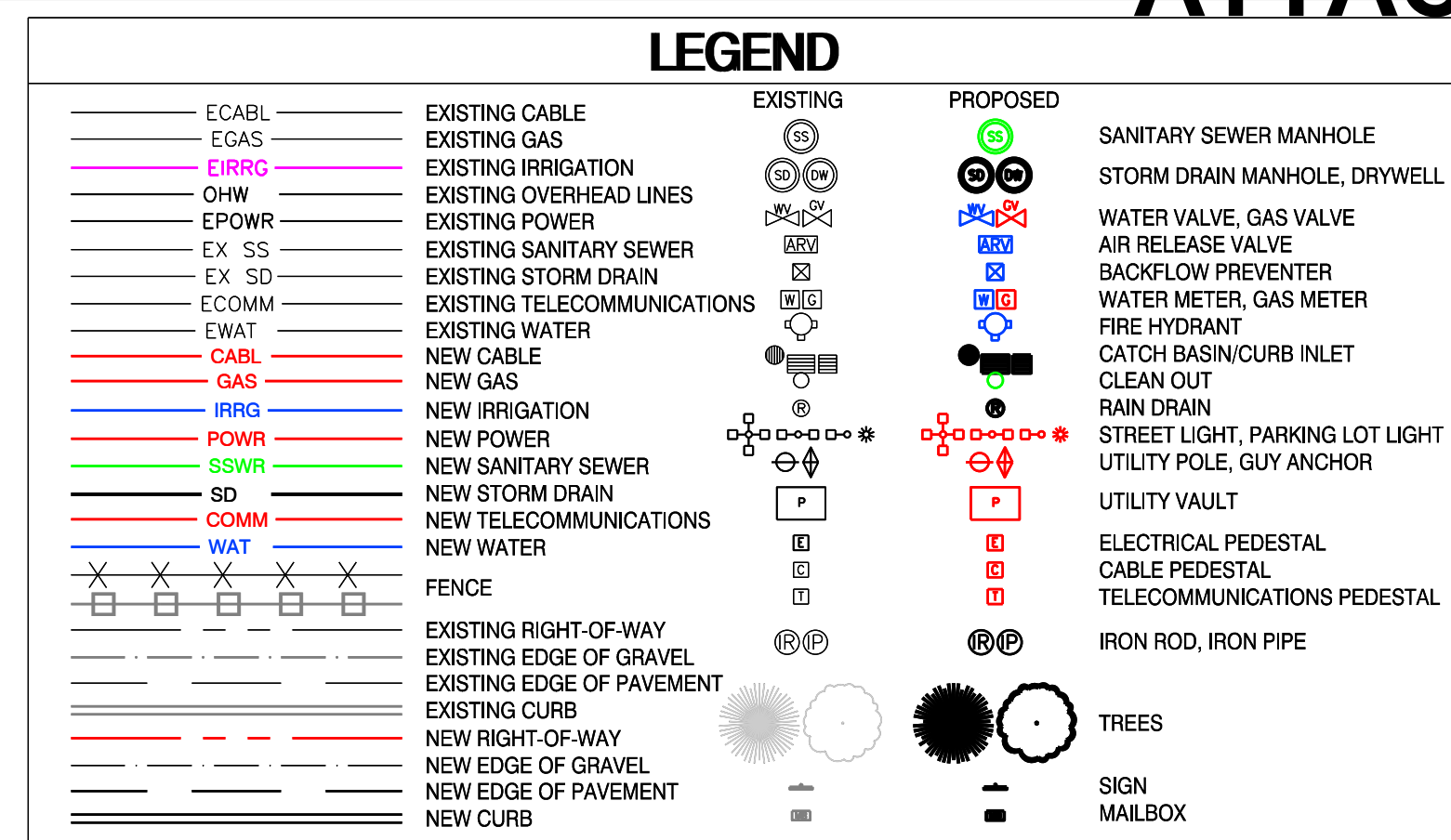
Prepared by:
Kyle Roberts, AICP
Interim Planning Director

121 WEST SUBDIVISION APPLICATION, MOD. OF MASTER PLAN, ZONE CHANGE, AND SITE PLAN

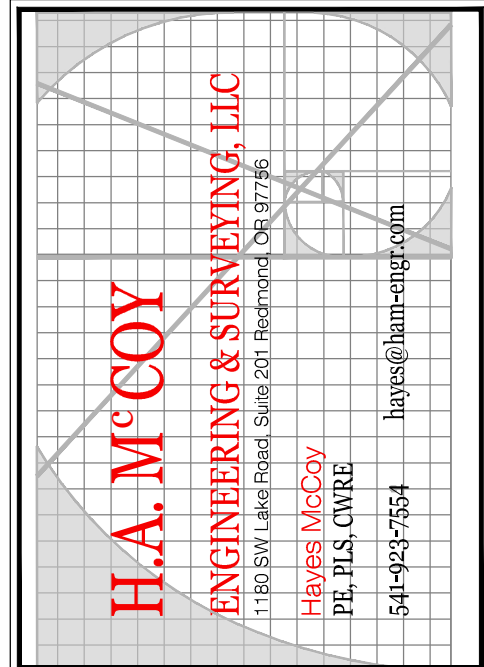
3211 N HWY 97, REDMOND, OR 97756

TAX LOT 1800/1805, MAP 141333

SEPTEMBER, 2021



DRAWING STATUS:	DATE:	No.	REVISION:
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PROJECT: 121 WEST

PROJECT LOCATION: REDMOND, OR

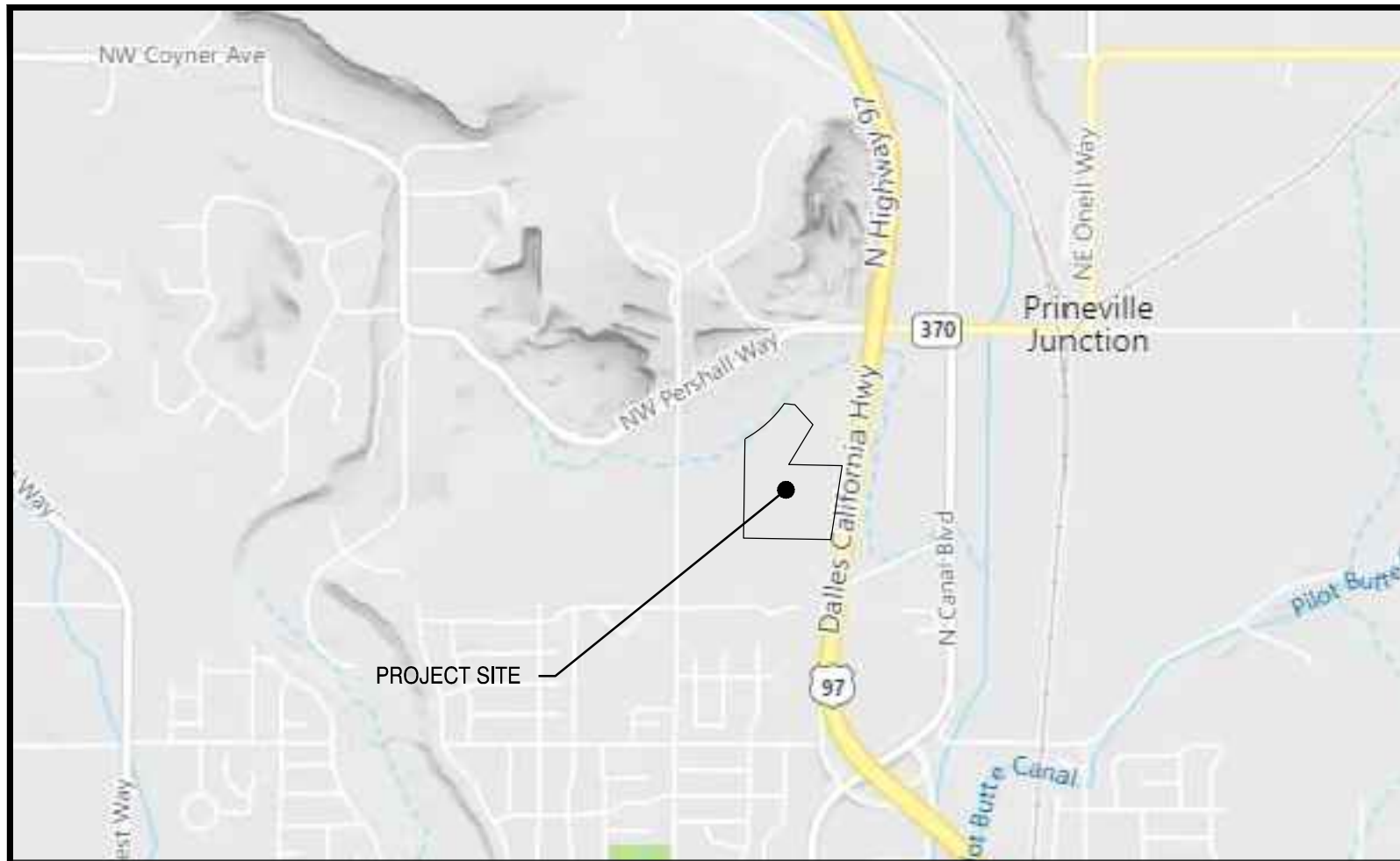
CLIENT: SGS DEVELOPMENT

SHEET TITLE: COVER SHEET

JOB NO. 20-245

DRAWN BY: JJW, EDN

DRAWING: MP1.0



VICINITY MAP

NTS

SITE INFORMATION

ADDRESS: 3211 N HWY 97, REDMOND, OR 97756

TAX ASSESSORS MAP: TAX LOT 1800/1805, MAP 141333

LEGAL DESCRIPTION: PARCEL 2&3, PARTITION PLAT 2018-29

PROPERTY SIZE: 35.05 ACRES

ZONING: R4/R5/MUN/MUE/PF/OSPR

PROPOSED ZONING: R4/R5/MUN/MUE/PF/OSPR

DENSITY SUMMARY

	UNITS/ACRE	UNITS	NET AREA
R4:	7.0	56	8.0 ACRES
R5:	11.5	91	7.9 ACRES
MUN:	6.7	10	1.5 ACRES
MUE:	15.6	120	7.7 ACRES

PROPOSED USE

MASTER PLAN 157- LOT SUBDIVISION FOR:

72 SINGLE FAMILY HOMES

75 TOWNHOME UNITS

10 LIVE WORK UNITS

120 MULTIFAMILY UNITS

OWNER

NORTH CANYON PROPERTIES LLC

PO BOX 457

REDMOND, OR 97756

VERTICAL DATUM

ELEVATIONS ARE BASED ON TIE TO CITY OF REDMOND

BENCHMARK 8-M-2 BEING A 3" BRASS DISK SET IN CONCRETE

ABUTMENT OF WING WALL AT THE SW CORNER OF CANAL BRIDGE

AT THE INTERSECTION OF NW GREENWOOD AVE AND CANAL BLVD.

ELEVATION = 2990.88' (NGCD29)

SHEET INDEX

MP1.0	COVER SHEET
MP2.0	EXISTING CONDITIONS PLAN OVERALL
MP2.1	EXISTING CONDITIONS PLAN SOUTH
MP2.2	EXISTING CONDITIONS PLAN NORTH
MP3.1	STREET AND UTILITY PLAN SOUTH
MP3.2	STREET AND UTILITY PLAN NORTH
MP4.1	TENTATIVE SUBDIVISION PLAT SOUTH
MP4.2	TENTATIVE SUBDIVISION PLAT NORTH
MP5.0	HOUSING TYPE PLAN
MP5.1	LANDSCAPE AND TREE REMOVAL PLAN
MP5.2	ZONING PLAN
MP5.3	PHASING PLAN
MP5.4	MULTIFAMILY NORTH SITE PLAN
MP5.5	MULTIFAMILY SOUTH AND LIGHT INDUSTRIAL/STORAGE SITE PLAN

CIVIL ENGINEER

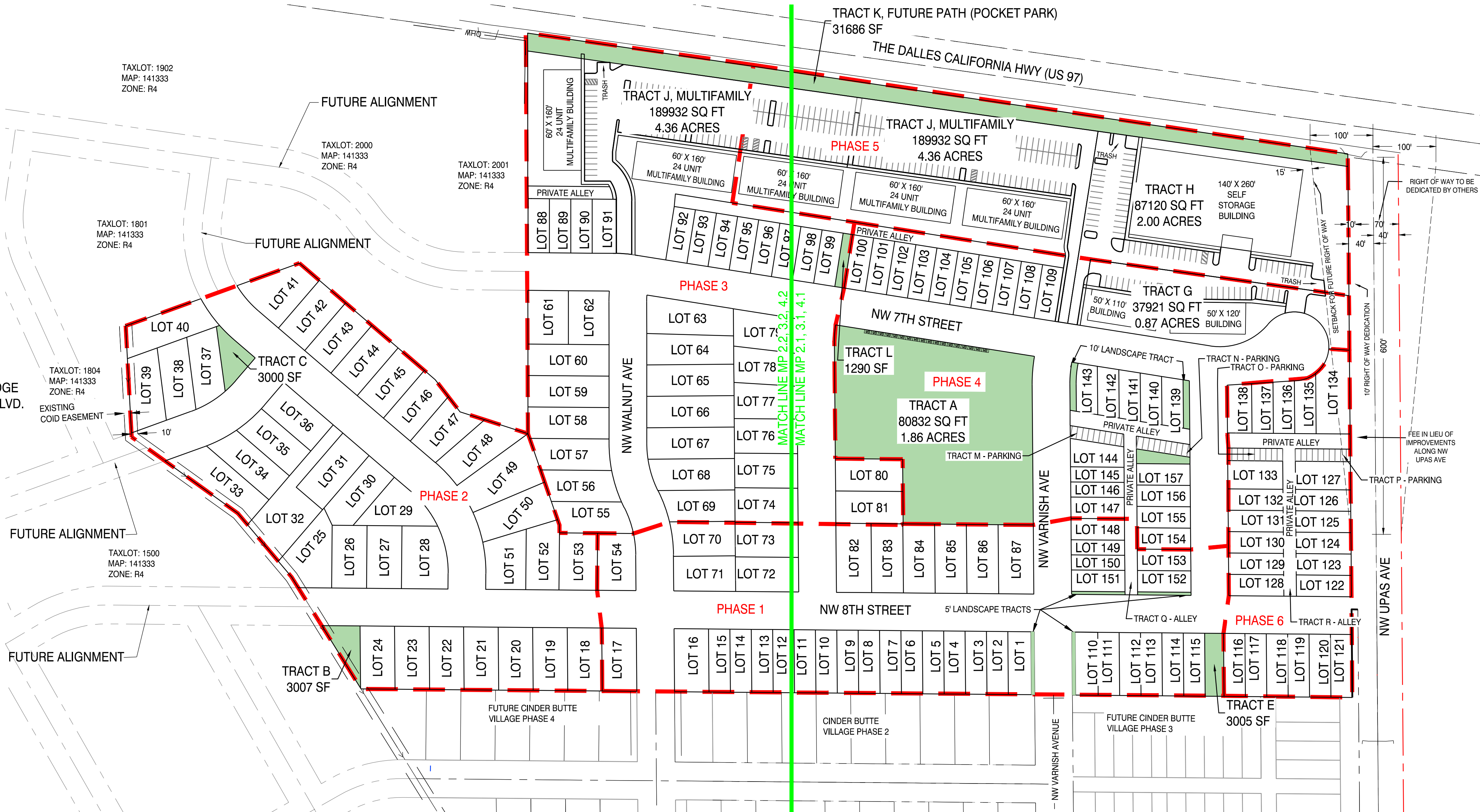
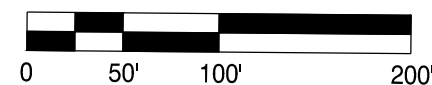
H.A. M^cCOY ENGINEERING & SURVEYINGCONTACT: HAYES M^cCOY

1180 SW LAKE ROAD

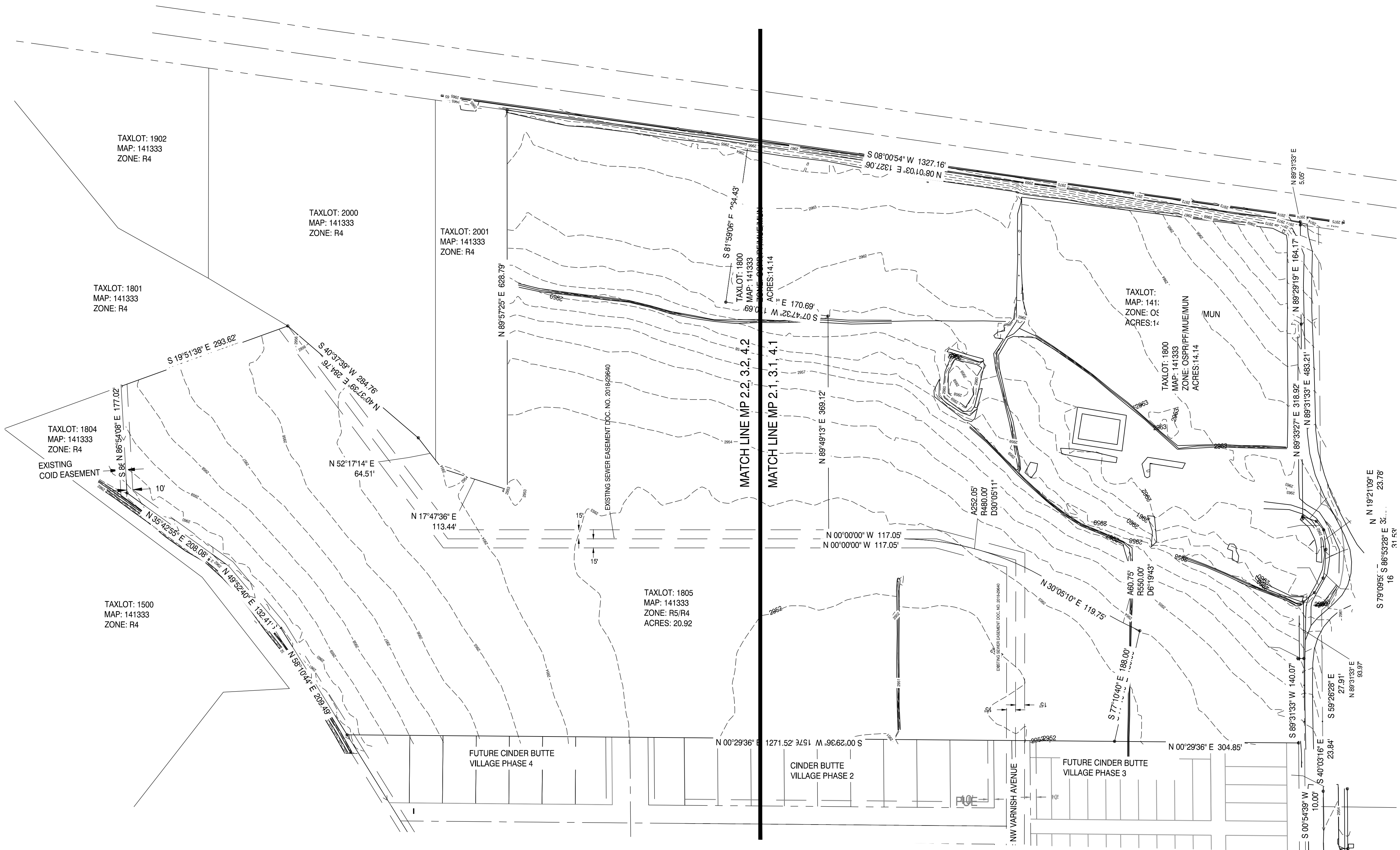
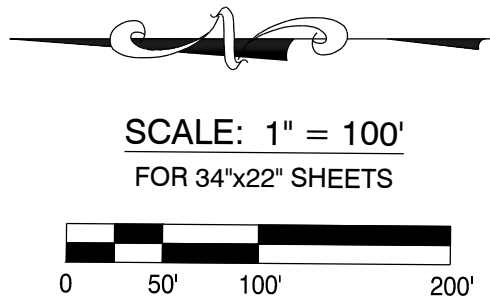
SUITE 201

REDMOND, OR 97756

PH: 541-923-7554

SCALE: 1" = 100'
FOR 34"x22" SHEETS

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EXISTING CONDITIONS

JOB NO.	20-245
DRAWN BY:	BR
DRAWING:	MP2.0

SHEET TITLE:	EXISTING CONDITIONS PLAN OVERALL
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PROJECT:	121 WEST
PROJECT LOCATION:	REDMOND, OREGON
CLIENT:	SGS DEVELOPMENT

H.A. McCOY

ENGINEERING & SURVEYING, LLC

11180 SW Lakeside Shores Dr. Redmond, OR 97756

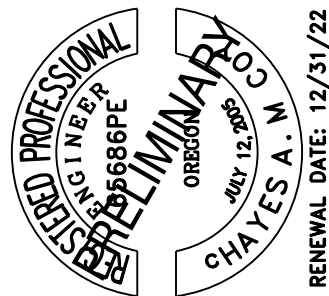
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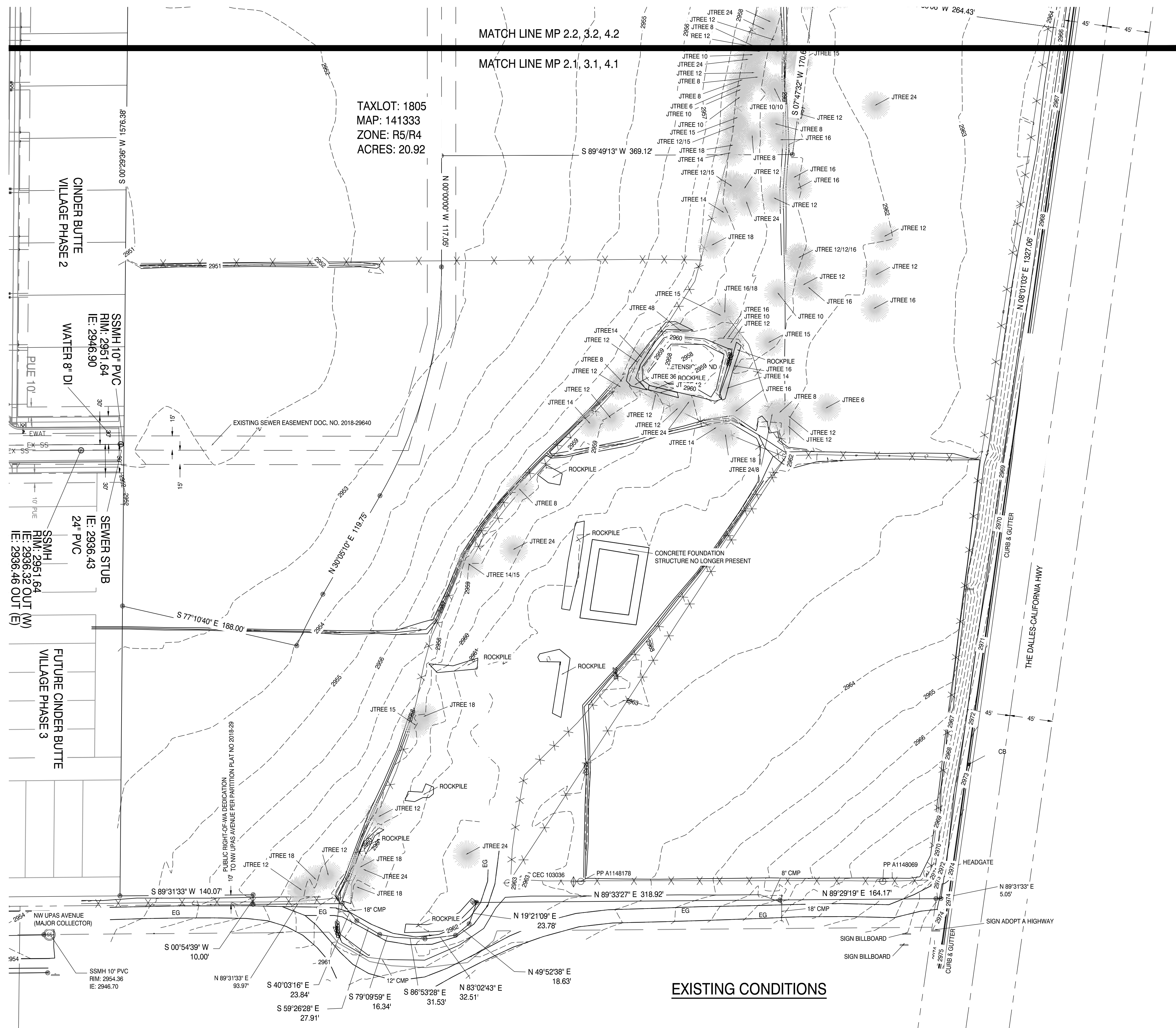
P.E., R.L.S., C.W.R.C.

541-424-7554

hayes@ham-eng.com

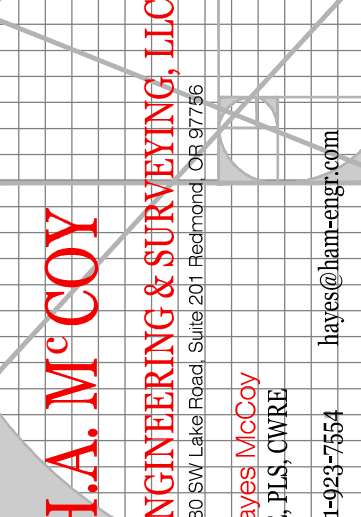
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EXISTING CONDITIONS

REGISTERED PROFESSIONAL ENGINEER
OREGON
65686PE
EXPIRES JULY 12, 2025
PRELIMINARY

[illegible]

H.A. McCOY
ENGINEERING & SURVEYING, LLC
1180 BW Lake Road, Suite 201, Richmond, OH 47156
Haves **McCOY**
PE, H.S., CWRE
541-942-7554
haves@hanceng.com

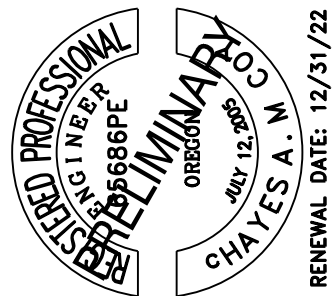
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121 WEST

PROJECT LOCATION:
REDMOND, OREGON

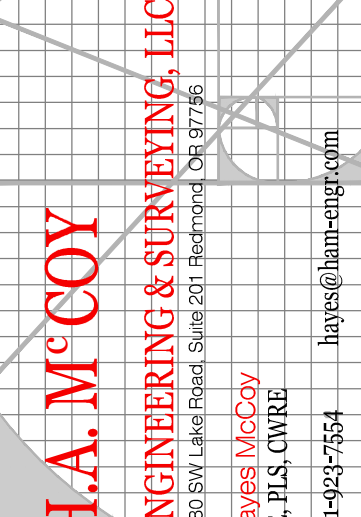
CLIENT:
SGS DEVELOPMENT

SHEET TITLE: EXISTING CONDITIONS
PLAN SOUTH

JOB NO.	20-245
DRAWN BY:	BR
DRAWING:	MP2.1



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H.A. McCOY
ENGINEERING & SURVEYING, LLC
 1180 BW Laurel Road, Suite 201, Beltsville, MD 917786
HAYES McCOY
PE, PLS, CWRRE
 541-923-7554
hayes@hmc-eng.com

PROJECT:
121 WEST

PROJECT LOCATION:
REDMOND, OREGON

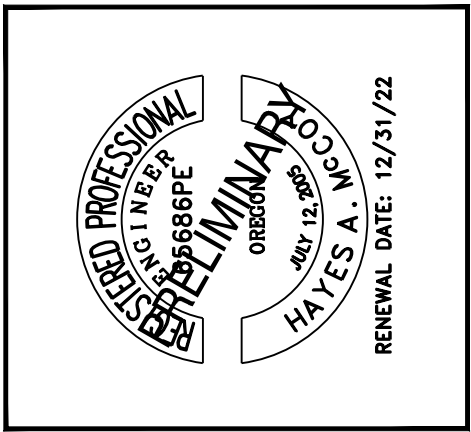
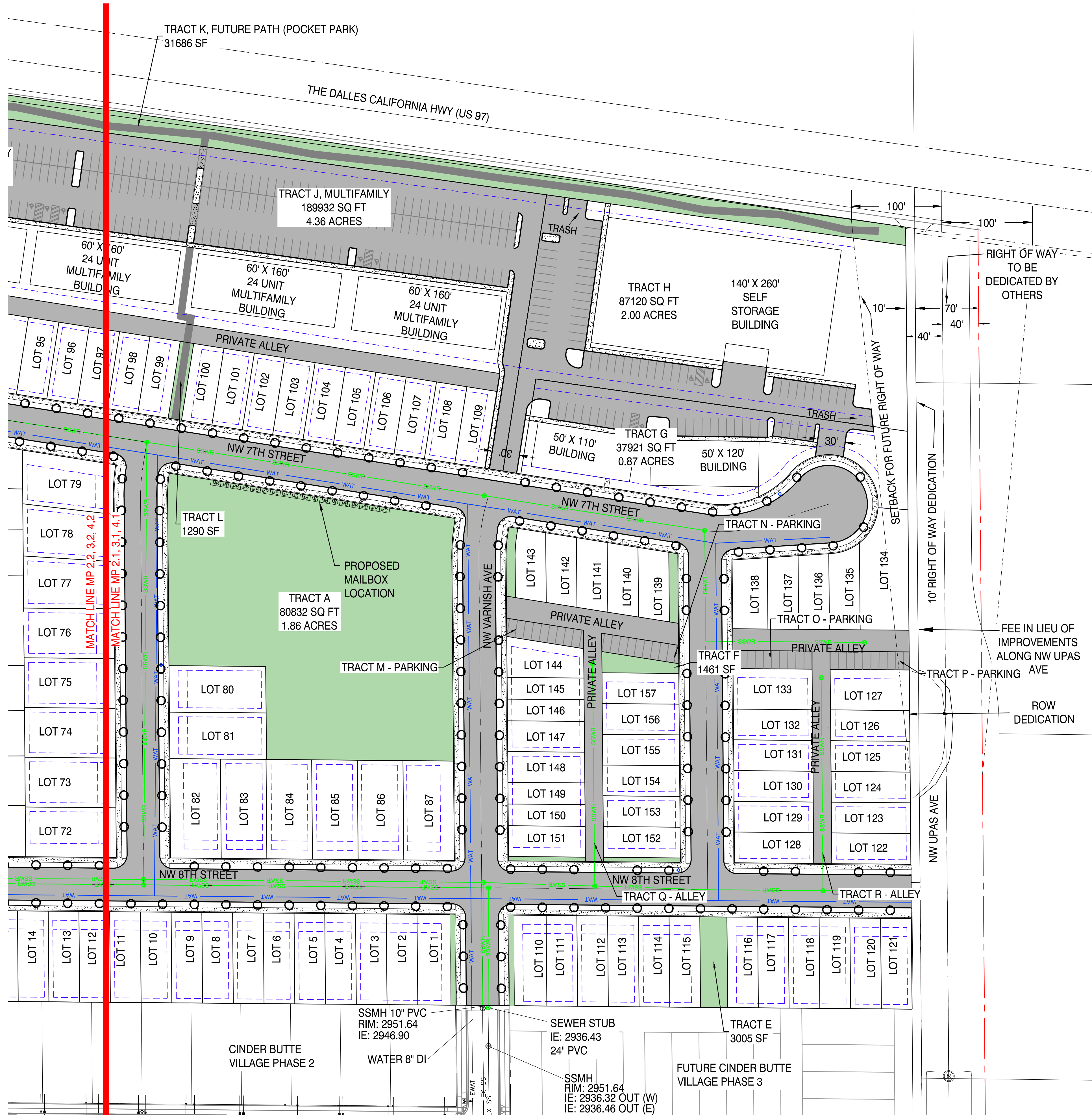
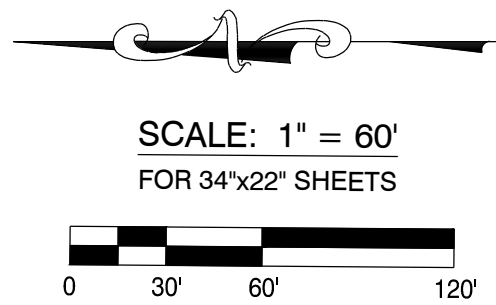
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SGS DEVELOPMENT

SHEET TITLE:

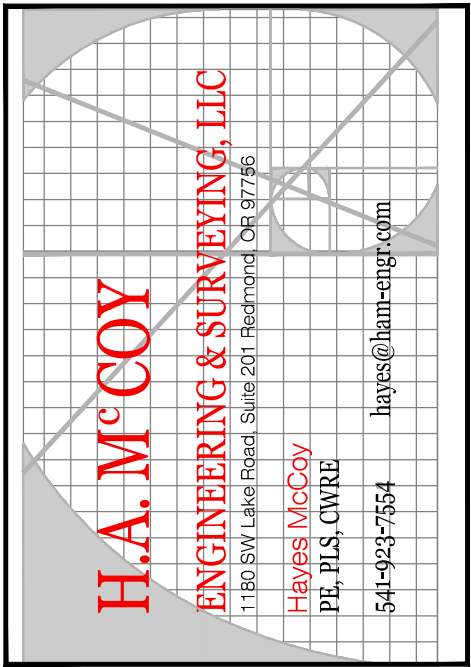
EXISTING CONDITIONS
PLAN NORTH

JOB NO.	20-245
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DRAWING:	MP2.2

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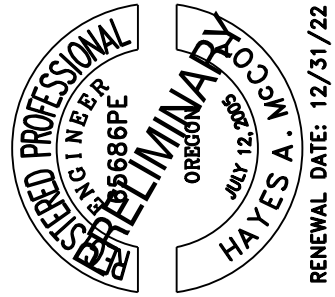
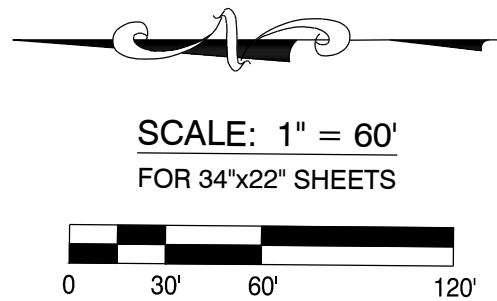


PROJECT: 121 WEST
PROJECT LOCATION: REDMOND, OR
CLIENT: SGS DEVELOPMENT

SHEET TITLE:
STREET AND UTILITY
PLAN SOUTH

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DRAWN BY: JJW, EDN
DRAWING: MP3.1

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H.A. MCCOY
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11865 S.W. Lakes Road, Suite 201, Beltsville, MD 20705
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PROJECT: 121 WEST

PROJECT LOCATION: REDMOND, OR

CLIENT: SGS DEVELOPMENT

SHEET TITLE: STREET AND UTILITY PLAN NORTH

JOB NO. 20-245

DRAWN BY: JJW, EDN

DRAWING: MP3.2

LOT REQUIREMENTS:

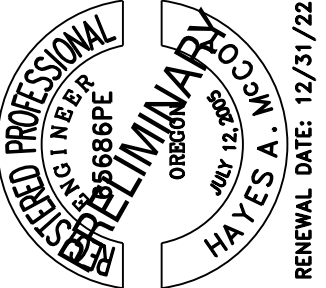
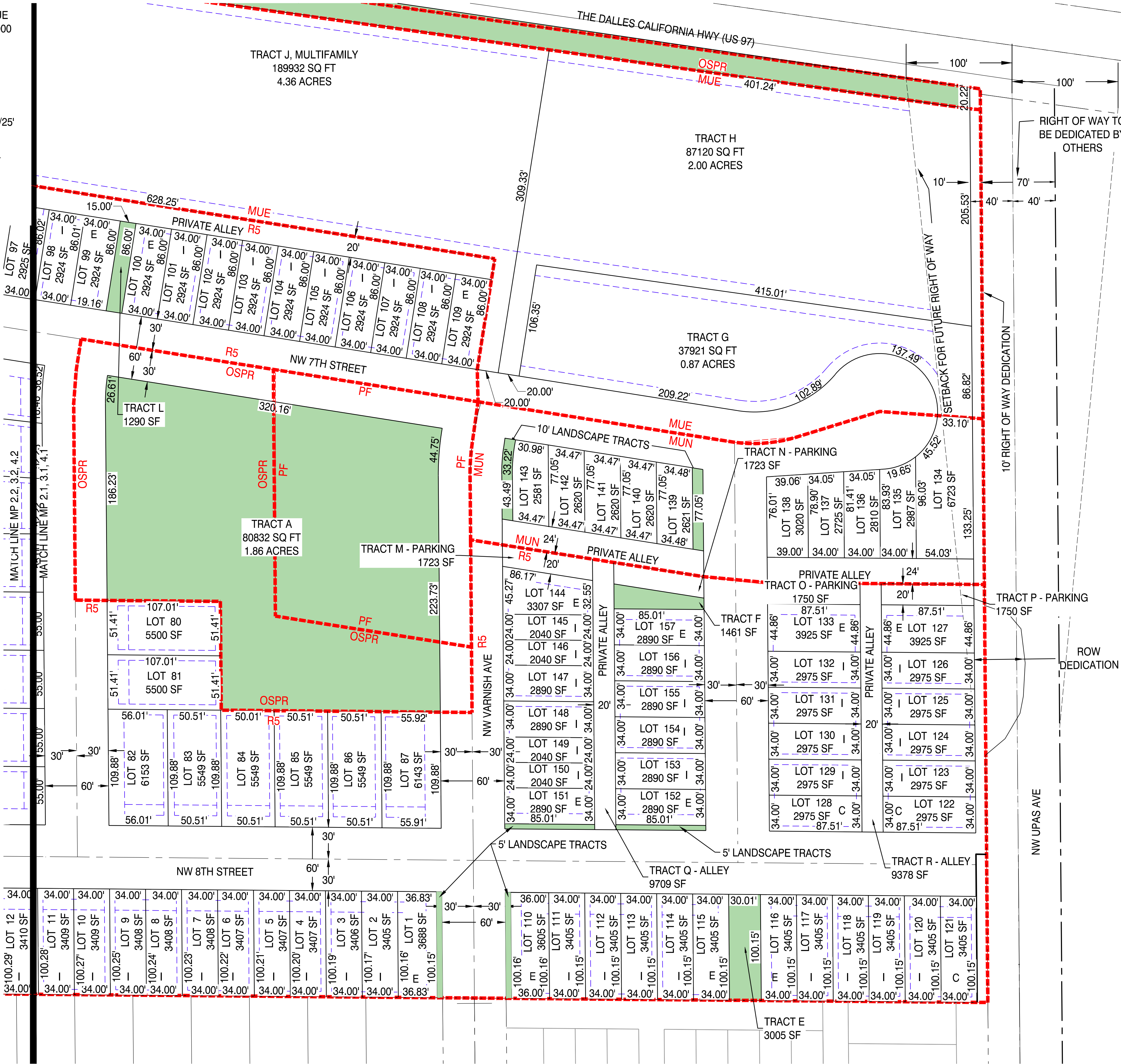
MIN. LOT AREA (SF):	R4 5,500	R5 TOWNHOME 2,400/ 1,500	R5 5,500	MUN 2,500	MUE 6,000
MAX. NET DENSITY(U/ACRE):	10	15	15		
SETBACKS:					
FRONT WITHOUT ALLEY:	10'	10'	10'	0	10'/25'
FRONT WITH ALLEY:		5'			
GARAGE:	20'	20'	20'	n/a	n/a
INTERIOR SIDE:	5'/10'	0'	5'	0	0
CORNER SIDE:	15'	5'	15'	0	15'
END UNIT SIDE:		10'			
REAR:	20'	5'	5'	0	10'

DENSITY SUMMARY

	UNITS/ACRE	UNITS	NET AREA
R4:	7.0	56	8.0 ACRES
R5:	11.5	91	7.9 ACRES
MUN:	6.7	10	1.5 ACRES
MUE:	15.6	120	7.7 ACRES

TOWNHOME LEGEND

C - CORNER
E - END
I - INTERIOR



DRAWING STATUS:	DATE:	REVISION:	DATE:
LAYOUT	9/10/21		

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1180 SW Lakeside Blvd, Suite 201, Redmond, OR 97556
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hays@hmc-eng.com
541-942-7554

PROJECT: 121 WEST
PROJECT LOCATION: REDMOND, OR
CLIENT: SGS DEVELOPMENT

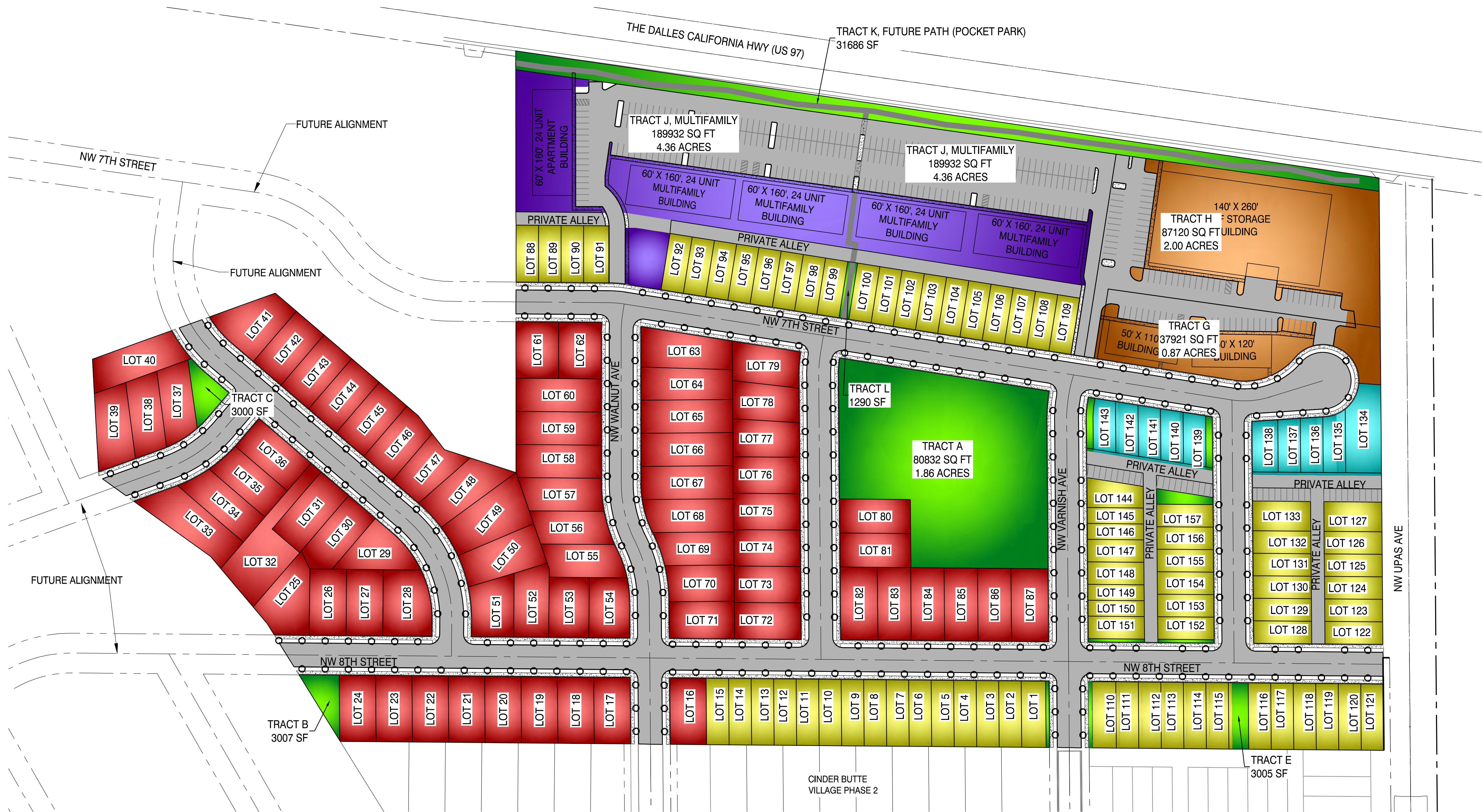
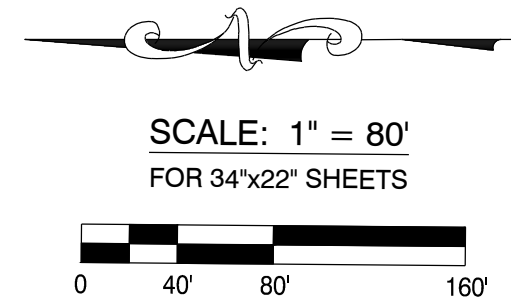
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SUBDIVISION PLAT
SOUTH

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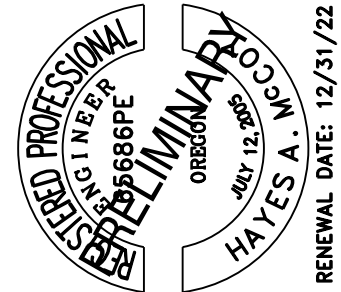
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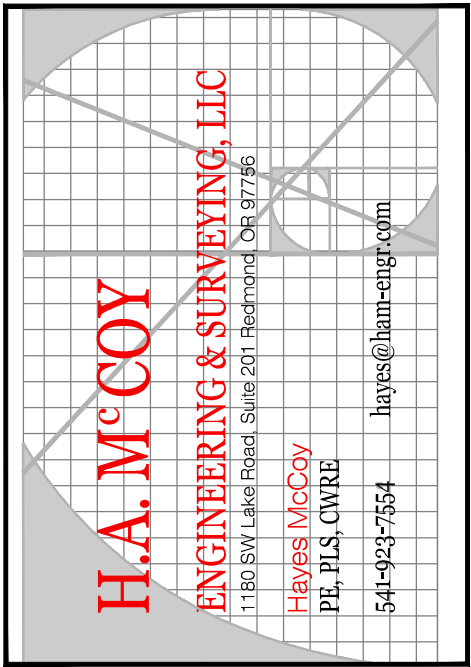
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LEGEND			
	TOWNHOME LOTS		MULTIFAMILY COMPLEXES
	LIVE/WORK LOTS		STORAGE UNITS/ OTHER MUE USE
	SINGLE FAMILY LOTS		OPEN SPACE/PARK



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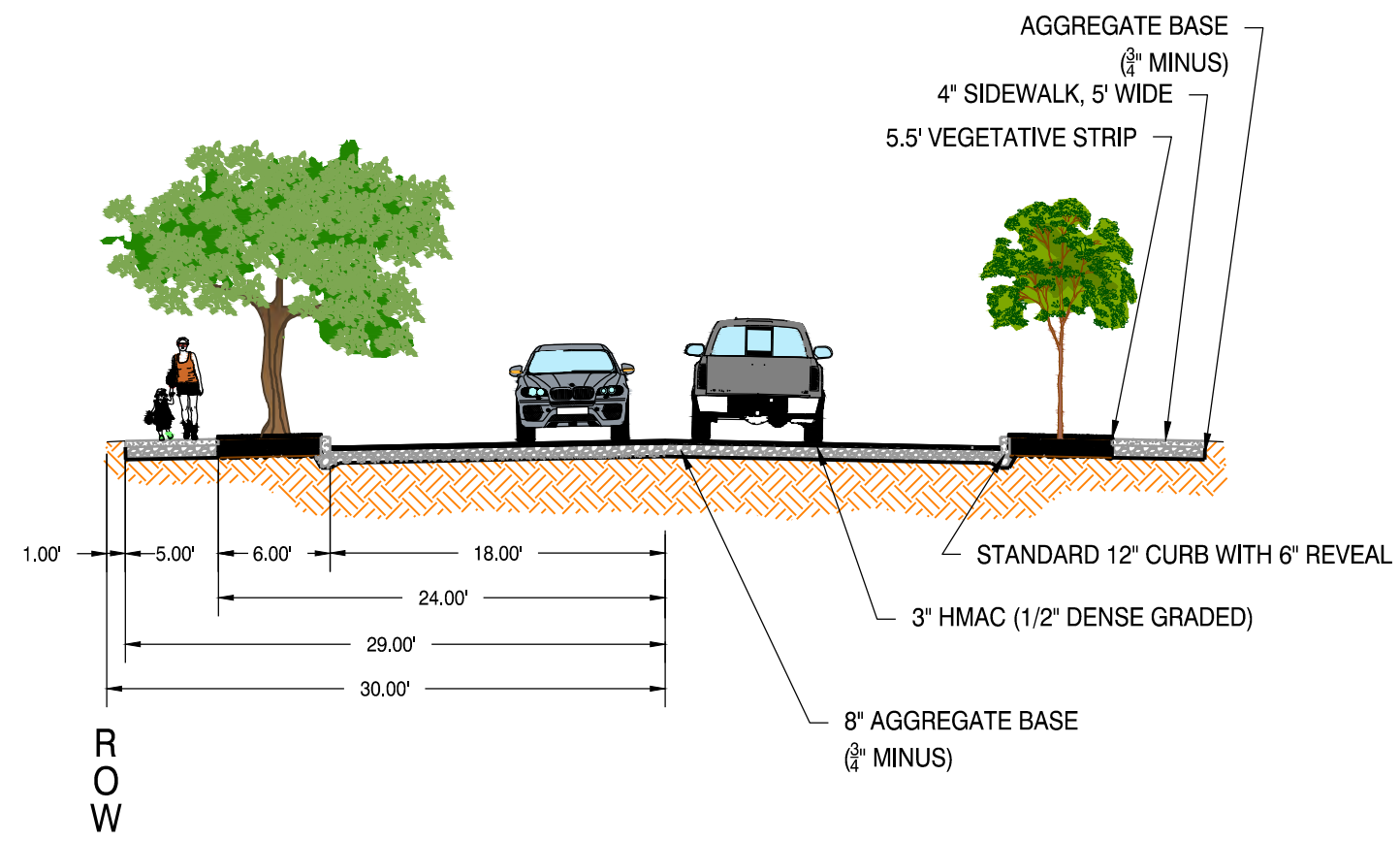


PROJECT:	121 WEST
PROJECT LOCATION:	REDMOND, OR
CLIENT:	SGS DEVELOPMENT

SHEET TITLE:	HOUSING TYPE PLAN
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JOB NO.	20-245
DRAWN BY:	JJW, EDN
DRAWING:	MP5.0

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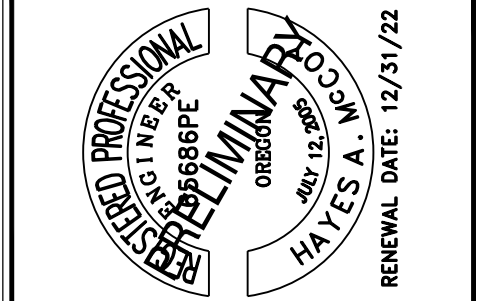


TYPICAL LOCAL STREET SECTION
NTS
(ALL PROPOSED STREETS)

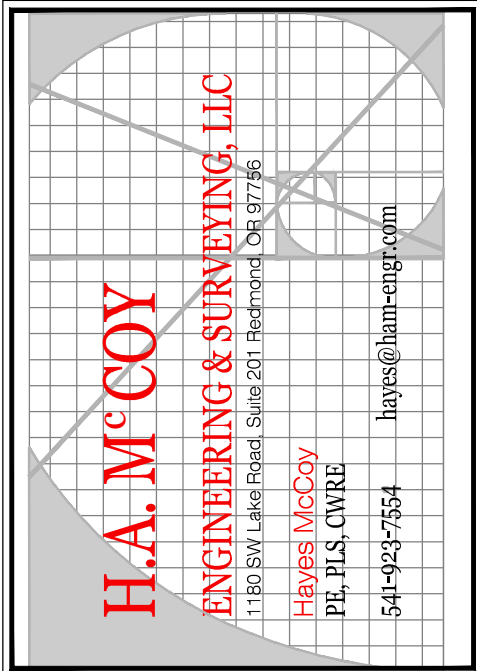
LANDSCAPE LEGEND

- TREE TO BE REMOVED
- PARKING LOT TREES
- LANDSCAPE WITH NATIVE DROUGHT RESISTANT BUNCH GRASS AND SHRUBS
- COORDINATE WITH CITY ARBORIST FOR TREE SPECIES AND SIZE
- PROPOSED BUSH
- PROPOSED TREES

THE DALLES CALIFORNIA HWY (US 97)



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LAYOUT	9/10/21		

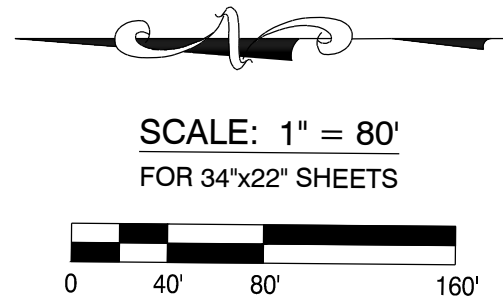


PROJECT:	121 WEST
PROJECT LOCATION:	REDMOND, OR
CLIENT:	SGS DEVELOPMENT

SHEET TITLE:	LANDSCAPING AND TREE REMOVAL PLAN
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JOB NO.	20-245
DRAWN BY:	JJW, EDN
DRAWING:	MP5.1

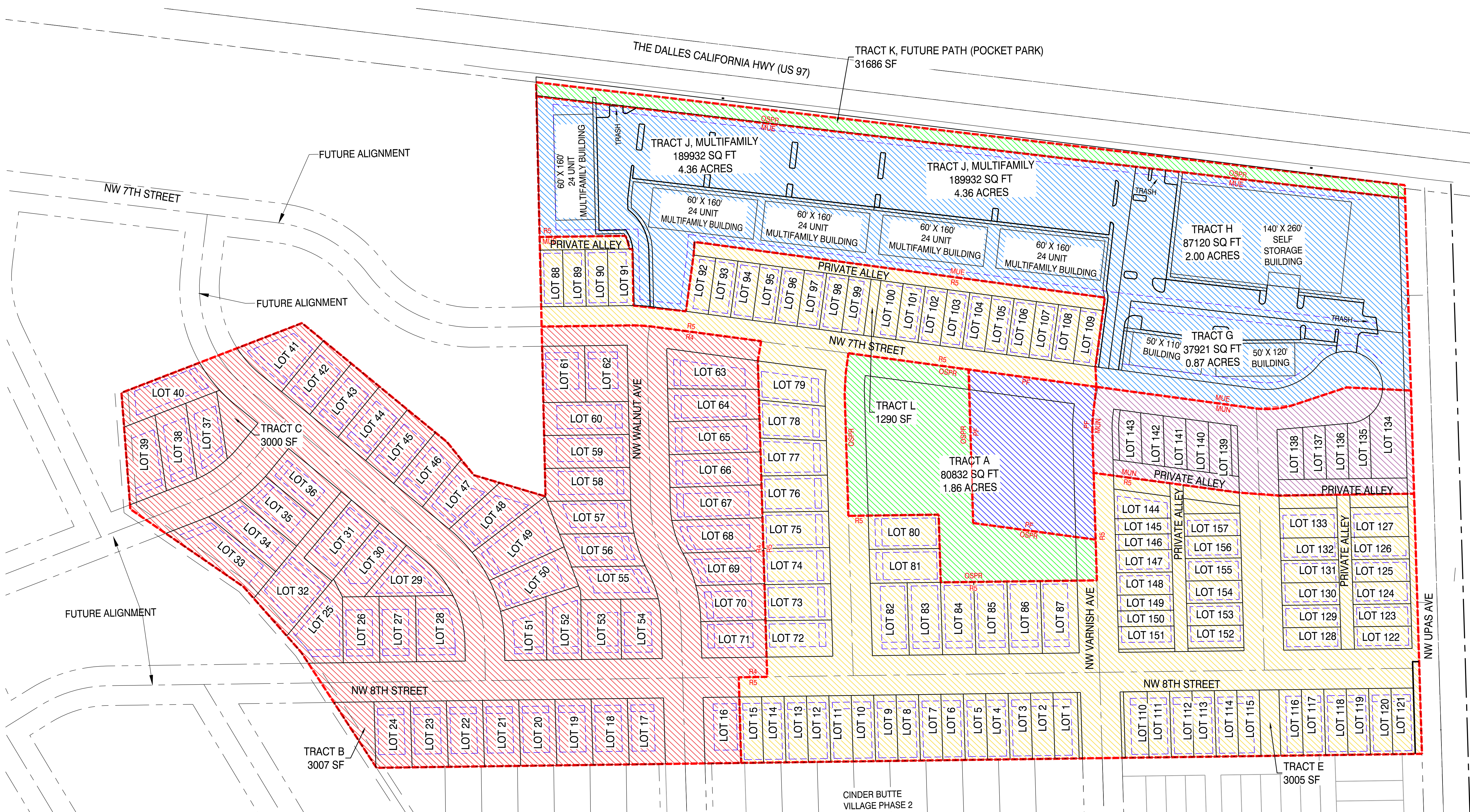
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LEGEND	
	R4
	R5
	OSPR
	PF
	MUN
	MUE

AREA SUMMARY

ZONING	NET AREA
R4:	8.0 ACRES
R5:	7.9 ACRES
MUN:	1.5 ACRES
MUE:	7.7 ACRES
OSPR:	2.1 ACRES
PF:	1.0 ACRES



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541-424-7554
hayes@ham-eng.com

PROJECT:
121 WEST

PROJECT LOCATION:
REDMOND, OR

CLIENT:
SGS DEVELOPMENT

SHEET TITLE:

ZONING PLAN

JOB NO. 20-245

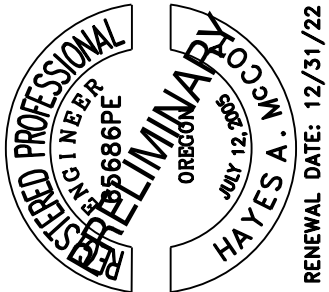
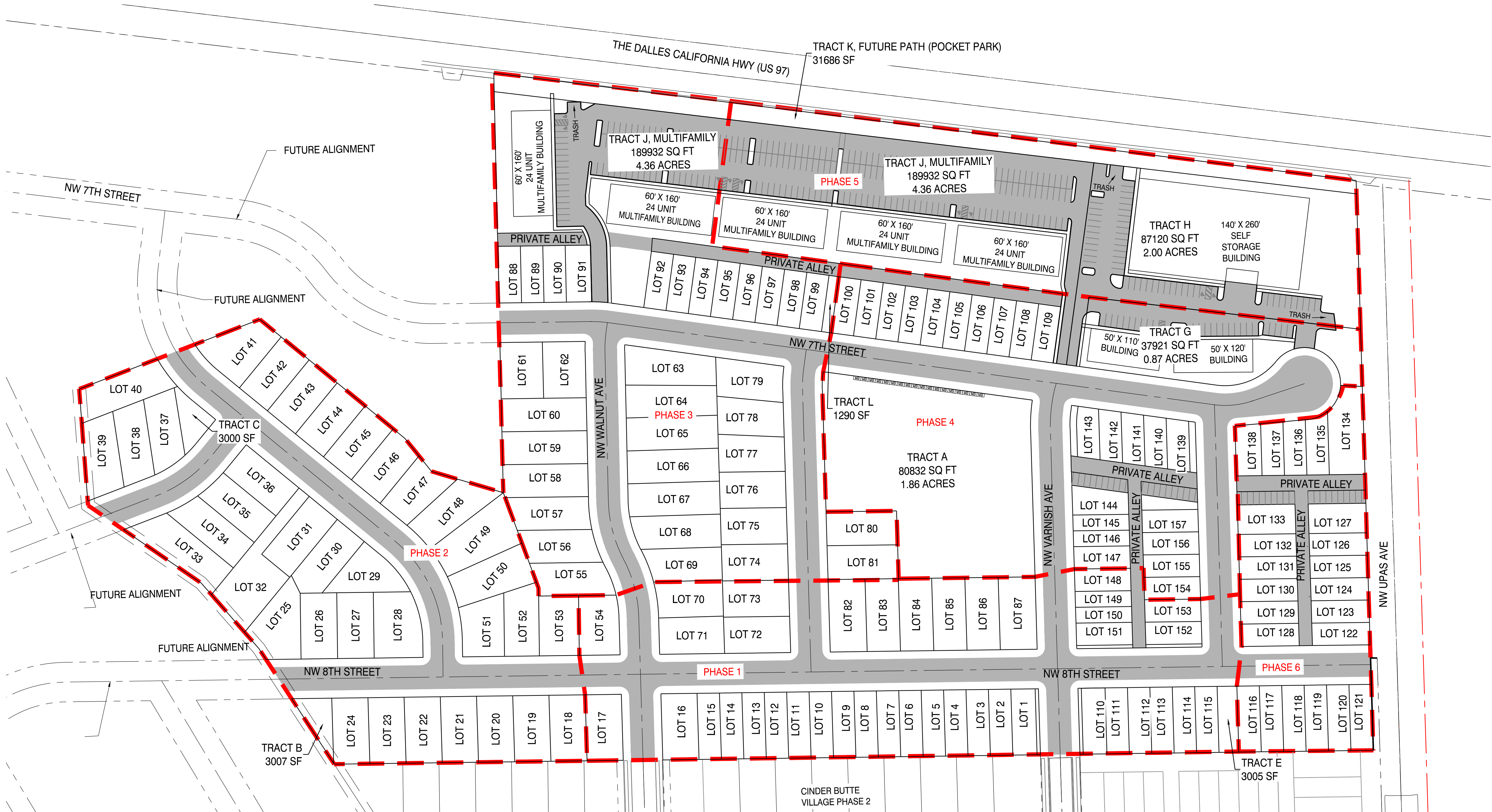
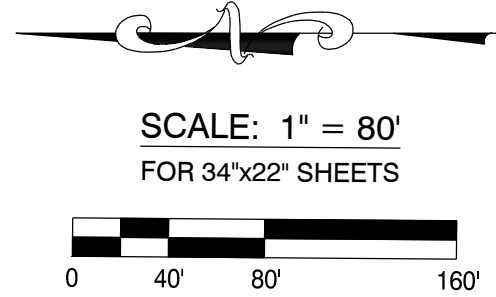
DRAWN BY: JJW, EDN

DRAWING: MP5.2

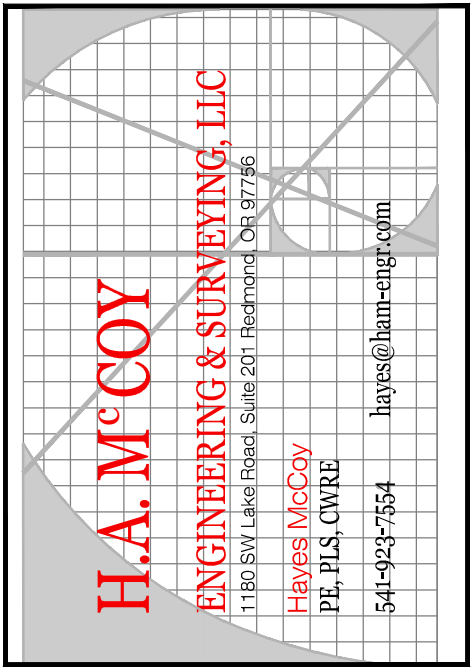
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LAYOUT	9/10/21		
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RENEWAL DATE: 12/31/22

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PROJECT:	121 WEST
PROJECT LOCATION:	REDMOND, OR
CLIENT:	SGS DEVELOPMENT

SHEET TITLE:	PHASING PLAN
--------------	--------------

JOB NO.	20-245
DRAWN BY:	JJW, EDN
DRAWING:	MP5.3

SITE PLAN NOTES

- 1
- CONSTRUCT BUILDING PER ARCHITECTURAL DRAWING
- 2
- CONSTRUCT 20'x15' TRASH ENCLOSURE
- 3
- CONSTRUCT 20'x20' TRASH ENCLOSURE
- 4
- CONSTRUCT CURB ALONG SIDEWALK
- 5
- 26' WIDE PAVED ACCESS
- 6
- 30' WIDE PAVED ACCESS
- 7
- 5' WIDE SIDEWALK
- 8
- PROPOSED DRYWELL LOCATIONS, FINAL LOCATION TO BE DETERMINED IN FINAL ENGINEERING
- 9
- 15'X15' CLEAR VISION TRIANGLE
- 10
- PROPOSED 6" SEWER SERVICE
- 11
- PROPOSED CLEANOUT
- 12
- PROPOSED WATER METER
- 13
- PROPOSED WATER CONNECTION, FINAL CONNECTION POINT TO BE DETERMINED IN FINAL ENGINEERING
- 14
- STORMWATER DRAINAGE SLEEVE
- 15
- PROPOSED PLAYGROUND
- 16
- FIRE LINE TO BUILDING
- 17
- BACKFLOW PREVENTER
- 18
- PROPOSED MAILBOX BANK LOCATED IN OSPR/PF ALONG NW 7TH STREET
- 19
- FDC
- #
- NUMBER OF STANDARD 9'X20' PARKING SPACES

TAXLOT: 2001
MAP: 141333
ZONE: R4



TRACT G AREA CALCULATIONS

TOTAL:	37,921 SF	
BUILDING:	11,500 SF	30.3%
PAVEMENT:	11,889 SF	31.4%
CONCRETE:	1,716 SF	4.5%
LANDSCAPING:	12,816 SF	33.8%

LANDSCAPING:	15% REQUIRED (5,688 SF)
COMMON OPEN SPACE:	15% REQUIRED (5,688 SF)

TRACT H AREA CALCULATIONS

TOTAL:	87,120 SF	
BUILDING:	36,400 SF	41.8%
PAVEMENT:	26,226 SF	30.1%
CONCRETE:	2,418 SF	2.8%
LANDSCAPING:	22,076 SF	25.3%

LANDSCAPING:	15% REQUIRED (13,068 SF)
COMMON OPEN SPACE:	15% REQUIRED (13,068 SF)

TRACT J AREA CALCULATIONS

TOTAL:	189,932 SF	
BUILDING:	48,000 SF	25.3%
PAVEMENT:	94,684 SF	49.8%
CONCRETE:	7,891 SF	4.2%
LANDSCAPING:	39,357 SF	20.7%

LANDSCAPING:	15% REQUIRED (28,490 SF)
COMMON OPEN SPACE:	15% REQUIRED (28,490 SF)

IRRIGATION NOTE

ALL PROPOSED OPEN SPACES TO BE IRRIGATED SHALL BE DESIGNED DURING LANDSCAPE CONSTRUCTION.

FIRE NOTE

PROPOSED MULTIFAMILY BUILDINGS WILL HAVE FIRE SPRINKLERS

MECHANICAL NOTE

MECHANICAL EQUIPMENT SHALL BE SCREENED FROM PUBLIC VIEW.

MUE COMPLEX STANDARDS

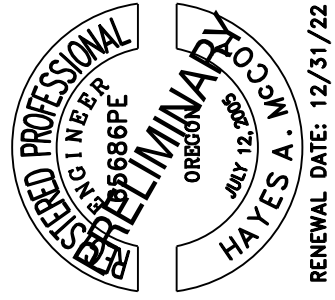
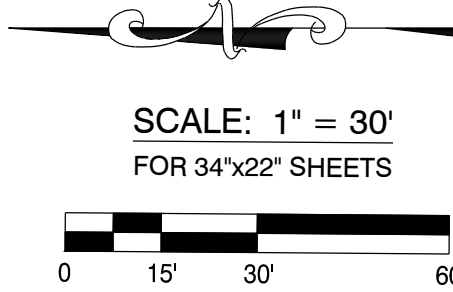
MIN. LOT AREA: 6,000 SF

SETBACKS: 10 FEET (FRONT)
NONE (SIDE)
10 FEET (REAR)

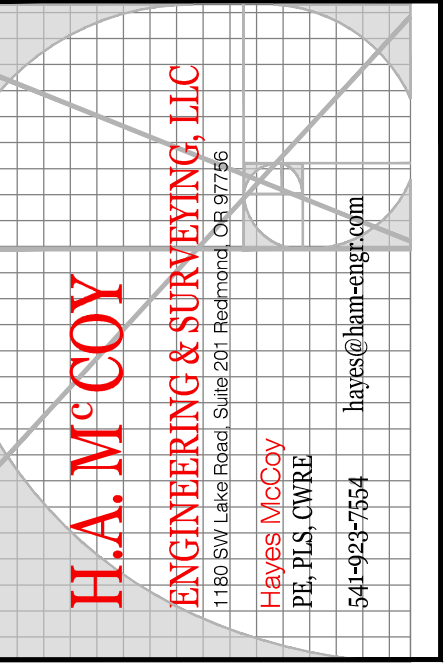
PARKING MULTIFAMILY: 2 SPACES PER DWELLING UNIT PLUS
1 SPACE PER 10 DWELLING UNITS
252 SPACES REQUIRED
256 SPACES PROVIDED
7 ADA SPACES REQUIRED
7 ADA SPACES PROVIDED

PARKING STORAGE: 1 SPACE PER EMPLOYEE
3 GUEST SPACES
4 SPACES REQUIRED
41 SPACES PROVIDED
2 ADA SPACES REQUIRED
2 ADA SPACES PROVIDED

PARKING LIGHT INDUSTRIAL: 1 SPACES FOR EACH 800 SF
15 SPACES REQUIRED
28 SPACES PROVIDED
1 ADA SPACE REQUIRED
1 ADA SPACE PROVIDED



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PROJECT: 121 WEST
PROJECT LOCATION: REDMOND, OR
CLIENT: SGS DEVELOPMENT

SHEET TITLE:
MULTIFAMILY NORTH
SITE PLAN

JOB NO. 20-245
DRAWN BY: JJW, EDN
DRAWING: MP5.4

SITE PLAN NOTES

- 1

CONSTRUCT BUILDING PER ARCHITECTURAL DRAWING
- 2

CONSTRUCT 20'x15' TRASH ENCLOSURE
- 3

CONSTRUCT 20'x20' TRASH ENCLOSURE
- 4

CONSTRUCT CURB ALONG SIDEWALK
- 5

26' WIDE PAVED ACCESS
- 6

30' WIDE PAVED ACCESS
- 7

5' WIDE SIDEWALK
- 8

PROPOSED DRYWELL LOCATIONS, FINAL LOCATION TO BE DETERMINED IN FINAL ENGINEERING
- 9

15'x15' CLEAR VISION TRIANGLE
- 10

PROPOSED 6" SEWER SERVICE
- 11

PROPOSED CLEANOUT
- 12

PROPOSED WATER METER
- 13

PROPOSED WATER CONNECTION, FINAL CONNECTION POINT TO BE DETERMINED IN FINAL ENGINEERING
- 14

STORMWATER DRAINAGE SLEEVE
- 15

PROPOSED PLAYGROUND
- 16

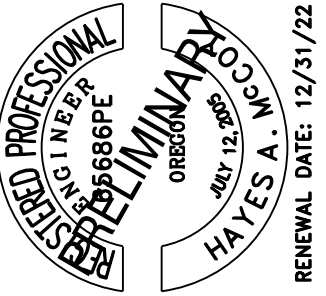
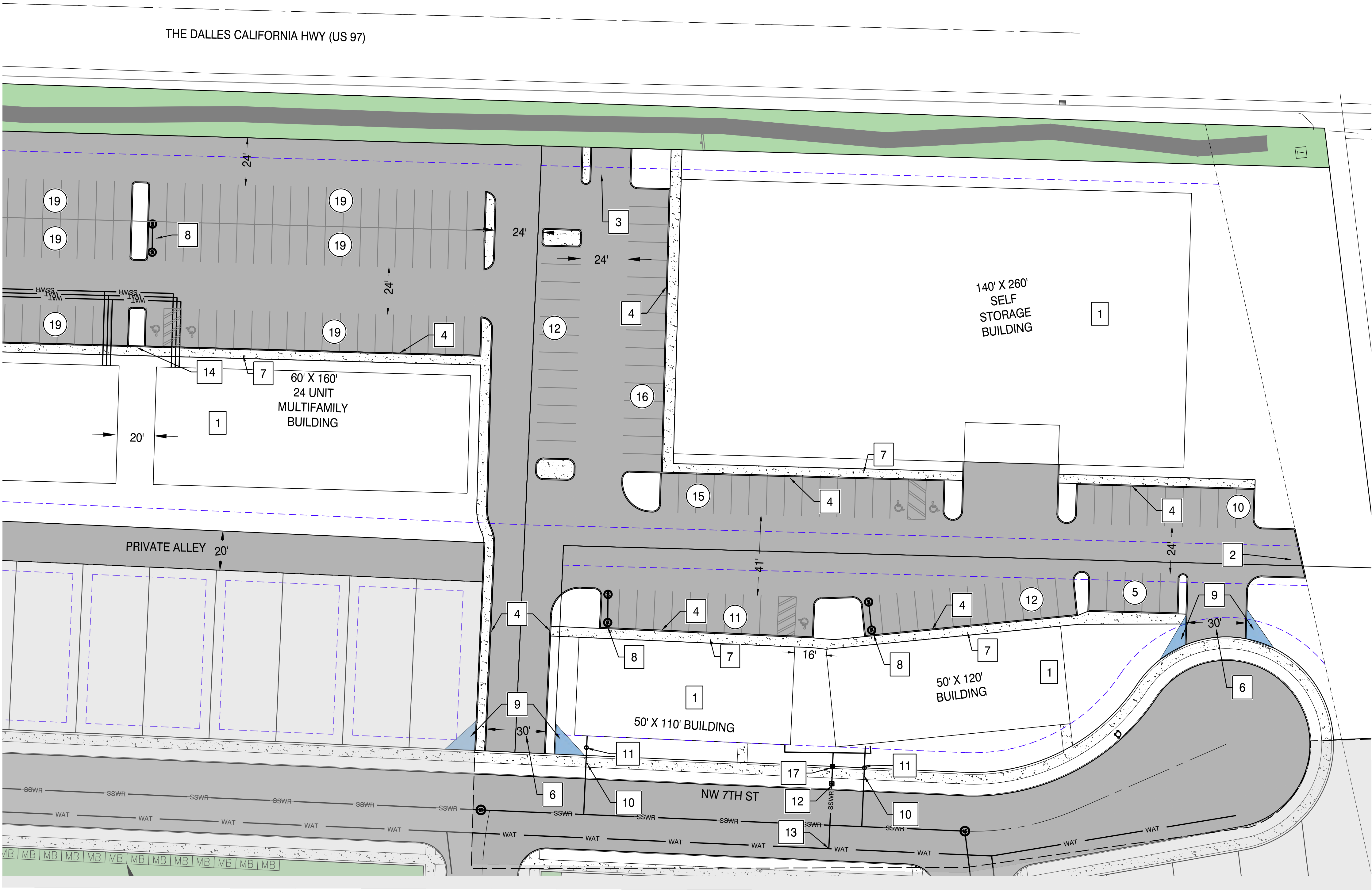
FIRE LINE TO BUILDING
- 17

BACKFLOW PREVENTER
- 18

PROPOSED MAILBOX BANK LOCATED IN OSPR/PF ALONG NW 7TH STREET
- 19

FDC
- #

NUMBER OF STANDARD 9'X20' PARKING SPACES



DRAWING STATUS:	DATE:	No.	REVISION:	DATE:
LAYOUT	9/10/21	1		
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		4		
		5		
		6		
		7		

H.A. MCCOY

ENGINEERING & SURVEYING, LLC

11881 Lakeview Road, Suite 201, Redmond, OR 97756

HAYES MCCOY

P.E., P.L.S., C.W.R.E.

541-942-7554

hayes@hmc-eng.com

PROJECT:

121 WEST

PROJECT LOCATION:

REDMOND, OR

CLIENT:

SGS DEVELOPMENT

SHEET TITLE:

MULTIFAMILY SOUTH AND LIGHT INDUSTRIAL/STORAGE SITE PLAN

JOB NO.

20-245

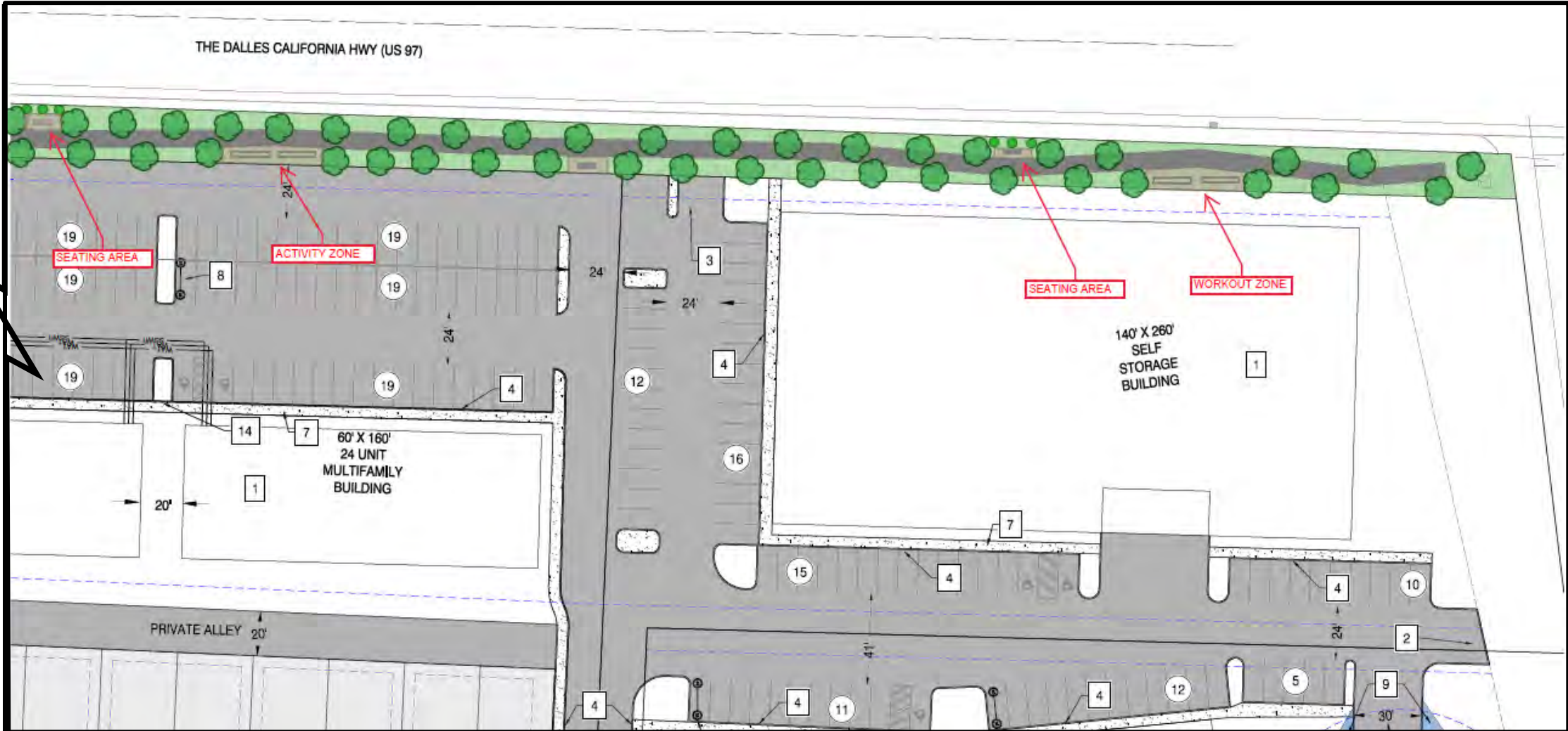
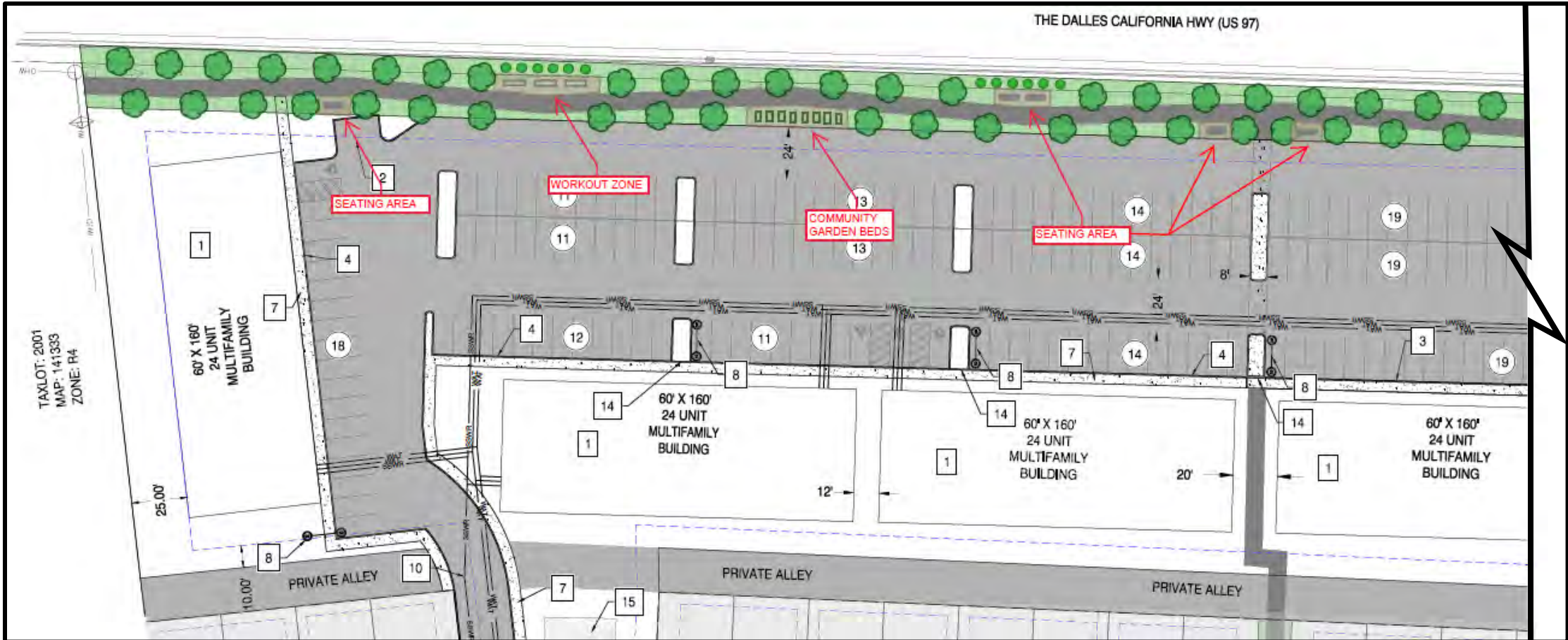
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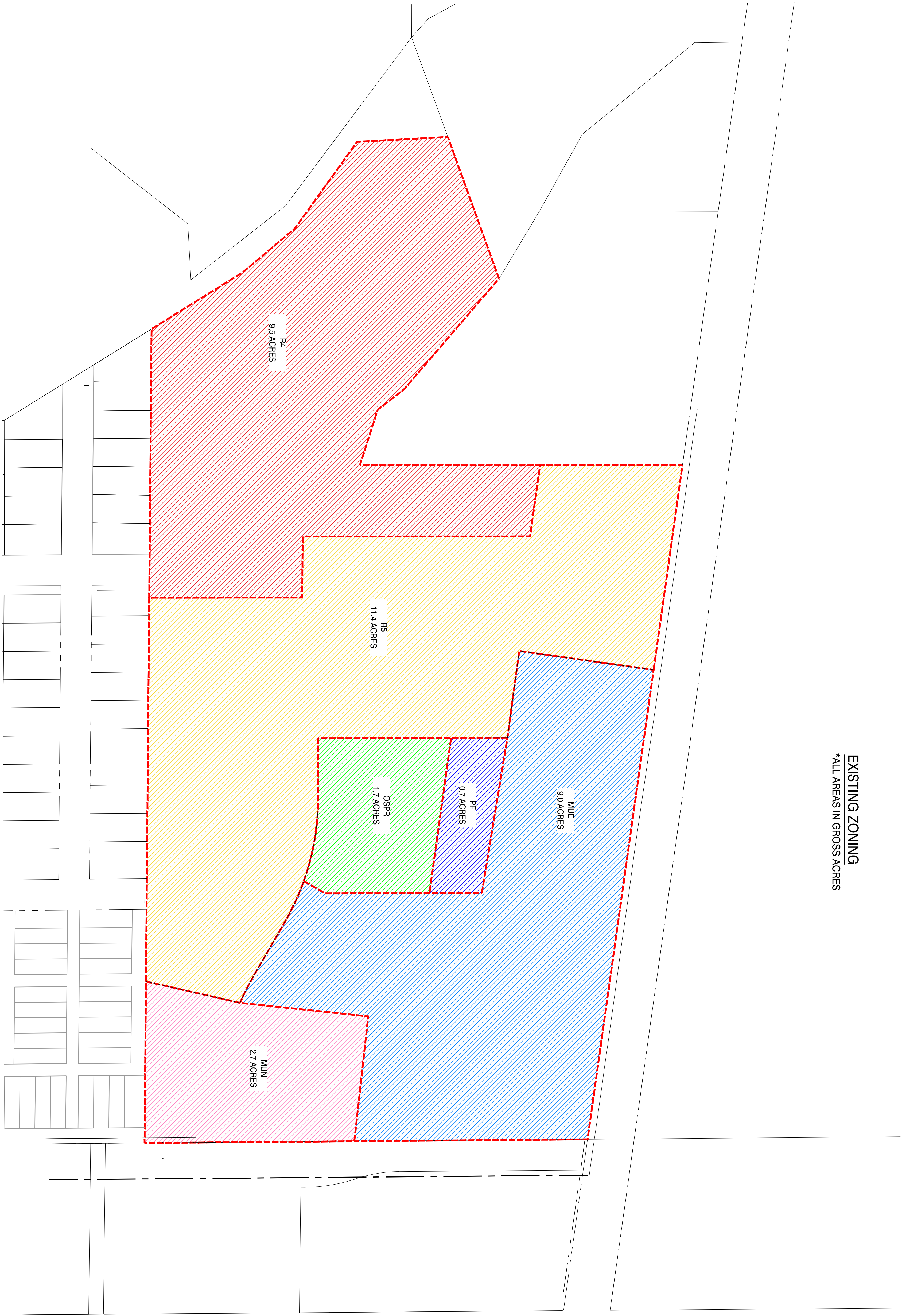
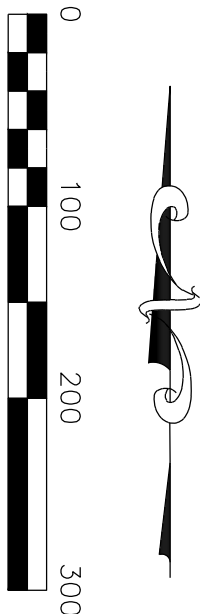
JJW, EDN

DRAWING:

MP5.5

TRACT K – PRELIM POCKET PARK PLAN





EXISTING ZONING
*ALL AREAS IN GROSS ACRES

JOB NO.
20-245

DRAWN BY: J.W. EDN

DRAWING:
ZONING 1

SHEET TITLE:

EXISTING ZONING

PROJECT:
121 WEST

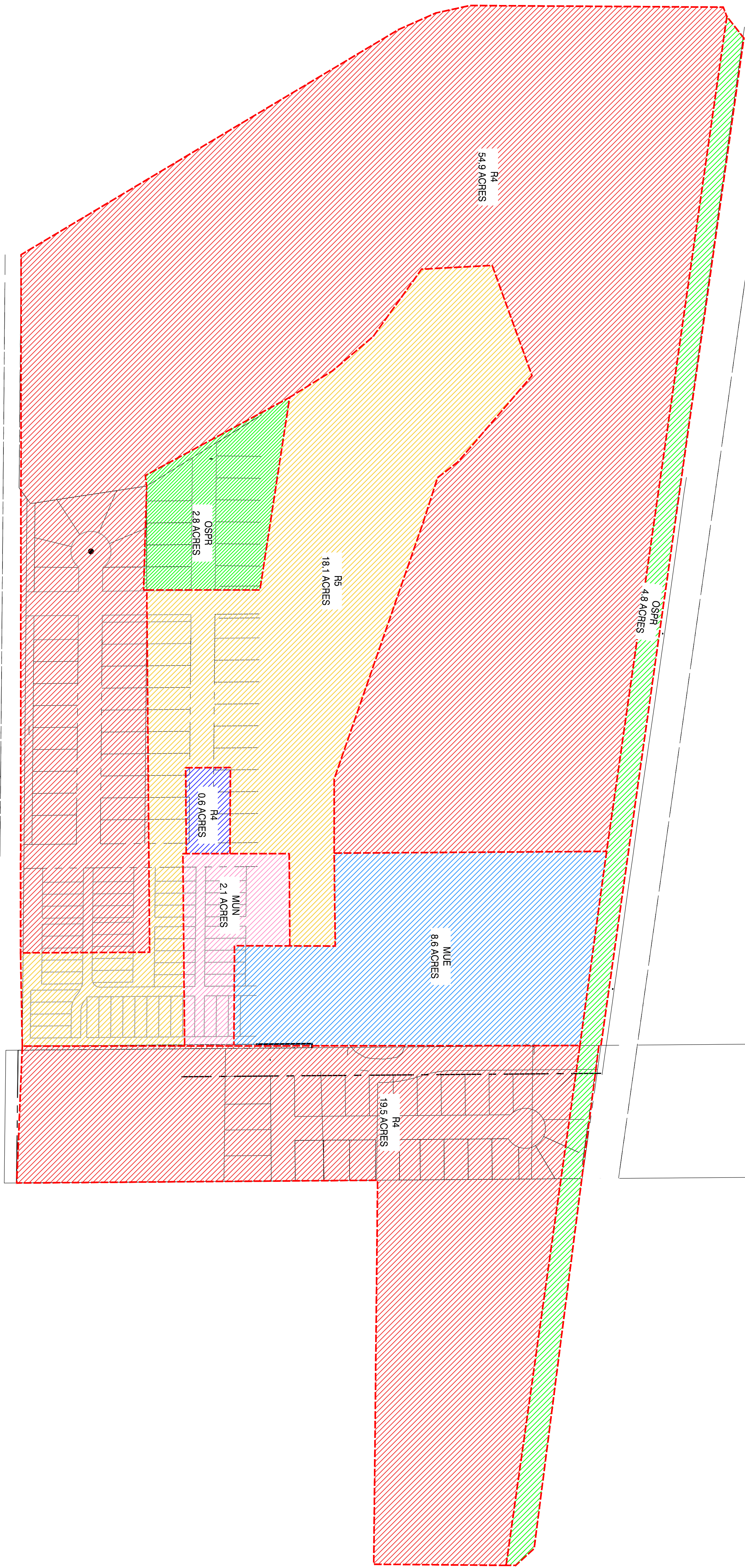
PROJECT LOCATION:
REDMOND, OR

CLIENT:
SGS DEVELOPMENT

H.A. M^cCOY
ENGINEERING & SURVEYING, LLC
1180 SW Lake Road, Suite 201, Redmond, OR 97756
Hayes McCoy
PE, PLS, CWRE
541-923-7554 hayes@ham-engr.com

DRAWING STATUS:	DATE:	No.	REVISION:	DATE:
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REGISTERED PROFESSIONAL
ENGINEER
56686PE
OREGON
JULY 12, 2025
HAYES A. MCCOY
RENEWAL DATE: 12/31/22



HAP ZONING
*ALL AREAS IN GROSS ACRES

SHEET TITLE:

HAP ZONING

PROJECT:
121 WEST

PROJECT LOCATION:
REDMOND, OR

CLIENT:
SGS DEVELOPMENT

H.A. M^cCOY

ENGINEERING & SURVEYING, LLC

1180 SW Lake Road, Suite 201, Redmond, OR 97756

Hayes McCoy

PE, PLS, CWRE

541-923-7554 hayes@ham-engr.com

DRAWING STATUS:	DATE:	No.	REVISION:	DATE:
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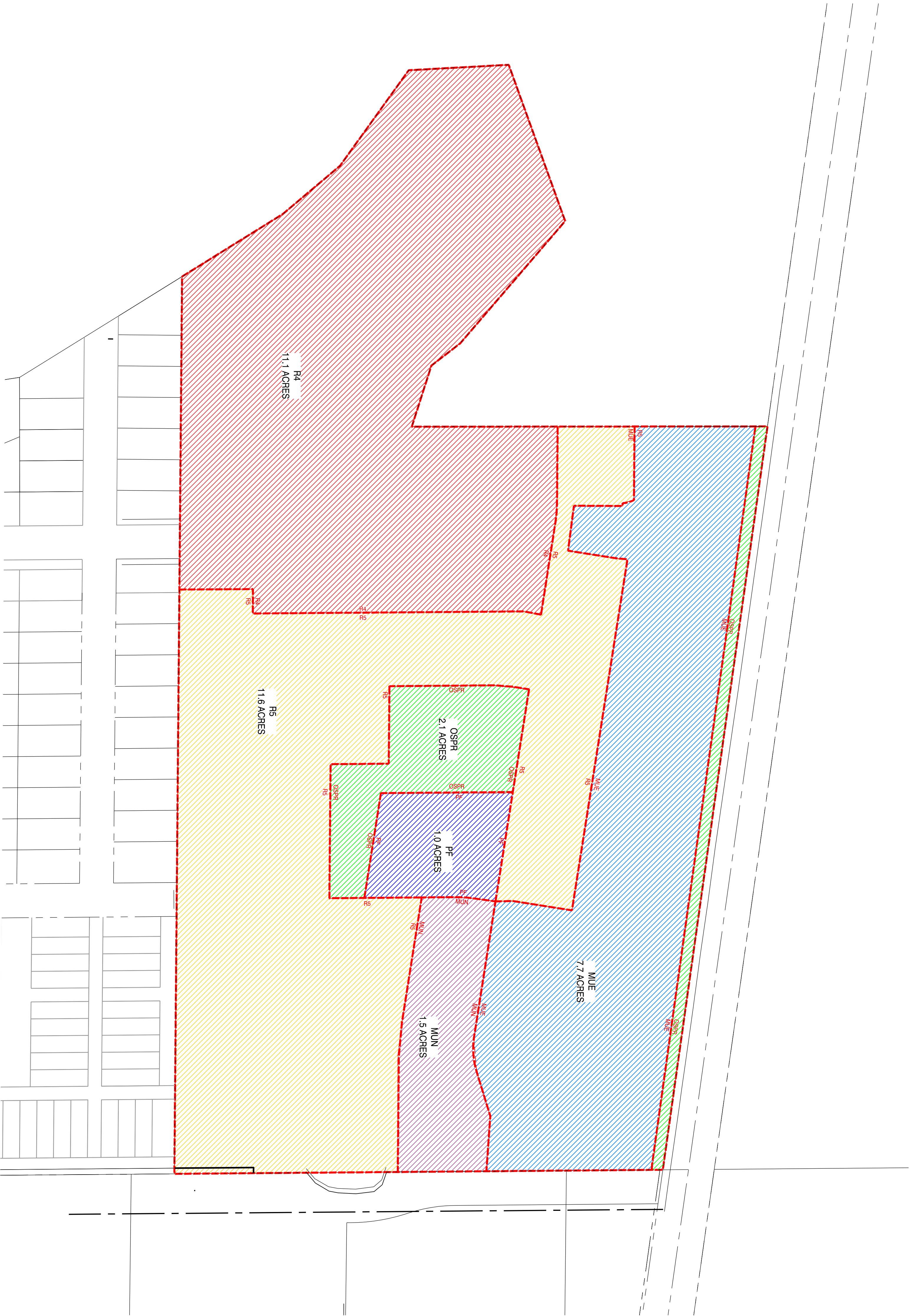
REGISTERED PROFESSIONAL
ENGINEER
05686PE
OREGON
MAY 12, 2005
HAYES A. MCCOY

RENEWAL DATE: 12/31/22

JOB NO. 20-245

DRAWN BY: JJW, EDN

DRAWING:
ZONING 2



PROPOSED ZONING
*ALL AREAS IN GROSS ACRES

JOB NO. 20-245
DRAWN BY: JWW, EDN
DRAWING:
ZONING 3

SHEET TITLE:
PROPOSED ZONING

PROJECT:
121 WEST

PROJECT LOCATION:
REDMOND, OR

CLIENT:
SGS DEVELOPMENT

H.A. M^cCOY
ENGINEERING & SURVEYING, LLC
1180 SW Lake Road, Suite 201, Redmond, OR 97756
Hayes McCoy
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541-923-7554 hayes@ham-engr.com

DRAWING STATUS:	DATE:	No.	REVISION:	DATE:
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RENEWAL DATE: 12/31/22



CCB: 183412

SGS DEVELOPMENT, LLC.
 DEVELOPING THE AMERICAN DREAM

BURDEN OF PROOF

121 West

DATE:	November 24, 2021
SUBMITTED TO:	City of Redmond Community Development
APPLICANT:	SGS Development, LLC 62765 Powell Butte Hwy Bend, OR 97701
PROPERTY OWNER:	North Canyon Properties, LLC PO Box 457 Redmond, OR 97756
APPLICANT'S CONSULTANT:	<u>Surveyor:</u> H.A. McCoy Engineering and Surveying, LLC 1180 SW Lake Road, Ste. 201 Redmond, OR 97756 (541) 923-7554 jason@ham-engr.com <u>Engineer:</u> H.A. McCoy Engineering and Surveying, LLC 1180 SW Lake Road, Ste. 201 Redmond, OR 97756 hayes@ham-engr.com
SITE LOCATION:	3211 N HWY 97 Redmond, OR 97756
DESCHUTES COUNTY ASSESSOR'S MAP:	1413330001800 & 1413330001805
SITE SIZE:	35.06 Acres
COMPREHENSIVE PLAN:	Highway Area Plan
ZONING DISTRICT(S):	R-4 • R-5 • OSPR • PF • MUN • MUE



I. EXECUTIVE SUMMARY

The Applicant, SGS Development, LLC is applying for a Modification of Approval to the existing Highway Area Plan (HAP) and Central Christian Master Plan for the subject site, and a Land Division. The requested modification requires an application to Amend the Zoning Map because the requested modification is to slightly change the size of various zoning designations in the master plan that are part of the city zoning map. The subject property is 35.06 acres and contains existing zones: R4, R5, OSPR, PF, MUN, and MUE.

The Modification of Approval and related Zoning Map Amendment are requesting to realign the borders and slightly adjust the sizes of the existing zones within the subject sites. The chart below provides the proposed changes to the overall sizes of the zones. The plan set included with this application provides a visual representation of the requested modifications to the zone boundary lines.

ZONE CHANGES		
ZONES	EXISTING (<i>gross acres</i>)	PROPOSED (<i>gross acres</i>)
R4	9.5	11.1
R5	11.4	11.6
OSPR	1.7	2.1
PF	0.7	1.0
MUN	2.7	1.5
MUE	9.0	7.7

The zoning map amendment request does not request to remove any requirements, goals, or uses of the approved existing Highway Area Plan (HAP) and Central Christian Master Plan for the subject site. The amendment request is a dimensional modification that slightly adjusts the current zone boundary lines and areas. The project narrative will demonstrate and show compliance with the Redmond Development Code while demonstrating that it does not conflict the existing HAP, Central Christian Master Plan, and Annexation Agreement's intent and purpose.

II. SITE DESCRIPTION/SETTING

The subject site is 35.06 acres in total area and consists of two tax lots. Existing vegetation is typical of high desert including mostly cleared, farm land and declining coniferous trees. The topography is minimal with a slope variation from 2951 to 2975. The site is currently zoned R-4, R-5, MUE, MUN, and OSPR/PF and it is the intention to keep, however slightly modify the orientation and magnitudes of the existing zoning.



III. PROJECT NARRATIVE

ARTICLE I - ZONING STANDARDS

RESIDENTIAL USE ZONES

8.0135 Table A, Residential Zones, Uses Permitted.

The following uses are allowed outright or conditionally in each of the Residential zones as follows:

"O" means Permitted Outright

"C" means Permitted Conditionally

"N" means Not Allowed

LAND USE:	ZONE:					RESTRICTIONS AND REQUIREMENTS:
<i>Residential Uses:</i>	R-1	R-2	R-3	R-4	R-5	
Accessory Building:						
Sheds, shops, garages excluding railroad cars not in railroad right of way, and movable shipping containers or similar storage containers that are not classified as structures.*	O	O	O	O	O	Detached; includes greenhouse, workshops, potting sheds, and the like must be located within the property and not in the yard setback areas.
Guest House	O	O	O	O	O	No kitchen; uses main houses' sewer & water
Accessory Dwelling Unit / Accessory Suite	O	O	O	O	O	Uses main houses' sewer & water or individual City Services; may have kitchen
Accessory Use	O	O	O	O	O	Includes Home Occupations
Apartments						See Multi-Family Complex / Dwelling
Bed and Breakfast	C	C	C	C	C	
Boarding or Rooming House	N	N	C	O	O	
Cluster Development	O	O	O	O	O	
Cottage Development	O	O	O	O	O	
Condominium	O	O	O	O	O	Condo plats are State regulated
Duplex	O	O	O	O	O	
Duplex Lot	O	O	O	O	O	
Manufactured Home	O	O	O	O	O	See Single Family Dwelling
Manufactured Home Park	N	N	C	C	C	
Manufactured Home Subdivision	N	N	O	O	O	Subject to compliance w/ applicable ORS
Multi Family Complex (5 +units)	C	C	C	O	O	
Multi Family Dwelling (3 & 4plex)	O	O	O	O	O	
Nursing, Convalescent, and Assisted Living Facility	N	N	C	C	C	More than 15 people
Planned Unit Development	N	N	C	C	C	
Residential Care Facility	N	N	C	C	O	Defined in and regulated by ORS
Residential Care Home	O	O	O	O	O	Defined in and regulated by ORS
Single Family Dwelling	O	O	O	O	O	



CCB: 183412

SGS DEVELOPMENT, LLC.
DEVELOPING THE AMERICAN DREAM

Townhouse	O	O	O	O	O	
-----------	---	---	---	---	---	--

Non Residential Uses:

Church, Religious Institution	C	C	C	C	C	
Community Center (private)	C	C	C	C	C	
Community Pool (private)	C	C	C	C	C	
Farm Use, Farming	O	O	O	O	O	
Mini Storage	N	N	N	O	N	2 ac. min., must front major arterial and subject to Site Design review.
Multi-Use Trail	O	O	O	O	O	
Park	O	O	O	O	O	
Livestock	O	O	O	O	O	Subject to livestock provisions, section 8.0365
Office	N	N	C	C	C	Only when previously established in R3 as 'office'
Retail	N	N	C	N	N	Only when previously established in R3 as 'retail'
School (private)	C	C	C	C	C	
Tennis Court (private)	O	O	O	O	O	Non-commercial use only
City Owned Utility Facility	O	O	O	O	O	
Private Utility Facilities	C	C	C	C	C	

All "R" zones are subject to density transfer provisions. See 8.0020, "Definitions", Density Transfer, and 8.0367, "OSPR / 'R' Zone Density Transfer Provisions."

*All or portions of shipping container, subject to staff's determination of appropriate architectural designs, may be used subject to building permit approval.

APPLICANT RESPONSE: This project application is requesting a subdivision within R-4 and R-5 zones. A subdivision application is permitted within the R-4 and R-5 zones. The proposed R-4 and R-5 lots included in the application submittal accommodate the permitted uses set forth for zones R-4 and R-5 in 8.0135, Table A of the City of Redmond Development Code. The applicant is not applying for approval of any specific development or approval of any buildings at this time. As set forth below, and depicted on the conceptual plan that is included in the application material, the proposed lots sizes all allow for permitted uses to be developed in the future.

8.0140 Table B, Minimum Standards.

The following minimum standards apply in each of the Residential zones as follows.

ZONE:

Standard:	R-1	R-2	R-3	R-4	R-5
Minimum Lot Size – Square Feet					
Single Family	9,000	9,000	7,500	5,500	5,500
Duplex	NA	10,000	8,000	7,500	7,500
Duplex Lot			4,250	3,750	3,750
Townhouse			E	E	E
Multi-family Dwelling	NA	NA	NA	F	F
Multi-family Complex	NA	NA		F	F
Maximum Density/Gross Acre	4	4	5	10	15
Minimum Setback Distance – See C, F, and H below					
Front Façade, excluding garage which must be 20 feet back from property line	15	15	15	10	10



Interior Side	B 5/10	B 5/10	B 5/10	B 5/10	5
Street Side	15	15	15	15	15
Rear	20	20	20	20	5
Garage	20	20	20	20	20
Maximum Building Height _F	32	32	32	40, E	40, E
Minimum Street Frontage					
Standard Street	50	50	50	50	50
Cul-de-sac	30	30	30	30	30
Flag Lot	20	20	20	20	20
Duplex Lot (non flag or cul-de-sac)	N/A	N/A	25	25	25
Townhouse				E	E
A Interior side yards must provide a minimum of 5 feet on one side and 10 feet on the other side for single family and duplex residences. Where alley access is provided, both interior side yards may be reduced to 5'. Exceptions to this 10' setback are allowed (1) when the lot was created prior to the adoption of this standard (November 9, 2006); or (2) on cul de sac lots; or (3) on flag lots, or (4) parcels created by partition.					
B Does not include solar setbacks, which are calculated separately					
D Pursuant to the Townhouse Development Standards in Chapter 8, Article IV Site and Design Review Standards, Section 8.3035.4.f.2, Table A.					
E Does not apply to development standards for Multi-family Dwellings and Multi-family Complexes which are located in Chapter 8, Article IV, Site and Design Review Standards, Section 8.3035.4.E.2., Table A					
F Street trees are required to be provided in accordance with Section 8.3035(5)(K)					
G ADU Rear-Yard and Other Setbacks (Zones R-1 and R-2 – <i>no change to setbacks since the lot sizes are quite large.</i>) For all other zones: 2 story ADUs – 20-foot rear yard setback; 2 story ADU that abuts an alley – 10-foot rear yard setback (driveway, if proposed, must still be 20 feet deep) 1 story ADU – 10-foot rear yard setback 1 story ADU that abuts a 20-foot-wide alley – 5-foot rear yard setback (driveway must still be 20 feet deep) ADU abutting a street corner – maintain front yard setback – side may be 5 feet for either 1 or 2 stories (driveway must still be 20 feet deep) ADU cannot extend in front of the house or front yard setback. ADU on lot abutting a commercial/industrial property – 5-foot rear yard setback regardless of height.					
N/A = "not allowed"					

APPLICANT RESPONSE: All proposed lots within the subdivision meet the dimension standards set forth in this code section. Please refer to the plan set for a visual representation of this.

8.0141 Architectural Design Standards for Single Family Dwellings, Duplexes, Tri-plexes, and Four-plexes.

1. Purpose. The purpose of these Architectural Design Standards is to promote and sustain:
 - A. High quality development throughout a variety of housing choices;
 - B. A diversity of individual styles that incorporate positive design characteristics throughout the city and,
 - C. Excellence in architectural design that:
 1. Enhances the visual environment and character of the community;
 2. Preserves and protects property values, as well as public and private infrastructure investment;
 3. Conveys a sense of balance, integrity and character among all neighborhoods throughout the City;
 4. Elevates the attractiveness and quality of life in Redmond; and



APPLICANT RESPONSE: This application does not include building design or construction. The applicant for building construction will be required to comply with these criteria. Therefore, these criteria can be met during future development.

8.0142 Architectural Design Standards for Multi-Family Structures with 5 or more attached units.

1. Procedure. New five-plex or greater attached units or Multi-family Complexes shall be reviewed for conformance with the requirements listed in this Section, subject to the procedures outlined below:
 - A. Track 1 – Clear and Objective Process. Conformance with Section 8.0142(2), below. An application demonstrating conformance with Section 8.0142(2) shall be submitted to the City. Conformance with the objective standards included in Section 8.0142(2) shall be shown on the architectural plans submitted with the building permit application and administered as part of the plan review process. These applications are reviewed administratively by the City.
 - B. Tract 2 – Discretionary Process. As an alternative to the Track 1 Process and/or in cases where the proposed design does not, or the applicant chooses not to comply with the requirements of the Track 1 Process, an application may be submitted to the City which demonstrates conformance with the Higher Density Design Guidelines in Section 4.

APPLICANT RESPONSE: The applicant is not requesting approval for any specific development or structures. Any multi-family and commercial buildings proposed in a future application are subject to Site and Design Review. Compliance with the requirements listed in Section 8.0142 for the proposed multi-family and commercial buildings will be addressed at that time.

OTHER ZONES

8.0220 Table E, Permitted Uses. The following land uses are permitted outright or conditionally in each respective zone:

"O" means Permitted Outright
 "C" means Permitted Conditionally
 "N" means Not Allowed

LAND USE:	ZONE:					COMMENTS:
<i>Residential:</i>	FG	OSPR	PF	Park	Airport	
Homeless Shelter	N	O*	C	N	N	
Single Family Dwelling	O	C	N	N	N	In conjunction with a use permitted by this section or a caretaker residence or in OSPR with approved density transfer.
<i>Farm Uses:</i>						
Grazing of livestock and horses	N	O	N	N	N	
Production of crops	N	O	O	N	N	
Livestock stabling	O	N	N	N	N	
Other Farm Uses	N	C	N	N	N	
<i>Non Residential Uses:</i>						
Public or Private Schools	C	N	C	N	N	
Parks, trails, reserve areas	O	O	O	O	N	
Public Facilities incl. Cemetery	N	O/C	O/C	O/C	N	Outright only when approved in the Comp Plan or Other Public Facilities Plan for OSPR and Park Zones. Conditional use if adjacent to "R" zone (applies to the PF zone only)
Expo Center Arenas	O	N	N	N	N	



Plaza, Amphitheater for Outdoor Events	O	C	O	O	N	
Campground for useduring Events	O	N	N	N	N	
Recreational and Sports Facilities	O	C	O	O	N	In the Public Facility Zone,recreation facilities shall be in public ownership.
Museum, Theater, Community Center	O	C	O/C	C	O	In the Public Facility Zone,outright uses for public andnon-profit agencies. Conditional use permits are required for commercial usesexceeding six (6) consecutive months or six (6) months withinthe same calendar year.
Commercial use accessory to permitted use	O	O	O	O	O	In the Public Facility Zone,commercial uses are limited to no more than 50% of the total floor area, building footprint or lot area, whichever is mostrestrictive. Commercial usesubject to special use permit review, requirements and standards.
RV Park	O	N	N	N	N	
Airport:						
Airfields					O	
General Aviation					O	
Passenger Terminal Complexes					O	
Air Cargo & Maintenance Facilities					O	
Support Facilities (Airlife, Fire, etc)					O	

APPLICANT RESPONSE: This proposed project involves development within OSPR and PF zone. The applicant is proposing Tract K to be zoned OSPR and be designed, constructed, and maintained as a pocket park for the residential subdivision and Multi-Family units. This is an outright permitted use for this zone. Centrally located within the project site is Tract A. The project is proposing the combination and development of the OSPR and PF zone within Tract A. Per Code Section 8.0220, Table E, parks are outright permitted in both OSPR and PF zones. Proposed improvements to the park will reflect those set forth in the 2017 Annexation Agreement [(2) f. included with the Land Use Application], or be agreed upon between the developer and the City. Therefore, the proposed development within the OSPR is in compliance and meets the intent of this code section.

8.0225 Table F, Minimum Standards. The following minimum standards are required ineach respective zone (all distances are measured in feet):

Minimum Setbacks & Yards - Feet	FG	OSPR	PF	Park	Airport
Front	10	10	10	10	10
Local Street	35	40	25	25	25
Collector	50	40	50	50	50
Arterial					
Interior Side					
Standard	10	20	F 10-15	F 10-15	F 10-15
Adjacent to R-Zone	25	25	25		
Street Side					
Local Street	10	25	10	10	10
Collector	25	25	25	25	25



Arterial	50	50	50	50	50
Rear					
Interior	10	20	10	10	10
Local Street	10	25	10	10	10
Collector	25	25	25	25	25
Arterial	50	50	50	50	50
Adjacent to R-Zone	25	25	25	25	25
Maximum Building Height -Feet	A 60	25	60	40	A 60/45
Minimum Street Frontage -Feet					
Standard Street	50	50	50	50	50
Cul-de-sac	30	30	30	30	30
Minimum Landscaping	15	15%	15%	15%	15%
Lot Coverage Maximum					
Non-commercial use					
Use adjacent to residential			E 75%		
Minimum Lot Size/Other	B*	N/A*	N/A*	N/A*	N/A*

APPLICANT RESPONSE: This proposed project includes subdivision and development within OSPR and PF zone. The OSPR and PF development will be combined and developed as a 1.86-acre City Park. The park is a corner lot and has frontage along two ROWs. The frontage on both roads far exceeds 50'. The park has yet to be designed. When the park is designed, it will be designed to meet the requirements set forth in Table F of 8.0225.

MIXED-USE ZONES

8.0250 Mixed-Use Neighborhood MUN Zone.

[Section 8.0250 added by Ord. #2009-03 passed May 26, 2009]

8.0255 Mixed-Use Employment MUE Zone.

[Section 8.0255 added by Ord. #2009-14 passed December 8, 2009]

8.0260 Table G, Uses Permitted. The following land uses are permitted outright or conditionally in each respective Zone as follows:

"O" means Permitted Outright

"C" means Permitted Conditionally

"N" means Not Allowed

LAND USE:	ZONE:			REFERENCE / STANDARDS:
	MUN	MUE	MULW	
<u>Residential Uses:**</u>				All stand-alone residential uses listed in Table G may not occupy more than 20% of the net land area in the MUN zone.
Assisted Living Facility	O	O		
Bed and Breakfast	C	N		
Multi-Family Complex (5+ units)	O*	O		See RDC Section 8.3035, Design Review Criteria.
Residential use above ground floor (mixed-use unit)	O	O		



Live/Work Dwelling	O	O	See definitions of live/work houses, townhouses and apartments, and standards in RDC Section 8.3035, Design Review Criteria Live/work units must be a minimum of 2 stories
Residential Care Facility	C*	C	
Townhouse (3 or 4 units)	O*	O	See RDC Section 8.3035, Design Review Criteria.
<u>Eating and Drinking</u>			
Bakery (retail/sit-down)	O	O	
Bar/tavern (where food is also served) Brew Pub	O	O	
Café, sit-down restaurant, diner	O	O	
<u>Entertainment</u>			
Indoor commercial recreation	O	O	See building area restrictions in Table H, Minimum Standards
Walk-in movie theater	C	O	
<u>Automobiles/Trucks/RV Uses:</u>			
Gas stations	C	C	
Auto services	C	C	Includes auto lube shops (same day service)
Manufacturing (light industrial)	C/N	O	Includes "craftsman" such as glass blowing, etc
Medical research facility	O	O	
Precision machine shop	N	O	
Retail uses in support of primary industrial use	O	O	
<u>Office and Office Products:</u>			
Office	O	O	Includes medical offices and professional services
Corporate Headquarters	O	O	Less than 50,000 sqft foot print
Office service and supplies	O	O	
Printing, publishing	O	O	
Telemarketing, call center	O/C	O	Outright allowed use on upper floors of a multi-story building or allowed as a conditional use on ground floor and limited to 50% of total floor area on ground floor in the MUN zone.
<u>Public and Semi Public Uses:</u>			
Churches, religious institutions	C	C	
Lodge, club, non-profit/fraternal organization	C	C	
Park (public or private)	O	O	
Public transportation station or public utility facility	O	O	See definitions.



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Schools (public or private)	C	C		
Recreation Facility (public or private)	O	O		
Private utility facility	C	C		
<u>Commercial Uses:</u>				
Retail Uses	O/C	C***		In the MUN zone, single retail uses are permitted outright up to 25,000 square feet in floor area; single retail uses between 25,000 and 40,000 square feet in floor area require a Conditional Use Permit.
Service Commercial Uses	O	O		
Veterinarian Services	O	O		
Drive through / up facilities as part of an approved use (facilities must include an inside use component such as seating or a service area, except for voting drop offs and postal dropboxes):	O	O		
<u>Residential Uses</u>				
Existing Single Family Residential Use prior to May 2011			O	
<u>Live/Work Uses:</u>				
Live/Work Units			O	
<u>Eating and Drinking</u>				
Bakery (retail/sit-down)			O	
Bar, tavern			O	
Café, sit-down restaurant, diner, brew pub			O	
<u>Entertainment</u>				
Indoor commercial recreation			O	
<u>Automotive Uses:</u>				
Auto service and repair			C	
Gas Stations			C	
<u>Industrial Uses:</u>				
Light Industrial Uses including manufacturing, fabrication, and assembly	C	O	O	
Office			O	
Distribution center			O	
Wholesaler			O	
Precision machine shop			O	
Research and development facility			O	
Contractor Service and Supply			O	Retail associated with this use is limited to 5,000 square feet.



Shop or studio (including woodworking and other artisans)		O	
Warehousing and Manufacturing		O	
<u>Office-Type Uses:</u>			
Office service and supplies		O	
Printing and publishing		O	
Telemarketing, call center, backoffice		O	
<u>Public and Semi Public Uses:</u>			
Churches, religious institutions		C	
Lodge, club, non-profit/fraternal organization		C	
Park (public or private)		O	
Public transportation station		O	
Recreation Facility (public or private)		O	
Schools (public or private)		O	
Private utility facility		C	
Public utility facility		O	
<u>Commercial Uses:</u>			
Retail Uses		O	In the MULW zone, retail use shall be only allowed as an accessory to an outright permitted or conditional use and shall be limited to 2,500 square feet per use.
Service Commercial Uses		O	In the MULW zone, service commercial uses shall support the neighborhood (such as beauty and barber shops, day care, dry cleaners) and shall be limited to 2,500 square feet per use.
Convenience Store		O	Limited to 2,500 square feet in size
New drive through / up facilities as part of an approved use (facilities must include an inside use component such as seating or a service area, except for voting drop offs and postal drop		C	Drive through or drive up facilities shall not be located within 600 feet of any arterial or collector intersection with a state highway, within 400 feet of a local street intersection with a state highway, and not adjacent to or have access to a state highway. Otherwise, drive through or drive up facilities may be located within 100 feet of a collector or arterial street intersection, and shall be separated from other drive through and drive up facilities by a minimum of 300 feet.

**** Any residential use is prohibited within 1 mile of the Redmond Airport Runway Protection Zone.**

***** In the MUE zone, commercial uses must be of a type and scale that is designed to support surrounding industrial and employment uses and may not be used for commercial development that serves a primarily regional retail function.**



APPLICANT RESPONSE: The applicant is not applying for approval of any specific uses or development at this time. As the conceptual plan illustrates, a future application will propose development within the MUN zone and MUE zone. The applicant understands the uses allowed and, consistent with the conceptual plan, will be proposing uses allowed on those zones such as Live/Work Units, multi-family structures and service commercial uses.

8.0265 Table H, Minimum Standards

STANDARDS:	ZONE:			REFERENCE/ STANDARDS:
	MUN	MUE	MULW and MULW-SD	
Minimum Yard Setbacks				
Front Local Street Collector Arterial	0**	10 ft. 15 ft. 25 ft.	10 ft. 15 ft. 25 ft.	
Interior Side Standard Adjacent to R zone	No minimum 25 ft.	No minimum 25 ft.	No minimum	
Street Side Same as Front Local Street Collector Arterial	0 ft.	10 ft. 15/25 ft.	10 ft. 15 ft. 25 ft.	Shall meet minimum setback to local, collector or arterial street.
Rear Interior	0 ft.	10 ft.	10 ft	
Adjacent to alley	0 ft	25 ft.	10 ft.	
Maximum Building Height	45 ft.***	45 ft.****	45 ft.	
Minimum Street Frontage	25 ft.	25 ft.	25 ft.	
Minimum Landscaping	15%	15%	10%	In the MUN zone, can be satisfied with street trees or shared open space
Maximum Lot Coverage	80%	80%	N/A	
Minimum Lot Size	2,500 sq. ft.	6,000 sq. ft.	5,000 sq. ft.	Only applies to non-residential uses.
Maximum Building Footprint Per Single Use	40,000 sq. ft.	60,000 sq. ft.		Only applies to non-residential uses.
Outdoor Storage	Not allowed as a permanent use	80% of primary building		Only permitted through site design review. Maximum size of storage area shall not exceed 40,000 square feet for any single use.

Note: Residential uses permitted in Mixed-Use zones shall be subject to the density standards for the R-5 zone.

**Buildings shall be built to a minimum of 0 feet and a maximum of 15 feet of the front property line. A greater front yard setback may be approved through Site and Design Review if the setback area incorporates enhanced public spaces and pedestrian amenities such as plazas, arcades, outdoor cafe, benches, street furniture, public art, kiosks, or additional landscaping.

***To foster compatibility between new multi-story buildings and existing single-story dwellings, multi-story buildings and structures in Mixed Use Neighborhood (MUN) district shall “step-down” to create a building height transition to adjacent single-story building(s) in low-density residential districts (R-1 and R-2), as provided in subsections 1-3, below:



1. This standard applies to new and vertically expanded buildings and structures in the MUN district that are within [25] feet (as measured horizontally) of an existing single-story building in low-density residential (R- 1 and R-2) districts with a height of [20] feet or less, as shown in the figure below.
2. The transition standard is met when the height of the taller structure (“x”) does not exceed one (1) foot of height for every one (1) foot separating the two structures (“y”), as shown in the figure below.
3. Exception: The provisions of subsections 1-2 do not apply when the approval body finds that the subject single-story buildings located within [25] of the subject site are redevelopable. “Redevelopable,” for the purposes of this Section, means a lot either has an assessed market value that exceeds the assessed market value of all improvements on the lot, based on the most recent data from Deschutes County Assessor’s Office; or the front yard of the subject lot is large enough that it could be subdivided based on the residential district standards.

APPLICANT RESPONSE: The applicant is not applying for approval of any specific uses or development at this time. As the conceptual plan illustrates, a future application will propose development within the MUN zone and MUE zone. All lots proposed meet the lot standards for those zones and, as the conceptual plan illustrates, allow for development that can meet the above development standards.

SUPPLEMENTARY PROVISIONS

8.0300 Master Development Plans. A Master Development Plan is required to annexation as a condition of annexation, or after annexation but prior to or concurrent with rezoning from Urban Holding-10 to other City zoning districts. The specific requirements for a Master Development Plan are as follows:

1. Applicability. This section applies to all properties proposed for annexation and/or rezoning from Urban Holding-10 on or after the date of the adoption of this ordinance.
2. Purpose. The purpose of Master Development Plan is to provide:
 - A. Orderly and efficient development of the City consistent with Urban Framework Plans and an adopted Area Plan.
 - B. Compatibility and/or transitions with adjacent developments and the character of the area.
 - C. A complementary mix of uses and activities.
 - D. An interconnected transportation network – streets, bicycle routes, and pedestrian trails – within the master plan area and to existing and planned City streets, routes and trails.
 - E. A range of housing choices for areas planned to have residential components.
 - F. A range of open spaces and recreation facilities, as needed to facilitate the Framework Plan and an adopted Area Plan.
 - G. Public and semi-public facilities and services.
 - H. Preservation of historic buildings, scenic views, and natural resources to the greatest extent possible.
 - I. Transitions or buffers between urban development and rural areas.
 - J. Implementation of Redmond’s Comprehensive Plan, including adopted Area Plans and the Great Neighborhood Planning Principles described in 3(C)(13) below.

APPLICANT RESPONSE: The subject property has already been annexed and is within the existing Central Christian Master Development Plan and Highway Area Plan (HAP). A master development plan was already created for this site in the Annexation Agreement (Deschutes County Recording No. 2017-024909). This project proposal includes a modification request to the approved master plan. Based on communications with city staff, the applicant understands that the modification to the master plan it is proposing necessitates a request to amend the zoning map to reflect a slight adjustment of the zone boundary lines and areas so it may align with the proposed layout. The project includes all the zones required of the Annexation Agreement (R4, R5, OSPR, PF, MUE, MUN). The existing and approved master development plans (Central Christian and HAP) meet the requirements set forth in 8.0300. The proposed development meets the requirements set forth in the approved master plan and annexation agreement (Central Christian and HAP). This application is not requesting any modifications or



revisions to the types of zones in the master plan the allowed uses or intents of the current master plan and annexation agreement. The applicant is simply seeking dimensional modification to the existing zone boundary lines and areas. The changes to the zone areas are minimal and do not affect the original intent or requirements of the master plan and annexation agreement.

Summary Proposed Finding for Section 8.0300.3.E:

The project proposal still meets the intents of the Great Neighborhood Principles. The proposal includes an expansive transportation network that connects all areas of the project for multi-modal transportation. Additionally, the project includes two additional pathways that allow for pedestrian only paths/trails. The path/trail system located in Tract K is designed to include multiple amenities along the trail (community gardens, outdoor recreation/activities, and seating areas). The project includes a variety of housing options, including but not limited to, multifamily (5+ units), townhomes, single family, live/work, etc.... This will allow for a diverse range of residents and housing options based on their needs. All residents will have direct multimodal access to open space amenities that include several tot lot and green spaces nestled into different areas of the subdivision. Additionally, there is a large 1.86-acre park located in the center of the entire project that will benefit the 121 West community and the entire Redmond community. A variety of activities will be provided within all the parks. The applicant intends to work with the City of Redmond on the design of the parks to make sure all open spaces offer diverse activities for all community members. All tot lot tracts will be developed by the applicant and serve the entire community with multiple amenities. The future path has been designed to allow for an extension and connection into a larger pathway network by being developed to the subject site property lines. In addition to the tot lot tracts, the applicant has included a handful of landscape tracts to create designated green spaces adding to the visual appearance and enjoyment for the community. This project proposal includes a large variety of housing while also offering direct access to community parks, trails, tot lots, and commercial/retail businesses for the future residents.

Therefore, this project meets the original zones use, intent, and requirements of the Area and Master Plans while contributing to and expanding upon the Great Neighborhood Principles. Therefore, this modification request is in compliance with these criteria.

3. Procedures for Review.

C. Master Development Plan (MDP) or Partial Master Development Plan (PMDP) Submittal Requirements and Approval Process.

An application for approval shall include the submittal requirements set forth in the City's Land Use Review application form as well as the elements described below.

1. Narrative. A narrative shall set forth the goals and objectives of the plan and describe the urban characteristics of the planned area.
2. Development Plan Map. A map of the plan area and surrounding vicinity shall indicate planned land uses for each land parcel in the area, including plans for park and open space and community facilities, if known. The plan shall show proposed comprehensive plan map designations and zoning. The plan shall include a list of all affected properties with tax lot numbers, current ownership, parcel size, and other information that is pertinent to the plan.
3. Land Use Diagram. The land use diagram shall generally indicate the distribution and location of planned land uses for the master plan area, including plans for park and open space and community facilities, if known. The plan shall show proposed comprehensive plan designations, zoning, and density.
4. Significant Resources Inventory. An inventory of significant natural resources, scenic and historic resources, and open space areas including those identified on the City's adopted inventory and



those that have the potential to qualify for protection under Redmond's Goal 5 resource protection program. When significant resources are present, the proposed plan shall include a management plan to protect resource sites;

5. Parks and Open Space. Identify land suitable for park and recreation use in accordance with the needs analysis in the City of Redmond ParkMaster Plan (Park Plan) and an adopted Area Plan. In particular, where the Park Plan indicates there is a need for neighborhood or community park, the master plan shall identify sites that may be suitable for park development using the design and location criteria from the Park Plan or an adopted Area Plan. Density transfers, SDC credits, dedication, and other value consideration may be identified in the planning process to compensate property owners for land dedicated to public use;
6. Air, Noise, and Water Resources. Review air, noise and water resources that may be impacted by planned development and address how adverse impacts will be avoided or mitigated in compliance with applicable local, state, and federal regulations. The analysis may use City public facility plans, technical studies, and policies to meet this requirement when those plans address how urban development in the plan area can be served. In these instances, the Master Development Plan must show that the envisioned land uses in the plan area are consistent with the land use assumptions in the public facility plans. This requirement is particularly important for storm water management.
7. Natural Hazard Areas. Inventory areas subject to natural hazards, particularly steep slopes, and program urban development that is suitable for the identified hazard areas;
8. Residential Uses. Identify areas planned for housing development, if any, and the proposed zoning districts to be applied. The housing plan must identify a mix of housing types and densities so that the overall density in the area meets or exceeds the housing density objectives for the area that are identified in the Redmond Urban Framework Plan, adopted Area Plans, and the Comprehensive Plan. The Framework Plan and adopted Area Plans provide general guidance on housing densities that need to be achieved in order to meet future housing needs. Where proposed residential land uses differ from those shown in the Redmond Urban Framework Plan or adopted Area Plans, the master plan shall demonstrate how it meets the overall housing objectives of the Redmond Urban Framework Plan or adopted Area Plans. Applicants may propose new zoning districts when the proposed district(s) in total achieve the housing densities envisioned in the Redmond Urban Framework Plan or adopted Area Plans.
9. Employment Uses. Identify areas planned for employment use and/or mixed uses and the proposed zoning for these areas. Applicants may propose new zoning districts in cases where existing districts are not suitable for the planned development provided the proposed district(s) achieve similar land improvement values and/or employment densities envisioned in the Redmond Urban Framework Plan or adopted Area Plans.
10. Transportation Analysis and Diagram. Prepare a transportation impact analysis including a grid street plan that is consistent with street spacing and connectivity guidelines in the *Redmond Transportation System Plan (TSP)* and adopted Area Plans. Show the proposed classification for all streets down to collector roadways. Show the location of approved TSP improvement projects and any capital improvements that may need to be added to the TSP in order to serve the plan area. Show proposed bicycle pedestrian, and trail routes. Show how planned transportation facilities will connect to transportation facilities in adjacent urban areas.
11. Public Facilities Analysis and Diagram. The plan shall include a conceptual layout of public facilities, (including sanitary sewer, water, and storm drainage, needed to support the planned uses. The Public Facilities Analysis must be consistent with the city's adopted *Public Facility Plan (PFP)* and related facility master plans, including improvements related to the adopted Area Plan that may require amending the PFP.



12. North Redmond US 97 Interchange Area Management Plan (IAMP) Compliance. The master plan shall comply with the following policies, if applicable:
 - a. Any property newly annexed within the IAMP area shall have:
 1. Direct Access to a local public street other than a state highway consistent with the Local Street Connectivity Plan; and,
 2. Any property to be annexed to the City shall relinquish all direct access rights to a state highway as a condition of development approval (when a legal alternative access exists).
13. Great Neighborhood Principles. Master Development Plans shall address applicable Redmond Great Neighborhood Principles described below. In instances where the property proposed for a Master Development Plan is located within the boundary of an adopted Area Plan, the Master Development Plan shall also address the Great Neighborhood Principles according to the specificity provided in the Area Plan.

APPLICANT RESPONSE: A previous master plan and annexation agreement apply to the subject site and property. As part of the master plan and annexation agreement, zones were created and requirements were put in place to meet the Great Neighborhood Principles. This project application does not request to remove any of those standards or requirements and is in compliance with those. This project proposal which includes this narrative and the submittal requirements set forth above, expands on the requirements and intentions of the original approvals. Please refer to responses below for more details on the project proposal and how it meets the Great Neighborhood Principles.

- b. Transportation. Connect people and places through a complete grid street network and trail system that invites walking and bicycling and provides convenient access to parks, schools, neighborhood service centers, and possible future transit stops. Traffic calming techniques and devices may be required to slow vehicles. Curves streets are encouraged to provide interest and variety in neighborhood design. Trails shall be provided to link with other pedestrian facilities existing, or planned in the future.

APPLICANT RESPONSE: This proposed modification continues to have an expansive transportation design consistent with that approved in the original Master Plan approval. All roads proposed within the project extend to the property boundaries and allow for future connections of adjacent developable properties. Within the project, all future lots have direct access to public ROW. This allows all pedestrians to easily access the entire sidewalk network along all future roads. The future roads will allow for both vehicular and bicycle traffic on the pavement and pedestrian sidewalks. In addition, the project proposes a pedestrian path connection to the proposed pathway in Tract K. The path in Tract K is proposed to a pedestrian only pathway that runs along the entire eastern property line. Future developments to the North and South will have the option to connect into this pathway allowing for a potential expansive pedestrian path network. Pedestrians will have a direct connection to the public sidewalks from the proposed path in Tract K. This will allow for all community members to access the Tract K path. Therefore, this project design continues to support the desire for diverse and accessible transportation.

- c. Housing. A mix of housing types and densities shall be integrated into the design of new neighborhoods unless a variance is approved. Housing developments containing more than five attached units must be designed to be consistent with the Higher Density Multifamily Design Guidelines.

APPLICANT RESPONSE: This proposed modification adjusting the size of various zoning areas continues to allow for a large variety of housing options that will appeal and be available to a diverse set of future residents. As the applicant depicts in its material, the modification supports the eventual development of single family residential,



townhomes, live/work units, and multi-family apartments. This project design continues to support the desire for diverse and accessible housing types and densities.

- d. Open spaces, greenways, recreation. All new neighborhoods shall provide useable open spaces with recreation amenities that are integrated to the larger community. Central parks and plazas shall be used to create public gathering places where appropriate. Incorporate significant geological features such as rock outcroppings, stands of clustered native trees, etc. into the design of new neighborhoods. Neighborhood and community parks shall be developed in appropriate locations consistent with policies in Redmond's Parks Master Plan.

APPLICANT RESPONSE: The master plan with the proposed modification continues to include sufficient land for open space, greenways and recreation. The applicant's material demonstrates that with the proposed modification, the development can include 4 pocket parks (totaling 40,698 sqft), a large (1.86 acre) public park, and 5 landscape tracts. With this variety of open spaces, the applicant will be able to create a large variety of accessible recreational designs and activities for future residents. The applicant intends to work with the City of Redmond on designs to make sure they are in compliance with code. Therefore, this project proposal continues to support the desire for diverse and accessible open spaces, greenways, and recreation.

- e. Integrated design elements. Streets, civic spaces, signage, and architecture shall be coordinated to establish a coherent and distinct character for the Master Development Plan. Plans may integrate design themes with adjacent developed or planned areas.

APPLICANT RESPONSE: It is the intent of the applicant to work with the City of Redmond through their planning, building and public works departments to create approvable designs during the construction plan development and reviews with the goal of creating an integrated design theme.

- f. Diverse mix of activities. A variety of uses is encouraged in order to create vitality and bring many activities of daily living within walking and biking distance or a short drive of homes. Amenities including, but not limited to, trails, recreation areas, open spaces, shall be constructed before occupancy of any residential unit, unless a phasing plan is approved. Commercial service areas must be supported by a market analysis and phasing program which will be used by the City to determine construction timing.

APPLICANT RESPONSE: With the proposed modification the approved master plan continues to facilitate a variety of uses. As previously stated throughout the entire narrative, there are multiple future public spaces that will allow for the 121 West and Redmond community to gather and use. Additionally, the applicant is proposing several areas of commercial development. This will allow businesses that attract customers and potentially community members employment within walking distances.

- g. Public art. Places for the installation of public art is required at the gateways to neighborhoods and/or in and around the center of neighborhoods to provide focal points.

APPLICANT RESPONSE: Per the annexation agreement, the applicant intends to donate \$100 per housing unit to the Redmond Committee for Art in Public Places.

- h. Scenic views. Identify and preserve scenic views and corridors of the Cascade Range, Ochoco Mountains, and Smith Rock where practicable such as in street view sheds or park areas. Streets and common or public open spaces should be located and oriented to capture and preserve scenic views for the public. Minimize visual clutter from signs and



- utilities within scenic corridors.
- i. Urban – rural interface. Urban development shall interface with rural areas through landscaped open space buffers at least 100 feet wide and the length of the urban development, excluding public streets, or shall be transitioned from higher density development to lower density development at the urban - rural interface, or utilize other appropriate and equivalent transitional elements.
 - j. Fully developed “pocket parks” or “tot lots” shall be incorporated into medium and high density zoned residential subdivisions and site plans. These areas shall be developed for every twenty-five lots/units, a minimum of 3,000 square feet and privately maintained. Park amenities shall, at a minimum, include turf areas, benches, trees, and decorative features.

APPLICANT RESPONSE: The applicant is not proposing any specific development at this time. However, it has included with the application a conceptual plan to help illustrate how the proposed modification continues to meet the master plan requirements in Section 8.0300. The conceptual plan included with this application package illustrates how the above standards can be achieved.

- k. Canal trails. If canals or laterals are present, multi-use trails at least 10 feet wide shall be provided, subject to the Central Oregon Irrigation District’s review and approval. Pedestrian amenities such as benches and trash receptacles shall be provided at appropriate locations.
- l. Green Design. Environmentally friendly and energy efficient design is encouraged for public and private infrastructure, architecture and building orientation, open spaces and natural areas and transportation facilities. In addition, the planting of native, drought-resistant trees is encouraged to provide shade and to minimize water usage.

APPLICANT RESPONSE: A master development plan was already created for this site in the Annexation Agreement (Deschutes County Recording No. 2017-024909). It was found that the above standards could be satisfied with development consistent with the approved master plan. This project proposal includes a modification request to the approved master plan. The applicant is requesting a zone map amendment which includes a slight adjustment of the zone boundary lines and areas so it may align with the proposed layout. The project is still including all the zones required of the Annexation Agreement (R4, R5, OSPR, PF, MUE, MUN). The above standards can still be satisfied with the minor modifications proposed.

- E. Amendment/Modification to Master Development Plan. Any modifications to the approved master development plan shall be subject to the standards and procedures in Article II, “Modifications”, and subject to the review criteria contained in this section.

APPLICANT RESPONSE: The applicant is applying for a modification of the approval of the Central Christian Master Plan pursuant to Section 8.1400 in Article II and later in this narrative addressed the specific criteria in that code section. The reason for this request is so the zoning can align with the feasible, proposed development plan. The project still includes all the required zones of the Annexation Agreement (R4, R5, OSPR, PF, MUE, MUN) and remain similar in size. The modification the applicant is requesting does not change the zone, use, requirements or intent of the already approved Area and Master Plan or annexation agreement. Please refer to the table below for the exact changes in zoning size and the plan set for the visual presentation of the modified zone boundaries.



ZONE CHANGES		
ZONES	EXISTING (<i>gross acres</i>)	PROPOSED (<i>gross acres</i>)
R4	9.5	11.1
R5	11.4	11.6
OSPR	1.7	2.1
PF	0.7	1.0
MUN	2.7	1.5
MUE	9.0	7.7

The applicant will address the specific requirements in Section 8.0300 below. As an overview, the project proposal still meets the intents and expands upon the Great Neighborhood Principles. The proposal includes an expansive transportation network that connects all areas of the project for multi-modal transportation. Additionally, the project includes two additional pedestrian only pathways. The trail system located in Tract K is improved with multiple amenities along the trail (community gardens, outdoor activities, and seating areas). The proposed amendment remains consistent with the original approved master plan allowing for a variety of housing options, including but not limited to, multifamily (5+ units), townhomes, single family, live/work, etc.... This will allow for a diverse range of residents and housing options based on their needs. All residents will have direct multimodal access to open space amenities that include four pocket parks and a large 1.86-acre park located in the center of the entire project. These open space amenities will benefit the 121 West community and the entire Redmond community. A variety of activities will be available between all the parks. The applicant intends to work with the City of Redmond on the design of the parks to make sure all open spaces offer diverse activities for all community members. All tot lot tracts will be developed by the applicant. In addition to the parks, the applicant has included a handful of landscape tracts to create designated green spaces adding to the visual appearance and enjoyment for the community. This project proposal includes a large variety of housing while also offering direct access to community parks, trails, pocket parks, and commercial/retail businesses for the future residents.

Therefore, this project meets the original zones use, intent, and requirements of the Area and Master Plans while contributing to and expanding upon the Great Neighborhood Principles. Therefore, this modification request is in compliance with these criteria.

8.0305 Establishment of Clear Vision Areas. Clear vision areas are measured as follows: starting at the edge of pavement or curb lines at the intersection of two vehicular ways, and measuring along each edge of pavement for the distance shown below; this will result in an angle. The end points projecting from the vertex of the angle are then connected, forming a triangle. The area within the triangle is the horizontal clear vision area. The vertical clear vision area is the area above the triangle, between 3' and 8' in height. Clear vision distances shall be as follows:

1. At an intersection of two streets having 90-degree angles at the intersection, the minimum distance shall be 25 feet.
2. At traffic circles, acute or obtuse angles, and other non-conventional intersections of two streets, the clear vision area may be determined by the Hearings Body or City Engineer. However, the clear vision area shall make every attempt to incorporate the 25' line of sight distance as is stated in (1).
3. All other vehicular intersections, including alleys the minimum clear vision distance shall be 15'.

APPLICANT RESPONSE: The proposed project is planned to allow for all clear vision standards to be met when future development exists. Compliance with the requirements of Code Section 8.0305 will be reviewed at the time of building permits.



8.0367 OSPR / "R" Zone Density Transfer Provisions. ANNEXED TO THE CITY

1. All property within the North Redmond US 97 Interchange Area Management Plan (IAMP) area, and annexed to the City, shall be subject to a condition of development approval that stipulates the property shall:
 - A. Have immediate direct access to a local public street other than a state highway,
 - B. Comply with the IAMP Local Street Connectivity Plan (Comprehensive Plan Addendum Chapter 9 Transportation Element figure 1), and;
 - C. Relinquish all direct access rights to a state highway when a legal alternative access exists. (Amended by City Ordinance 2007-9, June 9, 2007)

APPLICANT RESPONSE: The subject sites are located within the North Redmond US 97 Interchange Area Management Plan (IAMP) and include OSPR and Residential zoned parcels. These parcels have direct access to local public streets and will *not* have direct access to state highways. The proposed street plan meets the intent of the plans established in the 2020 Comprehensive Plan Addendum, though are altered slightly due to development feasibility, and current standings of the surrounding properties. Please refer to the plan set included with this project submittal for a visual representation of this. Therefore, the proposed project meets the intent of Code Section 8.0367.

OFF STREET PARKING & LOADING REQUIREMENTS

8.0500 Off-Street Parking. Parking space requirements are based on the following standards according to the use (note: all required handicapped parking is included in the calculation derived parking standards within these charts). Manufacturing, warehousing, and other industrial uses may base the number of required parking spaces on the number of employees. When the number of employees is specified, persons counted shall be those working on the premises, including proprietors, during the largest shift at peak season.

Land Use	Standard: Unless Transportation Analysis supports other methods as approved by CityEngineer
<i>Residential</i>	
All residential uses within the Downtown Overlay District	1 space per Dwelling Unit.
Apartments	2 sp / D.U.*; 1 sp / Mgr, 1 sp / 10 D.U.'s*
Bed and Breakfast	1 space per bedroom
Boarding House	1 space per bedroom
Caretaker, Watchman living on-site	2 spaces per dwelling unit
Cottage Developments	2 spaces per cottage
Guest Houses / Access. Dwellings	1 space per dwelling unit
Homeless Shelter	1 space per room, or 1 space per employee
Multi Family Complex (over 4 D.U.s)	2 sp / D.U.*; 1 sp / Mgr, 1 sp / 10 D.U.'s*
Multi Family Dwelling (incl. 3 & 4 plex)	2 sp / D.U.*
Res. Use other than Ground Floor	2 spaces per dwelling unit
Res. Use, Ground Floor < 25%	2 spaces per dwelling unit
Res. Care Facility (6 or more residents)	1 space per each 2 rooms
Res. Care Home (5 or less residents)	2 spaces
Single Family Dwelling	2 spaces per dwelling unit
Townhouse	2 spaces per dwelling unit
*Dwelling Unit	



<i>Commercial / Industrial</i>	
All Downtown Overlay District Commercial and Public Facility Uses	1 space per 500 net square feet of building area
Amusement Park	20 spaces per acre
Arena (Indoor Sports)	1 space per 4 seats
Auto Sales (New and Used) & Rentals	1 space per sales office or cubicle
Auto Service	1 space per service bay
Bulky Retail (incl. RVs, Furniture)	1 space per 600 s.f. of retail floor area
Child Care, Day Nursery	1 space per employee; designated pickup area req'd
Commercial, Service, Repair	1 space per 600 s.f. of retail floor area
Contractor's Yard	1 sp per employee or 1 space per 200 s.f. of office area
Driving Range	1 space per driving cage + 1 space per employee
Eating and Drinking Establishment	1 space per 100 s.f. of net square footage
Eating and Drinking Establishment (within MUN and MUE zone)	The first 1,000 square feet of total floor area is exempt from the parking standards. 4 spaces per 1,000 s.f. total floor area for buildings over 1,000 total square feet in floor area. Common parking may be provided in lieu of on-site parking subject to Section 8.0505 (12) Off-Street Parking and Loading Standards.
Equipment Rental	1 space per 600 s.f. of retail floor area
Equipment Sales and Service	1 space per 600 s.f. of retail floor area
Espresso Stand or Booth	1 space per employee
Golf Course	100 space per 18 holes / 50 spaces per 9 holes
Gymnasium, Fitness Center, Spa	1 space per 300 s.f. of net square footage
Industrial, General	1 space per 800 s.f.
Industrial, Service related	1 space per 800 s.f.
Kennel	1 space per employee, plus 2 spaces for public
Manufacturing and Assembly	1 space per 600 s.f.
Mini Storage	1 space per employee, plus 3 guest spaces- Interior aisles must be paved/used for unloading
Mixed Use (within MUN and MUE zone), structures containing more than one principal land use	The first 1,000 square feet of total floor area is exempt from the parking standards in the MUN zone, not in the MUE zone. Two (2) spaces for the first 1,000 s.f. of net floor area or fraction thereof and 1 space for each 500 s.f. thereafter. Common parking may be provided in lieu of on-site parking subject to Section 8.0505 (12) Off-Street Parking and Loading Standards.
Mobile / Mfd Home Sales & Service	1 space per 600 s.f. of office area
Mortuary or Funeral Home	1 space per employee, plus 4 spaces for public
Motel, Hotel	1 space per room, plus 1 space for mgr
Office	1 space per 300 s.f. of net office floor area
Office (within MUN and MUE zone)	The first 1,000 square feet of total floor area is exempt from the parking standards in the MUN zone, not in the MUE zone. 2 spaces for the first 1,000 s.f. of net floor area or fraction thereof and 1 space for each 500 s.f. thereafter. Common parking may be provided in lieu of on-site parking subject to Section 8.0505 (12) Off-Street Parking and Loading Standards.



Recreation, Indoor Commercial	1 space per 4 seats
Recreation, Outdoor Commercial	20 spaces per acre
Retail, General	1 space per 200 s.f. of retail floor area
Retail (within MUN and MUE zone)	The first 1,000 square feet of total floor area is exempt from the parking standards. 2 spaces per 1,000 s.f. total floor area for buildings over 1,000 total square feet in floor area. Common parking may be provided in lieu of on-site parking subject to Section 8.0505 (12) Off-Street Parking and Loading Standards
Shopping Center	1 space per 250 s.f. of floor area for centers w/ 5+ tenant spaces & mixed uses
Telemarketing / Call Center	1 space per employee, plus 5 guest spaces
Theater, Walk-in	1 space per 4 seats
Truck Stop	1 space per 100 s.f. eating area (or 1 space per employee if no food is served)
Veterinarian	2 spaces per DVM
Warehouse	1 space per 1000 s.f.
<i>Public and Semi-Public Uses</i>	
Church, Religious Institution	1 space per 4 seats
Convention Center	1 space per 4 seats
Hospital	1.75 space per employee, plus 1.5 spaces per bed (offices / outpatient stalls are calculated separately)
Lodge, Club, Non-Profit/Frat Org.	1 space per 4 seats
Park (public or private)	5 spaces per acre
Public Recreation Facility/Community Center	1 space per 300 s.f. of net square footage
Public Transportation Station	1 space per 1000 s.f. (enclosed) 1 auto + 1 RV space for each design. RV place + 5 guest spaces (each RV space shall be at least 30' long)
RV Park (public or private)	
Schools (public or private):	
Elementary	3 spaces per classroom
Middle School	4 spaces per classroom
High School	8 spaces per classroom
College	1 sp. per employee + 1 sp. per each 2 students
Trade School, Adult Training	1 sp. per employee + 1 sp. per each student
Utility Facility	1 space

APPLICANT RESPONSE: The applicant is not proposing any specific development at this time and thus, this section is not applicable to this application. The applicant understands that it will be required to submit for Site and Design Review under Section 8.3000 at a later date and will have to demonstrate compliance with the requirements in this section at that time. The applicant submitted a conceptual plan to demonstrate that the Master Plan and Subdivision standards are satisfied. The conceptual plan demonstrates that it is feasible to satisfy all parking requirements in future applications.

8.0505 Off-Street Parking and Loading.

APPLICANT RESPONSE: The applicant is not proposing any specific development at this time and thus, this section is not applicable to this application. The applicant understands that it will be required to submit for Site and Design Review under Section 8.3000 at a later date and will have to demonstrate compliance with the



requirements in this section at that time. The applicant submitted a conceptual plan to demonstrate that the Master Plan and Subdivision standards are satisfied. The conceptual plan demonstrates that it is feasible to satisfy all parking requirements in future applications.

8.0575 Special Exceptions to Lot Size Requirements.

1. Any parcel of land or portion thereof which is to be dedicated to a public or semi-public entity for a road, canal, railroad, utility or other public use shall be exempt from the minimum lot size requirements set forth by these standards.
2. For partitions involving parcels located in residential areas platted before the effective date of the current minimum lot size standards and abutting lots or parcels of substandard size under the current minimum lot size standards, an exception to the minimum lot size in the zone may be allowed if the following criteria are met:
 - A. The minimum lot size for a parcel created pursuant to this exception shall be equal to or greater than the smallest lot area of the lots or parcels abutting the parent parcel.
 - B. The exception provides for adequate provision of light, air and privacy to abutting properties. This section does not exempt solar setbacks from being applied for any lot created under these provisions (where applicable).
 - C. The exception provides for the preservation of natural features, where appropriate.
 - D. The exception will have minimal adverse impact on the livability, value or development of abutting properties and the surrounding area.

APPLICANT RESPONSE: This project includes multiple tracts that will be semi-public for future “pocket-parks” and landscape tracts. These are all substandard to minimum lot standards. Therefore, said parcels and tracts are considered a ‘Special Exception’ and meet the applicable criteria.

AMENDMENTS

8.0750 Authorization to Initiate Amendments. An amendment to the text of these standards, or to the City Comprehensive Plan Map may be initiated by either City Council, or the Planning Commission. A property owner may initiate a request for a map or text amendment by filing an application with the Community Development Department.

APPLICANT RESPONSE: The applicant is requesting a modification to the approved Central Christian Master Plan and the modification seeks to slightly adjust the dimensions of several zones approved in that plan. The applicant understands that because the Master Plan is incorporated into the City’s zoning map, it must also apply for an amendment to the zoning map. The applicant has included the zoning map amendment application with the project application package.

8.0760 Criteria for Amendments. The burden of proof is upon the applicant. The applicant shall show the proposed change is:

1. In conformity with all applicable State statutes;
2. In conformity with the State-wide planning goals whenever they are determined to be applicable;
3. In conformity with the Redmond Comprehensive Plan, land use requirements and policies; and
4. That there is a change of circumstances, further studies justifying the amendment or mistake in the original zoning.

APPLICANT RESPONSE: As mentioned and explained within this project narrative, the applicant is seeking a zoning map amendment. The subject site is located within existing and approved master development plans (Central Christian and HAP). Previously, the city found that the master plan and annexation agreement (Central Christian



and HAP) was in conformity with all state statutes, state wide planning goals and the Redmond Comprehensive Plan. The applicant is seeking minor dimensional modifications to the existing zone boundary lines and areas. Please refer to the table below for the requested revisions to zone areas. Please refer to the plan set for a visual representation of the boundary line revisions.

ZONE CHANGES		
ZONES	EXISTING (<i>gross acres</i>)	PROPOSED (<i>gross acres</i>)
R4	9.5	11.1
R5	11.4	11.6
OSPR	1.7	2.1
PF	0.7	1.0
MUN	2.7	1.5
MUE	9.0	7.7

If the applicant's request is approved, the resulting Master Plan, as amended, will continue to be in conformity. The applicant believes the following statewide planning goals are applicable. Goal 1-Citizen Involvement, Goal 2-Land Use Planning, Goal 8-Recreational Needs, Goal 9 Economic Development, Goal 10-Housing, Goal 11 Public Facilities and Goal 12-Urbanization. The applicant submitted the required land use applications triggering the city's established procedure that insure citizen involvement and support land use planning. The proposed amendment retains sufficient property in the Master Plan for recreation; it provides opportunities for a variety of different housing at varying costs to offer housing to a wide segment of the city's residents. The proposed amendment continues to include the necessary public facilities to support orderly development. It supports the city's legitimate objectives for urbanization in area where it is appropriate.

The city's comprehensive plan elements implement the statewide goals discussed above. By retaining conformity with the statewide goals, the proposed amendment retains conformity with the comprehensive plan.

The requested modifications result form a refined look at the most efficient use of lands and how best to provide the housing opportunities and other uses desired by residents. The applicant believe that the proposed modifications will result in a more efficient public transportation system within the Master Plan and better connections to properties nearby.

PRESERVATION OF HISTORIC RESOURCES

8.0820 Purpose. The City of Redmond establishes a Historic Preservation Ordinance to identify, recognize, and preserve significant properties related to the community's history; encourage the rehabilitation and ongoing viability of historic buildings and structures; strengthen public support for historic preservation efforts within the community; foster civic pride; and encourage cultural heritage tourism.

APPLICANT RESPONSE: This project is proposed on lands containing no structures or landmarks that are recognized by historical ordinances. The applicant has performed an in-depth review of Redmond's Historical Preservation Plan, Local Landmark Register, and the Buildings and Sites of Historical Interest in order to confirm that there is no registered historical significance to the subject site. Therefore, Code Sections 8.0820-8.0890 do not apply to the proposed project.



ARTICLE II - LAND USE PROCEDURES

LAND USE ACTION

8.1300 Review of Land Use Action Applications. Land use action applications shall be reviewed in accordance with the procedure set forth herein.

8.1305 Action on Land Use Action Applications.

1. The Community Development Director or designee may decide upon a land use action application for other than a Comprehensive Plan amendment and zone change administratively either with prior notice, as prescribed under Section 8.1310, or without prior notice, as prescribed under Section 8.1315, or he may refer the application to the Hearings Body for hearing.
2. The Community Development Director or Community Development Director's designee's choice between or among administrative or hearing procedures to apply to a particular application or determination shall not be an appeal able decision.
3. Zone change and plan amendment applications shall be referred to a hearing before the Hearings Body.

APPLICANT RESPONSE: The applicant is applying for a subdivision which is categorized in a Land Use Action. The applicant intends to comply with City's procedural processes described in Code Sections 8.1300-8.1380 as applicable.

Additionally, the applicant is requesting a zoning map amendment. Per code section 8.1005.3, this map amendment request qualifies as a Land Use Action. The applicant understands the process set forth in this code section and that it can apply to this specific project proposal.

8.1310 Administrative Land Use Decisions with Prior Notice.

1. Notice of the application shall be sent within ten (10) days of acceptance of the application to persons and neighborhood associations entitled to notice under Section 8.1335 herein. Such notice shall include all the information specified under Section 8.1340 except for those items specified in Subsections (g) and (j) unless the decision is referred to a hearing.
2. Any person may comment in writing on the application within fourteen (14) days from the date notice was mailed or a longer period as specified in the notice.
3. Notice of the City's decision and the appeal period shall be sent to all parties and to all members of the Planning Commission and the City Council.
4. The applicant and all persons commenting as provided in this section constitute parties to the administrative decision. Any party can appeal the decision in accordance with Sections 8.1500 through 8.1560 herein.

8.1315 Administrative Decision without Prior Notice. The procedures for administrative decisions without prior notice shall be the same as those set forth in Section 8.1310 herein, except that:

1. No prior notice shall be given, and
2. The notice of decision shall contain the applicable information required by Section 8.1340 herein.

8.1320 Application and Supporting Documents. Except as provided for in Section 8.1370 herein, all documents or evidence relied upon by an applicant for a land use approval shall be submitted to the Planning Division as part of the application and be made available to the public at the time notice is provided under Section 8.1335 herein.

8.1400 Modifications of Approval

1. Modifications
 - A. A Modification shall be processed as an Administrative Land Use Action as provided for in Section



8.1300 - 1315. Modifications are requests for revision or deletion of a condition of approval or a change to a site development plan that is the result of changed circumstances, an error in the original decision or inconsistency with the current code.

- B. The applicant for a modification shall include reasons for the modification and demonstrate that the request is consistent with the provisions of the code and is necessary due to a change of circumstances, an error in the original decision or inconsistency with the current code.
- C. An application as a modification to an approval shall be directed to one or more specific aspects of the approval. The review shall be limited to the criteria applicable to that particular aspect of the proposal.
- D. Proposals that would modify an approval in multiple areas with a scope greater than allowable as a modification shall be treated as an application for a new proposal.
- E. Modifications shall not be accepted in such cases where a variance would be required. (Added 2/98)

APPLICANT RESPONSE: As explained throughout the narrative, the applicant is requesting a modification to the Central Christian Master Development Plan to slightly adjust the dimensions to various zoning designations. The reason for this request is so the zoning can align with the feasible, proposed development plan. The project still includes all the required zones of the Annexation Agreement (R4, R5, OSPR, PF, MUE, MUN) and remain similar in size. The modifications the applicant is requesting does not change the zone, use, requirements or intent of the already approved Area and Master Plan or annexation agreement. Please refer to the table below for the exact changes in zoning size and the plan set for the visual presentation of the modified zone boundaries.

ZONE CHANGES		
ZONES	EXISTING (<i>gross acres</i>)	PROPOSED (<i>gross acres</i>)
R4	9.5	11.1
R5	11.4	11.6
OSPR	1.7	2.1
PF	0.7	1.0
MUN	2.7	1.5
MUE	9.0	7.7

The project proposal still meets the intent of and expands upon the Great Neighborhood Principles. The proposal includes an expansive transportation network that connects all areas of the project for multi-modal transportation. Additionally, the project includes two additional pedestrian only pathways. The pedestrian path system located in Tract K will be improved to include multiple amenities along the trail (community gardens, outdoor activities, and seating areas). The project includes a variety of housing options, including but not limited to, multifamily (5+ units), townhomes, single family, live/work, etc.... This will allow for a diverse range of residents and housing options based on their needs. All residents will have direct multimodal access to open space amenities that include four pocket parks and a large 1.86-acre park located in the center of the entire project that will benefit the 121 West community and the entire Redmond community. A variety of activities will be available between all proposed parks. The applicant intends to work with the City of Redmond on the design of the parks to make sure all open spaces offer diverse activities for all community members. All lot tracts will be developed by the applicant. In addition to the parks, the applicant has included a handful of landscape tracts to create designated green spaces providing a positive visual appearance and enjoyment for the community. This project proposal includes a large variety of housing while also offering direct access to community parks, trails, pocket parks, and commercial/retail businesses for the future residents.

Therefore, this project includes the original approved zones, uses, intents, and requirements of the Annexation Agreement and Area and Master Plans while contributing to and expanding upon the Great Neighborhood Principles. Therefore, this modification request is in compliance with these criteria.



2. Alteration to an Approved Plan:
 - A. Minor Alteration to an approved Site Plan or Preliminary Plat shall be processed as a Development Action provided for in Section 8.1205. Examples of such alterations include:
 1. Minor shifting of building location such that no setback is violated.
 2. Minor shifting of street alignments or easements which do not add or delete intersections or diminish road connectivity.
 3. Minor amendments to lot lines such that no new lots are created and all lots continue to meet lot size and frontage requirements.
 4. Minor changes to landscaping species or location of plant materials such that there is no change to the aesthetic improvement qualities of the landscaping.
 5. Minor changes to the building design including roof line.
 6. Minor amendments to phasing plans that would have no adverse effect on the phasing of public improvements.
 - B. Proposed changes to an approved Land Use Action shall be submitted in writing to the Community Development Department for approval. The department director shall grant approval to the proposed changes if it is determined that the change does not substantially alter the previous approval previously given, or the final conditions of approval. If the director determines the proposed change does constitute a substantial alteration or a violation of the conditions the proposal shall be processed as a modification or in the same manner as a new application.
 - C. The decision may be appealed in the same manner as provided in Section 8.1500 - 1530.
 - D. An Alteration can only be considered if there are non-substantive changes in the outward appearance of the development, impact on the surrounding properties is minimal, and the alteration is consistent with the conditions of the original approval and applicable criteria.

APPLICANT RESPONSE: As stated in the previous response, the applicant is requesting a modification to the zoning plan configuration that was set forth in the Annexation Agreement and Central Christian Master Development Plan per the instructions set forth in Code Section 8.0300.3.E. The original zoning layout did not align well with the applicant's proposed site plan. However, the new zoning plan includes all the original zones within the Central Christian Master Development Plan and are relatively close in size to what currently exists. This project application and narrative serve as the applicant's formal request for the modification. The applicant understands the process set by the City of Redmond for modifications to existing Master Development Plans and addressed all substantive requirements for such a Master Plan modification above.

ARTICLE III. LAND DIVISION STANDARDS

SUBDIVISION APPLICATION PROCEDURE

8.2200 Pre-Application Meeting. Prior to submitting a tentative subdivision plat each applicant or their representative is required to meet with the Community Development Director or a designated staff member(s) to review the proposal.

APPLICANT RESPONSE: A Pre-Application meeting was held on March 11th, 2021 between the applicant and applicable City staff regarding the proposed project. Therefore, this procedural step was completed prior to submission of the tentative subdivision plat and in compliance with this Code Section.

8.2205 Application Submission. Any person, authorized agent or representatives, proposing a subdivision, shall include with an application and filing fee for a subdivision, a tentative plat together with improvement plans and other supplementary material as may be required.



APPLICANT RESPONSE: An application fee, a tentative plat for improvement plans, and all other supplementary material are included within this application. Therefore, this criterion is met.

8.2210 Scale of Tentative Subdivision Plat. The tentative plat of a proposed subdivision shall be drawn on a sheet at an engineer's scale not greater than one inch per 100 feet, or as approved by the Community Development staff.

APPLICANT RESPONSE: The application package for this project includes a dimensional site plan that does not exceed the 1:100 scale. Therefore, this criterion is met.

8.2215 Informational Requirements. The following information shall be shown on the tentative plat or provided in accompanying materials. No tentative plat shall be considered complete unless all such information is provided:

1. General information required:
 - A. Proposed name of the subdivision.
 - B. Names, address and phone numbers of the owner of record, authorized agents or representatives, engineer or surveyor, and any assumed business names filed or to be filed with the Oregon Secretary of State Corporation Division by the applicant. If the application is filed by anyone other than the owner of record, a letter or other evidence of the owner's permission to file the application.
 - C. Date of plat preparation, north and magnetic north and south, scale and gross area of the proposed subdivision.
 - D. Appropriate identification of the drawing as a tentative plat for a subdivision. Location and tract designation sufficient to define its location and boundaries, and a legal description of the tract boundaries in relation to existing plats and streets.
 - E. Certified copy of the recorded instrument under which the applicant claims an ownership interest, or copy of a land sales contract which binds the applicant in the event of tentative approval.
 - F. Title report or subdivision guarantee, issued within the last ninety (90) days, and supporting documentation of all easements identified on the property.
2. Information concerning existing conditions:
 - A. Location, names and widths of existing improved and unimproved public or private streets and roads within and adjacent to the proposed subdivision.
 - B. Location of any existing features such as section lines, section corners, City and special district boundary lines, and survey monuments.
 - C. Location of existing structures, irrigation canals and ditches, pipelines, waterways, railroads and any natural features such as rock outcroppings, marshes, wooded areas and natural hazards. Location and direction of water courses, and the location of areas subject to flooding and high water tables.
 - D. Location, width and use or purpose of any existing easement or right-of-way within and adjacent to the proposed subdivision.
 - E. Existing sewer lines or septic tanks and drainfields, water mains, wells, fire hydrants, culverts, and other underground and overhead utilities within and adjacent to the proposed subdivision together with pipe sizes, grades and locations.
 - F. Contour lines related to some established benchmark or other engineering acceptable datum and having minimum intervals of two feet for slopes of less than five percent, five feet for slopes of five to fifteen percent, ten feet for slopes of fifteen to twenty percent, and twenty feet for slopes greater than twenty percent.
 - G. Zoning classification of land within and adjacent to the proposed subdivision.
 - H. Names and addresses of all adjoining property owners.
 - I. The structures, trees, rock outcroppings or other shade producing objects, if the object will cast shade from or onto the subdivision.
 - J. Existing covenants, conditions and restrictions.



- K. A Traffic Impact Analysis (TIA) prepared in accordance with Section 8.2815 of this Code.
- 3. Information Concerning Proposed Subdivision:
 - A. Location, names, width, typical improvements, cross sections, bridges, culverts, approximate grades, curve radii and centerline lengths and reserve strips of all proposed streets, and the relationship to all existing and projected streets.
 - B. Location, width and purpose of all proposed easements or rights-of-way and relationship to all existing easements and rights-of-way.
 - C. Location of at least one temporary bench mark within the proposed subdivision boundary.
 - D. Location, approximate area and dimensions of each lot, and proposed lot and block numbers.
 - E. Location, approximate area and dimensions of any lot or area proposed for public use, the use proposed, and plans for improvements or development thereof.
 - F. Proposed use, location, approximate area and dimensions of any lot intended for non-residential use.
 - G. An outline of the area proposed for partial recording, if contemplated or proposed.
 - H. Source, method, and preliminary plans, prepared by a licensed civil engineer, for domestic and other water supplies, sewage disposal, solid waste disposal, and all utilities.
 - I. Description and location of any proposed community facility.
 - J. Storm water, drainage facility and grading plans.
 - K. Proposed deed restrictions including access restrictions or protective covenants if such are proposed to be utilized for the proposed subdivision.
 - L. Statement from each utility company proposed to serve the proposed subdivision stating that each company is able and willing to serve the proposed subdivision as set forth in the tentative plan, and the conditions and estimated costs of such service.
 - M. Proposed fire protection or fire hydrant system for the proposed subdivision and written approval thereof by the appropriate serving fire protection agency.
 - N. Solar Access. Demonstration of how solar access will be provided.
 - O. Location and type of street trees.
- 4. Information showing how the applicant has addressing the applicable Great Neighborhood Principles in Section 8.0300(3)(C)(13) and adopted Area Plans.

APPLICANT RESPONSE: All requirements for tentative plans described in Code Sections 8.2210 and 8.2215 are included within the application package. Therefore, this application meets the requirements of Code Sections 8.2210 and 8.2215.

8.2220 Phased Development Plan. An overall phased development plan shall be submitted for all developments for which phased development is contemplated. The phased development plan shall include but not be limited to, the following elements:

- 1. Overall development plan, including phase or unit sequence.
- 2. Show compliance with all applicable land division standards and policies as described in this Article.
- 3. Schedule of improvements initiation and completion.
- 4. Overall transportation and traffic pattern plan showing compliance with grid street standards, and for land within the North Redmond US 97 Interchange Area Management Plan (IAMP), compliance with the Local Street Connectivity Plan (Comprehensive Plan Addendum Chapter 9 Transportation Element figure 1).
- 5. General program for phasing timetable projection.
- 6. Development plans for any common elements or facilities.
- 7. If the proposed subdivision is believed to have an additional impact upon adjacent lands or lands within the general vicinity, the Hearings Body may require an additional impact analysis for various aspects of the development thought to cause such impacts.
- 8. Street tree plan.



9. Program for addressing applicable Great Neighborhood Principles in Section 8.0330(3)(C)(13) and adopted Area Plans.

APPLICANT RESPONSE: The proposed project is intended to be phased amongst 6 separate phases. A Phasing Plan including the contents per Code Sections 8.2220.1-9 is included in the Land Use Application Plan Set for this project proposal. Compliance with this code section is presented by the information and details within the Phasing Plan.

8.2235 Required Findings for Tentative Subdivision Approval.

1. The Hearings Body shall approve no application for a subdivision unless the following requirements are met:
 - A. Proposal is in compliance with ORS Chapter 92, the Comprehensive Plan, the Transportation System Plan (TSP), applicable zoning and the applicable Track in Section 8.2236.
 - B. Proposal does not conflict with acquired public access easements within or adjacent to the subdivision.
 - C. Each lot is suited for the use intended or offered.
 - D. The subdivision will not exceed the operational capacity of public facilities and services as identified in the city's Water and Wastewater Master Plan and the Transportation System Plan, which are required to serve the development, or a determination that sufficient capacity can be provided.
 - E. A water rights division plan has been approved by the applicable irrigation district.
 - F. The subdivision contributes to orderly development and land use patterns in the area, and provides for the preservation of natural features and resources such as streams, lakes, natural vegetation, special terrain features.
2. Access Management proposals comply with the standards set forth in Section 8.2820 and all other applicable standards.

APPLICANT RESPONSE: The proposed project is intended to be in compliance with ORS Chapter 92, Comprehensive Plan, applicable zoning, Transportation System Plan, and the applicable Track in Section 8.2236. Compliance is supported and explained throughout this project narrative and application package. Compliance with applicable Access Management is explained the Applicant's Responses in code section 8.2820.

8.2236 Subdivisions may be created following two tracks: Track 1 (General Criteria) and Track 2 (Clear and Objective Standards)

APPLICANT RESPONSE: The applicant has selected to proceed with Track 1.

1. Track 1 – General Criteria. Subdivision Tentative Plans (No Needed Housing). The City shall approve, approve with conditions, or deny a proposed subdivision. Approval, or approval with conditions shall be based on compliance with the following criteria:
 - A. The proposed subdivision will:
 1. Not create risk of fire, flood, geological hazards, or other public health and safety concerns;

APPLICANT RESPONSE: It is the intention of the proposed project to not create a risk of fire, flood, geological hazards, or other public health and safety concerns. The subject property is relatively flat with no identified geologic hazards and is not in a flood plain. There are no wildfire risks associated with the property and the proposed street layout provide efficient access for fire vehicles reducing any risk of fires. Further review by City departments will determine the compliance with such standards.

2. Provide adequate transportation systems, water supply, sewage disposal, drainage, and other public utilities consistent with City Standards and Specification;

APPLICANT RESPONSE: The project proposal includes adequate transportation systems, water supply, sewage disposal, drainage, and other public utilities consistent with City Standards and Specification. The project narrative, preliminary plans, and reports all help support the project's compliance with this criterion.



3. The proposed subdivision provides direct bicycle and pedestrian access to any adjacent residential areas, transit stops, neighborhood activity centers, commercial areas, and employment areas.

APPLICANT RESPONSE: The project proposal includes an expansive street network that connects into existing abutting right of ways and allows for future connection of surrounding developable property. The right-of-way design meets the design standards set forth by City of Redmond. All the right-of-ways included in this project have adequate pavement width to provide space for vehicular and bicycle traffic, while pedestrians may use the sidewalks that are along all proposed streets. Therefore, the project meets this criterion.

- B. Approval does not impede the future best use of the remainder of the property under the same ownership or adversely affect the development of the remainder or any adjoining land or access thereto, based on the provisions of this land use code.

APPLICANT RESPONSE: The approval of this project will not impede the future best use of the remainder of the property that is under the same ownership or adversely affect the development of the remainder or any adjoining land or access thereto. As shown in the preliminary plans, the project promotes development for the adjacent developable properties, connects with the existing, and has an efficient layout within the subject site. Therefore, the intent of this criterion is met.

- C. Any existing improvements on the proposed lots are consistent with the provisions of this land use code.

APPLICATION RESPONSE: There are no existing improvements on lots within this proposed subdivision. Therefore, this criterion does not apply.

- D. The proposed subdivision will be consistent with the property's designation in the comprehensive plan map.

APPLICANT RESPONSE: The proposed land division creates parcels suitable for uses permitted in the various zones involved and thus, is consistent with the property's designation according to approved comprehensive and master plans. This includes the Highway Area Plan, Redmond 2020 Comprehensive Plan, City Council Goals, and other policies adopted by the City and State. Further compliance with such is explained within the Land Divisions section of this narrative.

- E. Show compliance with the Great Neighborhood Principles.

APPLICANT RESPONSE: The project proposal still meets the intents and expands upon the Great Neighborhood Principles. The proposal includes an expansive transportation network that connects all areas of the project for multi-modal transportation. Additionally, the project includes two additional pedestrians only pathways. The pedestrian path system located in Tract K will be improved with multiple amenities along the trail (community gardens, outdoor recreation/activities, and seating areas). The project includes a variety of housing options, including but not limited to, multifamily (5+ units), townhomes, single family, live/work, etc.... This will allow for a diverse range of residents and housing options based on their needs. All residents have direct multimodal access to open space amenities that include four pocket parks and a large 1.86-acre park located in the center of the entire project that will benefit the 121 West community and the entire Redmond community. A variety of activities will be available between all the parks. The applicant intends to work with the City of Redmond on the design of the parks to make sure all open spaces offer diverse activities for all community members. All tot lot tracts will be developed by the applicant. In addition to the parks, the applicant has included a handful of landscape tracts to create designated green spaces providing a positive visual appearance and enjoyment for the



community. This project proposal includes a large variety of housing while also offering direct access to community parks, trails, pocket parks, and commercial/retail businesses for the future residents.

- F. The proposed subdivision provides safe, convenient, and direct bicycle and pedestrian access to nearby and adjacent residential areas, transit stops, neighborhood activity centers, commercial areas, and employment and industrial areas, and provides safe, convenient, and direct transit circulation, provided the city makes findings to demonstrate consistency with constitutional requirements. “Nearby” means uses within ¼ mile that can reasonably be expected to be used by pedestrians and uses within 2 miles that can reasonably be expected to be used by bicyclists.

APPLICANT RESPONSE: The design proposed for this project provides an expansive and safe multimodal transit network. All the right-of-ways within the proposed project have adequate width for vehicular and bicycle traffic within the pavement section. The right-of-way improvements include sidewalks along both sides of the future roads. The direct connection to the existing abutting right-of-ways allows the future residents of the proposed project to connect to all surrounding areas and entities.

Nearby entities that can reasonably be expected to be frequented by pedestrians and bicyclists within ¼ mile include; The Tom McCall Elementary School, St. Albins Episcopal Church, and Loyal Order of the Moose, and nearby commercial properties amongst Downtown Redmond along with other commercial areas within 2 miles by bike.

Combining elements of the right of ways within proposed subdivision and assumed relevant City-standard conformity of adjacent development will be adequate for safe, convenient, and direct pedestrian travel to the nearby, applicable entities. Per established City goals and standards, the proposed project will connect proposed pedestrian and bicycle paths to like, existing right of ways in order to assure safe, convenient and direct bicycle and pedestrian transportation throughout other developed portions of the City as feasible. Therefore, the proposed project is in compliance with this criterion.

- G. The proposed subdivision is designed and sited such that roads, infrastructure, utilities, and future development of proposed lots will minimize impacts to the natural environment by addressing the following:
1. Protection of Natural Features.
 - a. For areas not included on the city’s acknowledged Goal 5 inventory, the preservation of significant natural features to the greatest degree attainable or feasibly, including:
 - i. Significant on-site vegetation, including rare plants (those that are proposed for listing or are listed under state or federal law), and native plant communities.
 - ii. Prominent topographic features, such as ridgelines and rock outcrops.
 - iii. Natural resource areas designated in the comprehensive plan diagram as “Natural Resource” and areas identified in any city-adopted natural resource inventory.
 - b. For areas included on the city’s acknowledged Goal 5 inventory, the preservation of natural features shall be consistent with the acknowledged level of preservation provided for the area.

APPLICANT RESPONSE: The location proposed subdivision is not included within the City’s acknowledged Goal 5 inventory. The subject land is not containing of significant or unique vegetation, prominent topographic features, or natural resources relative to the area. The orientation of the proposed subdivision reflects the uses and characteristics of nearby and adjacent land development.

2. Tree Preservation. The proposed project shall be designed and sited to preserve significant trees to the greatest degree attainable or feasible, with trees having the following characteristics given the highest priority for preservation.



- a. Healthy trees that have a reasonable chance of survival considering the base zone or special area zone designation and other applicable approval criteria;
- b. Trees located within vegetated corridors and stands rather than individual isolated trees subject to windthrow;
- c. Trees that fulfill a screening function, provide relief from glare, or shade expansive areas of pavement;
- d. Trees that provide a buffer between potentially incompatible land uses;
- e. Trees located along the perimeter of the lot(s) and within building setback areas;
- f. Trees and stands of trees located along ridgelines and within view corridors;
- g. Trees with significant habitat value;
- h. Trees adjacent to public parks, open space and streets;
- i. Trees along water features;
- j. Heritage Trees.

APPLICANT RESPONSE: The few existing trees on grounds within the proposed subdivision are not registered significant trees and appear to be in poor health, including those which may be considered to be located in critical areas as described in 8.2236.1.G (2). The steppe nature and prior farm use of the subject land, along with the projected future Hwy 97 access have compromised the functionality of the existing trees in their respective location. Therefore, the applicant is not considering tree preservation to be applicable to the proposed project.

- 3. Restoration or Replacement.
 - a. For areas not included on the city's acknowledged Goal 5 inventory, the proposal mitigates, to the greatest degree attainable or feasible, the loss of significant natural features described in criteria (1) and (2) above, though the restoration or replacement of natural features such as:
 - i. Planting of replacement trees within common areas; or
 - ii. Re-vegetation of slopes, ridgelines, and street corridors; or
 - iii. Restoration of native plant habitat.
 - b. Street Trees. If the proposal includes removal of any street tree(s), removal of those street tree(s) has been approved or approved with conditions imposed by the City.

APPLICANT RESPONSE: The proposed project includes the planting of street trees along all the future streets. Additionally, the future park will be landscaped with trees and vegetation that live well in Central Oregon. The proposed trail path along the eastern property line will also be lined with trees and vegetation. The proposed project is replacing failing vegetation with new trees and plants that will be maintained. Therefore, this project meets these criteria.

- H. On R-1 zoned property, if the subdivision results in a lot greater than 13,500 square feet in size the application shall indicate the location of lot lines and other details of layout that show future division of the lot may be made without violating the requirements of this land use code and without interfering with the orderly extension of adjacent streets, bicycle paths, and accessways. If the City deems it necessary for the purpose of future land division, any restriction of buildings within future street, bicycle path, and accessway locations shall be made a matter of record in the tentative plan approval.

APPLICANT RESPONSE: No portion of the proposed project includes R-1 zoned land. Therefore, this criterion does not apply.

- I. As far as is practicable, lot side lines shall run at right angles to the street upon which the lots face, except that on curved streets they shall be radial to the curve.



APPLICANT RESPONSE: To the extent practicable, lot side lines run at right angles to the street on which they face. Therefore, this criterion is met.

- J. The proposed subdivision supplies all of the following:
1. Geological and Geotechnical Analysis.
 2. Pedestrian Circulation On-Site.
 3. Public Access Required.
 4. Special Setback Standards.
 5. Underground Utilities.
 6. Vision Clearance Areas.
 7. Stormwater flood control, quality, oil and pollution control, source control, easements, and operation and maintenance.
 8. The proposed subdivision complies with other applicable development standards for features explicitly included in the application.

APPLICANT RESPONSE: The proposed subdivision supplies as necessary at this stage in the project the items listed with Code Section 8.2236.1.J. During future planning and design for the construction engineering, more of these criteria can and will be met as necessary. Existing preliminary plans have been developed with the intent of ability to meet all of the above criteria listed in Code Section 8.2236.1.J.

- K. The proposal complies with the Traffic Impact Analysis Review provisions.

APPLICANT RESPONSE: A Traffic Impact Analysis is included within the proposed project's Land Use Application Package conforming with the applicable review provisions. Therefore, this criterion is met.

- L. Urban – rural interface. Urban development shall interface with rural areas (rural areas are those that lie within areas outside of the UBG or UAR) through landscaped open space buffers at least 100 feet wide and the length of the urban development, excluding public streets, or shall be transitioned from higher density development to lower density development at the urban – rural interface, or utilize other appropriate and equivalent transitional elements.

APPLICANT RESPONSE: The proposed project includes subdivision of a parcel that does not abut any land outside of the UBG or UAR. Therefore, this criterion does not apply.

- M. Fully developed “pocket parks” or “tot lots” shall be incorporated into medium and high density zoned residential subdivisions and site plans. These areas shall be developed for every twenty-five lots/units, a minimum of 3,000 square feet and privately maintained. Park amenities shall, at a minimum, include turf areas for at least 50% of the lot, benches, trees, shrubs, and other landscape features.

APPLICANT RESPONSE: The applicant is not proposing any specific uses in the current applications. However, consistent with the conceptual plan included, the applications, future development will be consistent with the applicable zoning designations and thus will include medium and high-density uses. Thus, pocket parks will be required. The exact size of the required pocket parks cannot be determined until future applications proposing specific uses are filed. However, proposed subdivision tentative plan includes multiple tracts that can accommodate pocket parks and the conceptual plan illustrates that with the type and nature of development one can expect for the proposed subdivision, it is feasible to complete pocket parks that meet all requirements. Therefore, the proposed project meets and exceeds the area requirements for the “pocket park”.

- N. No site grading of the site shall occur until the City has approved the subdivision application.

APPLICANT RESPONSE: No site grading has or will occur prior to this subdivision application until it is approved by the City of Redmond. Therefore, this criterion is met.

**8.2240 Improvement Requirements (For Track 1 and Track 2 Subdivisions).**

1. In the approval of a subdivision, the Community Development Director or Hearings Body shall consider the need for street and other improvements. All streets in new subdivisions, except for private streets, shall be dedicated to the public without reservation or restriction.
2. Private Alley Access. The Community Development Director or Hearings Body may require the applicant to improve a private alley access easement serving two or more lots according to the adopted City of Redmond Public Works Standards and Specifications, as amended.
 - A. Such access easements shall include provisions for permanent, long-term maintenance, including: maintenance measures to be employees; responsible parties; funding; design; timing; and, enforceability. These provisions shall be included as recorded Covenants, Conditions and Restrictions (CCR's) appurtenant to the affected properties.
3. The subdivider shall record the required (including but not limited to) land division agreement, public improvement agreement, shared access agreement or shared well agreement, as may be applicable, with the Deschutes County Clerk's office at the time of recording of the final subdivision plat.
4. Paved access is guaranteed to each lot.
5. Each lot is to be connected to the City water and sewer system pursuant to Section 4.007 of the Code of the City of Redmond.
6. All required public utilities are available.

APPLICANT RESPONSE: The proposed project intends to dedicate all public streets to the City of Redmond. All private alleys will be designed to meet the City's Design Standards for private alleys. The maintenance of private alleys will have maintenance measures in place. All documents that are required to be recorded will be done through the Deschutes County Clerk's office. The project has been designed to have paved access to all lots within the project and all public utilities will be provided. Therefore, these criteria are met.

DESIGN STANDARDS AND IMPROVEMENTS**8.2700 Compliance Required.**

1. Any land division or development shall be in compliance with the design and improvement standards and requirements of this section, and all other applicable provisions, as set forth in this Chapter.

APPLICANT RESPONSE: It is the intention of the proposed project to be in compliance with the Design Standards and Improvements required by the City of Redmond. The applicant presents compliance of these standards and improvements through this narrative and the entire project's application package.

8.2705 Blocks, Lots and Parcels.

1. Blocks. The resulting or proposed length, width and shape of blocks shall take into account the requirements for adequate building lot sizes, street widths, access needs and topographical limitations.
 - A. No block shall be more than 660 feet in length between street center lines unless it is adjacent to an arterial street, or unless topography or the location of adjoining streets justifies an exception and is so approved by the reviewing authority. In MUN, MUE and MULW zones, block lengths shall be an average of 330 feet, except where required to meet grid street or access management requirements.

APPLICANT RESPONSE: All blocks outside of the MUN, MUE and MULW zones, within the proposed subdivision, are less than 660 feet across all axis'. The blocks in the proposed MUN and MUE zones are plotted in compliance with grid and access management standards and near 330' in depth therefore meeting the intent of this code section.

- B. The recommended minimum length of a block along an arterial street is 1,320 feet, except that along such blocks, a public right-of-way for pedestrian and bicycle access shall be dedicated at or nearest the



mid-point of the block length as is practical. The right-of-way shall be a minimum of 10 feet wide, with an all weather surface a minimum of 5 feet wide, constructed and centered within the right-of-way.

APPLICANT RESPONSE: The subject property has roughly 1286.88' of property frontage along Hwy 97. This creates a block length just short of the recommended 1320' and therefore meets the intent of 8.2705.1.B. However, it should be noted that this is an OPDOT highway where direct access from the proposed project is not desired and that the project proposal includes the dedication of Tract C along Hwy 97 in order to create a multimodal path and recreation uses and therefore no will have direct frontage along Hwy 97.

- C. A block shall have sufficient width to provide for 2 tiers of lots unless topography, the location of adjoining streets, or adjacency to an arterial street justifies an exception.

APPLICANT RESPONSE: All proposed blocks within the proposed subdivision allow for sufficient space to provide 2 tiers of lots. This is shown in the tentative plan. Therefore, this criterion is met.

- D. Where appropriate at approved cul-de-sacs, dead-end streets, or along blocks approved at more than the maximum block length standard, pedestrian and bicycle access corridors shall be required to be constructed between lots to minimize travel distance between subdivisions, parks, school, and collector or arterial streets. Access corridors shall be located to provide a reasonably direct connection between likely pedestrian destinations and shall be consistent with the City of Redmond Bicycle Refinement Plan where applicable. A reasonably direct connection is a route which minimizes out of direction travel for people likely to use the connection considering terrain, safety and likely destination. The Community Development Director or Hearings Body may determine based on evidence in the record that construction of a separate access corridor is inappropriate or impractical. Such evidence may include but is not limited to:
1. When the nature of abutting existing development makes construction of an access corridor impractical.
 2. When the access corridor would cross a natural area with significant natural habitat and construction would be incompatible with protection of natural values.
 3. When the access corridor would cross topography where slopes exceed 30% or where path grade would exceed 12% slope; or
 4. When a cul-de-sac or dead-end street abuts rural resource land at the urban growth boundary. In industrial zones, this standard may be waived at the discretion of the Community Development Director or Hearings Body when it is determined that the City's grid street standards should not be applied to the industrial development.

APPLICANT RESPONSE: All block lengths within the proposed project do not exceed the allowed maximum block length. Therefore, these criteria do not apply.

2. Lots and Parcels. The size, width, and orientation of newly created lots and parcels shall be appropriate for the location of the land division and for the type of development and use contemplated. Lots and parcels shall be generally rectangular in shape and shall be consistent with the lot size provisions of the zoning standards and the density requirements as established in the City of Redmond Comprehensive Plan. Notwithstanding these requirements, the following exceptions may apply:
- A. In areas beyond the City Limits where public sewer is not currently available, minimum lot and parcel sizes shall permit compliance with the requirements of the Department of Environmental Quality and shall be sufficient to permit adequate sewage disposal. Any problems posed by soil structure and water table as related to sewage disposal by septic tank shall be addressed and resolved in the applicant's initial plan.
 - B. Where property is zoned and planned for business or industrial use, other widths and areas may be



permitted by the Community Development Director or Hearings Body. Depth and width of properties reserved or laid out for commercial and industrial purposes shall be adequate to provide for the off-street service and parking facilities required by the type of use and development contemplated.

- C. In steep terrain, increased lot or parcel sizes may be required to avoid excessive cuts, fills, and steep driveways.

APPLICANT RESPONSE: All proposed lots and parcels are within the City of Redmond borders. They do not have steep terrain, and have been designed and laid out in order to be appropriate for the type of development allowed in each applicable zone. Please refer to the plan included with this application package for a visual representative of our compliance with this code section.

3. Frontage. Each newly created lot and parcel shall abut upon a public street other than an alley for at least 50 feet, except for lots fronting on the bulb of a cul-de-sac, then the minimum frontage shall be 30 feet. Flag lots shall have no less than 20' of street frontage measured at the property line. Lots created as part of a Planned Unit Development shall meet the same frontage requirements listed herein, except such frontage may be allowed along private streets. Vehicular access shall be provided as specified in Section 8.2820, Access Management Standards, of this Chapter, or as specified in Section 8.2705(6) below, for residential lots and parcels abutting collector and arterial streets. All lot and parcels shall be addressed from the primary public street frontage, not including alleys.

APPLICANT RESPONSE: All newly created lots created within this proposed project front public right of ways with the required frontages set forth in Code Sections 8.0265 Table H, 8.0225 Table F, 8.0140 Table B. Therefore, the minimum requirements of all applicable frontage requirements in each lot's respected zone are satisfied.

4. Side Lot or Parcel Lines. All side lot lines shall be at right angles to street lines or radial to curved streets wherever practical except as provided for in subsection (10) of this section.

APPLICANT RESPONSE: All side lot lines within the proposed subdivisions are set at right or angles to, or radial to the street lines wherever practical. Therefore, this criterion is met.

5. Through/Double Frontage Lots and Parcels. Through lots or parcels, and lots or parcels with double frontage shall be avoided whenever possible, including lots or parcels created adjacent to Collector and Arterial Streets, but not including alley frontage as described in Section 8.2705(6) below, except when they are necessary due to an irregular parent lot or parcel configuration, or are necessitated by topography or other unique circumstance.

APPLICANT RESPONSE: No lots created by the proposed subdivision are planned to, and therefore will not be oriented as "through" or "double frontage" lots as such are defined by the City. Therefore, this criterion is met.

6. Residential Lots and Parcels Abutting Collector and Arterial Streets. Lots and parcels created adjacent to Collector and Arterial streets shall be oriented so that the front elevation of the residential development faces the Collector or Arterial Street. Vehicular access shall be provided pursuant to Section 8.2820, Access Management Standards, of this Chapter. In instances where direct vehicular driveway access to lot or parcel from the Collector or Arterial street is not permissible, alley access shall be provided to the rear of the lot or parcel in accordance with the design standards included in Section 8.2710(3) of this Chapter.

APPLICANT RESPONSE: All proposed public right of ways in this project will be classified as local streets and therefore this criterion does not apply. Therefore, this criterion is met.

7. Corner Lots and Parcels. Corner lots and parcels shall be 5 feet more in width than other lots and parcels and also shall have sufficient extra width to meet the additional side yard requirements of the zoning district in which they are located.



APPLICANT RESPONSE: All proposed corner lots within this project are at least 5' wider than the minimum required width of the lot in its respective zone. All corner lots are of adequate width to meet side yard requirements of the zoning district in which they are located. Therefore, this criterion is met.

8. Special Building Setback Lines. If special building setback lines, in addition to those required by the applicable zoning, are to be established in a development, they shall be shown on the final plat of the development and included in the deed restrictions.

APPLICANT RESPONSE: Applicable setback lines will be included on the final plat of the development and included in the deed restrictions as necessary. This criterion can be met.

9. Large Building Lots; Re-division. In the case where lots or parcels are of a size and shape that future redivision is possible, the Community Development Director or Hearings Body may require that the blocks be of a size and shape so that they may be redivided into building sites, and the development approval and site restrictions may require provision for the extension and opening of streets at intervals which will permit a subsequent redivision of any tract of land into lots or parcels of smaller sizes than originally platted, and in conformance with the density provisions established in the City of Redmond Comprehensive Plan for the existing or intended Zone. A plan indicating the ability for re-division according to these standards may be required as part of the initial land division process.

APPLICANT RESPONSE: All lots created by the proposed subdivision, aside from parking areas or dedicated open space, are of size that would be impractical for future re-division. The dedicated open space and parking areas are feasible for future development should the City enforce development uses of those lots or parcels and in a location that would support the dimensional requirements for lots and blocks required by the City of Redmond.

10. Solar Access. As much solar access as feasible shall be provided each lot and parcel in every new subdivision or partition considering topography, development pattern, and existing vegetation. The boundary lines of lots and parcels, as far as feasible, shall be oriented to provide solar access at ground level at the southern building line of the adjoining lot to the north two hours before and after the solar zenith from September 22 to March 21. If it is not feasible to provide solar access to the southern building line the solar access, if feasible, shall be provided at 10 feet above ground level at the southern boundary line two hours before and after the solar zenith from September 22 to March 21, and three hours before and after the solar zenith from March 22 to September 21. This solar access shall be protected by solar height restrictions on burdened properties for the benefit of lots receiving the solar access pursuant to Section 8.0370, of the City of Redmond Development Code, Solar Access Standards. If the solar access for any lot, either at the southern building line or at 10 feet above the southern building line, is not feasible, supporting information may be required with the application.

APPLICANT RESPONSE: The majority of the proposed project is exempt from providing solar access by Code Sections 8.0370.C.ii-iv. Further explanation for this can be found in Code Sections 8.0370.C.ii-iv. of this Narrative. The majority of the proposed lots allow for sufficient solar access potential upon building design and construction. All lots proposed on the northern property line conform to the solar access standards set forth by the City as necessary.

11. Curvilinear Street and Block Design. Although a basic grid street design with minimum and maximum block lengths are requirements of this section, a curvilinear street/block design is encouraged for the purpose of adding interest to new subdivision development.

APPLICANT RESPONSE: The layout of the proposed streets, open space, lots and other right of ways within the proposed project combine elements of a curvilinear street and block design within the gridded base layout. Therefore, the encouragement of adding interest to new subdivision development through curvilinear street and block design is acknowledged and accepted by the applicant and this criterion is met.



12. Flag Lots. A flag lot shall be considered as a “flag lot” if the pole of the flag lot is less than half the width of the average lot width. For flag lots, the following shall be required:
- A. Flag poles shall be no less than 20’ wide.
 - B. Flag lot development, if allowed by the zone, is limited to one duplex or single-family dwelling per lot. All zone regulations apply, including the minimum required lot size and setbacks unless setback reductions are allowed as described in (E).
 - C. Each flag lot shall contain a minimum 16’ wide paved driveway.
 - D. A flag lot is exempt from the 50-foot street frontage requirement; however, a minimum of 20 feet of street frontage is required.
 - E. Front and/or rear yard setbacks may be reduced to no less than 10’ subject to review and approval by the Community Development Director. The orientation of any structure (determination of front) may be suggested by the property owner and is subject to the review and approval of the Community Development Director or designee. The location(s) of all structures immediately adjacent to any flag lot shall be shown on a site plan (1) during planning review and during the act of creating any new flag lot, and (2) during a building permit review for any structure built on a flag lot.
 - F. No flag lot shall be partitioned or further divided.
 - G. The “pole” of the flag lot shall be no longer than 150’ measured from the street intersection to the beginning of the base of the flag.
 - H. The “pole” of the flag shall not be included in the minimum lot size calculation.
 - I. Flag lots shall be exempt from street tree requirements unless the street frontage portion of the flag lot is 30’ or greater.
 - J. Flag lots are prohibited along or abutting the Dry Canyon Rim.
 - K. Two off-street parking spaces shall be provided for each dwelling unit on a flag lot.

APPLICANT RESPONSE: Lot 32 is the only proposed flag lot within the proposed subdivision. Lot 32 has 20’ of street frontage, the pole is less than the maximum allowed length of 150’, meets the minimum square footage requirement not including the pole, and will be provided with at least two off street parking spots. Therefore, these criteria are met.

8.2710 Streets.

1. General. Streets shall be in conformance with the City of Redmond Transportation System Plan as specified herein.
- A. Except along Arterial Street, public streets shall be spaced a maximum of 660 feet between centerlines. The purpose is to provide a street grid pattern of through streets to facilitate traffic movement. Street designs shall conform to topography and other existing natural and man-made conditions. Illustrative examples of other conditions include the dry canyon, main COI canal, Highway 97, and the Burlington Northern Railroad tracks.

APPLICANT RESPONSE: All proposed, public streets are spaced under 660 feet between centerlines with purpose of creating a street grid pattern throughout the development. Therefore, this criterion is met.

- B. All proposed streets, sidewalks, bike lanes and pedestrian pathways shall connect to other streets, sidewalks bike lanes and pedestrian pathways within a development and to existing and planned streets, sidewalks, bike lanes and pedestrian pathways outside the development. Such facilities shall serve existing and planned parks, schools or other public lands within a neighborhood.

APPLICANT RESPONSE: All proposed streets, sidewalks, bike lanes and pedestrian pathways connect to other streets, sidewalks, bike lanes and pedestrian pathways within the development and to existing and planned streets, sidewalks, bike lanes and pedestrian pathways outside the development. The proposed community amenities and facilities throughout the neighborhood are interconnected in a manner to ensure safe travel from inside, to outside the proposed development.



- C. To the maximum extent possible, new local streets shall align and connect with existing local streets and collectors, and in certain special cases arterial streets. Cul-de-sac streets shall be permitted only where no feasible connection with an adjacent street exists, or if the local street connection would be to an arterial street and the function of the arterial street may be diminished as determined through the land use review process, or the block length would be less than that which is permitted by Section 8.2705(1)(B).

APPLICANT RESPONSE: All proposed streets connect to existing local streets and collectors where possible. One cul-de-sac is proposed due to the burdening "Future Row for Highway Access" as labeled on the Tentative Plat. Per direction from the City of Redmond, a future overpass is proposed for Upas and no connection (NW 7th St to and Upas Ave) was desired. Therefore, the future streets within the proposed project meet the intent of this Code Section.

- D. Consideration should be given to alternative street designs other than required herein in the City's non-residential land use zones to allow for more effective developments. Such designs may be considered and approved during the subdivision or partition process without need for variance.

APPLICANT RESPONSE: The proposed project does not involve any alternative street designs. Therefore, this criterion does not apply.

- E. All proposed or required streets and alleys shall comply with Section 8.2820 Access Management Standards, the Transportation System Plan, and with Local Street Connectivity Plans adopted as part of the transportation element of the Comprehensive Plan.

APPLICANT RESPONSE: All proposed streets and alleys comply with Code Section 8.2820 and their involvement with the comprehensive plan.

2. Existing Streets. Whenever existing streets, adjacent to or within a tract, are of inadequate width to accommodate the increase in traffic expected from the land division or by the City's transportation policies as determined through a transportation impact analysis, additional right-of-way shall be provided at the time of the land division by the applicant. During consideration of the tentative plat for the subdivision or partition, the Hearings Body shall determine whether the improvements to existing streets, adjacent to or within the tract, are required. If so determined, such improvements shall be required as a condition of approval of the tentative plat. Improvements to adjacent streets shall be required where traffic on said streets shall be directly affected by the proposed subdivision. Notwithstanding these provisions, off-site improvements to streets not within or adjacent to the development may be required when impacts resulting from the development necessitate such improvements as demonstrated through a transportation impact analysis.

APPLICANT RESPONSE: There is only area where the subject site has frontage along an existing street (NW Upas Ave). NW Upas Ave has been deemed inadequate to support the increase in traffic brought by the proposed project. Existing correspondence regarding recommended improvements to NW Upas Ave from the Redmond Planning Department are as follows:

Ten (10) ft. minimum right-of-way dedication to 40 ft. width each side of centerline (where available) shall be required along property frontage. Street frontage improvements conforming to City major collector street standards shall be required as follows:

- 1) *West of 8th St. - partial major collector street improvements per COR Standard Drawing 2-1 and 2-4 with new pavement, curb and sidewalk on the north side, storm drainage and forty-five (45) ft. right-of-way dedication. A cash contribution for one-half local street standard cost may be provided in lieu of construction due to lack of available public right-of-way.*



- 2) *East of 8th St. - A cash contribution for one-half local street standard cost shall be provided in lieu of construction due to the City's planned Upas Ave. overpass and bridge at US97. Additional public right-of-way to accommodate the future Upas/US97 overpass shall be dedicated with plat recordation of adjacent development phases or bridge design/construction whichever occurs first. In the absence of a bridge design, the proposed approximation of future right-of-way for the Upas/US97 overpass is acceptable.*

Per direction from the City, the applicant has incorporated the required ROW space for a future overpass of Upas in the design. Therefore, the required space for future improvements has been accounted for. As stated in Code section 8.2710.2, the applicant is to adhere to the conditions of approval of the tentative plat for changes to existing roadways. Therefore, required improvements to existing streets relative to the proposed project can be met.

3. Minimum Right-of-Way and Roadway Width. The street right-of-way and roadway surfacing widths shall be in conformance with the standards as specified in Table 1 below:

Table 1 - City of Redmond Right of Way and Roadway Design and Cross-Section Standards

Functional Class	Width (ft)		Right-of-Way	Travel Lanes	Sidewalks	Bike Lanes**	Parking**
	Pavement Standard	Pavement (minimum)					
Residential Alley	16 ft		20 ft	n/a		shared	none
Commercial Alley	20 ft		20 ft	n/a	none	shared	none
Local Residential*****	36 ft		60 ft	2***	5 ft	shared	both sides (unstriped)
	28 ft*		60 ft	2***	5 ft	shared	one side (unstriped)
	24 ft*		60 ft	2***	5 ft	shared	none
Local Industrial	40 ft	38 ft	60 ft	2***	5 ft	shared	optional (unstriped)
Industrial Collector	40 ft	38 ft	80 ft	2	5 ft	6 ft	none
Minor Collector	40 ft	36 ft****	60 ft	2	5 ft	shared	both sides (8 ft)none
Major Collector	36-50 ft	36 ft****	80 ft	2	5 ft	6 ft	
Minor Arterial (3-lane)	50 ft	48 ft	100 ft	3	7 ft	6 ft	none
Minor Arterial (5-lane)	74 ft	72 ft	100 ft	5	7 ft	6 ft	none

Notes:

*May be constructed only in conjunction with the creation of covenants, conditions and restrictions (CCR's) and the establishment of a homeowners association (HOA) for the development. The CCR's shall provide that the primary responsibility for parking enforcement shall be the HOA, with the City of Redmond also being acknowledged in the CCR's as a beneficiary for such parking enforcement as a violation of the land use decision and/or city code.

**In certain cases, bike lanes may be reduced to 5 ft, parking may be reduced to 7 ft, and travel lanes to 11 ft at the discretion of the City Engineer.

***Unstriped travel lanes

****36 ft in existing built-out areas

*****All streets less than 28 feet wide shall be no longer than 300 feet in length, unless such streets include at least one

- (1) parking bay per lot, located along each lot frontage for the entire length of such street, up to the maximum block length. Streets 300 feet or less in length shall not have any direct driveway access. In no case shall any street less than 28 feet wide intersect with any other street less than 28 feet wide.

APPLICANT RESPONSE: All streets and alleys within the proposed project meet the width and design requirements set forth by the City of Redmond Development Code. Please refer to the plan set included with this application package for visual reference. Therefore, these criteria are met.

4. Future Extension of Streets. When necessary, to give access to or permit a satisfactory future division of adjoining land, streets shall be extended to the boundary of the subdivision or partition and the resulting dead-end streets may be approved without a permanent turn around if they are 150 feet or less in length, although, an adequate temporary turn around to ensure emergency vehicle access must be provided if such streets are greater than 150 feet in length.



APPLICANT RESPONSE: All proposed streets within the project are being extended to the property lines with the exception of NW 7th (request of the City). Any streets that result in temporary dead ends exceeding 150ft, will provide a temporary turnaround as necessary to allow for emergency vehicle access. The temporary access will remain in place until the applicable roads extension into adjacent projects develops. Therefore, this criterion can be met.

5. Collector and Arterial Street Access. Notwithstanding the provisions of Section 8.2705 of this Chapter, if a land division abuts or contains an existing or proposed collector or arterial street, the Community Development Director or Hearings Body may require other treatments, including but not limited to frontage roads, necessary for adequate protection of residential properties and to afford separation of through and local traffic. Provision may be made for emergency access. All frontage roads shall comply with the City of Redmond Transportation System Plan.

APPLICANT RESPONSE: All roads within the proposed development will be classified as local streets. However, the subject site is directly adjacent to the future extension of NW Upas. Per the City of Redmond's request, the applicant is not improving this section but instead providing cash-in-lieu for half street improvements for the applicable portion. Additionally, the applicant has designed their site to allow enough space for a future NW Upas overpass. Therefore, this criterion can be met.

6. Streets Adjacent to Railroads, Freeways and Parkways. When the area to be subdivided or partitioned is residentially zoned and abuts a railroad, freeway, or parkway, a provision may be required for a street approximately parallel to and on each side of such right-of-way at a distance suitable for use of the land between the street and railroad, freeway or parkway. In the case of a railroad, there shall be a land strip of not less than 25 feet in width adjacent and along the railroad right-of-way for screen planting between the railroad right-of-way and residential property. If the intervening property between such parallel streets and a freeway or a parkway is less than 80 feet in width, such intervening property shall be dedicated to park or thoroughfare use. The intersections of such parallel streets, where they intersect with streets that cross a railroad, shall be determined with due consideration as cross streets of a minimum distance required for approach grades to a future grade separation and right-of-way widths of the cross street.

APPLICANT RESPONSE: No proposed streets are adjacent to Railroads, Freeways or Parkways. Therefore, this criterion does not apply to this project proposal.

7. Continuation of Streets. Subdivision or partition streets which constitute the continuation of streets in contiguous territory shall be aligned so that their center lines coincide. Where straight line continuations are not possible, such center lines shall be continued as curves. These streets or the continuation of streets in contiguous territory may be required by the Community Development Director or Hearings Body where such continuation is necessary to maintain the function of the street or desirable in the surrounding area. Where solar orientation would not be possible if the street area continued, a new pattern may be started that is solar oriented.

APPLICANT RESPONSE: The only continuation of streets in contiguous territory relates to future development of the surrounding area. This street layout of the proposed project has been planned in accordance with anticipated surrounding development. This allows for the feasible continuation of streets at centerline during future development. Therefore, this criterion can be met.

8. Lot Layout. Local residential streets should be oriented on an east/west axis to the greatest possible extent to insure solar access for lots within the subdivision or partition.

APPLICANT RESPONSE: As far as feasible, lots created by the proposed subdivision are oriented East/West to ensure solar access. The majority of lots oriented on a North/South axis are lower density than the rest of the



subdivision, and therefore larger creating more potential for solar access during building permits and future development.

9. Street Names. Except for extensions of existing streets, no street name shall be used which will duplicate or be confused with the name of an existing street in a nearby city or in the county. Street names and numbers shall conform to the established pattern in the City, including the continuation of street names across intersecting streets, and shall be subject to the approval of the Fire Department or the responsible agency.

APPLICANT RESPONSE: No streets within the proposed project are duplicates of other applicable streets except extensions of existing streets. The applicant will work with the City of Redmond and the Fire Department in the naming of the future streets.

10. Sidewalks. Sidewalks are required to be installed on both sides of a public street and in any special pedestrian way within the subdivision or partition except that in the case of collectors, arterials, special industrial districts or in steep terrain, the Hearings Body may approve a subdivision or partition without sidewalk if alternative pedestrian routes are available or provided by the developer. Sidewalks shall be required along routes to existing or future school and park sites.

APPLICANT RESPONSE: Sidewalks are accounted for on all portions of the proposed project where necessary. All future streets have been designed to be located on both sides of the streets, creating a pedestrian sidewalk network throughout the entirety of the subdivision. Compliance with this criterion is shown on the Tentative Site Plan.

11. Bicycle Routes. If appropriate to the extension of a system of bicycle routes, existing or planned pursuant to the City of Redmond Bicycle Refinement Plan, the Community Development Director or the Hearings Body may require the installation of separate bicycle lanes within streets and/or separate bicycle paths.

APPLICANT RESPONSE: All right of way dedications will be adequate for bike travel where necessary. The applicant is accepting and understanding of the City's desires for a bicycle-friendly community.

12. Intersection Angles. Street intersections shall be as near right angles as possible except where topography or existing conditions requires a lesser angle, but in no case shall the acute angle be less than as permitted by the adopted City of Redmond Public Works Standards and Specifications.

APPLICANT RESPONSE: All street intersections within the proposed project are at set at right angles where possible and necessary. Compliance with this criterion can be shown on the Tentative Site Plan and is therefore met.

13. Alignment. Staggered street alignment shall whenever possible leave a minimum of 200 feet distance between the center line of the streets, but in no case be less than as permitted by Standards and Specifications.

APPLICANT RESPONSE: The orientation and alignment of streets within the proposed project leave a minimum of 200 feet distance between the centerline of the streets. Compliance with this criterion is shown on the Tentative Site Plan, and therefore met.

14. Narrow Streets. Local residential grid streets designed at widths less than 36 feet as described in Section 8.2710(3)(Table 1), shall be permitted when the subdivision design is found to be in compliance with the following:
 - A. Narrow streets may only be permitted for continuous full length blocks internal to a subdivision or Planned Unit Development with street connections at both ends.



- B. Lots adjoining the narrow streets shall be a minimum of 5000 square feet and have a street minimum 50 feet of frontage.
- C. Sidewalks shall be separated from the curb by a landscape strip with street trees conforming with Public Works Standards and Specifications.
- D. Curb cuts along the narrow street shall not be less than the minimum width required within the adopted City of Redmond Public Works Standards and Specifications.

APPLICANT RESPONSE: No “narrow streets” are proposed within the proposed project. Therefore, this criterion does not apply.

8.2715 Fundamental Design Elements.

- 1. Lighting. The subdivider or partitioner shall provide underground wiring to the City standards and a base for any proposed ornamental streetlights at locations approved by the affected utility company.

APPLICANT RESPONSE: Underground wiring will be provided per City standards and a base for any agreed upon ornamental streetlights within the proposed project as agreed upon.

- 2. Multiple Access Points. Whenever possible, a minimum of two points of access to the subdivision or partition shall be provided to provide assured access for emergency vehicles and ease resident evacuation.

APPLICANT RESPONSE: The proposed project has at least two access points. Therefore, this criterion is met.

- 3. Water/Sewer. All subdivisions and partitions shall provide water and sewer lines constructed to City standards and specifications approved by the City Engineer. All lots or parcels shall be served from the City of Redmond water and sewer systems or by water and sewer systems acceptable to the City. Water and sewer mains and service lines shall be installed prior to the curbing and paving of new streets in all new subdivisions or partitions.

APPLICANT RESPONSE: The proposed project includes public sewer and waterlines that will be designed and constructed per the City standards and specifications and approved by the City Engineer. All lots will be served from the approved main lines and will be installed prior to curbing and paving. Therefore, these criteria will be met.

- 4. Underground Utilities. All permanent utility service and minor power transmission lines that are within or immediately adjacent to lots in a subdivision or parcels in a partition shall be provided from underground facilities unless otherwise approved by the CDD Director or Hearings Body. The subdivider or partitioner or developer shall be responsible for complying with requirements of this section and shall:
 - A. Obtain a permit from Public Works for placement for all underground utilities within the public right-of-way.
 - B. Make all necessary arrangements with the utility companies and other persons or corporations affected by the installation of such underground utilities and facilities in accordance with rules and regulations of the Public Utility Commission of the State of Oregon.
 - C. All underground utilities, water lines, sanitary sewer lines and storm drains installed in streets shall be constructed prior to the surfacing of such streets to the extent practicable, and water and sanitary sewer service lines shall be placed to such lengths as will negate the necessity for disturbing the street improvements when service connections are made.

APPLICANT RESPONSE: All permanent utility services and minor power transmission lines that are within or immediately adjacent to lots within the proposed project will be provided from underground facilities unless approved by the CDD Director or Hearings Body. The applicant will follow the necessary procedural steps in order to obtain approval from applicable entities.



5. Preservation of Natural Features. Existing trees, vegetation and natural features (i.e. rock outcrops) add character to the development and shall be preserved to the greatest extent practicable. All trees over 8 inches d.b.h. shall be noted and shown on the tentative plat.

APPLICANT RESPONSE: The land in which the proposed project is on contains very few natural features. The tree's located on site are in declining health and proposed for removal. The future development will be adding street and private trees that will far exceed the existing amount on site and will be in better health to ensure the longevity of their life.

6. Scenic Views. Significant views shall be taken into consideration during subdivision design. The establishment of view corridors, building envelopes, building height restrictions or similar methods shall be employed for the retention and protection of views from individual lots and from public spaces to the greatest degree practicable as determined through the land use review process. Such measures shall be shown on the final plat and included in the deed restrictions.

APPLICANT RESPONSE: Any significant views will be taken into consideration in the building design. The future buildings will not exceed the maximum height requirements of its respective zone. Therefore, this project will be in compliance with this code section.

7. Land for Public Purposes.
- A. If the City has an interest in acquiring a portion of a proposed development for a public purpose, it shall notify the property owner as soon as the City Council authorizes the transaction to proceed.
 - B. Within a development, or adjacent to a development in contiguous property owned by the developer, a parcel of land of not more than 5% of the gross area of the development may be required to be set aside and dedicated to the public for parks and recreation purposes by the developer. The parcel of land, if required, shall be determined to be suitable for the park and/or recreation purpose(s) intended, and the city may require the development of the land for the park or recreation use intended or identified as a need within the community.
 - C. In the event no such area is available that is found to be suitable for parks and/or recreation uses, the developer may be required, in lieu of setting aside land to pay to the appropriate parks and recreation agency a sum of money equal to the market value of the area required for dedication, plus the additional funds necessary for the development thereof if so required; if such is required, the money may only be utilized for capital improvements by the appropriate parks and recreation agency.
 - D. The foregoing land and development or money dedication (if require) may be provided for in lieu of an equal value of systems development charge assessment for parks if so approved by the collecting agency in accordance with the applicable provisions of the system development charge ordinance. If the collecting agency will not permit the land or money dedication in lieu of an applicable systems development charge, then the land and development or money dedication shall not be required.
 - E. If the nature and design, or approval, of a development is such that over 30% of the tract of land to be developed is dedicated to public uses such as streets, water or sewer system facilities and the like, then the requirements of this subsection shall be reduced so that the total obligation of the developer to the public does not exceed 30%.

APPLICANT RESPONSE: The percent of public-dedicated area exceeds 5%. Specific features and uses of the dedicated area will be determined in collaboration between the applicant and the City. Therefore, the proposed public space complies with these criteria.

8. Easements.
- A. Utility Easements. Easements shall be provided along property lines when necessary for the placement of underground utilities and to provide the subdivision or partition with electric power,



communication facilities, street lighting, sewer lines, water lines, gas lines, or drainage. Such easements shall be labeled "Public Utility Easement" on the tentative and final plat; they shall be at least 12 feet in width and centered on lot lines where possible, unless determined otherwise by the City Engineer or designate. Excepting utility pole guylines easements along the rear of lots adjacent to unsubdivided land may be reduced to 10 feet in width, unless determined otherwise by the City Engineer or designate.

APPLICANT RESPONSE: A P.U.E will be provided on all property street frontages to allow for the placement of underground utilities. Shall any other utility easement be required; it will meet the dimensional standards set forth in this code section. Therefore, these criteria can be met.

- B. Drainage. If a tract is traversed by a water course, such as a drainage way, channel or stream, there shall be provided a stormwater easement or drainage right-of-way conforming substantially with the lines of the water course or in such further width as will be adequate for the purpose. Streets or parkways parallel to major water courses and drainage ways may be required.

APPLICANT RESPONSE: The subject site is not traversed or adjacent to a watercourse, drainage, or stream. An existing Canal easement runs along the north property line and is shown on the plans and incorporated into the preliminary design.

8.2720 Grading of Building Sites.

Grading of building sites shall conform to the following standards unless physical conditions demonstrate the propriety of other standards:

1. Slopes shall be less than or equal to 3 to 1 (horizontal to vertical) unless slope reinforcement and low maintenance surfaces are provided. Cut slopes as steep as 1 to 1 are permitted in native rock material if that material is suitable to stand at the slope without raveling. Toe of full slopes steeper than 3 to 1 and top of cut slope shall be no closer than 2 feet from the property line.
2. Structural engineering must be provided for retaining walls higher than four feet from the base of the footing to the top of the retaining portion of the wall and for retaining walls of any height that support a surcharge such as a structure, roadway or slope greater than 4 to 1.
3. Stormwater must be controlled in accordance with the City of Redmond Public Works Standards and Specifications to avoid erosion and impacts to adjacent property.
4. Cuts and fills greater than 5 feet from original ground to final grade should be avoided.
5. Foundations should be stepped or other measures used to minimize cuts and fills. Slopes steeper than 3:1 shall be landscaped, terraced, or receive other treatment to reduce the visual impact and minimize the need for maintenance.
6. Areas that require engineered fill to support structures, roadways or for other reasons shall be noted in the grading plan. Design and placement of engineered fill shall be under the direction of a licensed professional engineer. Fill material shall be tested and approved by the engineer prior to placement and tested with suitable methods after compaction. Fill in areas that do not support a structure shall be suitable with a minimum of voids and organic material.
7. The composition of soil for fill and the characteristics of lots and parcels made useable by fill shall be suitable for the purpose intended.
8. When filling or grading is contemplated by the subdivider or partitioner, they shall submit plans showing existing and finished grades for the approval of the City Engineer. In reviewing these plans, the City Engineer shall consider the need for drainage and effect of filling an adjacent property.
9. Grading shall be finished in such a manner as not to create steep banks or unsightly areas to adjacent property.
10. Any land that requires engineered fill shall be so noted on the plat. Design and placement of engineered fill



shall be under the direction of a licensed professional engineer.

APPLICANT RESPONSE: The proposed Tentative Site Plan and existing topography allow for all grading specific requirements to be met during future construction design and development. Therefore, the criteria of Code Section 8.2720 can and will be met during future design and development.

SUPPLEMENTARY PROVISIONS

8.2800 Improvement Procedures.

In addition to other requirements, public or private improvements to be installed by the applicant either as a requirement of these standards or other applicable regulations or at his own option, shall conform to the requirements of this article:

1. Plan Review and Approval. Improvement work shall not be commenced until plans thereof have been reviewed and approved by the Community Development Director or Hearings Body or a designated representative thereof. To the extent necessary for evaluation of a proposed development, such improvement plans may be required before approval of the tentative plat or preliminary map or drawing.
2. Public Improvements as Platted. Public improvements shall be designed, installed and constructed as platted and approved by the City Engineering Division, and plans shall be filed with the final plat at the time of recordation or upon completion.
3. Inspection. Improvements shall be constructed under the inspection and approval of a city Inspector. Expenses incurred thereby shall be borne by the applicant/owner. The inspector may require changes in sections and details of the improvements if unusual conditions arise during construction to warrant such changes.
4. As-Built Plans. A map showing the completed public improvements shall be filed with the Community Development Department upon completion of the improvements.

APPLICANT RESPONSE: The applicant understands the procedural requirements set forth in 8.2800 for Improvement Procedures. The applicant intends to follow the procedures per this code section and therefore will be in compliance.

8.2815 Transportation Impact Analysis.

It shall be the burden of the developer to evaluate transportation system impacts through studies prepared by a qualified registered professional engineer. When a transportation impact analysis is required it must demonstrate that the following standards are met:

1. The standard of measurement that will determine the acceptability of traffic flow on City streets will be a delay-based level of service as defined by the Highway Capacity Manual, Special Report 209, third Edition (2000 update or subsequent document updates) published by the Transportation Research Board. The determination of LOS shall be calculated by a methodology that is approved by the City Engineer. The acceptable standard of LOS for City streets shall be LOS E during the peak 15 minutes of the peak hours of the average weekday. A lesser standard shall be acceptable at unsignalized intersections with low volume minor street approaches if the volume-to-capacity ratio is less than 0.90 and the 95th percentile vehicle queue is less than four vehicles during the peak hour.
2. The Average Daily Traffic (ADT) volume of Local Street roadways within the City of Redmond shall be less than 1,200 vehicles per day (VPD). Developments which add vehicle trips to Local Streets with an ADT greater than 1,200 VPD may be asked to provide mitigation in the form of additional access to the site, when in the opinion of the City Engineer, the residential livability is degraded by excessive local street traffic volume.
3. New development that will cause degradation below those levels shall be required to provide mitigating



transportation system improvements that will restore the LOS to the accepted standard, as is practical, as determined by the City Engineer and pursuant to the adopted City of Redmond Transportation System Plan. Where there are impacts to the State Highways, the City and ODOT shall work cooperatively to determine appropriate courses of action based on ODOT and City standards.

4. The following vehicle trip generation thresholds shall determine the level and scope of transportation analysis required for a new or expanded development. Trip ends shall be calculated as per the Institute of Transportation Engineers manual, Trip Generation, 8th edition (or subsequent document updates), or local trip generation studies prepared by a qualified registered professional engineer and approved by the City Engineer. The City Engineer shall determine when a TIA has satisfied the requirements of the development's impact analysis. The TIA shall bear the stamp and signature of a qualified registered professional Engineer with a license valid in the State of Oregon.
 - A. If a proposed development will generate 200 or more daily trip ends, or 20 or more p.m. peak hour trip ends, then a Transportation Impact Analysis (TIA) shall be required.
 - B. Projects that generate less than 200 daily or 20 p.m. peak hour trip ends may also be required to provide a Transportation Impact Analysis (TIA) when, in the opinion of the City Engineer or his/her designee, significant capacity and/or safety problems are caused, or adversely impacted by the development. The City Engineer or designee, shall determine the scope of this analysis.
 - C. A development may be required to provide a Trip Generation Report for developments which generate less than 200 daily or 20 p.m. peak hour vehicle trips.
5. The impact analysis area shall include at a minimum, the following intersections:
 - A. All site access intersections
 - B. Nearest intersecting collector or arterial street upstream and downstream of the development.
 - C. Any other collector or arterial street intersection that would experience an increase of 25 additional peak hour trips.
 - D. Additional intersections requested by staff in the basis of anticipated impacts resulting from the development.
6. The analysis shall include the following study time frames:
 - A. Existing conditions.
 - B. Completion year of each significant phase of development.
 - C. Five year forecast beyond final phase
7. The following Tables are required in the TIA:
 - A. Trip Generation (including phase breakdown if applicable)
 - B. LOS Table (LOS for every analysis scenario at every study area intersection. Report LOS, delay, V/C ratio, 95% vehicle queue, and any additional pertinent analysis results)
8. The following Figures are required in the TIA:
 - A. Vicinity Map
 - B. Site or Tentative Plan Map
 - C. Background Traffic Volumes (all study intersections, all analysis years)
 - D. Trip Distribution and Assignment
 - E. Background + Site Generated Traffic Volumes (all study intersections, all analysis years)
9. Other Analysis Standards (as required by the study)
 - A. Signal Warrants shall be performed where applicable per the Manual on Uniform Traffic Control Devices, current edition.
 - B. Left Turn Lane Warrants shall be provided where applicable per ODOT criteria based on the Texas Transportation Institute (TTI) curves.
 - C. Right Turn Lane Warrants shall be provided where applicable per ODOT criteria.
 - D. The acceptability of sight distance at all study area intersections shall be determined per AASHTO (current edition) standards.



- E. Traffic signal progression analysis may be required if a new signal is proposed. The City Engineer shall approve the method of traffic signal progression analysis.
- F. Roadway improvements are to be based on the City of Redmond Standards and Specifications and ODOT design standards.

APPLICANT RESPONSE: The Traffic Impact Analysis was prepared by Ferguson & Associates for the proposed project. The report meets the City of Redmond's requirements set forth in Code Section 8.2815, Rules, procedures, and conditions are to be followed as the TIA's findings are implemented into any further analyses or construction as they occur.

8.2820 Access Management Standards.

All land divisions shall be in compliance with the following standards.

1. Driveway spacing and corner clearance as follows:

<u>Roadway Classification</u>	<u>Minimum Access Driveway Spacing</u>	<u>Minimum Access Clearance to Corner</u>	<u>Intersection Spacing (Min.)</u>
Local Street	No restrictions	30 feet	165 feet
Minor Collector	50 feet	80 feet	330 feet
Major Collector	165 feet	165 feet	330 feet
Minor Arterial	330 feet	330 feet	¼ mile
Major Arterial	ODOT Stds	ODOT Stds	ODOT Stds

2. In all instances, access near an intersection shall be located beyond the influence of standing queues and opposing left turns sharing a continuous two-way left turn lane. This requirement may result in greater corner clearance or access spacing than the minimum distance indicated.
3. Every lot or parcel shall be permitted an access. In the event that the access management standards cannot be achieved, shared access with adjacent property shall be explored and provided where available.
4. Access shall be taken from the lower order street or alley unless otherwise approved by Public Works and/or ODOT through the land use process.
5. Unless adequate demonstration of site necessity, intersection safety and functionality is provided, through the land use review process, new lots and/or parcels will be limited to a single vehicular access.
6. The access management standards apply to new development, redevelopment, subdivision and partitioning of land.
7. Corner clearance is measured from the edge of right-of-way to the nearest edge of access. Spacing is measured from centerline of access/intersection to centerline of access/intersection.
8. Adequate intersection sight distance and clear zone shall be maintained at all access/driveway locations per AASHTO standards (American Association of State Highway and Transportation Officials).
9. Public Works may require supporting information, including but not limited to traffic count data, trip generation, trip distribution, Transportation Impact Analysis study, etc., in order to make a proper determination of access/driveway location.
10. Access within the North Redmond US 97 Interchange Area Management Plan (IAMP) shall also conform to the "North Redmond US 97 Interchange Area Management Plan (IAMP)" provision of Chapter 9 Transportation Element of the Comprehensive Plan Addendum and Policy 12 n of Chapter 14 of the Comprehensive Plan.

APPLICANT RESPONSE: The proposed project contains all local streets, and therefore meets the driveway and corner clearances. All lots within the project will be permitted an access that meets the City of Redmond design standards set forth in Code Section 8.2820 and will be further reviewed and addressed during the construction engineering design.



8.2835 City as Beneficiary to Covenants, Conditions and Restrictions. When Covenants, Conditions and Restrictions (CCR's), or other similar documents, are required by either the provisions of this Code or through the land use review process, the City of Redmond may require the CCR's (or other documents) include a provision or provisions that allow the City to come onto the property(s) that are subject to the CCR's for the purpose of removing, repairing or maintaining improvements and other common areas in the event such improvements or common areas are not property maintained or otherwise kept in good order. The provision(s) shall state that the City has sole and exclusive discretion to determine the need for and timing of any such removal, repair or maintenance. The provision shall authorize the City to recover the cost of such removal, repair or maintenance by directly billing the record owner of the property(s) subject to the CCR's or the property(s) directly benefited by the removal, repair or maintenance. In the event a bill is not paid, the City may impose a lien on the property(s), which shall be recorded and may be enforced in the manner of an assessment lien. The inclusion of a provision or provisions described in this section does not affect the obligations of an association, group and/or other persons or property owner(s) designated in the CCR's from any responsibilities or obligations respecting such improvements or common areas, nor shall it obligate the City to such undertake such removal, repair or maintenance.

APPLICANT RESPONSE: The applicant understands the requirements of this section. If the city is to deem it required for the proposed project; they will make sure to include and meet the requirements of this code section.

ARTICLE IV. SITE AND DESIGN REVIEW STANDARDS

8.3000 Purpose and Intent.

The purpose of this Article is to conserve and enhance the appearance of the City and to promote functional, safe, and innovative site development. The intent is to ensure that there is general compatibility between adjoining uses, outdoor space is designed and installed in a functional and attractive manner, vehicular access and circulation is designed and constructed consistent with maximizing public safety, adequate public utilities are available, and the structures on-site provide a consistent architectural theme. This Article further implements the policies and goals of the City of Redmond Comprehensive Plan.

8.3005 Applicability of Site Design and Review.

Major Site and Design Review shall be required for any new development or use containing a structure equal to or over 3,500 square feet in size (includes multiple structures) in aggregate.

Minor Site and Design Review shall be required for any new development or use containing a structure under 3,500 square feet in size (includes multiple structures).

APPLICANT RESPONSE: The applicant understands the requirements of this section. No building construction is proposed with this application, and therefore this code section is not applicable at this time. When it comes time to design and develop the applicable types of buildings construction, the applicant understands they will be required to address all the applicable code sections of Article IV and meet its applicable requirements.



IV. CONCLUSION

As presented throughout this Project Narrative, this proposed modification to the approved master plan, the related zoning map amendment and subdivision application are in compliance with the applicable code of the City of Redmond Development Code (as demonstrated throughout the narrative and in the plan design). The proposed modification to the master plan and zoning map amendment requests to realign the existing zone boundary lines and make a slight adjustment to the zone sizes. The dimensional modification request does not take away from the state Central Christian Master Plan, Annexation Agreement, or the HAP (Highway Area Plan). Additionally, the amendment is compliance with applicable state statutes, statewide planning goals, the Redmond Comprehensive Plan, land use requirements, and policies. As demonstrated through this narrative and application package, this project proposal meets all the original requirements and expands upon them. This project is proposing to create a community with multiple housing options for a diverse set of residents with over 2 acres of open and recreation space throughout the entire project. The extensive sidewalk and pedestrian pathways create a safe option for the public and community members to access all the amenities this project is proposing. Additionally, the project includes multiple employment options for the 121 West and the Redmond community by including 10 live/work units, 2 commercial buildings, and a ministorage structure. The diverse set of zones, proposed development, and proposed uses allow for a unique and desirable community with a surplus of amenities accessible for the future and current City of Redmond residents.



Date: March 24, 2022
To: City of Redmond
Attn: Kyle Roberts
RE: 121 West Subdivision

SUPPLEMENTAL NARRATIVE

The Central Christian Master Plan (“Master Plan”) was approved as a visionary plan with a number of neighborhood centers spaced throughout newly urbanized lands. As it pertains to the subject property, the Master Plan included five different zoning districts with varying acreages. The Master Plan did not include any specific development, leaving that to later applications. It did, however, embody the concept of including high-density residential and transitioning to lower density on the periphery.

With that vision in mind, when the applicant began to develop a plan with specific development, a couple of foundational concepts rose to the top and ultimately resulted in the proposed changes to the zoning districts set forth in the Master Plan.

First, the applicant determined that placing residential buildings up against Highway 97 was not going to produce the neighborhood feel embodied in the Master Plan. Thus, the applicant spread the MUE zone out along the highway frontage making it longer and narrower. The proposal places parking lots on the highway side where practical to create more separation between the highway and living/workspace. The applicant is proposing a small reduction in the MUE zone because it is increasing the OSP zone with a green strip along Highway 97. The objective is to provide a connection between the OSP property north and south of the development site leaving the city with options in the future.

The second foundational consideration was to reconfigure the R5 zone such that it places more high-density residential surrounding and closer to the proposed park. In that some of the high-density units will have no yard space and others very limited, the applicant perceived a greater need for those residents to be near a park. Reconfiguring the R5 in that manner moved some of that zone to the southwest corner of the development site. In addition to bringing more R5 closer to the park, that realignment brought R5 development adjacent to similar development on the adjacent property near that corner.

The realignment caused a modest reduction in the MUN zone. However, the uses proposed in the development are essentially the same and, thus, the applicant does not perceive that reduction to detract from the application’s ability to retain consistency with the Master Plan, as approved. The applicant also proposed a minor change in the OSP and PF zones but does not see that as detracting at all from the objectives in the Master Plan. The entire newly configured OSP/PF zoning in the middle of the site allows for a large, more useful park for the residents in the high-density development.

The above actions resulted in a modest increase in the size of the R4 zone. The applicant believes that the new configuration of the R4 zone allows a better transition from high-density (R5) to the lower density (R4) near NW Walnut and 8th Street.

Overall, the applicant believes that the proposed modifications to the zoning districts provide a better opportunity to create a neighborhood center that creates a vibrance and functionality superior to what was achievable before. It also remains consistent with the objective of transitioning from high-density to lower density on the periphery.

From: [LandUse](#)
To: [Kyle Roberts](#)
Subject: FW: tax lot 1413330001800/1805 (3211 N Hwy 97)
Date: Tuesday, March 01, 2022 3:47:19 PM
Attachments: [image001.png](#)

[EXTERNAL]: This email originated from outside of the city. Do not click links or open attachments unless you recognize the sender and know the content is safe.

March 1, 2022

Sent via Email Only

Attn: Kyle Roberts

Re: 711-21-000260-PLNG (SUB), 711-21-000261-PLNG (MC), 711-21-000328-PLNG (ZMA) | 121 West
 Tax Map: 1413330001800 and 1413330001805

Please be advised that Central Oregon Irrigation District (COID) has reviewed the preliminary site plan received via email on February 15, 2022 for the above referenced project located at tax lots 1413330001800 and 1413330001805. The applicant request is for Zone Map Amendment, Modification to the Highway 97 Area Plan (HAP), and Tentative Subdivision for 157 lots.

Listed below are COID's initial comments to the provided preliminary site plan. All development affecting irrigation facilities shall be in accordance with COID's Development Handbook and/or as otherwise approved by the District.

- COID's F-1 lateral has a 20-foot easement and is located along the northern property boundary. The ditch appears to be located on the adjacent property. There are cases when an easement and ditch may overlap a property line. Please depict the easement on all maps if there is an overlap onto 1413330001805. The easement shall not be encroached upon or crossed without COID's permission.
 - Please contact COID to discuss the proposed project and lots near COID's facilities. The proposed lots (Lot 25, 32, 33, 39) overlap within COID's easement. This easement shall allow for unobstructed and convenient access for COID operations and maintenance.
 - No structures of any kind, including fences and parking lots, are permitted within COID's property/easement/right of way. Any irrigation conveyance, District or private, which passes through the subject property shall not be encroached upon without written permission from COID.
 - Please note that COID facilities are located within the vicinity of the subject property; contact COID if any work and/or crossings will be done near the COID facilities.
- 1413330001800 has an adjudicated 10.30 acres of water right and 1413330001805 has 19.15 acres of water right on Certificates issued to COID. The 29.45 acres of water right have been quitclaimed to COID; however, these water rights remain appurtenant to these lands until completion of a water right transfer to remove the 29.45 acres from the described parcels. Upon issuance of an Order by OWRD, no water rights will remain within the boundaries of 1413330001800/1805.

Our comments are based on the information provided, which we understand to be preliminary in nature at this time. Our comments are subject to change and additional requirements may be made. Please provide updated documents to COID for review as they become available. Policies, standards and requirements set forth in the COID Developer Handbook must be complied with. Irrigation infrastructure and right-of-way are required to be identified on all maps and plans.

Central Oregon Irrigation District

From: Sarah Vowell <sarah.vowell@redmondoregon.gov>
Sent: Tuesday, February 15, 2022 3:14 PM
To: David Pilling <David.Pilling@redmondoregon.gov>; Bill Duerden <Bill.Duerden@redmondoregon.gov>; Wade Gibson <Wade.gibson@redmondfireandrescue.org>; Travis Robbins <travis.robbs@redmondoregon.gov>; Maria Ramirez <maria.ramirez@redmondoregon.gov>; Aaron Yuma <aaron.yuma@redmondoregon.gov>; odotr4planmgr@odot.state.or.us; Andrea Breault <abreault@coic.org>; LandUse <landuse@coid.org>; Rohde, Kevin <krohde@cec.coop>; Brent Leslie BPA <bclleslie@bpa.gov>; Shoemaker, Deanna L (CONTR) - TERR-REDMOND <dshoemaker@bpa.gov>; Treadway, Ian (PacifiCorp) <ian.Treadway@pacifiCorp.com>; Fleming, Keven (PacifiCorp) <Keven.Fleming@PacifiCorp.com>; donna.herman@cngc.com; Burkus, Albert <ABurkus@republicservices.com>; robert.watters@centurylink.com; sosanna.mchugh@tdstelecom.com; Harsh, Scott D - Redmond, OR <scott.d.harsh@usps.gov>; Devin Lewis <devin.lewis@redmondoregon.gov>; Katharine Colvin <katharine.colvin@redmondoregon.gov>; Valerie Taylor <valerie.taylor@redmondoregon.gov>; anthony.pupo@redmondschools.org
Cc: Kyle Roberts <kyle.roberts@redmondoregon.gov>
Subject: REVIEW: 711-21-000260-PLNG (SUB), 711-21-000261-PLNG (MC), 711-21-000328-PLNG (ZMA) | 121 West

Dear Reviewer(s),

The Redmond Planning Division has received an application that is ready for your review. Please see the routing letter and attachments for the project below:

Project #/ Name:	711-21-000260-PLNG (SUB), 711-21-000261-PLNG (MC), 711-21-000328-PLNG (ZMA) 121 West
Applicant/Owner:	SGS Development / North Canyon Properties LLC
Request:	Zone Map Amendment, Modification to the Highway 97 Area Plan (HAP), and Tentative Subdivision for 157 lots.
Location:	3211 N Hwy 97 Redmond, OR 97756
Tax Lot Number(s):	1413330001800
Applicable Criteria:	Redmond Code, Chapter 8 Developmental Regulations, Article I – Zoning Standards, Amendments; Article II – Land Use Procedures, Modifications of Approval; Article III – Land Division Standards, Subdivisions
Staff Contact:	Kyle Roberts – 541.923.7758 or kyle.roberts@redmondoregon.gov

Please email comments by **March 1st, 2022** and any questions to the Senior Planner, Kyle Roberts (cc'd in email).

We look forward to your comments.

Thank you,

Sarah

Contact Information & Resources:



CITY OF REDMOND
Engineering Department

243 East Antler Avenue, Suite 100
Redmond, OR 97756-0100

(541) 504-2002
Fax: (541) 548-0253
www.redmondoregon.gov

TO: KYLE ROBERTS, *Planning Division/Community Development Dept.*

FROM: DAVID PILLING, *Engineering Dept.*

DATE: March 11, 2022

SUBJECT: **711-21-000260-PLNG-SUB, 261-PLNG-MC & 328-PLNG-ZMA: 121 West Phase 1-6 Master Plan**
SGS Development/North Canyon Properties LLC/H.A. McCoy Engineering & Surveying LLC
Tax Lots 14-13-33D-200 & 400

Subject property located east of NW 10th St., north of Upas Ave., west of US97 and south of Pershall Way. 3211 North Highway 97. The Engineering Department provides the following recommendations based on the master plan and tentative subdivision plan dated 9-10-21 per Redmond Development (COR) Code Section 8.0300(3)(C)(10, 11 & 12), 8.0305 and 8.2000-2835 and City of Redmond Public Works Standards and Specifications (CORPWSS):

1. Transportation: All public streets shall be designed, constructed and dedicated to current City of Redmond Standards & Specifications and Transportation System Plan (TSP) standards and extended to the limits of each project phase unless otherwise specified or approved. Five (5) ft. minimum width public utility easement (PUE) shall be dedicated along all street right-of-way per COR Standard Drawing 2-1. Street signage, lane striping, street lights and postal box installation shall be required. All street names shall be approved by Redmond Fire and Rescue and/or Deschutes County. The proposed revised master plan and public street system complies with City grid street and TSP standards subject to the following: [COR Code 8.0300(3)(C)(10)] [COR Code 8.2240(1 & 4) 8.2320(2)(A) & 8.2710(1, 2, 3 & 10)] [CORPWSS Development Provisions 03]

A) **North Highway 97 (US97)** - major arterial street (state highway). A paved highway with curb/gutter and ninety (90) ft. right-of-way exists, no sidewalks, along property frontage. Highway frontage/sidewalk improvement and dedication requirements deferred to ODOT. An ODOT permit may be required for any work or construction in state highway right-of-way.

B) **NW Upas Ave.** - major collector street. A paved street and eighty (80) ft. right-of-way exist 80 ft. ± west of subject property. Unimproved ten (10) ft. right-of-way exists just west of subject property and along the west 140 ft. ± of property frontage. Street and right-of-way centerline shall match existing. Ten (10) ft. minimum right-of-way dedication to 40 ft. width each side of centerline (where available) shall be required along property frontage. Street frontage improvements conforming to City major collector street standards shall be required as follows:

1) West of 8th St. - partial major collector street improvements per COR Standard Drawing 2-1 and 2-3 with new pavement, curb and sidewalk on the north side, storm drainage and forty-five (45) ft. right-of-way dedication. At the discretion of the City Engineer, a cash contribution may be provided for the north half at local street standards in lieu of construction due to lack of available public right-of-way.

2) East of 8th St. - at the discretion of the City Engineer, a cash contribution shall be provided for the north half at local street standards in lieu of construction due to the City's planned Upas Ave. overcrossing and bridge at US97.

In the absence of a bridge and street design, the proposed setback for future right-of-way is acceptable subject to:

a) Projection of right-of-way line to the west shall match future southeast corner of 8th St./Upas Ave. right-of-way.

b) Future right-of-way shall be reserved until such time the bridge overcrossing and street design is final then dedicated. Additional public right-of-way shall be dedicated as deemed necessary with final bridge and street design.

c) Post dedication conformance to minimum lot size for Lots 122-127 & 134, minimum building setbacks and minimum parking requirements on Tract P.

C) **NW Walnut Ave.** - local grid street. Street improvements conforming to City local grid street standards shall be required per COR Standard Drawing 2-1 with new pavement, curb, sidewalk, storm drainage and sixty (60) ft. minimum right-of-way dedication. Street and right-of-way centerline shall match that of City approved Cinder Butte Subdivision to the west.

D) **NW Varnish Ave.** - local grid street. Varnish Ave. is currently under construction to the west of subject property per neighboring Cinder Butte Subdivision Phase 2. Street improvements conforming to City local grid street standards shall be required per COR Standard Drawing 2-1 with new pavement, curb, sidewalk, storm drainage and sixty (60) ft. minimum right-of-way dedication. Street and right-of-way centerline shall match that of City approved Cinder Butte Subdivision to the west.

E) **NW 7th St. & 8th St.** - local grid/cul-de-sac streets. Street improvements conforming to City local/cul-de-sac street standards shall be required per COR Standard Drawing 2-1 and 2-4 with new pavement, curb, sidewalk, storm drainage, sixty (60) ft. right-of-way dedication and fifty (50) ft. cul-de-sac radius right-of-way dedication.

F) **Proposed Public Streets (Unnamed)** - local streets. Street improvements conforming to City local street standards shall be required per COR Standard Drawing 2-1 with new pavement, curb, sidewalk, storm drainage and sixty (60) ft. right-of-way dedication.

G) **Alleys** - proposed alleys shall be privately owned and maintained. Improvements conforming to City alley standards with twenty (20) ft. wide pavement are recommended. Approved alley connections to public streets shall be constructed to City driveway standards.

H) **Street Storm Drainage:**

1) Stormwater drainage systems in the public right-of-way shall be subject to current City design standards. [COR Code 8.2825(2)] [CORPWSS Design Standards II(B)]

2) New drywells shall comply with City/DEQ pretreatment and City testing requirements. Drywell drain rock shall not extend under any street pavement section. [COR Code 8.2825(2)] [CORPWSS Design Standards II(B)]

3) The location of drywells or other UIC's within City streets shall not conflict with existing active private water wells, community water wells or existing/future municipal drinking water wells. Identify all existing water wells that are within 500 ft. or the two-year time of travel zone of subject properties. [COR Code 8.2825(2)] [CORPWSS Design Standards II(B)]

I) **Street Trees:**

1) No street trees within 50 ft. of a street intersection per COR Standard Drawing 2-27.

2) No trees within 10 ft. of domestic water service, fire service or public storm facilities.

3) Trees shall not conflict with street or stop sign/control device and pedestrian crossing/ADA ramp line of sight.

4) No trees within driveway clear vision areas or blocking public street lighting.

5) Street tree species shall be selected from Redmond Parks Division approved tree list.

J) **Lot Access:**

1) Vehicular access to each new lot shall conform to City access management, corner clearance, clear vision and driveway construction standards. [COR Code 3.300, 8.0305 & 8.2820]

2) Direct vehicular access to US97, a major arterial street (state highway), and NW Upas Ave., a major collector street, shall not be permitted from any lot or alley except for emergency access connections with locked fire gate approved by ODOT and the City. Please note that all future vehicular and/or emergency access to Upas Ave. between 8th St. and US97 may be restricted due to the planned highway overcrossing bridge and embankment. [COR Code 8.2820(4)]

3) Corner lots and double fronting lots shall take vehicular access from the lower order street, alley or access easement. [COR Code 8.2820(4)]

4) Postal box installation shall be subject to US Postal Service standards and City Engineer approval. [CORPWSS Design Standards II(A)(16)]

K) **Traffic Impacts:** The "121 West Transportation Impact Analysis" (TIA) submitted by Ferguson & Associates Inc. dated 7-21-21 has been reviewed for master plan and subdivision approval per COR Code 8.0300(3)(C)(10) and 8.2815 and the following shall be required:

1) ODOT and Deschutes County shall review and approve. [COR Code 8.2815(3)]

2) Approved Area Development - Page 10; add Canyon Ridge Subdivision Ph1-6, 711-18-000032-SUB and Juniper Canyon Apartment Complex 711-21-000265-PLNG-SP.

3) Trip Generation - Page 18 and 19; revise per current ITE Trip Generation Manual 11th Edition.

4) NW Pershall Way/US97 (O'Neil Junction); near-term solutions and/or contribution shall be provided to mitigate impact on existing conditions compounded by proposed development subject to ODOT review/approval. [COR Code 8.2815(3)]

5) No other mitigation will be required beyond Transportation SDC's.

2. **Water:** A twelve (12) inch City water main exists in Upas Ave. 80 ft. ± west of subject property. An eight (8) inch City water main exists in Varnish Ave. west of subject property. A twelve (12) inch City water main is currently under construction in Walnut Ave. west of subject property per Cinder Butte Subdivision Phase 4.

A) Subject property is located within City water pressure zone PZ2 per draft City Water System Plan (WSP) update to be served by the future twelve (12) inch water main line identified in Walnut and Upas Ave. east of 10th St. and in 8th St between Walnut and Upas Avenue. Public water mains identified in the WSP update may be eligible for City Water SDC credits equal to the cost of additional construction required for conformance to WSP update standards. [COR Code 8.0300(3)(C)(11), 8.2235(1)(D)] [CORPWSS Development Provisions 03]

B) Connection to the City's public water system shall be required for each new lot. [COR Code 8.2240(5) & 8.2715(3)]

C) Proposed public water system shall be subject to City "to & through" Public Facility Requirement and draft WSP update standards for service to each new lot and adjacent property and the following: [COR Code 8.0300(3)(C)(11) & CORPWSS Development Provisions 03]

1) A twelve (12) inch public water main shall be extended in Walnut Ave. and 8th St. through subject properties per draft WSP update unless otherwise approved by the City Engineer.

2) A twelve (12) inch public water main shall be extended in Upas Ave. along property frontage per draft WSP update unless otherwise approved by the City Engineer. A cash contribution for one-half minimum standard water main improvement may be provided for any portion of construction restricted due to lack of available public right-of-way.

3) Design review of the public improvement construction plans for compliance to City standards.

4) Domestic and fire water systems located on-site and beyond public right-of-way shall be privately owned and maintained.

D) A separate domestic water service connection conforming to City standards shall be required for each new lot with meter located at the property/right-of-way line. A single water master meter shall be required for all multi-family lots. A City approved backflow prevention device shall be required for all multi-family and non-residential properties, water services larger than one (1) inch, fire sprinkler systems and irrigation systems. *[COR Code 4.200, 4.161, 8.2240(5) & 8.2715 (3 & 4(C))]*

E) Fire flow, fire hydrant locations and fire code requirements to be determined by Redmond Fire & Rescue (RFR).

1) A water system/fire flow analysis and mitigation plan prepared by a registered professional engineer shall be provided as required by the Redmond Fire Marshal. *[CORPWSS Development Provisions 04.2.00] [CORPWSS Design Standards II(D)(1(a) & 3(a))]*

2) Public water system improvements may be required as deemed necessary by the fire flow analysis mitigation plan to meet minimum fire code and fire flow requirements for the proposed development. *[COR Code 8.2235(1)(D)] [CORPWSS Design Standards II(D)(1(a) & 3(a))]*

F) New fire hydrants and fire/water lines located on-site shall be privately owned and maintained with City approved backflow prevention device located at the property/right-of-way line. *[COR Code 8.3035(7)(D)] [CORPWSS Design Standards II(D)(1)(d)]*

G) Abandonment of any existing water well, cistern or other private water facility located on subject properties shall be in accordance with Oregon Water Resource Department regulations. *[CORPWSS Development Provisions 04.7.00 & 22(13)]*

3. Wastewater: Ten (10) inch City gravity sewer main exists in Upas Ave. 80 ft. ± west of subject property. Eight (8) inch City gravity sewer main and an inactive/dry section of the twenty-four (24) inch Far East Sewer Interceptor (FESI) City gravity sewer trunk main per City Redmond Wastewater System Master Plan (RWSMP) exist in Varnish Ave. west of subject property current. Eight (8) inch City gravity sewer main is currently under construction in Walnut Ave. west of subject property per Cinder Butte Subdivision Phase 4.

A) Subject property is located within a sanitary gravity sewer basin to be served by the future twenty-four (24) inch City gravity sewer trunk main identified as the Far East Sewer Interceptor (FESI) per the current RWSMP. The FESI is currently located in Varnish Ave. just west of the proposed development but is inactive and incomplete until future extension southwest and connection to the City's Water Pollution Control Facility (WPCF) in the Dry Canyon. Based on the City's sewer system model, there is limited excess capacity available within existing City gravity sewer system including the ten (10) inch gravity sewer main in Upas Ave. and downstream to the WPCF. Therefore, in the absence of a complete and active FESI gravity system, the proposed connection to the existing active City gravity sewer system has been approved per Infrastructure Capacity Allocation Review memo by the City Engineer dated 4-19-21 subject to the following: *[COR Code 8.0300(3)(C)(11), 8.2235(D) & 8.2240(6)]*

1) Capacity allocation is limited to 115 gallons per minute (gpm).

2) Complete gravity sewer service.

3) FESI shall be constructed, dedicated and extended through subject property per RWSMP. Any part of the existing City sewer easement located on-site but not necessary for FESI location/construction shall be released and/or vacated.

B) Connection to the City's public sewer system shall be required for each new lot. *[COR Code 8.2240(5) & 8.2715(3)]*

C) Proposed public gravity sewer system shall be subject to City "to & through" Public Facility Requirement and RWSMP standards for service to each new lot and adjacent property and the following: *[COR Code 8.0300(3)(C)(11) & CORPWSS Development Provisions 03]*

1) A public gravity sewer main shall be extended in Upas Ave. east from existing and along Phase 6 project frontage prior to Phase 6 plat approval. A cash contribution for one-half minimum standard gravity sewer main improvement may be provided for any portion of construction restricted due to lack of available public right-of-way or easements.

2) Proposed sewer collection system shall be designed for both the interim connection to existing gravity sewer and future gravity connection to the FESI to the extent possible.

3) All public gravity sewer mains shall be designed and constructed to provide a gravity service to each new lot and neighboring properties unless otherwise approved by the City Engineer.

4) Sewer services shall be located to provide complete gravity service.

5) Sewer manholes shall be located on street centerline whenever possible, at 400 ft. max spacing and at any main line terminus. Manholes shall be added or moved accordingly to match street alignments and to avoid conflicts with public water.

6) Public sanitary sewer facilities located beyond public right-of-way will require dedication of City sewer and/or public utility easements that provide unobstructed City access and turnarounds. [COR Code 8.2215(2(E) & 3(B)), 8.2320(2)(B) & 8.2715(8)(4)] [CORPWSS Development Provisions 07]

7) Design review of the public improvement construction plans for compliance to City standards.

D) A separate sanitary sewer service conforming to City standards shall be required for each new lot with cleanout located at the property/right-of-way or easement line. All sewer services shall be connected at right angles to the sewer mainline, and not to manholes, unless otherwise approved by the City Engineer. Sanitary sewer systems located on-site and beyond public right-of-way or easements shall be privately owned and maintained. [COR Code 8.2240(5) & 8.2715(3 & 4(C))]

E) Any existing sewage drill hole, septic tank or other private sewer facility located on subject property shall be permanently abandoned in accordance with Deschutes County and Oregon Dept. of Environmental Quality (DEQ) regulations. [COR Code 4.304(3)] [CORPWSS Development Provisions 04.7.00 & 22(13)]

4. Subdivision Grading and Drainage: A subdivision site grading and drainage plan with erosion/sediment control plan and drainage report shall be required upon development of each project phase per current City standards and the following: [COR Code 8.2720] [CORPWSS Development Provisions 23] [CORPWSS Design Standards II(B)]

A) Lot and Tract grading shall conform to current COR Development Code 8.2720 and shall not create steep banks, extreme cut/fills or areas unsightly to adjacent properties or lots.

B) All storm water runoff and drainage shall be maintained on each lot or tract and shall not drain onto public streets, neighboring properties or irrigation canals/ditches except as provided for in City standards.

C) Total contributing area to the public storm system shall include all right-of-way surface runoff and 100% of the future developed lots potential contributing areas unless otherwise approved by the City Engineer.

D) The stormwater system shall be designed to pass up-gradient flow through the site without damage to the proposed development, public stormwater facilities or neighboring properties.

E) Storm water runoff from private property shall not impact public right-of-way or easements unless otherwise approved by the Public Works Director or City Engineer.

F) New on-site private drywells and other underground injection control (UIC) systems not part of the public drainage system must be registered and approved or permitted by the Oregon Department of Environmental Quality (DEQ) prior to construction or building permit issuance. Contact DEQ UIC Program Coordinator at 503-229-5945. Send copy of UIC Registration Packet to DEQ and City of Redmond, 3100 NW 19th Street, Redmond, OR, 97756.

G) Private drywells serving paved areas may not be located within public or community wellhead protection areas or 500 ft. of existing irrigation or drinking water wells. The northeast and southern portions of this site are located within the 2-year time-of-travel of an adjacent water well and/or within 500 ft. of five adjacent water wells. Private drywell/UIC systems within the well head protection areas require issuance of a general or individual UIC permit from DEQ. Locate and identify existing water wells and wellhead protection zones that could affect the location of proposed drywells. [CORPWSS Development Provisions 23] [OAR 340-044-0018]

H) Maintenance agreement required for any on-site private storm system.

5. Construction Plans: Upon land use approval, a separate set of construction drawings may be submitted directly to the Engineering Department for design review of all required and/or proposed public improvements, utilities and subdivision site grading. [COR Code 8.2720 & 8.2800] [CORPWSS Development Provisions 04 & 23] [CORPWSS Design Standards]

From: [Sarah Vowell](#)
To: [Kyle Roberts](#)
Subject: FW: REVIEW: 711-21-000260-PLNG (SUB), 711-21-000261-PLNG (MC), 711-21-000328-PLNG (ZMA) | 121 West
Date: Tuesday, February 15, 2022 3:24:42 PM
Attachments: [image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)

From: Katharine Colvin <katharine.colvin@redmondoregon.gov>
Sent: Tuesday, February 15, 2022 3:24 PM
To: Sarah Vowell <sarah.vowell@redmondoregon.gov>
Subject: RE: REVIEW: 711-21-000260-PLNG (SUB), 711-21-000261-PLNG (MC), 711-21-000328-PLNG (ZMA) | 121 West

Finance department: No comment.

Thanks.



Katharine Colvin | City of Redmond
Billing and Collections Specialist

**Hours of operation Monday thru Friday 8:00am. To
4:00 pm.
Closed on Holidays**

phone 541.923.7716
email katharine.colvin@redmondoregon.gov

411 SW 9TH Street Redmond, Oregon 97756



www.redmondoregon.gov

Please consider the environment before printing this email.

DISCLOSURE NOTICE:

Messages to and from this email address may be subject to Oregon Public Records Law.

From: Sarah Vowell <sarah.vowell@redmondoregon.gov>



REDMOND FIRE & RESCUE

341 NW Dogwood Avenue, Redmond, OR 97756

Phone: (541) 504-5000 Fax: (541) 526-1254

www.redmondfireandrescue.org

March 25, 2022

Kyle Roberts
Senior Planner
City of Redmond
411 SW 9th street
Redmond, OR 97756

Re: 121 West, 711-21-000260-PLNG (SUB), 711-21-000261-PLNG (MC), 711-21-000328-PLNG (ZMA)
Tax Lot ID: 1413330001800

Dear **Kyle**,

Thank you for the opportunity to review the proposed site plan surrounding the above-named development project. These notes are provided regarding the plans received **02/15/22** and are based on the current New Construction Guide. There may be more or less requirements needed based upon the final project design, however, Redmond Fire & Rescue will endorse this proposal predicated on the following criteria and conditions of approval.

FIRE APPARATUS ACCESS:

1. **FIRE APPARATUS ACCESS ROADS:** Access roads shall be provided for every facility, building, or portion of a building hereafter constructed or moved into or within the jurisdiction. Exception: Approved agricultural and equine structures complying with ORS 455.315 are not required to have fire apparatus access roads (see New Construction Guide Appendix C). Access roads are not required to be modified for commercial buildings that undergo a change in occupancy, change in use, or conversion from agricultural or equine exempt to non-exempt unless there is a change to the structure's square footage or building footprint. (OFC 503.1.1)
2. **FIRE ACCESS ROAD DISTANCE FROM BUILDINGS:** The access shall extend to within 150 feet of all portions of the exterior wall of the first story of the building as measured by an approved route around the exterior of the building or facility. (OFC 503.1.1)

Meets requirement.

3. **FIRE ACCESS ROAD EXCEPTIONS:** The requirements for fire apparatus access may be modified as approved by the Fire Marshal where any of the following apply: (OFC 503.1.1 Exceptions)
 - a. Buildings are equipped throughout with an approved automatic fire sprinkler system in accordance with sections 903.3.1.1, 903.3.1.2 or 903.3.1.3.
 - b. Fire apparatus access roads cannot be installed because of location on property,

topography, waterways, non-negotiable grades, or other similar conditions, and an approved alternative means of fire protection is provided.

- c. There are not more than (2) two group U occupancies.
4. **ADDITIONAL ACCESS ROADS – COMMERCIAL/INDUSTRIAL HEIGHT:** Buildings exceeding 30 feet in height or three stories in height shall have at least two separate means of fire apparatus access. (D104.1)

Please provide elevations.

5. **ADDITIONAL ACCESS ROADS – COMMERCIAL/INDUSTRIAL SQUARE FOOTAGE:** Buildings or facilities having a gross building area of more than 62,000 square feet shall have at least two approved separate means of fire apparatus access. Exception: Projects having a gross building area of up to 124,000 square feet that have a single approved fire apparatus access road when all buildings are equipped throughout with approved automatic sprinkler systems. (OFC D104.2)
6. **ADDITIONAL ACCESS ROADS – MULTI-FAMILY RESIDENTIAL DEVELOPMENTS:** Projects having more than 100 dwelling units shall be provided with two separate and approved fire apparatus access roads. Exception: Projects having up to 200 dwelling units may have a single approved fire apparatus access road when all buildings, including nonresidential occupancies, are equipped throughout with an approved automatic sprinkler system in accordance with section 903.3.1.1, 903.3.1.2. Projects having more than 200 dwelling units shall be provided with two separate and approved fire apparatus roads regardless of whether they are equipped with an approved automatic sprinkler system. (OFC D106)

Meets.

7. **AERIAL FIRE APPARATUS ROADS:** Buildings with a vertical distance between the grade plane and the highest roof surface that exceeds 30 feet in height shall be provided with a fire apparatus access road constructed for use by aerial apparatus with an unobstructed driving surface width of not less than 26 feet. For the purposes of this section, the highest roof surface shall be determined by measurement to the eave of a pitched roof, the intersection of the roof to the exterior wall, or the top of the parapet walls, whichever is greater. Any portion of the building may be used for this measurement, provided that it is accessible to firefighters and is capable of supporting ground ladder placement. (OFC D105.1, D105.2)
8. **AERIAL APPARATUS OPERATIONS:** At least one of the required aerial access routes shall be located within a minimum of 15 feet and a maximum of 30 feet from the building and shall be positioned parallel to one entire side of the building. The side of the building on which the aerial access road is positioned shall be approved by the Fire Marshal. Overhead utility and power lines shall not be located over the aerial access road or between the aerial access road and the building. (D105.3, D105.4)

UNKNOWN IF REQUIRED. PLEASE SHOW ELEVATIONS.

9. **MULTIPLE ACCESS ROADS SEPARATION:** Where two access roads are required, they shall be placed a distance apart equal to not less than one half of the length of the maximum overall

diagonal dimension of the area to be served (as identified by the Fire Marshal), measured in a straight line between accesses. (OFC D104.3)

10. **FIRE APPARATUS ACCESS ROAD WIDTH AND VERTICAL CLEARANCE:** Fire apparatus access roads shall have an unobstructed driving surface width of not less than 20 feet (26 feet adjacent to fire hydrants (OFC D103.1)) and an unobstructed vertical clearance of not less than 13 feet 6 inches. (OFC 503.2.1 & D103.1)
11. **NO PARKING SIGNS:** Where fire apparatus roadways are not of sufficient width to accommodate parked vehicles and 20 feet of unobstructed driving surface, “No Parking” signs shall be installed on one or both sides of the roadway and in turnarounds as needed. Signs shall read “NO PARKING - FIRE LANE” and shall be installed with a clear space above grade level of 7 feet. Signs shall be 12 inches wide by 18 inches high and shall have red letters on a white reflective background. (OFC D103.6)
12. **NO PARKING:** Parking on emergency access roads shall be as follows (OFC D103.6.1-2):
 1. 20-26 feet road width – no parking on either side of roadway
 2. 26-32 feet road width – parking is allowed on one side
 3. Greater than 32 feet road width – parking is not restricted**Note:** For specific widths and parking allowances, contact the local municipality.
13. **PAINTED CURBS:** Where required, fire apparatus access roadway curbs shall be painted red (or as approved) and marked “NO PARKING FIRE LANE” at 25-foot intervals. Lettering shall have a stroke of not less than one inch wide by six inches high. Lettering shall be white on red background (or as approved). (OFC 503.3)
14. **FIRE APPARATUS ACCESS ROADS WITH FIRE HYDRANTS:** Where a fire hydrant is located on a fire apparatus access road, the minimum road width shall be 26 feet and shall extend 20 feet before and after the point of the hydrant. (OFC D103.1)
15. **TURNOUTS:** Where access roads are less than 20 feet and exceed 400 feet in length, turnouts 10 feet wide and 30 feet long may be required and will be determined on a case-by-case basis. (OFC 503.2.2)
16. **SURFACE AND LOAD CAPACITIES:** Fire apparatus access roads shall be of an all-weather surface that is easily distinguishable from the surrounding area and is capable of supporting not less than 75,000 pounds live load (gross vehicle weight). Documentation from a registered engineer that the final construction is in accordance with approved plans, or the requirements of the Fire Code may be requested. (OFC 503.2.3)
17. **TURNING RADIUS:** The inside turning radius and outside turning radius shall not be less than 30 feet and 50 feet respectively, measured from the same center point. (OFC 503.2.4 & D103.3)

Unknown if access road onto walnut will meet.

18. **ACCESS ROAD GRADE:** Fire apparatus access roadway grades shall not exceed 10%. Alternate methods and materials may be available at the discretion of the Fire Marshal (for grade exceeding 10%).

19. **ANGLE OF APPROACH/GRADE FOR TURNAROUNDS:** Turnarounds shall be as flat as possible and have a maximum of 5% grade with the exception of crowning for water run-off. (OFC 503.2.7 & D103.2)
20. **ANGLE OF APPROACH/GRADE FOR INTERSECTIONS:** Intersections shall be level (maximum 5%) with the exception of crowning for water run-off. (OFC 503.2.7 & D103.2)
21. **AERIAL APPARATUS OPERATING GRADES:** Portions of aerial apparatus roads that will be used for aerial operations shall be as flat as possible. Front to rear and side to side maximum slope shall not exceed 10%.
22. **GATES:** Gates securing fire apparatus roads shall comply with all of the following (OFC D103.5, and 503.6):
1. Minimum unobstructed width shall be not less than 20 feet (or the required roadway surface width).
 2. Gates shall be set back at minimum of 30 feet from the intersecting roadway or as approved.
 3. Electric gates shall be equipped with a means for operation by fire department personnel
 4. Electric automatic gates shall comply with ASTM F 2200 and UL 325.
23. **BOLLARDS:** Where secondary fire access roads are required, they shall be secured utilizing a removable bollard. The *fire code official* is authorized to require the installation and maintenance of gates or other *approved* barricades across fire apparatus access roads, trails or other accessways, not including public streets, alleys or highways. The MaxiForce Removable Bollard MRRW-RS1-R, MRRW-RS2-R, MRSW-SS1-R, MRSW-SS2-R and MRSW-SS3-R are approved for use. maxiforcebollards.com (OFC 503.5)
24. **ACCESS DURING CONSTRUCTION:** Approved fire apparatus access roadways shall be installed and operational prior to any combustible construction or storage of combustible materials on the site. Temporary address signage shall also be provided during construction. (OFC 3310.1)
- 25.
26. **TRAFFIC CALMING DEVICES:** Shall be prohibited on fire access routes unless approved by the Fire Marshal. (OFC 503.4.1).

FIREFIGHTING WATER SUPPLIES:

27. **COMMERCIAL BUILDINGS – REQUIRED FIRE FLOW:** The minimum fire flow and flow duration shall be determined in accordance with OFC Table B105.2. The required fire flow for a building shall not exceed the available GPM in the water delivery system at 20 psi residual. (OFC B105.3)
- Note:** OFC B106, Limiting Fire-Flow is also enforced, except for the following:
- The maximum needed fire flow shall be 3,000 GPM, measured at 20 psi residual pressure.
 - Redmond Fire & Rescue does not adopt Occupancy Hazards Modifiers in section B105.4-B105.4.1

Multi Family Tract

Type VB construction at 48,000 square feet = 6,000 gpm = minimum of 6 hydrant(s) required with not more than 250 feet spacing between them and not more than 150 feet to a hydrant from any point on the street.

A reduction in required fire flow of up to 75 %, as approved, is allowed when the building is provided with an approved automatic sprinkler system but in no case shall the resulting fire flow be less than 1500 gallons per minute at 20 psi residual.

Based on the above modifications, the required water supply for this building shall be 1,500 gpm at 20 psi residual pressure, with hydrants spaced every 500 feet around the exterior of the structure and not more than 250 feet to a hydrant from any point on the street.

Please add fire sprinkler demand to determine overall flow requirements.

Please include plans drawn to scale showing, existing hydrants, proposed hydrants, Construction type with square footage, location of vault and FDC.

Self storage.

Assumed type IIB construction at 36,400 square feet = 4,000 gpm = minimum of 4 hydrant(s) required with not more than 350 feet spacing between them and not more than 210 feet to a hydrant from any point on the street.

903.2.9 Group S-1. An automatic sprinkler system shall be provided throughout all buildings containing a Group S-1 occupancy where one of the following conditions exists:

1. A Group S-1 fire area exceeds 12,000 square feet (1115 m2).
2. A Group S-1 fire area is located more than three stories above grade plane.
3. The combined area of all Group S-1 fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m2).
4. A Group S-1 fire area used for the storage of commercial trucks or buses where the fire area exceeds 5,000 square feet (464 m2).
5. A Group S-1 occupancy used for the storage of upholstered furniture or mattresses exceeds 2,500 square feet (232 m2).

Q: The area of a self-storage warehouse is between 2,500 square feet and 12,000 square feet. Spaces are rented to individuals for the storage of personal household items (which could include incidental pieces of upholstered furniture and mattresses). Does item #5 require an automatic sprinkler system throughout the Group S-1 self-storage warehouse?

A: Yes. This criteria is written such that any Group S-1 occupancy, not the fire area, over 2,500 square feet used for the storage of upholstered furniture and/or mattresses shall be sprinklered throughout the building. This is regardless of how much upholstered furniture and/or mattresses are actually stored

28. **FIRE FLOW WATER AVAILABILITY:** Applicants shall provide documentation of a fire hydrant flow test or flow test modeling of water availability from the local water purveyor if the project includes a new structure or increase in the floor area of an existing structure. Tests shall be conducted from a fire hydrant within 400 feet for commercial projects, or 600 feet for residential development. Flow tests will be accepted if they were performed within 5 years as long as no adverse modifications have been made to the supply system. Water availability information may not be required to be submitted for every project. (OFC Appendix B)

Please provide a fire flow analysis.

29. **WATER SUPPLY DURING CONSTRUCTION:** Approved firefighting water supplies shall be installed and operational prior to any combustible construction or storage of combustible materials on the site. (OFC 3312.1)

FIRE HYDRANTS:

30. **FIRE HYDRANTS – COMMERCIAL BUILDINGS:** Where a portion of the building is more than 400 feet from a hydrant on a fire apparatus access road, as measured in an approved route around the exterior of the building, on-site fire hydrants and mains shall be provided. (OFC 507.5.1)

- This distance may be increased to 600 feet for buildings equipped throughout with an approved automatic sprinkler system.
- The number and distribution of fire hydrants required for commercial structure(s) is based on Table C105.1, following any fire-flow reductions allowed by section B105.3.1. Additional fire hydrants may be required due to spacing and/or section 507.5 of the Oregon Fire Code.

Please show hydrants on plans.

31. **FIRE HYDRANT(S) PLACEMENT:** Hydrant placement will be based on the following guidelines: (OFC C104)
- Existing hydrants in the area may be used to meet the required number of hydrants as approved. Hydrants that are up to 600 feet away from the nearest point of a subject building that is protected with fire sprinklers may contribute to the required number of hydrants. (OFC 507.5.1)
 - Hydrants that are separated from the subject building by railroad tracks shall not contribute to the required number of hydrants unless approved by the Fire Marshal.
 - Hydrants that are separated from the subject building by divided highways or freeways shall not contribute to the required number of hydrants. Heavily traveled collector streets may be considered when approved by the Fire Marshal.

- Hydrants that are accessible only by a bridge shall be acceptable to contribute to the required number of hydrants only if approved by the Fire Marshal.
32. **PRIVATE FIRE HYDRANT IDENTIFICATION:** Private fire hydrants shall be painted red in color. (OFC 507)
33. **DEAD END FIRE LINES:** Private fire service lines serving onsite fire hydrants that exceed 300 feet in length shall be looped. (NFPA 24)
34. **FIRE HYDRANT DISTANCE FROM AN ACCESS ROAD:** Fire hydrants shall be located not more than 15 feet from an approved fire apparatus access roadway unless approved by the Fire Marshal. (OFC C102.1)
35. **REFLECTIVE HYDRANT MARKERS:** Fire hydrant locations shall be identified by the installation of blue reflective markers. They shall be located adjacent and to the side of the center line of the access roadway that the fire hydrant is located on. In the case that there is no center line, then assume a center line and place the reflectors accordingly. (OFC 507)
36. **PHYSICAL PROTECTION:** Where fire hydrants are subject to impact by a motor vehicle, guard posts, bollards or other approved means of protection shall be provided. (OFC 507.5.6 & OFC 312)
37. **CLEAR SPACE AROUND FIRE HYDRANTS:** A 3-foot clear space shall be provided around the circumference of fire hydrants. (OFC 507.5.5)
38. **FIRE DEPARTMENT CONNECTION (FDC) LOCATIONS:** FDCs shall be located within 100 feet of a fire hydrant (or as approved). Hydrants and FDC's shall be located on the same side of the fire apparatus access roadway or drive aisle, fully visible, and recognizable from the street or nearest point of the fire department vehicle access or as otherwise approved. (OFC 912.2.1 & NFPA 13)
- Fire department connections (FDCs) shall normally be located remotely and outside of the fall-line of the building when required. FDCs may be mounted on the building they serve, when approved.
 - FDCs shall be plumbed on the system side of the check valve when sprinklers are served by underground lines also serving private fire hydrants.

Please show FDC'S on plans.

BUILDING ACCESS AND FIRE SERVICE FEATURES

39. **EMERGENCY RESPONDER RADIO COVERAGE:** In new buildings where the design reduces the level of radio coverage for public safety communications systems below minimum performance levels, a distributed antenna system, signal booster, or other method approved by Redmond Fire & Rescue shall be provided. (OFC 510)
- Emergency responder radio system testing and/or system installation is required for this building. Please contact me (using my contact info below) for further information including an alternate means of compliance that is available. If the alternate method is preferred, it must be requested from Redmond Fire & Rescue prior to issuance of building permit.

- Testing shall take place after the installation of all roofing systems; exterior walls, glazing and siding/cladding; and all permanent interior walls, partitions, ceilings, and glazing.
40. **KNOX BOX:** A Knox Box for building access may be required for structures and gates. See Appendix B for further information and detail on required installations. Order via www.knoxbox.com or contact Redmond Fire & Rescue for assistance and instructions regarding installation and placement. (OFC 506.1)
41. **FIRE PROTECTION EQUIPMENT IDENTIFICATION:** Rooms containing controls to fire suppression and detection equipment shall be identified as “Fire Control Room.” Signage shall have letters with a minimum of 4 inches high with a minimum stroke width of 1/2 inch, and be plainly legible, and contrast with its background. (OFC 509.1)
42. **PREMISES IDENTIFICATION:** New and existing buildings shall have approved address numbers; building numbers or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property, including monument signs. These numbers shall contrast with their background. Numbers shall be a minimum of 4 inches high with a minimum stroke width of 1/2 inch. (OFC 505.1)

If you have questions or need further clarification, please feel free to contact me at **541-504-5016**

Sincerely,

Wade Gibson

Wade Gibson
Deputy Fire Marshal
Wade.gibson@redmondfireandrescue.org



REDMOND FIRE & RESCUE

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March 25, 2022

Kyle Roberts
Senior Planner
City of Redmond
411 SW 9th street
Redmond, OR 97756

Re: 121 West, 711-21-000260-PLNG (SUB), 711-21-000261-PLNG (MC), 711-21-000328-PLNG (ZMA)
Tax Lot ID: 1413330001800

Dear **Kyle**,

Thank you for the opportunity to review the proposed site plan surrounding the above-named development project. These notes are provided in regard to the plans received **02/15/22**. There may be more or less requirements needed based upon the final project design, however, Redmond Fire & Rescue will endorse this proposal predicated on the following criteria and conditions of approval.

FIRE APPARATUS ACCESS:

Access requirements for the subdivision have been met on plans.

- FIRE APPARATUS ACCESS ROAD DISTANCE FROM BUILDINGS AND FACILITIES:** Access roads shall be within 150 feet of all portions of the exterior wall of the first story of the building as measured by an approved route around the exterior of the building or facility. An approved turnaround is required if the remaining distance to an approved intersecting roadway, as measured along the fire apparatus access road, is greater than 150 feet. (OFC 503.1.1)
- ADDITIONAL ACCESS ROADS – ONE- OR TWO-FAMILY RESIDENTIAL DEVELOPMENTS:** Developments of one- or two-family dwellings, where the number of dwelling units exceeds 30, shall be provided with separate and approved fire apparatus access roads and shall meet the requirements of Section D104.3.
Exception: Where there are more than 30 dwelling units on a single public or private fire apparatus access road and all dwelling units are equipped throughout with an approved automatic sprinkler system in accordance with section 903.3.1.1, 903.3.1.2, or 903.3.1.3 of the International Fire Code, access from two directions shall not be required. (OFC D107)
- MULTIPLE ACCESS ROADS SEPARATION:** Where two access roads are required, they shall be placed a distance apart equal to not less than one half of the length of the maximum

overall diagonal dimension of the area to be served (as identified by the Fire Marshal), measured in a straight line between accesses. (OFC D104.3)

4. **FIRE APPARATUS ACCESS ROAD WIDTH AND VERTICAL CLEARANCE:** Fire apparatus access roads shall have an unobstructed driving surface width of not less than 20 feet (26 feet adjacent to fire hydrants (OFC D103.1)) and an unobstructed vertical clearance of not less than 13 feet 6 inches. (OFC 503.2.1)
5. **FIRE APPARATUS ACCESS ROADS FOR INDIVIDUAL ONE- AND TWO-FAMILY DWELLINGS AND ACCESSORY STRUCTURES:** The fire district will approve access roads of 12 feet for up to three dwelling units (Group R-3) and accessory (Group U) buildings. (OFC 503.1.1)
6. **NO PARKING SIGNS:** Where fire apparatus roadways are not of sufficient width to accommodate parked vehicles and 20 feet of unobstructed driving surface, “No Parking” signs shall be installed on one or both sides of the roadway and in turnarounds as needed. Signs shall read “NO PARKING - FIRE LANE” and shall be installed with a clear space above grade level of 7 feet. Signs shall be 12 inches wide by 18 inches high and shall have red letters on a white reflective background. (OFC D103.6)
7. **NO PARKING:** Parking on emergency access roads shall be as follows (OFC D103.6.1-2):
 1. 20-26 feet road width – no parking on either side of roadway
 2. 26-32 feet road width – parking is allowed on one side
 3. Greater than 32 feet road width – parking is not restricted
8. **PAINTED CURBS:** Where required, fire apparatus access roadway curbs shall be painted red (or as approved) and marked “NO PARKING FIRE LANE” at 25-foot intervals. Lettering shall have a stroke of not less than one inch wide by six inches high. Lettering shall be white on red background (or as approved). (OFC 503.3)
9. **FIRE APPARATUS ACCESS ROADS WITH FIRE HYDRANTS:** Where a fire hydrant is located on a fire apparatus access road, the minimum road width shall be 26 feet and shall extend 20 feet before and after the point of the hydrant. (OFC D103.1)
10. **TURNOUTS:** Where access roads are less than 20 feet and exceed 400 feet in length, turnouts 10 feet wide and 30 feet long may be required and will be determined on a case by case basis. (OFC 503.2.2)
11. **SURFACE AND LOAD CAPACITIES:** Fire apparatus access roads shall be designed and maintained to support the imposed loads of fire apparatus and shall be surfaced as to provide all-weather driving capabilities. (OFC 503.2.3)
12. **TURNING RADIUS:** The inside turning radius and outside turning radius shall not be less than 30 feet and 50 feet respectively, measured from the same center point. (OFC 503.2.4 & D103.3)
13. **ACCESS ROAD GRADE:** Fire apparatus access roadway grades shall not exceed 10%.

14. **ANGLE OF APPROACH/GRADE FOR TURNAROUNDS:** Turnarounds shall be as flat as possible and have a maximum of 5% grade with the exception of crowning for water run-off. (OFC 503.2.7 & D103.2)
15. **ANGLE OF APPROACH/GRADE FOR INTERSECTIONS:** Intersections shall be level (maximum 5%) with the exception of crowning for water run-off. (OFC 503.2.7 & D103.2)
16. **AERIAL APPARATUS OPERATING GRADES:** Portions of aerial apparatus roads that will be used for aerial operations shall be as flat as possible. Front to rear and side to side maximum slope shall not exceed 10%.
17. **GATES:** Gates securing fire apparatus roads shall comply with all of the following (OFC D103.5, and 503.6):
 1. Minimum unobstructed width shall be not less than 20 feet (or the required roadway surface width).
 2. Gates serving three or less single-family dwellings shall be a minimum of 12 feet in width.
 3. Gates shall be set back at minimum of 30 feet from the intersecting roadway or as approved.
 4. Electric gates shall be equipped with a means for operation by fire department personnel
 5. Electric automatic gates shall comply with ASTM F 2200 and UL 325.
18. **BOLLARDS:** Where secondary fire access roads are required, they shall be secured utilizing a removable bollard. The *fire code official* is authorized to require the installation and maintenance of gates or other *approved* barricades across fire apparatus access roads, trails or other accessways, not including public streets, alleys or highways. The MaxiForce Removable Bollard MRRW-RS1-R, MRRW-RS2-R, MRSW-SS1-R, MRSW-SS2-R and MRSW-SS3-R are approved for use. maxiforcebollards.com (OFC 503.5)
19. **ACCESS DURING CONSTRUCTION:** Approved fire apparatus access roadways shall be installed and operational prior to any combustible construction or storage of combustible materials on the site. Temporary address signage shall also be provided during construction. (OFC 3309 and 3310.1)
20. **TRAFFIC CALMING DEVICES:** Shall be prohibited on fire access routes unless approved by the Fire Marshal. (OFC 503.4.1).

FIREFIGHTING WATER SUPPLIES:

21. **FIREFIGHTING WATER SUPPLY FOR INDIVIDUAL ONE- AND TWO-FAMILY DWELLINGS:** The minimum available fire flow for one and two-family dwellings served by a municipal water supply shall be 1,000 gallons per minute. If the structure(s) is (are) 3,600 square feet or larger, the required fire flow shall be determined according to OFC Appendix B. (OFC B105.2)
22. **FIRE FLOW WATER AVAILABILITY:** Applicants shall provide documentation of a fire hydrant flow test or flow test modeling of water availability from the local water purveyor if the project includes a new structure or increase in the floor area of an existing structure. Tests shall be conducted from a fire hydrant within 400 feet for commercial

projects, or 600 feet for residential development. Flow tests will be accepted if they were performed within 5 years as long as no adverse modifications have been made to the supply system. Water availability information may not be required to be submitted for every project. (OFC Appendix B)

Please provide fire flow analysis.

23. **FIREFIGHTING WATER SUPPLY FOR AGRICULTURAL/EQUINE EXEMPT STRUCTURES:** Agricultural buildings and equine facilities, as defined in ORS 455.315, shall be exempt from the firefighting water supply requirements contained in Redmond Fire & Rescue's adopted fire prevention ordinance. (See Appendix B)
24. **FIREFIGHTING WATER SUPPLY FOR ACCESSORY STRUCTURES:** Detached U occupancies, that are in excess of 3,600 square feet, are not required to have a water supply when they have approved fire department access.
25. **WATER SUPPLY DURING CONSTRUCTION IN MUNICIPAL AREAS:** In areas with fixed and reliable water supply, approved firefighting water supplies shall be installed and operational prior to any combustible construction or storage of combustible materials on the site. (OFC 3312.1)

FIRE HYDRANTS:

26. **FIRE HYDRANTS – ONE- AND TWO-FAMILY DWELLINGS & ACCESSORY STRUCTURES:** Where the most remote portion of a structure is more than 600 feet from a hydrant on a fire apparatus access road, as measured in an approved route around the exterior of the structure(s), on-site fire hydrants and mains shall be provided. (OFC 507.5.1)
27. **FIRE HYDRANT NUMBER AND DISTRIBUTION:** The minimum number and distribution of fire hydrants available to a building shall not be less than that listed in Table C 105.1. (OFC Appendix C)

Please show hydrants on plans.

28. **FIRE HYDRANT(S) PLACEMENT:** (OFC C104)
 - Existing hydrants in the area may be used to meet the required number of hydrants as approved. Hydrants that are up to 600 feet away from the nearest point of a subject building that is protected with fire sprinklers may contribute to the required number of hydrants. (OFC 507.5.1)
 - Hydrants that are separated from the subject building by railroad tracks shall not contribute to the required number of hydrants unless approved by the Fire Marshal.
 - Hydrants that are separated from the subject building by divided highways or freeways shall not contribute to the required number of hydrants. Heavily traveled collector streets may be considered when approved by the Fire Marshal.
 - Hydrants that are accessible only by a bridge shall be acceptable to contribute to the required number of hydrants only if approved by the Fire Marshal.
29. **PRIVATE FIRE HYDRANT IDENTIFICATION:** Private fire hydrants shall be painted red in color. (OFC 507)

30. **FIRE HYDRANT DISTANCE FROM AN ACCESS ROAD:** Fire hydrants shall be located not more than 15 feet from an approved fire apparatus access roadway unless approved by the Fire Marshal. (OFC C102.1)
31. **REFLECTIVE HYDRANT MARKERS:** Fire hydrant locations shall be identified by the installation of blue reflective markers. They shall be located adjacent and to the side of the center line of the access roadway that the fire hydrant is located on. In the case that there is no center line, then assume a center line and place the reflectors accordingly. (OFC 507)
32. **PHYSICAL PROTECTION:** Where fire hydrants are subject to impact by a motor vehicle, guard posts, bollards or other approved means of protection shall be provided. (OFC 507.5.6 & OFC 312)
33. **CLEAR SPACE AROUND FIRE HYDRANTS:** A 3-foot clear space shall be provided around the circumference of fire hydrants. (OFC 507.5.5)

BUILDING ACCESS AND FIRE SERVICE FEATURES

34. **KNOX BOX:** A Knox Box, padlock, or Knox key switch for gate access may be required. See Appendix A (using the link provided below) for further information and detail on required installations. Order via www.redmondfireandrescue.org or contact Redmond Fire & Rescue for assistance and instructions regarding installation and placement. (OFC 506.1)
35. **PREMISES IDENTIFICATION:** New and existing buildings shall have approved address numbers; building numbers or approved building identification placed in a position that is plainly legible and visible from the street or road fronting the property, including monument signs. These numbers shall contrast with their background. Numbers shall be a minimum of 4 inches high with a minimum stroke width of 1/2 inch. (OFC 505.1)
Provide a physical address on the new home, as well as, near the intersection of the private drive and public road visible from both approaches of [enter road intersections here]

If you have questions or need further clarification or would like to discuss any alternate methods and/or materials, please feel free to contact me at **541-504-5016**.

Sincerely,

Wade Gibson
Deputy Fire Marshal
wade.gibson@redmondfireandrescue.org

From: [WILLIAMS Rick * Reg4](#)
To: [Kyle Roberts](#)
Subject: RE: REVIEW: 711-21-000260-PLNG (SUB), 711-21-000261-PLNG (MC), 711-21-000328-PLNG (ZMA) | 121 West
Date: Wednesday, March 23, 2022 9:30:36 AM
Attachments: [image001.png](#)

[EXTERNAL]: This email originated from outside of the city. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Kyle,

I forgot to include the following comments regarding the TIA in my last email:

- Page 13 – Alternative mobility standard would not apply to US 97 at O’Neill Hwy and would thus be: 0.80 per OHP
- Figure 9 – Does this scenario consider the installation of the Upas Ave Bridge?
- Figure 11 – Do not have Upas Bridge programmed so this is a reach and perhaps should be caveated that while identified in the TSP there is yet to be any programming being pursued for this facility.
- Page 25 – US 97 at O’Neil Hwy is located within a UGB and is a statewide expressway (see ODOT TransGIS). Therefore for a non-MPO speed above 45 the v/c = 0.80
- Page 30 – Is ODOT ok with the language that an alternative mobility standard for US 97 at Evergreen is in process and acceptable for operational analysis? If so, no comments on Table 16.
- Page 31 – P3 – ODOT would “typically” not install a signal in this type of context. And signals have been shown to cause an increase in “crashes”. Please remove “fatalities” from this paragraph.
- Page 34 – The report indicates that mitigation is needed at US 97 and O’Neill Hwy. What does this development intent to contribute to this mitigation? Suggest proportionate share toward an identified mitigation – in this case a median barrier project.

Main takeaway, it would be advantageous to the agency to pursue proportionate share of cost to mitigate US 97 at O’Neill Hwy. Development should come up with the share cost for ODOT review/acceptance.

Dave

David Hirsch, PE, PTOE
ODOT Region 4
Region Traffic Operations Engineer
(541) 388-6472
David.HIRSCH@odot.oregon.gov

From: Kyle Roberts <kyle.roberts@redmondoregon.gov>
Sent: Friday, March 18, 2022 9:38 AM
To: WILLIAMS Rick * Reg4 <Richard.L.WILLIAMS@odot.oregon.gov>
Subject: FW: REVIEW: 711-21-000260-PLNG (SUB), 711-21-000261-PLNG (MC), 711-21-000328-PLNG (ZMA) | 121 West

This message was sent from outside the organization. Treat attachments, links and requests with caution. Be conscious of the information you share if you respond.

Hey Rick,

I wanted to follow-up on this. Does ODOT have comments?

Kyle Roberts, AICP | City of Redmond
Interim Planning Director

phone 541.923.7758
cell 541.233.8180
email kyle.roberts@redmondoregon.gov

411 SW 9th Street Redmond, Oregon 97756
Online at WWW.REDMONDOREGON.GOV

From: Sarah Vowell <sarah.vowell@redmondoregon.gov>
Sent: Tuesday, February 15, 2022 15:14
To: David Pilling <David.Pilling@redmondoregon.gov>; Bill Duerden <Bill.Duerden@redmondoregon.gov>; Wade Gibson <Wade.gibson@redmondfireandrescue.org>; Travis Robbins <travis.robbs@redmondoregon.gov>; Maria Ramirez <maria.ramirez@redmondoregon.gov>; Aaron Yuma <aaron.yuma@redmondoregon.gov>; odotr4planmgr@odot.state.or.us; Andrea Breault <abreault@coic.org>; Kelley O'Rourke <landuse@coic.org>; Rohde, Kevin <krohde@cec.coop>; Brent Leslie BPA <bclleslie@bpa.gov>; Shoemaker, Deanna L (CONTR) - TERR-REDMOND <dlschoemaker@bpa.gov>; Treadway, Ian (PacifiCorp) <ian.Treadway@pacificorp.com>; Fleming, Keven (PacifiCorp) <Keven.Fleming@PacifiCorp.com>; donna.herman@cngc.com; Burkus, Albert <ABurkus@republicservices.com>; robert.watters@centurylink.com; sosanna.mchugh@tdstelecom.com; Harsh, Scott D - Redmond, OR <scott.d.harsh@usps.gov>; Devin Lewis <devin.lewis@redmondoregon.gov>; Katharine Colvin <katharine.colvin@redmondoregon.gov>; Valerie Taylor <valerie.taylor@redmondoregon.gov>; anthony.pupo@redmondschools.org
Cc: Kyle Roberts <kyle.roberts@redmondoregon.gov>
Subject: REVIEW: 711-21-000260-PLNG (SUB), 711-21-000261-PLNG (MC), 711-21-000328-PLNG (ZMA) | 121 West

Dear Reviewer(s),

The Redmond Planning Division has received an application that is ready for your review. Please see the routing letter and attachments for the project below:

Project #/ Name:	711-21-000260-PLNG (SUB), 711-21-000261-PLNG (MC), 711-21-000328-PLNG (ZMA) 121 West
Applicant/Owner:	SGS Development / North Canyon Properties LLC
Request:	Zone Map Amendment, Modification to the Highway 97 Area Plan (HAP), and Tentative Subdivision for 157 lots.
Location:	3211 N Hwy 97 Redmond, OR 97756
Tax Lot Number(s):	1413330001800
Applicable Criteria:	Redmond Code, Chapter 8 Developmental Regulations, Article I –

From: [Sarah Vowell](#)
To: [Kyle Roberts](#)
Subject: FW: REVIEW: 711-21-000260-PLNG (SUB), 711-21-000261-PLNG (MC), 711-21-000328-PLNG (ZMA) | 121 West
Date: Wednesday, February 16, 2022 9:21:52 AM
Attachments: [image002.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)

From: Devin Lewis <devin.lewis@redmondoregon.gov>
Sent: Wednesday, February 16, 2022 8:19 AM
To: Sarah Vowell <sarah.vowell@redmondoregon.gov>
Subject: RE: REVIEW: 711-21-000260-PLNG (SUB), 711-21-000261-PLNG (MC), 711-21-000328-PLNG (ZMA) | 121 West

Sarah, PD has no comment...Thx, Devin

“If you show interest in, respect for, and kindness toward people, it will always be the right thing to do.” Bud Lewis

Devin Lewis

Chief | *Redmond Police Department*

phone 541.504.3424

dispatch 541.693.6911

email devin.lewis@redmondoregon.gov

777 SW Deschutes Ave, Redmond, Oregon 97756



<https://www.redmondoregon.gov/>

From: Sarah Vowell <sarah.vowell@redmondoregon.gov>
Sent: Tuesday, February 15, 2022 3:14 PM
To: David Pilling <David.Pilling@redmondoregon.gov>; Bill Duerden <Bill.Duerden@redmondoregon.gov>; Wade Gibson <Wade.gibson@redmondfireandrescue.org>; Travis Robbins <travis.robbins@redmondoregon.gov>; Maria Ramirez <maria.ramirez@redmondoregon.gov>; Aaron Yuma <aaron.yuma@redmondoregon.gov>; odotr4planmgr@odot.state.or.us; Andrea Breault <abreault@coic.org>; Kelley O'Rourke <landuse@coid.org>; Rohde, Kevin <krohde@cec.coop>; Brent Leslie BPA <bcleslie@bpa.gov>; Shoemaker, Deanna L (CONTR) - TERR-REDMOND <dlshoemaker@bpa.gov>; Treadway, Ian (PacifiCorp) <lan.Treadway@pacificorp.com>; Fleming, Keven (PacifiCorp) <Keven.Fleming@PacifiCorp.com>; donna.herman@cngc.com; Burkus, Albert <ABurkus@republicservices.com>; robert.watters@centurylink.com; sosanna.mchugh@tdstelecom.com; Harsh, Scott D - Redmond, OR <scott.d.harsh@usps.gov>; Devin Lewis <devin.lewis@redmondoregon.gov>; Katharine Colvin <katharine.colvin@redmondoregon.gov>; Valerie Taylor <valerie.taylor@redmondoregon.gov>; anthony.pupo@redmondschools.org
Cc: Kyle Roberts <kyle.roberts@redmondoregon.gov>

ATTACHMENT D

No public comments were received during review of this application.



project	121 West
location	Highway 97
	Redmond, Oregon
client	SGS Development
date	March 2022

P.O Box 1994, Redmond OR 97756 PHONE (541) 788.6282

EMAIL: info@traffic-team.us



121 West Subdivision

Traffic Impact Study

Prepared for:

SGS DEVELOPMENT

by:

Ferguson & Associates, Inc.

July 21, 2021
Updated March 29, 2022



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EXECUTIVE SUMMARY

This study addresses the traffic impacts of a proposed multi-use development that would include 72 single family homes; 10 live-work units; 75 townhomes; 120 multi-family units; a 36,400 square foot mini-storage facility with 600 storage units; and, 11,500 square feet for commercial uses. The site is located off NW 8th Street to the north of NW Upas Avenue, in Redmond, Oregon. This study focuses on p.m. peak hour traffic operations at the site access and nearby higher-order (collector and arterial streets) intersections. The analysis was conducted for the years 2027 (buildout) and 2032 (five-years after buildout) looking at scenarios both with and without the proposed project.

This updated report was prepared in response to comments submitted by ODOT via email.

STUDY AREA

Based on the requirements of City of Redmond Development Code and input from City Staff, the following study intersections were analyzed for this report:

1. 10th Street & Pershall Way;
2. 10th Street & Walnut Avenue;
3. 10th Street & Varnish Avenue;
4. 10th Street & Upas Avenue;
5. 10th Street & Quince Avenue;
6. 9th Street & Maple Avenue;
7. 8th Street & Upas Avenue;
8. 8th Street & Quince Avenue;
9. 6th Street & Quince Avenue;
10. 6th Street & Maple Avenue;
11. Highway 97 & O/Neil Highway/Pershall Way;
12. Highway 97 & Evergreen Avenue; and,
13. Canal Blvd & Upas Avenue (Future intersection)

FINDINGS AND CONCLUSIONS

1. The proposed development would include 72 single family homes; 10 live-work units; 75 townhomes; 120 multi-family units; a 36,400 square foot mini-storage facility with 600 storage units; and, 11,500 square feet for commercial uses.
2. The proposed development was forecast to generate 226 p.m. peak hour trips and 2,465 daily trips, of which 211 p.m. peak hour and 2,317 daily trips would be non-passby trips.

3. Not all study intersections would meet City of Redmond operation standards or ODOT mobility standards:
 - a. The intersection of 9th Street and Maple Avenue would not meet the City's level of service standards; however, the funded traffic signal which is currently being designed for this intersection would more than off-set any project impacts, as it would result in Level of Service C operations in year 2032 with the proposed project.
 - b. The intersection of the Highway 97 and the O'Neil Highway/Pershall Way does not meet ODOT mobility targets, even under existing conditions, on the stopped approaches. The City and ODOT are currently discussing options for this intersection, including the installation of a median which would eliminate the failing movements as well as significantly improving safety. The applicant has agreed to pay a proportionate share contribution to this improvement in the amount of 0.98 percent of the construction cost (as per Table 4 of this report) and is willing to work with ODOT to establish the cost-basis.
4. The guideline for adding a left-turn lane would be met at certain intersections:
 - a. A westbound left turn lane on Pershall Way at 10th Street;
 - b. A westbound left turn lane on Quince Avenue at 8th Street (warranted under existing conditions); and,
 - c. Both northbound and southbound left turn lanes on 10th Street at Upas Avenue (warrant meet in year 2032).
5. A TDM program is not proposed.
6. All future streets should be constructed to City of Redmond requirements and modern engineering standards.

INTRODUCTION

This study addresses the traffic impacts of a proposed multi use development that would include 157 lots with a mix of: single family homes, live-work units, townhomes, and multi-family units; as well as, mini-storage and commercial uses.

The site is located off NW 8th Street to the north of NW Upas Avenue, in Redmond, Oregon. This study focuses on p.m. peak hour traffic operations at the site access and nearby higher-order (collector and arterial streets) intersections. The analysis was conducted for the years 2027 (buildout) and 2032 (five-years after buildout). All scenarios include an assessment of conditions with and without the proposed project. The year 2032 scenario assumes that the Upas Avenue bridge across Highway 97 is constructed.

This study addresses key transportation issues such as roadway capacity, site distance, traffic signal warrants, left-turn lane warrants, and site access as appropriate.

PURPOSE AND OBJECTIVES

This study has been prepared for submission to the City of Redmond and is based on the City of Redmond Transportation Impact Analysis Policy as detailed in the Redmond Development Code. The scope of this study has been reviewed in advance with City Staff. The policy provides a general guide on transportation study requirements. One purpose of the policy is to provide a means of identifying significant off-site impacts as well as less significant and longer-range traffic operational conditions for the purpose of planning (programming and prioritizing) future street improvements. The City of Redmond Transportation Impact Analysis Policy applies to new development and expansions of existing development going through the City's land use approval process.

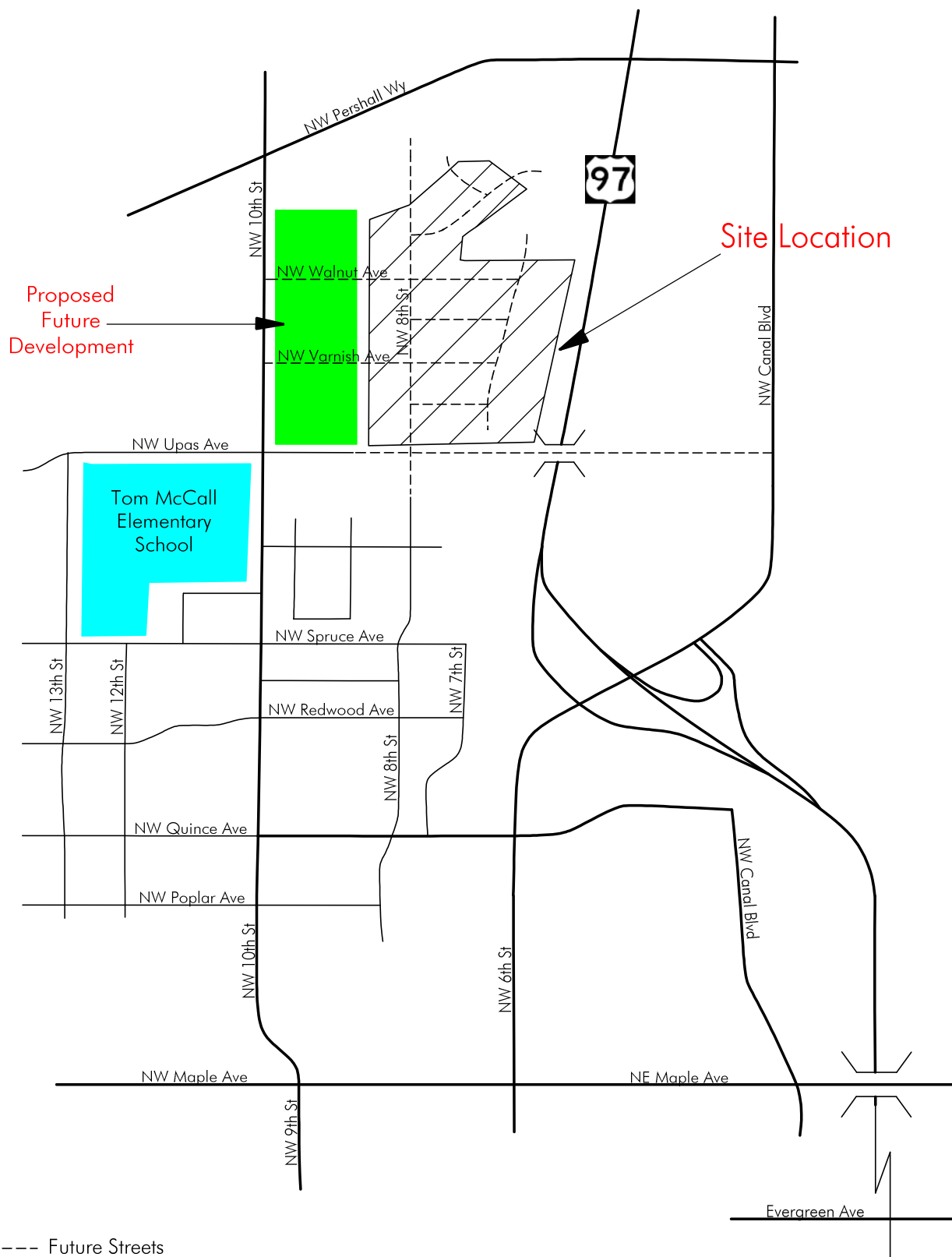
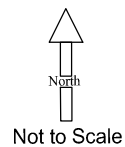
PROPOSED DEVELOPMENT

The proposed multi use development would include 72 single family homes; 10 live-work units; 75 townhomes; 120 multi-family units; a 36,400 square foot mini-storage facility with 600 storage units; and, 11,500 square feet for commercial uses.

SITE LOCATION AND STUDY AREA

The site for the proposed development is located off NW 8th Street to the north of NW Upas Avenue, in Redmond, Oregon, as shown in Figure 1. A site plan is shown in Figure 2. The City of Redmond Transportation Impact Analysis Policy requires that access points, upstream and downstream collector and arterial street intersections and any other intersection that would experience an increase of more than 25 p.m. peak hour trips should be included in the study area and be reviewed in terms of operational capacity. Applying these criteria, plus additional intersections requested by City of Redmond Staff, the following study thirteen (13) intersections were analyzed for this report:

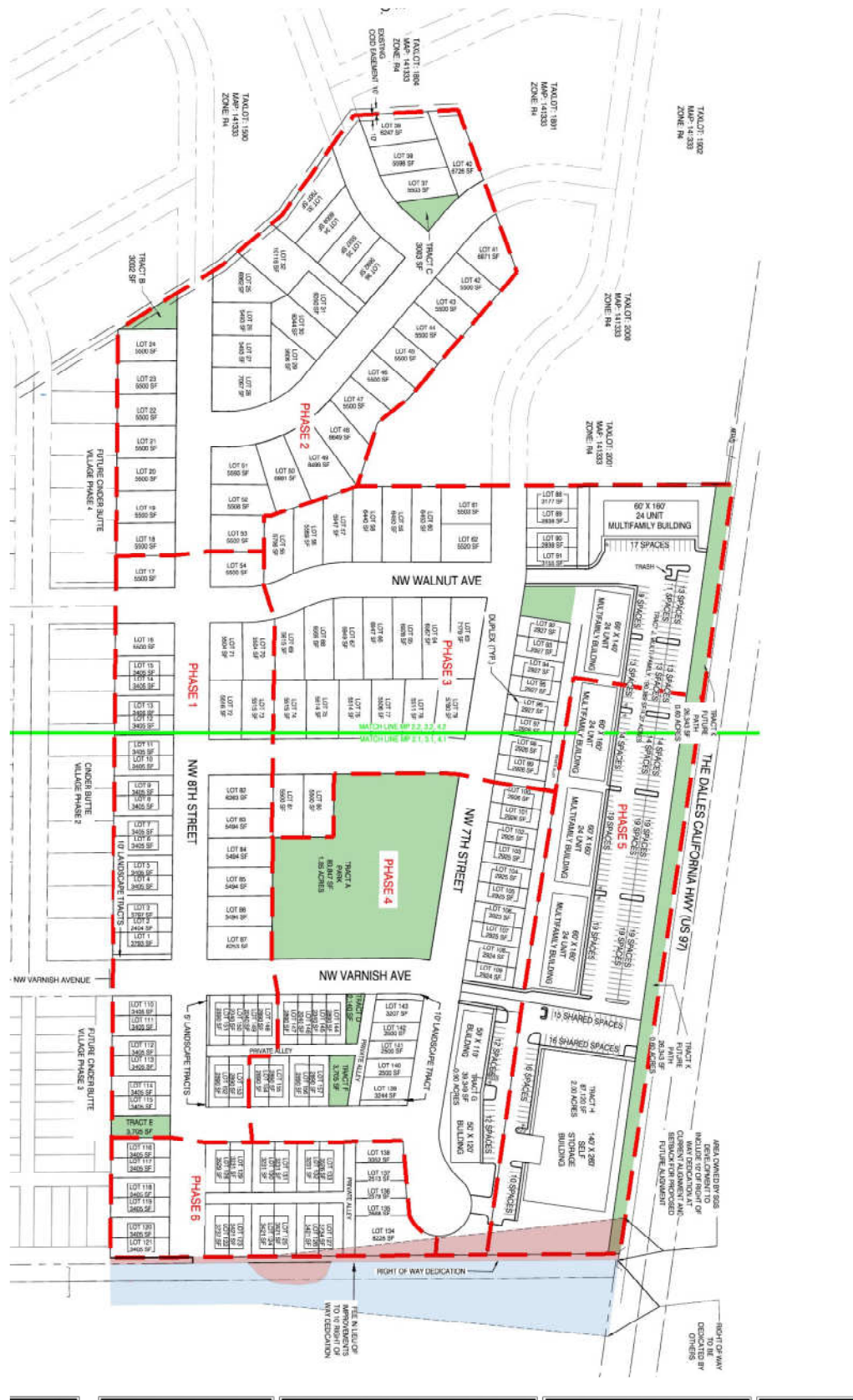
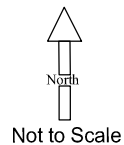
1. 10th Street & Pershall Way;
2. 10th Street & Walnut Avenue;
3. 10th Street & Varnish Avenue;
4. 10th Street & Upas Avenue;
5. 10th Street & Quince Avenue;
6. 9th Street & Maple Avenue;
7. 8th Street & Upas Avenue;
8. 8th Street & Quince Avenue;
9. 6th Street & Quince Avenue;
10. 6th Street & Maple Avenue;
11. Highway 97 & O/Neil Highway/Pershall Way;
12. Highway 97 & Evergreen Avenue; and,
13. Canal Blvd & Upas Avenue (Future intersection)



#01644
July 21, 2021

Site Location 121 West Subdivision - Redmond, Oregon

Figure 1
Ferguson & Associates, Inc.



Site Plan
121 West Subdivision - Redmond, Oregon

Figure 2
Ferguson & Associates, Inc.

#01644
July 21, 2021

AREA CONDITIONS

The characteristics of the surrounding street network, existing uses, and current zoning are presented in this section. The Transportation Analysis Policy requires that nearby developments approved by the City but not constructed and occupied be considered in the forecast and traffic operations analysis. Area development is presented in this section. Finally, relevant policies and plans for future street improvements in the vicinity of the proposed project are discussed.

EXISTING LAND USES

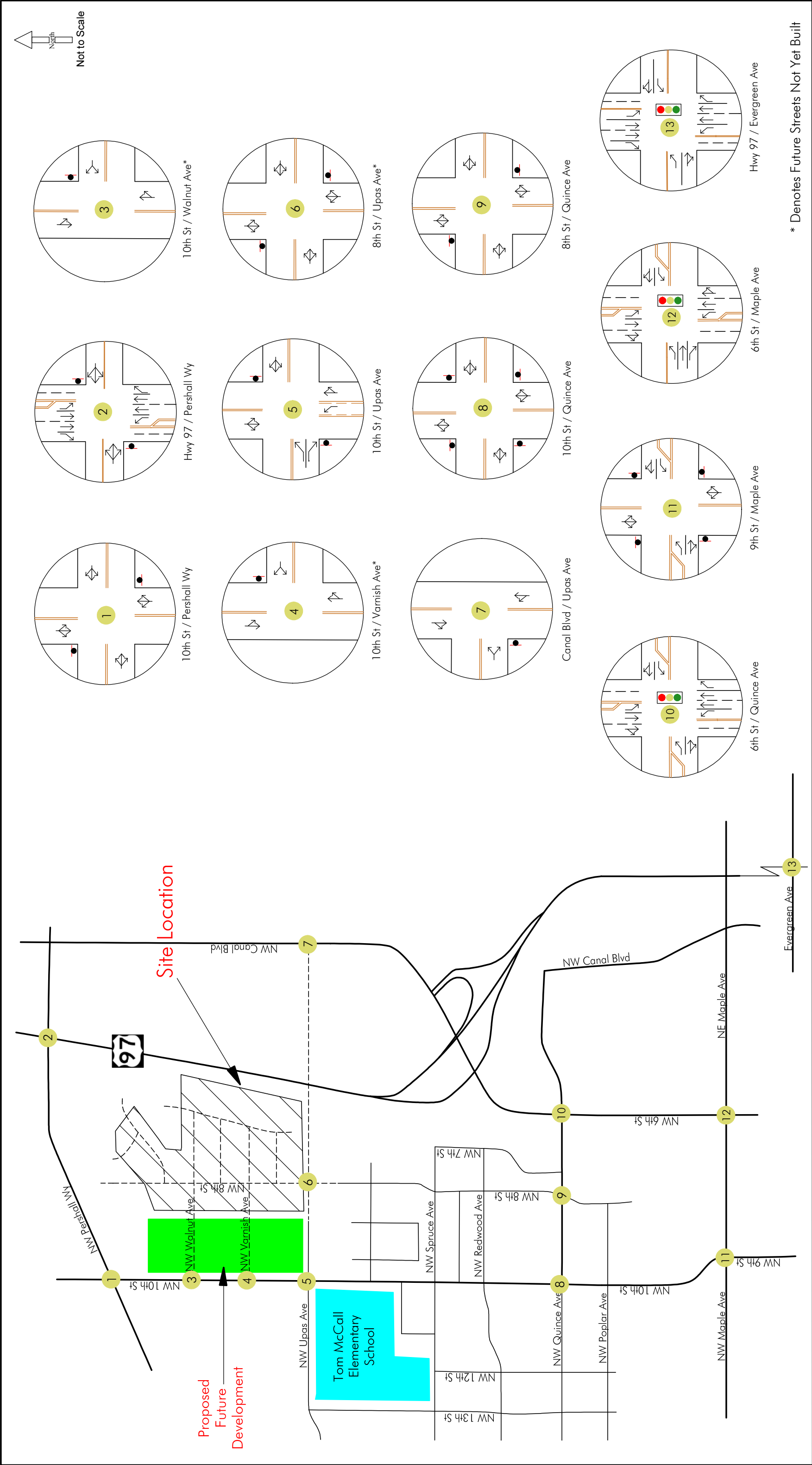
The site is vacant except for on single family home. No reductions were made in the traffic assignments for existing development; however, if the home is removed, an SDC credit should be available.

EXISTING STREET NETWORK

This report analyzes traffic impacts a number of streets in the vicinity of the project. See Table 1 for existing street characteristics. Existing lane configurations and intersection controls at study intersections are illustrated in Figure 3. This figure also shows the assumed future lane configurations and intersection controls of streets which are yet to be built. All future streets will be built to current standard.

TABLE 1 – EXISTING STREET CHARACTERISTICS

STREET	CLASS	LANES	SPEED (MPH)	CURBS	SIDE-WALKS	BIKE LANE	ON STREET PARKING
6 th Street	Minor Arterial	5	40	Yes	Partial	Yes	No
8 th Street	Local	2	25	Yes	Yes	No	Yes
10 th Street	Major Collector	2	25	Yes	Yes	No	Yes
Pershall Way	Minor Arterial	2	55	Yes	Yes	No	Yes
Upas Avenue	Major Collector	2	25	Partial	Partial	No	Yes
Quince Avenue	Major Collector	2	25	Yes	Yes	No	No
Maple Avenue	Minor Arterial	3	35	Mixed	Mixed	Mixed	No
Canal Blvd	Minor Arterial	2	45	Mixed	Mixed	Mixed	Mixed
Highway 97	Major Arterial	4	55	Yes	No	No	No
Evergreen Avenue	Minor Arterial	2	25	Yes	Mixed	Yes	No



* Denotes Future Streets Not Yet Built

Lane Configuration & Intersection Controls
121 West Subdivision - Redmond, Oregon

Figure 3
Ferguson & Associates, Inc.

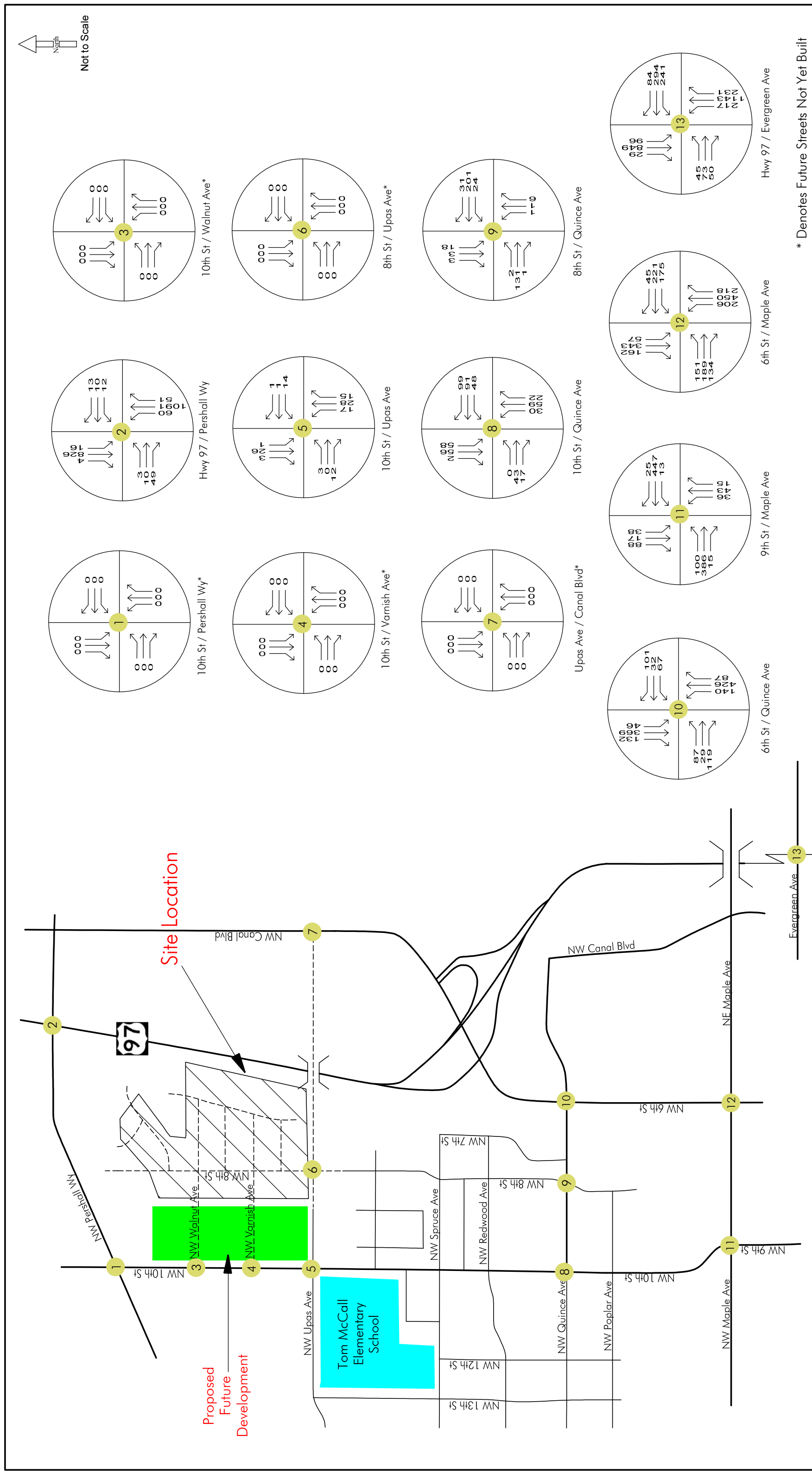
EXISTING TRAFFIC FLOW AND CONDITIONS

PM peak period traffic counts were conducted at the study intersections in 15 minute intervals between 4:00 p.m. and 6:00 p.m. As per the Transportation Impact Analysis Policy, the counts were conducted in the last twelve months. The p.m. peak hour flow is defined as the hourly traffic flow representing the highest one-hour of traffic flow between 4:00 p.m. and 6:00 p.m. Intersection count data summaries can be found in Appendix A. The unadjusted traffic counts are shown in Figure 4. Potential coronavirus-effects were explored and seasonal adjustment factors were developed and subsequently applied as discussed below.

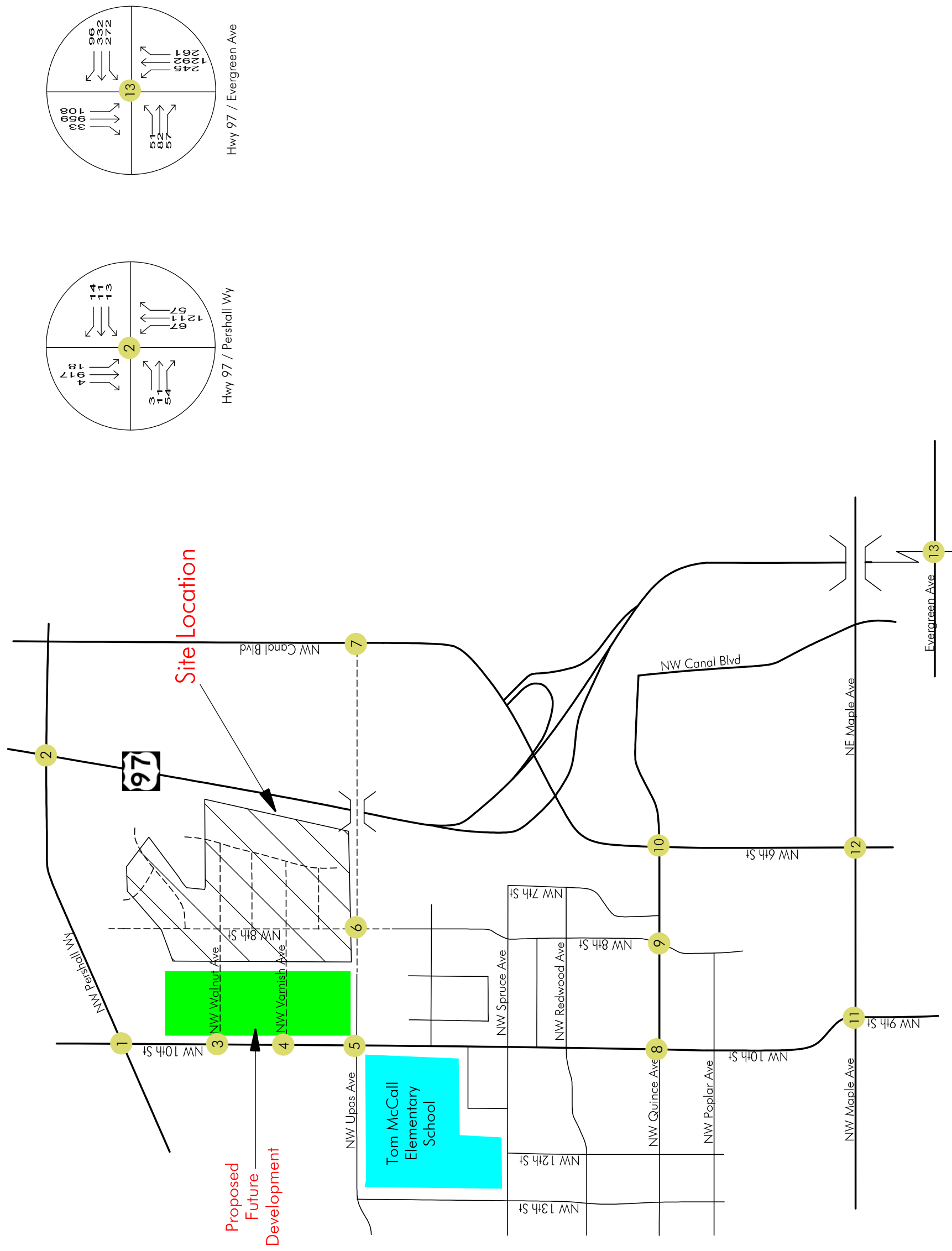
COVID-19 Adjustments – It is widely recognized that traffic flows initially decreased after the onset of restrictions aimed at reducing the spread of COVID-19. ODOT produces a periodic report summarize traffic flows for the same period in 2019, 2020, then again in 2021. The highway 97 corridor was used as a bench-mark for adjusting traffic flows in Central Oregon. It was noted that April counts in 2020 were significantly lower than the 2019 volumes. The year 2021 volumes for the count period, however, were up a few percentage points compared to 2019. Traffic appears to have returned to somewhat normal conditions. For this reason, no adjustments were made to the traffic flows to account for coronavirus impacts on traffic. The ODOT summary data for this period is contained in Appendix B of this report.

Seasonal Adjustments for ODOT Facilities – Seasonal adjustment factors were developed using ODOT's *Analysis Procedure Manual* (Version 2, last updated 07/2020). Since there a permanent count station at the O'Neal Highway intersection with Highway 97 (ATR 09-022) and just north of the Evergreen Avenue/Highway 97 intersection (ATR 09-023) these ATR stations were used to calculate seasonal adjustment factors, as per the guidance of Chapter 5 of the ODOT Analysis Procedures Manual (APM). The resulting factors were 1.13 at the Highway 97/O'Neal Highway intersection and 1.11 at the Evergreen Avenue/Highway 97 intersection. These calculations are shown in Appendix C

Figure 5 shows the seasonally adjusted existing traffic flows for year 2021 on ODOT facilities. This figure does not include trips expected to be generated by approved projects or background growth factors. Trips generated by "in-progress" development are addressed in the next section of this report.



Existing PM Peak Hour Traffic
121 West Subdivision - Redmond, Oregon



* Denotes Future Streets Not Yet Built

Existing PM Peak Hour Traffic (ODOT Adjustments)

#01644
July 21, 2021

Figure 5

APPROVED AREA DEVELOPMENT

The study considered a number of other development projects which are constructed but not fully occupied, currently under construction, approved, or planned. One project was identified: the Cinder Butte Phases 2-4, as provided by the City of Redmond. Approved in-process development was forecast to generate 111 p.m. peak hour trips. The traffic assignment page from the TIA for this project is shown in Appendix D.

Traffic forecast to be generated by this project, as shown in Figure 6, were added to each forecast scenario. To account for additional development beyond these projects, a growth factor was also applied to the future year forecasts on local, as shown later in this report. Growth factors on ODOT facilities were calculated using ODOT methodologies, as discussed later in this report.

COMMITTED OR PLANNED STREET IMPROVEMENTS

The City of Redmond Transportation System Plan (TSP) defines the long term (20 year) transportation network. The City's Capital Improvement Plan (CIP) lists the projects planned to be constructed over the next five years. Significant projects considered in this study include:

1. The planned bridge and new collector street over Highway 97 (Upas Avenue) which would connect 10th Street and Canal Boulevard. It was requested by staff that the 2032 scenario assume that this connection is completed.
2. The CIP includes a traffic signal at the intersection of 9th Avenue and Maple Avenue. The traffic signal is funded and is currently being designed.

To address the impact of the Upas Avenue Bridge, the ODOT modelling section provided an analysis which involved creating a select-link matrix for all traffic using the bridge and then assigning that O/D table to the network both with and without the bridge. These assignments are provided in Appendix E for reference. What was learned in this analysis was that the 99 percent of the traffic using the bridge was from the newly annexed sections above Upas Avenue (which consists of this proposed project and the adjacent Cinder Butte development). For this reason, the only non-project reassignment of traffic anticipated would be from the Cinder Butte development. The resulting assignment is shown in Figure 7.

LOCAL AND STATE PROGRAMS, POLICIES, AND REGULATIONS

Adopted transportation plans and codes that regulate transportation facilities in the City of Redmond include: The City of Redmond Transportation System Plan (TSP); the City of Redmond Development Code; and, the Oregon Highway Plan.

The City of Redmond Development Code – establishes study requirements for a Traffic Impact Analysis (TIA) and sets the criteria used to review these studies. This report was written following the TIA guidelines found in the development code. The code also defines the minimum Level of Service standards. As per the City of Redmond Development Code:

“The acceptable Level of Service for City Streets in Redmond is a Level of Service E during the peak 15-minutes of the peak hour on the average weekday. A lesser standard is accepted at unsignalized intersections if the volume-capacity ratio is less than 0.90 and the 95th percentile queue is less than four vehicles”.

The ODOT Highway Plan - sets the acceptable mobility targets for all state highways and streets. When the mobility target is not met, ODOT typically requests that the developer provide mitigation that would improve traffic conditions to what they would be without the project. The City of Redmond has applied for an alternative mobility target for the intersection of Evergreen Avenue and Highway 97. The alternative target is for a peak hour volume capacity not to exceed 1.00 using a peak hour factor of 1.00 in the volume-capacity calculations.

ODOT staff has indicated that this does not apply to the intersection of US 97 and the O’Neill Highway, where the ODOT mobility target would be 0.80. This corresponds to the mobility target for any statewide expressway or statewide highway inside an MPO boundary where speeds are greater than or equal to 45 miles per hour, as per Table 6 of the Oregon Highway Plan.

The Redmond Transportation System Plan - also describes the acceptable mobility targets for all state highways as well as level of service standards on local streets. These are consistent with the Development Code and the Oregon Highway Plan. It was also noted in the TSP that the City has adopted alternative mobility targets at the intersection of Evergreen Avenue and Highway 97. This is actually an on-going discussion with the City of Redmond. Finally, the Upas Avenue bridge is also an element of the TSP, as discussed above.

TRAFFIC FORECAST

The analysis scenarios were selected according to the requirements of the City of Redmond Development Code. The code requires that a traffic study include a p.m. peak hour analysis for the following horizon years, both with and without the project:

- Existing conditions;
- Completion year of each significant phase of development; and
- Five-year forecast beyond the final phase.

If the application is for a project to be built in multiple phases, the Transportation Impact Analysis Policy calls for an analysis for each phase plus an analysis of traffic conditions five years after the completion of each phase. Since a multi-phased project would require a significant number of scenarios to be analyzed, this process was simplified: the analysis was limited to two horizon years: the year of project build-out, and five-years after build out. If standards are met under these conditions, they would also be met during intermediate phases. This approach provides an efficient way of conducting the analysis and it can determine if an interim year analysis should be provided at specific intersections where operational problems are identified.

Accordingly, the forecast for p.m. peak hour traffic presented in this section is for year 2027 (year of buildout) and year 2032 (five year scenario), for conditions with and without the proposed project. Each horizon year includes in-process development and an appropriate growth factor. The section concludes with a table showing the percentage increase in traffic at the study intersections due to the proposed development.

TRAFFIC FLOW FORECAST WITHOUT PROJECT

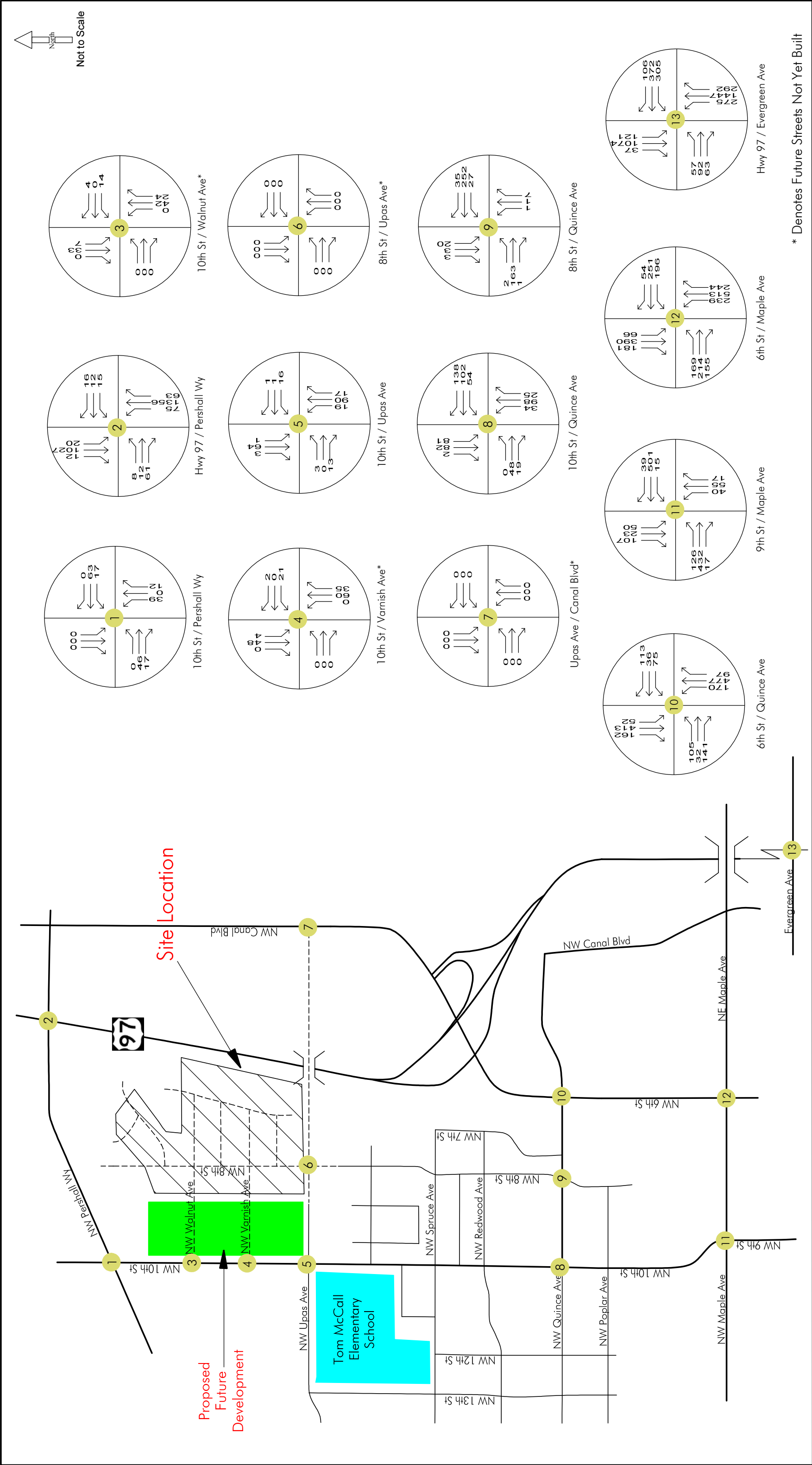
Traffic flow was forecast for the study-year horizons without the addition of traffic from the proposed development. The purpose of the non-project scenarios is to allow one to compare the operational characteristics between a with-project and a no-project scenario so that the relative impacts of the proposed project may be understood.

Growth Factors – City staff has identified a growth factor of 2 percent per year as being a reasonable factor. For the ODOT intersections, the procedures were followed for determining a growth factor as found in the Analysis Procedures Manual. The data used to calculate the growth rate are shown in Appendix F. The resulting growth factors for traffic on Highway 97 were 1.52 at the O’Neil Highway and 2.32 at Evergreen Avenue.

Year 2027 Flow without Project Forecast - Year 2027 traffic flow without the project, as illustrated in Figure 8, was forecast as follows:

1. Existing p.m. peak hour traffic (with the ODOT seasonal adjustment factor already applied) was factored up by 2 percent per year for a total of six years growth.
2. The traffic forecast for approved area developments was added to the factored forecast.

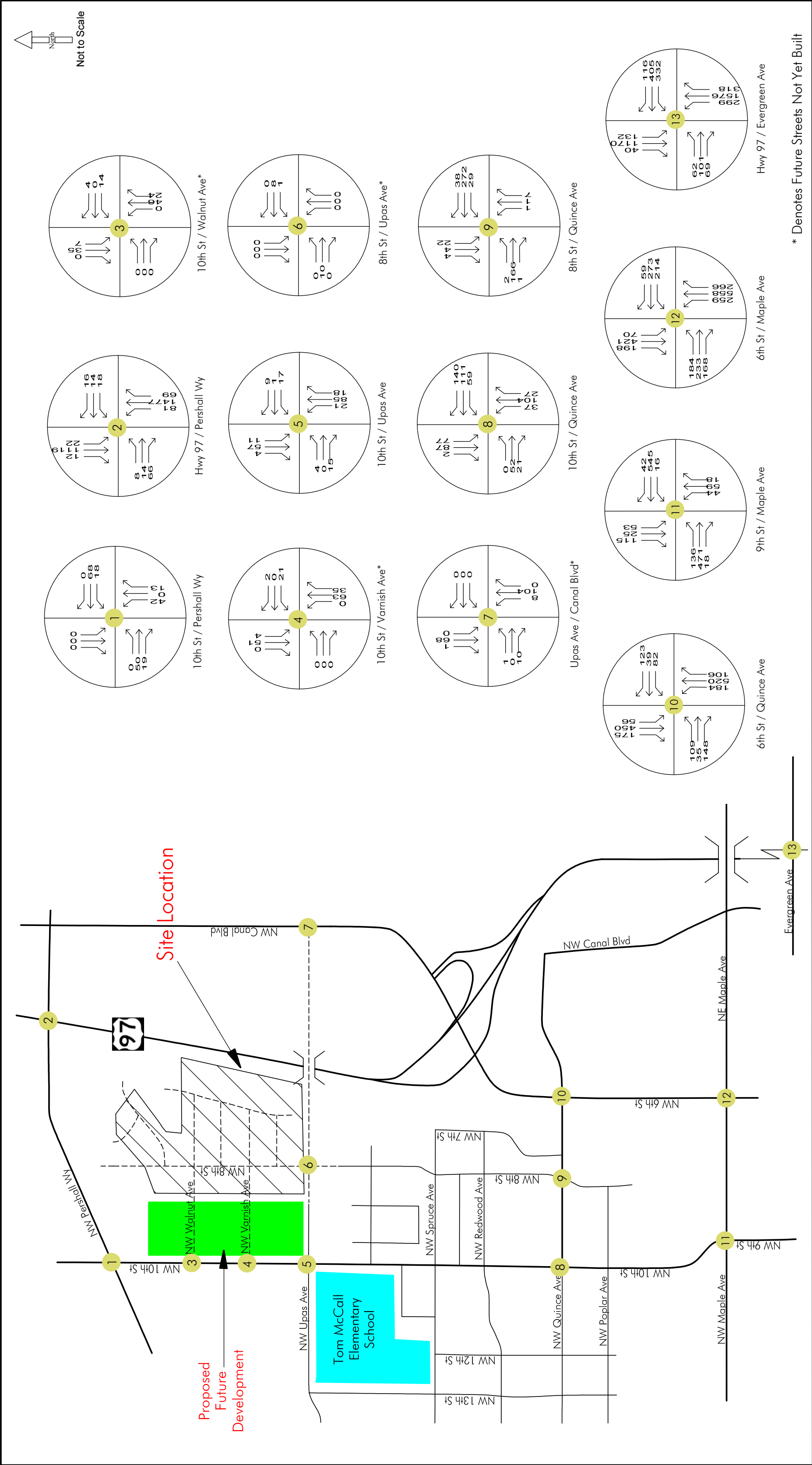
Year 2032 Flow without Project Forecast - Year 2032 traffic flow without the project, as illustrated in Figure 9, was forecast by factoring the existing p.m. peak hour traffic flow plus in-process development upwards by 2 percent per year over an eleven year period (six-years of phased development plus five years). Trips generated by approved area development were added to this total. This is the same process used in the 2021 forecast, except that the changes in traffic patterns caused by the Upas Avenue Bridge were also factored into the forecast, as was shown in Figure 7. It was assumed that the bridge would be constructed by 2032 and changes to traffic flows, as shown in Figure 9, reflect this.



PM Peak Hour Traffic Year 2027 without Project
121 West Subdivision - Redmond, Oregon

Figure 8
Ferguson & Associates, Inc.

* Denotes Future Streets Not Yet Built



PM Peak Hour Traffic Year 2032 without Project
121 West Subdivision - Redmond, Oregon

Figure 9
Ferguson & Associates, Inc.

* Denotes Future Streets Not Yet Built

SITE GENERATED TRAFFIC

Daily and p.m. peak hour trips generated by the proposed project were forecast. The forecast considered pass-by trips and modal split. The p.m. peak hour trips were then distributed and assigned to the study area network. Details are presented below.

Trip Generation - The proposed development would include 156 single family homes; 120 multi-family units; a 36,400 square foot mini-storage facility with 600 storage units; and, 11,500 square feet for commercial uses. Future trips generated by the project were forecast using trip generation rates found in the 10th Edition of Trip Generation (ITE, 2017). The ITE land use categories and codes used to calculate the trips that would be generated by the proposed development are shown in Table 2, along with the trip-rates for each use.

TABLE 2 - TRIP GENERATION RATES

ITE Land Use & Code	Independent Variable *	Trip Ends Rate (trips per t.s.f)		In/Out Split (percent)		Passby Percent
		PM Peak Hour	Daily	PM Peak Hour	Daily	
Single Family Homes 210**	d.u.	0.99	9.44	63/37	50/50	0%
Multifamily Housing Mid Rise 221 ***	d.u.	0.44	5.44	61/39	50/50	0%
Multifamily Housing Low Rise 220***	d.u.	0.56	7.32	63/37	50/50	0%
Mini Warehouse 151	t.s.f.	0.17	1.51	47/53	50/50	0%
Shopping Center 820	t.s.f.	3.81	37.75	48/52	50/50	34%

* d.u. = dwelling units; t.s.f. = thousands of square feet

** The single family home rate was used both for single family homes and for live-work units. While the live-work units might have more visitors for business purposes, they also serve to eliminate a work-trip from the home. Until more data is available on this type of housing, it is not possible to say if there would be a difference, either higher or lower, than single family housing.

*** The ITE rate for mid-rise multi-family housing was used for the apartments and the rate for low-rise was applied to the townhomes. The ITE Land Use Category for condominiums/townhomes was eliminated from the ITE manual.

The proposed development was forecast to generate 226 p.m. peak hour trips and 2,465 daily trips, of which 211 p.m. peak hour and 2,317 daily trips would be non-passby trips. This forecast is broken down by land-use as shown in Table 3.

TABLE 3 - TRIP GENERATION FORECAST

Land Use	Size* (units)	PM Peak Hour Trip Ends			
		In	Out	Total	Daily
Single Family Homes	72 d.u.	45	26	71	680
Live-Work Units	10 d.u.	6	4	10	94
Apartments	120 d.u.	32	21	53	653
Townhomes	75 d.u.	26	16	42	549
Mini Warehouse	36.4 t.s.f.	3	3	6	55
Commercial/Retail	11.5 t.s.f.	21	23	44	434
Passby Trips (34 percent)		7	7	14	148
TOTALS					
Passby		7	7	14	148
Non Passby		126	85	211	2,317
Total		134	92	226	2,465

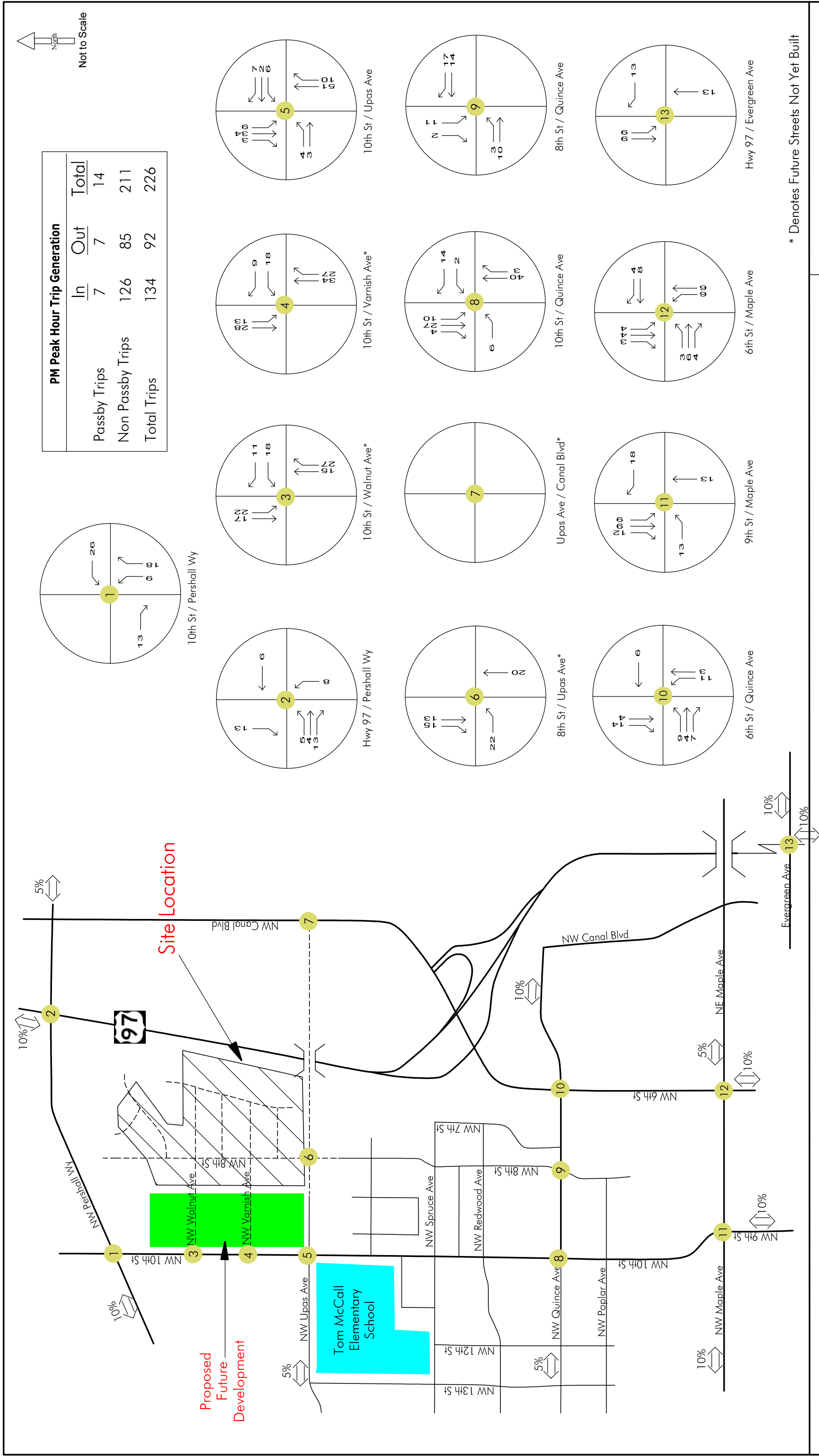
* d.u. = dwelling units; t.s.f. = thousands of square feet

Pass-by Trips - Very few residential trips are pass-by trips; thus, no reduction in trip generation was made to account for pass-by trips for the residential component. The same is true of the storage units. Pass-by trips were considered for the commercial component of the development, as shown in Table 3.

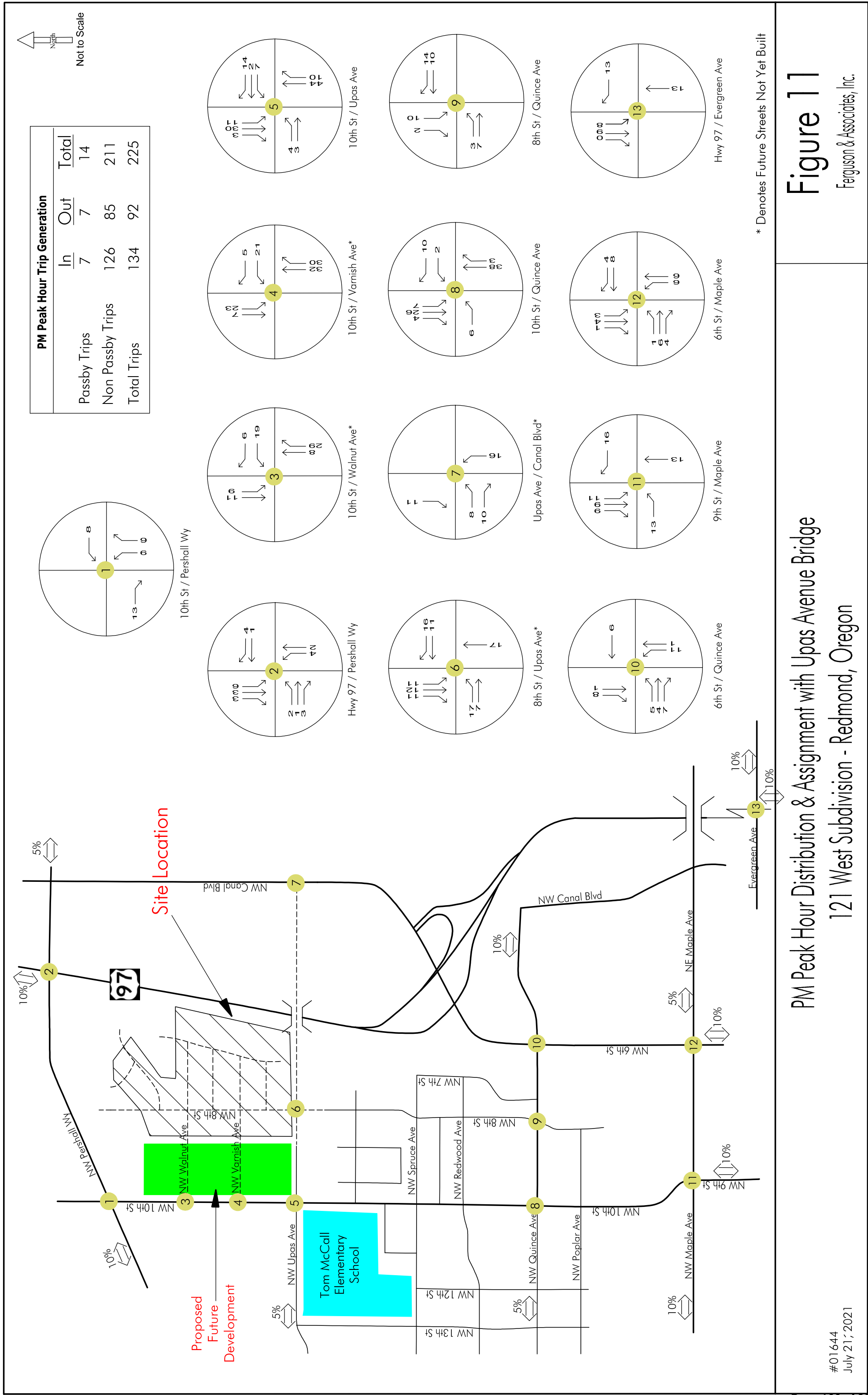
Modal Split - No reduction in vehicle trips was made to account for a potential shift away from the automobile. ITE trip rates are based on observed vehicle trip patterns at each land use and thereby account for a basic amount of non-auto travel.

Trip Distribution and Assignment - PM peak hour trips generated by the proposed project were distributed and assigned to the roadway system as shown in Figure 10. Distribution percentages are derived from turning movements documented in traffic counts performed for this report combined with a general knowledge of traffic distribution patterns in Redmond. The traffic operations calculations presented within this report are not highly sensitive to distribution assumptions, given the relatively small percentage increase in total intersection traffic at the more significant higher-order street intersections.

A second trip distribution for the proposed project was also prepared with the influences of the Upas Avenue Bridge. This assignment is shown in Figure 11. While the City of Redmond requested that this analysis be included in the study, ODOT commented that while the bridge is mentioned in the Redmond Transportation System Plan (TSP), it is not currently programmed and is not currently being pursued.




PM Peak Hour Distribution & Assignment without Upas Avenue Bridge
121 West Subdivision - Redmond, Oregon



TRAFFIC FLOW FORECAST WITH PROJECT

PM peak hour traffic flow generated by the proposed project was added to the no-project scenarios as discussed below.

Year 2027 Flow with Project Forecast - Year 2027 flow with project forecast, as illustrated in Figure 12, was derived by adding the project trips (Figure 10) to the year 2027 without project forecast flow.

Year 2032 Flow with Project Forecast - The year 2032 flow with project forecast, as illustrated in Figure 13 was derived by adding the project trips (Figure 11) to the year 2032 without project forecast flow.

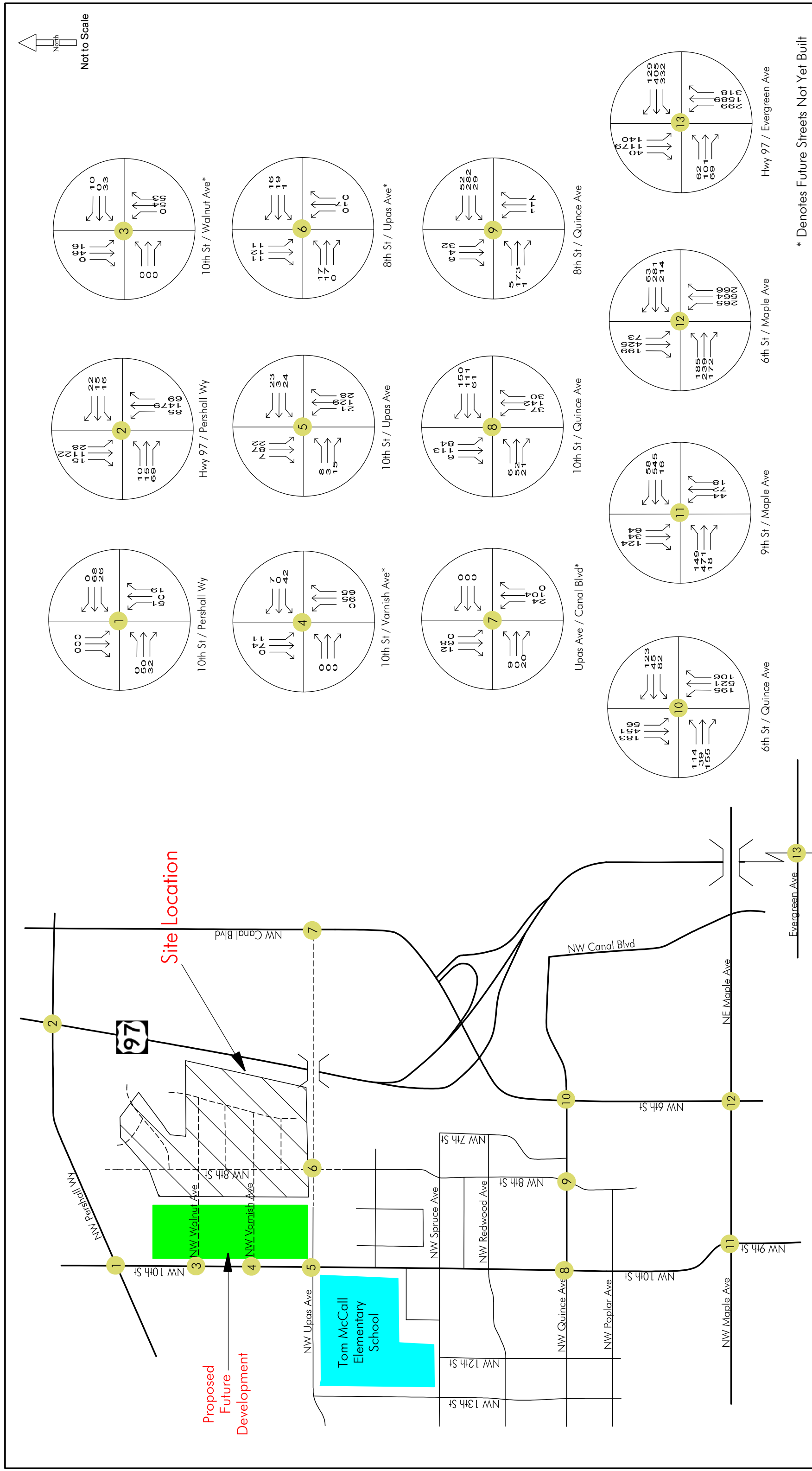
SITE TRAFFIC CONTRIBUTION

After built and occupied, the proposed project would result in an overall increase in the number of vehicles traveling in the area. The impact at each of the study area intersections for the p.m. peak hour traffic contribution is shown in Table 4 expressed as a percentage of total traffic.

TABLE 4 – SITE TRAFFIC CONTRIBUTION

INTERSECTION	PM PEAK HOUR TRAFFIC					
	YEAR 2027			YEAR 2032		
	PROJECT TOTAL (VPH)	INTERSECTION TOTAL* (VPH)	PERCENT OF TOTAL	PROJECT TOTAL (VPH)	INTERSECTION TOTAL* (VPH)	PERCENT OF TOTAL
10 th St./Pershall Way	66	260	25.3%	36	246	14.6%
Pershall Way/Hwy97	45	2722	1.6%	29	2945	0.98%
10 th St./Walnut Ave.	110	234	47.0%	82	212	38.6%
10 th St./Varnish Ave.	129	299	43.1%	118	294	40.1%
10 th St./Upas Ave.	129	357	36.1%	128	370	34.5%
8 th St./Upas Ave.	70	70	100.0%	102	121	84.2%
Upas Ave/Canal Blvd	0		0.0 %	45	237	18.9%
10 th St./Quince Ave	106	789	13.4%	96	813	11.8%
8 th St./Quince Ave.	57	572	9.9%	46	593	7.7%
6 th St./Quince Ave.	58	1931	3.0%	43	2070	2.0%
9 th St./Maple Ave.	74	1496	4.9%	71	1613	4.4%
6 th St./Maple Ave.	48	2720	1.7%	43	2946	1.4%
Evergreen Ave./Hwy 97	44	4285	1.0%	43	4663	0.92%

Notes: *Total traffic includes proposed project traffic.



PM Peak Hour Traffic - Year 2026 with Project
North Canyon Subdivision - Redmond, Oregon

Figure 13

TRAFFIC ANALYSIS

This section of the report presents the intersection operations analysis and the findings from other analysis conducted in the study area. The operations analysis is a means of assessing the quality of traffic flow at the key study intersections and is used to determine if City of Redmond Level of Service standards and ODOT mobility targets are met. Other issues are also addressed, including: the potential need for traffic signals; the need for new turn lanes; and, intersection sight-distance. Finally, where needs are identified, potential mitigation actions are presented.

INTERSECTION OPERATIONS

Average vehicle delay and volume-capacity ratios were calculated at the study intersections for the peak one-hour period during the p.m. peak period. Existing and future scenarios without traffic from the project were analyzed and compared with scenarios where project traffic was added. Average delay and volume-capacity ratios reflect conditions for the peak 15-minutes, which is the time period used to address the level of service policy in Redmond. Level of service calculations are found in Appendix G.

As per the City of Redmond Development Code: "The acceptable Level of Service for City Streets in Redmond is a Level of Service E during the peak 15-minutes of the peak hour on the average weekday. A lesser standard is accepted at unsignalized intersections if the volume-capacity ratio is less than 0.90 and the 95th percentile queue is less than four vehicles".

At the ODOT intersections, the following mobility targets were assumed:

- Evergreen Ave./Highway 97 – volume-capacity ratio of 1.00 for the peak hour with a peak hour factor (PHF) of 1.00 based according to the alternative mobility standard which is currently under review.
- O'Neil Highway/Hwy 97, 0.80 for the intersection as a whole and stop controlled approaches would be for that of a District Highway, or 0.90.

The O'Neil Highway/Hwy 97 intersection is based on the Oregon Highway Plan statement which says:

"In order to maintain safe operation of the intersection, non-state highway approaches are expected to meet or not to exceed the volume to capacity ratios for District/Local Interest Roads in Table 6 ... "

The standard from the cited Table 6 is a volume-capacity ratio of 0.90, as the intersection is located inside an Urban Growth Boundary. This would apply to the Pershall Way approach to the intersection. It was presumed that this standard applies also to the O'Neill Highway approach, since it is actually a district highway.

As shown below in Tables 5 to 17, not all study intersections would meet City of Redmond standards (or ODOT mobility Targets). The intersections which did not meet the evaluation criterion were:

1. Maple Avenue/9th Street; and,
2. Hwy 97/O'Neil Highway.

It is of note that that intersection of Evergreen Avenue and Highway 97 would not meet the ODOT mobility target without the currently proposed change to the target.

TABLE 5 – PM PEAK HOUR OPERATIONS – 10TH STREET/PERSHALL WAY

SCENARIO	MOVEMENT	LEVEL OF SERVICE	DELAY (SEC/VEH)	MEETS REDMOND STANDARD?
Year 2027 without Project	NB Approach	A	9.4	Yes
	WB Left	A	7.4	
Year 2027 with Project	NB Approach	A	9.8	Yes
	WB Left	A	7.4	
Year 2032 without project	NB Approach	A	9.5	Yes
	WB Left	A	7.4	
Year 2032 without project	NB Approach	A	9.7	Yes
	WB Left	A	7.4	

TABLE 6 – PM PEAK HOUR OPERATIONS – 10TH STREET/WALNUT AVENUE

SCENARIO	MOVEMENT	LEVEL OF SERVICE	DELAY (SEC/VEH)	MEETS REDMOND STANDARD?
Year 2027 without Project	SB Left	A	7.4	Yes
	WB Approach	A	9.1	
Year 2027 with Project	SB Left	A	7.5	Yes
	WB Approach	A	9.7	
Year 2032 without project	NB Approach	A	7.4	Yes
	WB Left	A	9.1	
Year 2032 without project	NB Approach	A	7.5	Yes
	WB Left	A	9.6	

TABLE 7 – PM PEAK HOUR OPERATIONS – 10TH STREET/VARNISH AVENUE

SCENARIO	MOVEMENT	LEVEL OF SERVICE	DELAY (SEC/VEH)	MEETS REDMOND STANDARD?
Year 2027 without Project	SB Left	A	7.4	Yes
	WB Approach	A	9.4	
Year 2027 with Project	SB Left	A	7.6	Yes
	WB Approach	B	10.3	
Year 2032 without project	SB Left	A	7.4	Yes
	WB Approach	A	9.4	
Year 2032 without project	SB Left	A	7.6	Yes
	WB Approach	B	10.3	

TABLE 8 – PM PEAK HOUR OPERATIONS – 10TH STREET/UPAS AVENUE

SCENARIO	MOVEMENT	LEVEL OF SERVICE	DELAY (SEC/VEH)	MEETS REDMOND STANDARD?
Year 2027 without Project	NB Left	A	7.4	Yes
	SB Left	A	7.4	
	EB Approach	A	9.0	
	WB Approach	B	10.3	
Year 2027 with Project	NB Left	A	7.5	Yes
	SB Left	A	7.6	
	EB Approach	B	10.1	
	WB Approach	B	11.3	
Year 2032 without project	NB Left	A	7.4	Yes
	SB Left	A	7.5	
	EB Approach	A	9.1	
	WB Approach	B	10.1	
Year 2032 without project	NB Left	A	7.5	Yes
	SB Left	A	7.6	
	EB Approach	B	10.2	
	WB Approach	B	10.9	

TABLE 9 – PM PEAK HOUR OPERATIONS – 10TH STREET/QUINCE AVENUE

SCENARIO	MOVEMENT	LEVEL OF SERVICE	DELAY (SEC/VEH)	MEETS REDMOND STANDARD?
Year 2027 without Project	Overall	B	10.0	Yes
Year 2027 with Project	Overall	B	11.0	Yes
Year 2032 without project	Overall	B	10.3	Yes
Year 2032 without project	Overall	B	11.3	Yes

TABLE 10 – PM PEAK HOUR OPERATIONS – 9TH STREET/MAPLE AVENUE

SCENARIO	MOVEMENT	LEVEL OF SERVICE	DELAY (SEC/VEH)	MEETS REDMOND STANDARD?
Year 2027 without Project	Overall	E	36.1	Yes
Year 2027 with Project	Overall	E	44.9	Yes
Year 2032 without project	Overall	F	54.7	No
Year 2032 without project	Overall	F	66.2	No

TABLE 11 – PM PEAK HOUR OPERATIONS – 8TH STREET/UPAS AVENUE

SCENARIO	MOVEMENT	LEVEL OF SERVICE	DELAY (SEC/VEH)	MEETS REDMOND STANDARD?
Year 2027 without Project	NB Approach SB Approach EB Left WB Left	na	na	Yes
Year 2027 with Project	NB Approach SB Approach EB Left WB Left	A A A na	9.5 8.9 7.2 na	Yes
Year 2032 without project	NB Approach SB Approach EB Left WB Left	na	na	Yes
Year 2032 without project	NB Approach SB Approach EB Left WB Left	A A A A	9.7 9.3 7.3 7.2	Yes

TABLE 12 – PM PEAK HOUR OPERATIONS – 8TH STREET/QUINCE AVENUE

SCENARIO	MOVEMENT	LEVEL OF SERVICE	DELAY (SEC/VEH)	MEETS REDMOND STANDARD?
Year 2027 without Project	NB Approach	B	10.0	Yes
	SB Approach	B	12.9	
	EB Left	A	7.8	
	WB Left	A	7.6	
Year 2027 with Project	NB Approach	B	10.2	Yes
	SB Approach	B	13.7	
	EB Left	A	7.9	
	WB Left	A	7.6	
Year 2032 without project	NB Approach	B	10.1	Yes
	SB Approach	B	13.3	
	EB Left	A	7.9	
	WB Left	A	7.6	
Year 2032 without project	NB Approach	B	10.2	Yes
	SB Approach	B	14.0	
	EB Left	A	8.0	
	WB Left	A	7.6	

TABLE 13 – PM PEAK HOUR OPERATIONS – 6TH STREET/QUINCE AVENUE

SCENARIO	MOVEMENT	LEVEL OF SERVICE	DELAY (SEC/VEH)	MEETS REDMOND STANDARD?
Year 2027 without Project	Overall	C	26.6	Yes
Year 2027 with Project	Overall	C	27.0	Yes
Year 2032 without project	Overall	C	26.8	Yes
Year 2032 without project	Overall	C	27.3	Yes

TABLE 14 – PM PEAK HOUR OPERATIONS – 6TH STREET/MAPLE AVENUE

SCENARIO	MOVEMENT	LEVEL OF SERVICE	DELAY (SEC/VEH)	MEETS REDMOND STANDARD?
Year 2027 without Project	Overall	C	32.7	Yes
Year 2027 with Project	Overall	C	33.1	Yes
Year 2032 without project	Overall	C	34.2	Yes
Year 2032 without project	Overall	C	34.6	Yes

TABLE 15 – PM PEAK HOUR OPERATIONS – HIGHWAY 97/O’NEIL HIGHWAY

SCENARIO	MOVEMENT	LEVEL OF SERVICE	DELAY (SEC/VEH)	V/C	MEETS ODOT MOBILITY TARGET?
Year 2027 without Project	NB Left	B	11.4	<0.50	No
	SB Left	B	13.3	<0.50	
	EB Approach	F	>80.0	>1.20	
	WB Approach	F	>80.0	>1.20	
Year 2027 with Project	NB Left	B	11.5	<0.50	No
	SB Left	B	13.3	<0.50	
	EB Approach	F	>80.0	>1.20	
	WB Approach	F	>80.0	>1.20	
Year 2032 without project	NB Left	B	12.1	<0.50	No
	SB Left	B	14.3	<0.50	
	EB Approach	F	>80.0	>1.20	
	WB Approach	F	>80.0	>1.20	
Year 2032 without project	NB Left	B	12.2	<0.50	No
	SB Left	B	14.6	<0.50	
	EB Approach	F	>80.0	>1.20	
	WB Approach	F	>80.0	>1.20	

TABLE 16 – PM PEAK HOUR OPERATIONS – HIGHWAY 97/EVERGREEN AVENUE

SCENARIO	MOVEMENT	LEVEL OF SERVICE	DELAY (SEC/VEH)	V/C	MEETS ODOT MOBILITY TARGET? *
Year 2027 without Project	Overall	C	31.6	0.80	Yes*
Year 2027 with Project	Overall	C	32.0	0.81	Yes*
Year 2032 without project	Overall	D	35.9	0.87	Yes*
Year 2032 without project	Overall	D	36.5	0.88	Yes*

* A request is pending to change the ODOT mobility target from 0.80 to 1.00, with a peak hour factor (PHF) of 1.00.

TABLE 17 – PM PEAK HOUR OPERATIONS – CANAL BLVD/UPAS AVE

SCENARIO	MOVEMENT	LEVEL OF SERVICE	DELAY (SEC/VEH)	MEETS REDMOND STANDARD?
Year 2027 without Project	Na	Na	Na	Na
Year 2027 with Project	Na	Na	Na	Na
Year 2032 without project	NB Left EB Approach	A A	7.4 8.8	Yes
Year 2032 without project	NB Left EB Approach	A A	7.4 9.2	Yes

TRAFFIC SIGNAL WARRANTS

There are a variety of traffic signal warrants, of which at least one must be met to justify the installation of a new traffic signal. These warrants reflect a minimum threshold under which a traffic signal should not be installed. In general, unwarranted traffic signals can lead to increased delay, more crashes, and unnecessary spending. For all of these reasons, unwarranted traffic signals are highly discouraged.

One intersection – Maple Avenue and 9th Street – was a candidate for a traffic signal. As shown in Appendix H, the preliminary signal warrant would be met. As per discussions with the City of Redmond staff, a traffic signal has been funded and is currently being designed for this intersection.

The intersection of Highway 97 and the O’Neil Highway would not meet ODOT mobility standards; however, it was not considered as a potential location for a traffic signal since ODOT would not typically install a traffic signal in this context. It is the first intersection entering the urbanized area and the surrounding character is not yet urbanized on a high speed facility. ODOT and the City are in the process of discussing what the future plans are for this intersection. One possibility includes eliminating left-turns and through movements from the stopped approach. This intersection is outside of City of Redmond City Limits; but inside the Urban Growth Boundary (UGB).

SIGHT DISTANCE

Sight distance is a measure of how far a driver can see the road and/or other vehicles or potential hazards from various points in the roadway. Sight distance is measured in different ways and acceptable sight distance varies, depending on the type of sight distance that is important for a particular segment of road or intersection. There are two types of sight distance that are reviewed here: intersection sight-distance and stopping sight-distance. Stopping sight distance

was measured only at the intersection (not along the travel way). These measurements are what the City of Redmond accepts to address the Transportation Impact Analysis Policy.

Stopping Sight Distance Guidelines - Stopping sight distance is the minimum required distance for a vehicle to stop before reaching a stationary object in its path. The standard assumptions used to determine minimum stopping sight distance are: Wet pavement, a driver's vision height of 3.5 feet, and a stationary object 2.0 feet high (A Policy on Geometric Design of Highways and Streets, AASHTO, 2004). Table 18 shows the AASHTO guidelines for stopping sight distance at a given speed.

Intersection Sight Distance Guidelines - Intersection sight distance is the distance a driver can see from a stop controlled approach to an intersection. The measurement is typically taken from a point about 14.4 feet back from the edge of the travel-way at a height of 3.5 feet to a height of 3.5 feet in the travel lane. The AASHTO intersection sight distance guidelines, as shown in Table 18, reflect the minimum distance that a driver needs to be able to see while stopped at an intersection so that the driver may proceed without slowing vehicles on the main street by more than 15 percent. The distance required for a left turn is slightly longer than the distance for a right-turn.

TABLE 18 – AASHTO GUIDELINES FOR STOPPING AND INTERSECTION SIGHT DISTANCE

DESIGN SPEED	STOPPING SIGHT DISTANCE (FT.)	INTERSECTION SIGHT DISTANCE FOR LEFT-TURNS FROM STOP (FT.) (1)	INTERSECTION SIGHT DISTANCE FOR RIGHT- TURNS FROM STOP AND CROSSING MANEUVER (FT.) (2)
15	80	170	145
20	115	225	195
25	155	280	240
30	200	335	290
35	250	390	335
40	305	445	385
45	360	500	430
50	425	555	480
55	495	610	530
60	570	665	575
65	645	720	625
70	730	775	670
75	820	830	720
80	910	885	765

Source: A Policy on Geometric Design of Highways and Streets, AASHTO 2004

(1) Minimum distance to the right from the stopped approach

(2) Minimum distance to the left for the right turn movements and in both directions for the stopped movement.

Sight Distance at Study Intersections - Stopping sight distance and intersection sight distance standards should be designed for with the new street intersections. At the existing intersections, horizontal lines of sight were checked using aerial photographs. It was found that sight distance guidelines would be met at existing intersections.

Stopping sight distance and intersection sight distance were measured at a distance of 15 feet back from the pavement.

SPEED CHANGE LANES

Speed-change lanes (acceleration/deceleration lanes) are auxiliary lanes that accommodate traffic entering or leaving a roadway. Speed-change lanes are used primarily on high-speed, limited access roadways. Speed-change lanes are not typically constructed on the City's arterial/collector streets.

LEFT-TURN LANE ANALYSIS

The purpose of a left-turn storage lane is to provide a waiting area for vehicles to turn left while waiting for a gap so that through vehicles do not stack behind the left turning vehicles. This analysis applies to traffic on a major street that is not controlled by a traffic signal or stop sign while turning left to a minor street. When the guideline is met, the left-turn lane can improve capacity and safety. When the guideline is not met, transportation dollars can probably be better spent elsewhere.

As per the Redmond Development code, relevant intersections were reviewed following the TTI curves for left-turn lane warrants. See Appendix I for a plot of the data on the TTI curves. The results of this analysis are summarized below in Table 19.

TABLE 19 – SUMMARY OF LEFT-TURN STORAGE-LANE WARRANTS

STREET	SCENARIO	SPEED (MPH)	DIRECTION	WARRANT MET?
10 th Street @ Walnut	2027 with Project	35	Southbound	No
	2032 with Project		Southbound	No
Pershall Way @ 10 th Street	2027 with Project	*	Westbound	Yes
	2032 with Project		Westbound	Yes*
10 th Street @ Varnish	2027 with Project	35	Southbound	No
	2032 with Project		Southbound	No
10 th Street @ Upas	2027 with Project	35	Southbound	No
	2027 with Project		Northbound	No
	2032 with Project		Southbound	Yes
	2032 with Project		Northbound	Yes
Quince Avenue @ 8 th Street	Existing Conditions	25	Eastbound	No
	Existing Conditions		Westbound	Yes
	2027 with Project		Eastbound	No
	2027 with Project		Westbound	Yes
	2032 with Project		Eastbound	No
	2032 with Project		Westbound	Yes

*Speed is not signed; presumed speed is 55 miles per hour; the warrant would not be met in the year 2032 with-project scenario if the assumed speed is 45 miles per hour.

CRASH DATA

The City requested that the crash history be reviewed at the intersection of Pershall Way/Highway 97/O'Neil Highway. The ODOT database was consulted and it was found that there was only one crash at Pershall Way and Highway 97 if one queries the database using NW Pershall Way in the inquiry. A second query was run (as presented in Appendix J) which shows the crash history on Highway 97 at milepost 118.5 (looking upstream and downstream by 0.05 miles to be sure that the intersection was captured in the query.) During the five year period between January 1, 2015 and December 31, 2019, crashes were reported as summarized below in Table 20.

TABLE 20 – CRASH DATA SUMMARY – HIGHWAY 97/O'NEIL HIGHWAY/PERSHALL WAY

Fatal Crashes	Non-Fatal Crashes	Property Damage Only	Total	ATD	Crashes Per Million Entering Vehicles per Year
1	4	4	9	23,490	0.21

While the crash rate does not stand out on its own, the fatality does. It is also noteworthy that 5 of these crashes involved turns from the side street, whose volume is only 88 vehicles per hour in total. Another way of looking at this is: if the crash rate were considered for these movements alone, the rate would be over 3.1 crashes per million vehicles per year entering from the site street. If left-turns and through movements were eliminated from the side street, 4 of the crashes would have been eliminated. (Only one involved right-turns from side streets – see Appendix J.) The resulting crash rate would theoretically be reduce from 0.21 to 0.11. This is a significant reduction.

MITIGATION MEASURES

Mitigation measures are discussed in this section.

The analysis provided in this report indicates that there are two failing locations which need to be addressed in some manner:

1. Maple Avenue/9th Street; and,
2. Highway 97/O'Neil Highway.

Level of Service Failure -- Maple Avenue/9th Street

The planned traffic signal, which is currently being designed, would mitigate traffic at this intersection. With a traffic signal: the resulting 2032 operations with the project would be Level of Service C, with a volume capacity ratio of 0.71 and an average delay per vehicle of 29.1 seconds per vehicle. (See appendix G for calculations.)

Level of Service Failure -- Highway 97/O'Neil Highway

The City of Redmond and ODOT are currently discussing potential mitigation at this intersection, as it is currently failing. As discussed in this report, eliminating left-turns and through movements from the side streets would eliminate the movements that fail to meet ODOT mobility targets. This change would also significantly improve safety, noting that almost half of the crashes at this intersection were related to these side street movements. One of the options being considered by the City and ODOT is to install a median, which would eliminate all left-turns and crossings. Such action would off-set any impacts of the project on this intersection. ODOT has requested that the proposed development contribute a proportionate share contribution to the construction of a median barrier project. As per Table 4, the project would add 0.98 percent of the future total traffic volume entering this intersection. The applicant has indicated that they agree to contribute to the construction of a median barrier at this location at this funding level, and are willing to work with ODOT to determine the cost-basis for the construction of a median.

Left Turn Lanes

Left turn lane warrants would be met at the intersections shown below in Table 21.

TABLE 21 – INTERSECTIONS MEETING THE LEFT-TURN STORAGE-LANE WARRANT

STREET	SCENARIO	SPEED (MPH)	DIRECTION	WARRANT MET?
Pershall Way @ 10 th Street	2027 with Project	*	Westbound	Yes
	2032 with Project		Westbound	Yes*
10 th Street @ Upas	2032 with Project	35	Southbound	Yes
	2032 with Project		Northbound	Yes
Quince Avenue @ 8 th Street	Existing Conditions	25	Westbound	Yes
	2027 with Project		Westbound	Yes
	2032 with Project		Westbound	Yes

*Speed is not signed; presumed speed is 55 miles per hour; the warrant would not be met in the year 2032 with-project scenario if the assumed speed is 45 miles per hour.

FINDINGS AND CONCLUSIONS

1. The proposed development would include 72 single family homes; 10 live-work units; 75 townhomes; 120 multi-family units; a 36,400 square foot mini-storage facility with 600 storage units; and, 11,500 square feet for commercial uses.
2. The proposed development was forecast to generate 226 p.m. peak hour trips and 2,465 daily trips, of which 211 p.m. peak hour and 2,317 daily trips would be non-passby trips.
3. Not all study intersections would meet City of Redmond operation standards or ODOT mobility standards:
 - a. The intersection of 9th Street and Maple Avenue would not meet the City's level of service standards; however, the funded traffic signal which is currently being designed for this intersection would more than off-set any project impacts, as it would result in Level of Service C operations in year 2032 with the proposed project.
 - b. The intersection of the Highway 97 and the O'Neil Highway/Pershall Way does not meet ODOT mobility targets, even under existing conditions, on the stopped approaches. The City and ODOT are currently discussing options for this intersection, including the installation of a median which would eliminate the failing movements as well as significantly improving safety. The applicant has agreed to contribute to this improvement at the rate of 0.98 percent.
 - c. The intersection of Evergreen Avenue and Highway 97 will meet the proposed ODOT mobility target, if accepted by the State. The process for the change in mobility targets is in process.
4. The guideline for adding a left-turn lane would be met at certain intersections:
 - a. A westbound left turn lane on Pershall Way at 10th Street;
 - b. A westbound left turn lane on Quince Avenue at 8th Street (warranted under existing conditions); and,
 - c. Both northbound and southbound left turn lanes on 10th Street at Upas Avenue (warrant meet in year 2032).
5. A TDM program is not proposed.

6. All future streets should be constructed to City of Redmond requirements and modern engineering standards.

Appendix A

Intersection Count Summaries

PEAK HOUR TRAFFIC COUNT SUMMARY

Count Location: Redmond OR

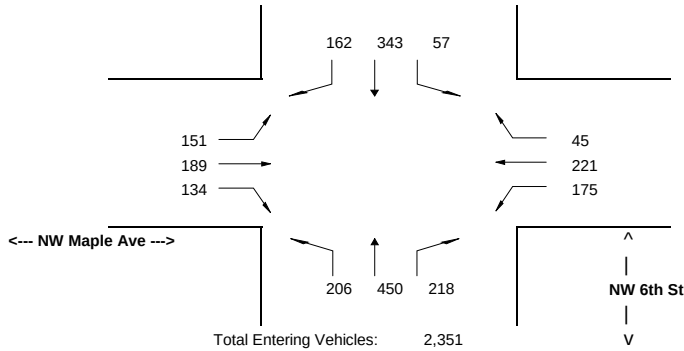
East-West Street Name: NW Maple Ave

Count Date(s): Thursday, April 29, 2021

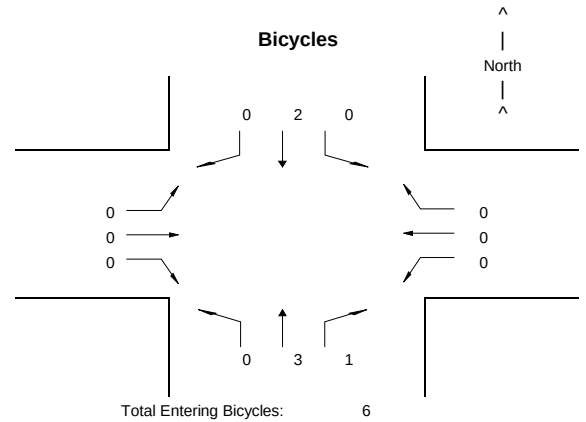
North-South Street Name: NW 6th St

Peak Hour: 4:30 to 5:30 p.m.

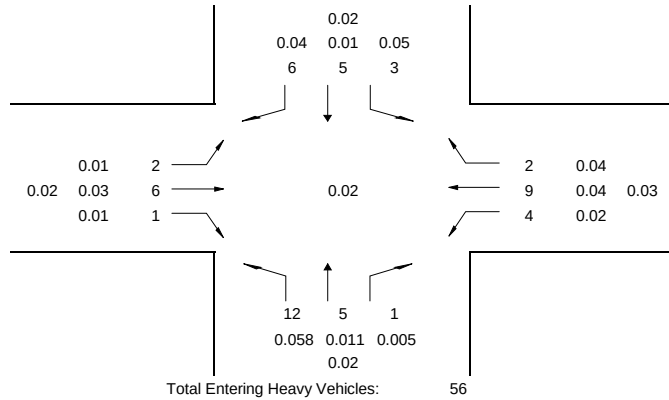
Vehicles per Hour (all vehicles)



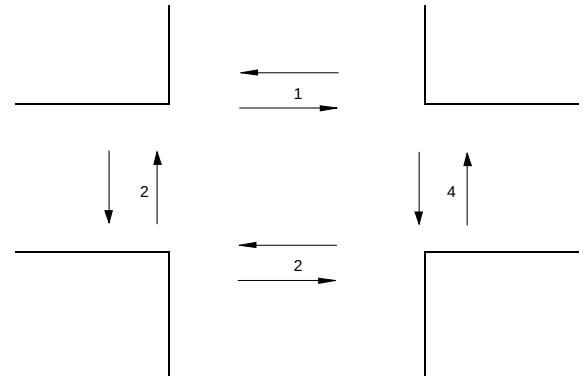
Bicycles



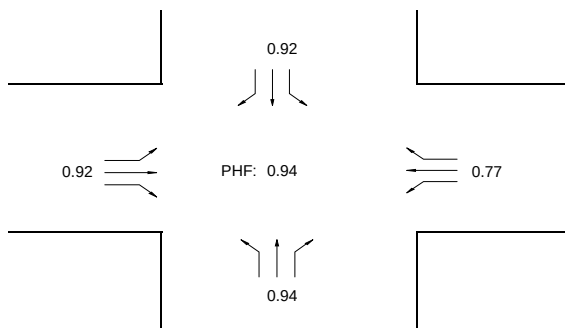
Heavy Vehicles (trucks per hour)



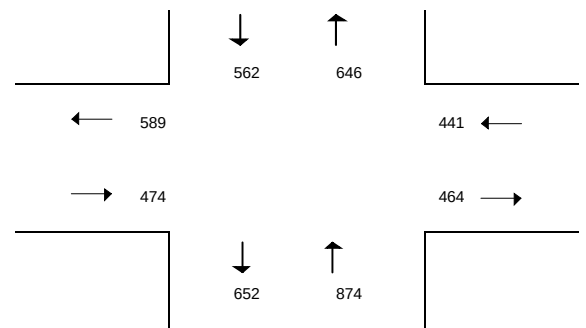
Pedestrians (crossings per hour)



Peak Hour Factor by Approach



Approach & Departure Volumes (vehicles per hour)



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Project #: 1644

PEAK PERIOD TRAFFIC COUNT -- DETAILED COUNT DATA

Count Location: Redmond OR

East-West Street Name:

NW Maple Ave

Count Date(s): Thursday, April 29, 2021

North-South Street Name:

NW 6th St

Peak Hour:

4:30 to 5:30 p.m.

ALL VEHICLES

TIME		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL
STARTING	ENDING	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right	Through	Left	
4:00	4:15	33	91	40	31	47	36	34	73	11	9	38	27	470
4:15	4:30	58	114	32	28	41	33	30	69	14	11	43	25	498
4:30	4:45	48	120	38	34	50	39	36	84	22	14	51	32	568
4:45	5:00	67	111	55	43	53	33	50	91	12	7	56	45	623
5:00	5:15	53	110	62	28	43	40	37	83	14	13	71	60	614
5:15	5:30	50	109	51	29	43	39	39	85	9	11	43	38	546
5:30	5:45	49	97	47	33	40	42	45	94	7	9	33	36	532
5:45	6:00	36	92	46	41	48	40	36	85	10	6	36	36	512
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		394	844	371	267	365	302	307	664	99	80	371	299	4,363
Peak Hour		218	450	206	134	189	151	162	343	57	45	221	175	2,351

HEAVY VEHICLES

TIME		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL
STARTING	ENDING	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right	Through	Left	
4:00	4:15	0	1	1	0	2	1	1	1	0	0	2	0	9
4:15	4:30	0	1	1	1	0	1	3	0	1	0	1	1	10
4:30	4:45	0	1	3	0	1	0	1	1	0	1	1	2	11
4:45	5:00	0	3	3	0	2	1	1	1	1	1	3	2	18
5:00	5:15	1	1	3	1	1	1	1	1	1	0	3	0	14
5:15	5:30	0	0	3	0	2	0	3	2	1	0	2	0	13
5:30	5:45	2	5	2	0	1	1	0	2	0	0	0	0	13
5:45	6:00	0	1	1	0	0	0	1	0	0	0	1	1	5
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		3	13	17	2	9	5	11	8	4	2	13	6	93
Peak Hour		1	5	12	1	6	2	6	5	3	2	9	4	56

BICYCLES

TIME		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL
STARTING	ENDING	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right	Through	Left	
4:00	4:15	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15	4:30	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30	4:45	1	0	0	0	0	0	0	1	0	0	0	0	2
4:45	5:00	0	0	0	0	0	0	0	1	0	0	0	0	1
5:00	5:15	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15	5:30	0	3	0	0	0	0	0	0	0	0	0	0	3
5:30	5:45	0	1	0	0	0	0	1	0	0	0	1	0	3
5:45	6:00	0	0	0	0	1	0	0	0	0	0	0	0	1
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		1	4	0	0	1	0	1	2	0	0	1	0	10
Peak Hour		1	3	0	0	0	0	0	2	0	0	0	0	6

PEDESTRIANS

TIME		CROSSINGS			
STARTING	ENDING	South Leg	West Leg	North Leg	East Leg
4:00	4:15	0	0	0	0
4:15	4:30	0	0	0	0
4:30	4:45	0	1	0	1
4:45	5:00	0	0	0	2
5:00	5:15	1	1	0	1
5:15	5:30	1	0	1	0
5:30	5:45	0	2	1	1
5:45	6:00	1	1	2	0
6:00	6:15	0	0	0	0
6:15	6:30	0	0	0	0
6:30	6:45	0	0	0	0
6:45	7:00	0	0	0	0
7:00	7:15	0	0	0	0
7:15	7:30	0	0	0	0
7:30	7:45	0	0	0	0
7:45	8:00	0	0	0	0
TOTAL		3	5	4	5
Peak Hour		2	2	1	4

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PEAK HOUR TRAFFIC COUNT SUMMARY

Count Location: Redmond OR

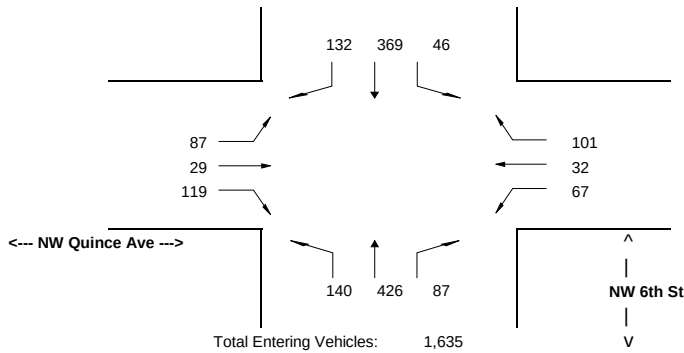
East-West Street Name: NW Quince Ave

Count Date(s): Tuesday, May 04, 2021

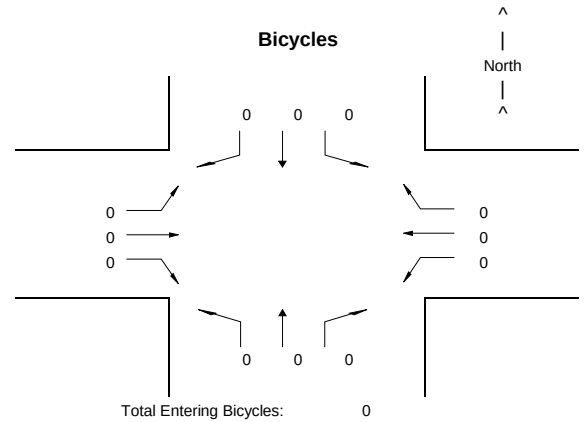
North-South Street Name: NW 6th St

Peak Hour: 4:15 to 5:15 p.m.

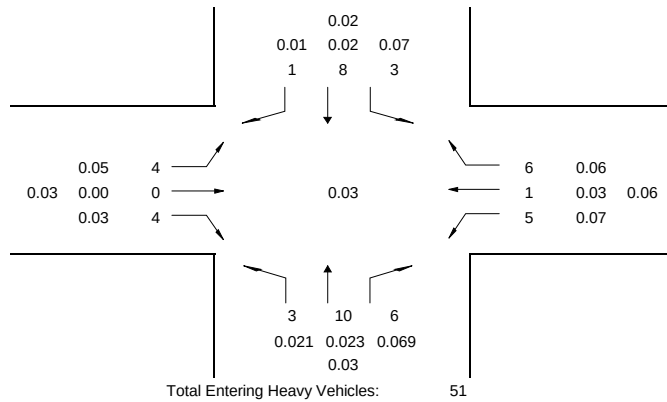
Vehicles per Hour (all vehicles)



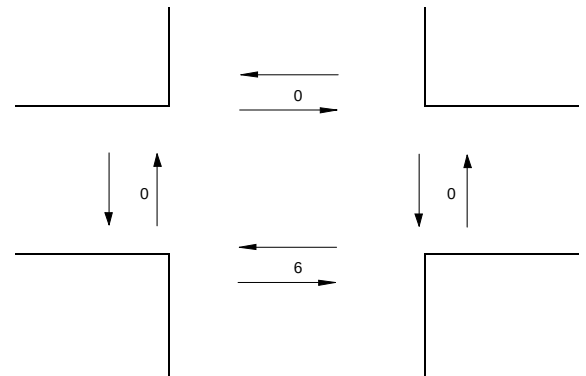
Bicycles



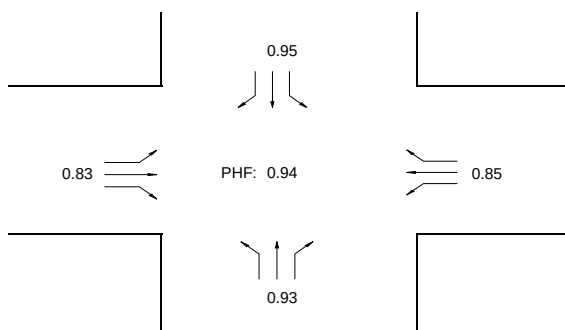
Heavy Vehicles (trucks per hour)



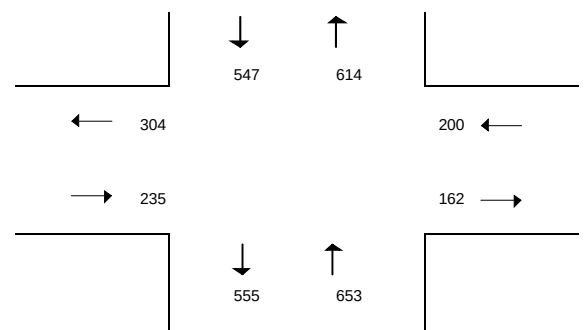
Pedestrians (crossings per hour)



Peak Hour Factor by Approach



Approach & Departure Volumes (vehicles per hour)



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PEAK PERIOD TRAFFIC COUNT -- DETAILED COUNT DATA

Count Location: Redmond OR

East-West Street Name:

NW Quince Ave

Count Date(s): Tuesday, May 04, 2021

North-South Street Name:

NW 6th St

Peak Hour:

4:15 to 5:15 p.m.

ALL VEHICLES

TIME		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL
STARTING	ENDING	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right	Through	Left	
4:00	4:15	14	49	18	17	1	8	16	55	13	16	1	14	222
4:15	4:30	26	110	40	25	7	18	23	97	11	27	12	20	416
4:30	4:45	26	108	33	36	9	26	38	95	11	28	10	16	436
4:45	5:00	18	91	32	32	9	14	39	80	9	28	6	19	377
5:00	5:15	17	117	35	26	4	29	32	97	15	18	4	12	406
5:15	5:30	11	90	52	20	5	18	48	80	10	25	6	7	372
5:30	5:45	15	107	30	32	4	25	37	64	11	14	9	11	359
5:45	6:00	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	6:15	14	84	40	26	4	15	42	80	15	17	3	13	353
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		141	756	280	214	43	153	275	648	95	173	51	112	2,941
Peak Hour		87	426	140	119	29	87	132	369	46	101	32	67	1,635

HEAVY VEHICLES

TIME		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL
STARTING	ENDING	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right	Through	Left	
4:00	4:15	1	1	0	0	0	0	3	3	1	0	0	0	9
4:15	4:30	2	5	2	2	0	1	1	3	0	1	0	2	19
4:30	4:45	3	1	0	0	0	3	0	1	1	0	0	3	12
4:45	5:00	1	3	0	2	0	0	0	1	1	2	1	0	11
5:00	5:15	0	1	1	0	0	0	0	3	1	3	0	0	9
5:15	5:30	0	2	1	1	0	1	0	0	0	2	0	1	8
5:30	5:45	0	3	0	0	0	1	1	1	1	0	0	0	7
5:45	6:00	0	1	1	0	0	0	0	6	1	0	0	0	9
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		7	17	5	5	0	6	5	18	6	8	1	6	84
Peak Hour		6	10	3	4	0	4	1	8	3	6	1	5	51

BICYCLES

TIME		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL
STARTING	ENDING	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right	Through	Left	
4:00	4:15	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15	4:30	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30	4:45	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45	5:00	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	5:15	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15	5:30	0	1	0	0	0	0	0	0	0	0	0	0	1
5:30	5:45	0	0	0	0	1	0	0	0	0	0	0	0	1
5:45	6:00	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		0	1	0	0	1	0	0	0	0	0	0	0	2
Peak Hour		0	0	0	0	0	0	0	0	0	0	0	0	0

PEDESTRIANS

TIME		CROSSINGS			
STARTING	ENDING	South Leg	West Leg	North Leg	East Leg
4:00	4:15	0	0	0	0
4:15	4:30	3	0	0	0
4:30	4:45	0	0	0	0
4:45	5:00	0	0	0	0
5:00	5:15	3	0	0	0
5:15	5:30	0	0	0	0
5:30	5:45	0	0	0	0
5:45	6:00	0	0	0	0
6:00	6:15	0	0	0	0
6:15	6:30	0	0	0	0
6:30	6:45	0	0	0	0
6:45	7:00	0	0	0	0
7:00	7:15	0	0	0	0
7:15	7:30	0	0	0	0
7:30	7:45	0	0	0	0
7:45	8:00	0	0	0	0
TOTAL		6	0	0	0
Peak Hour		6	0	0	0

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Project #: 1644

PEAK HOUR TRAFFIC COUNT SUMMARY

Count Location: Redmond OR

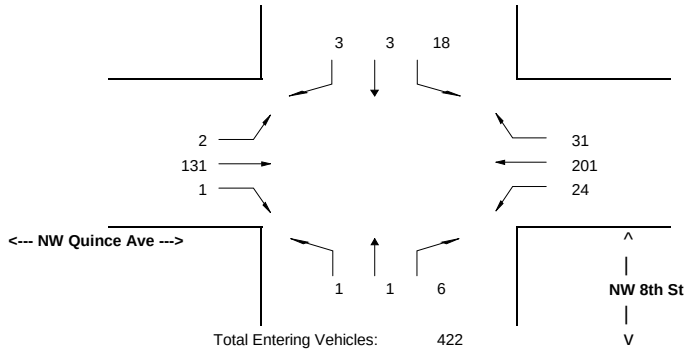
East-West Street Name: NW Quince Ave

Count Date(s): Wednesday, April 28, 2021

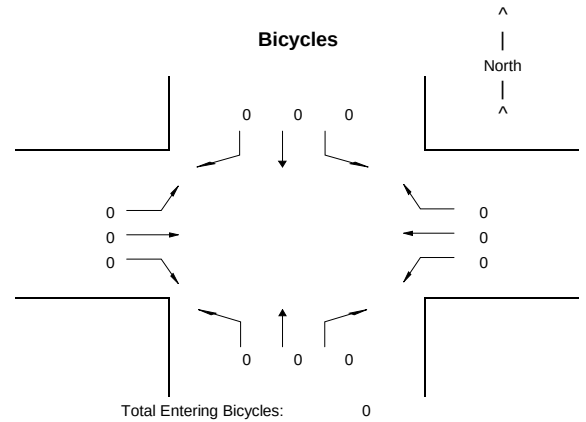
North-South Street Name: NW 8th St

Peak Hour: 4:30 to 5:30 p.m.

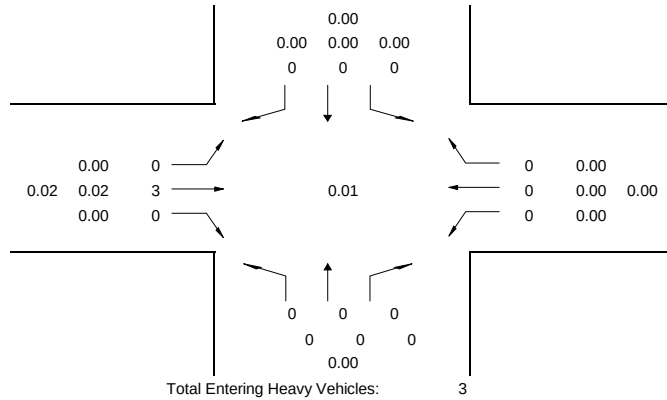
Vehicles per Hour (all vehicles)



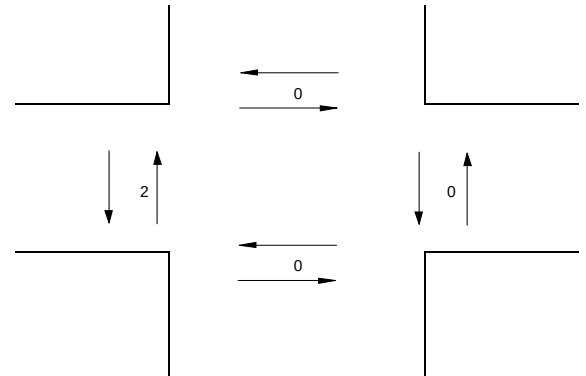
Bicycles



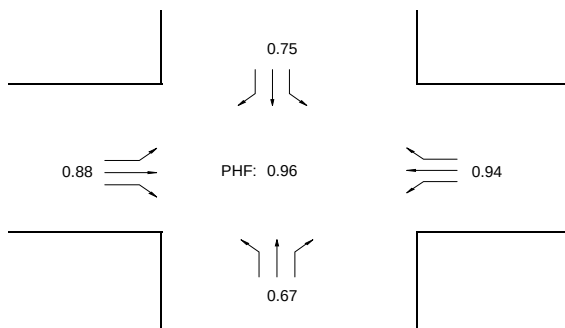
Heavy Vehicles (trucks per hour)



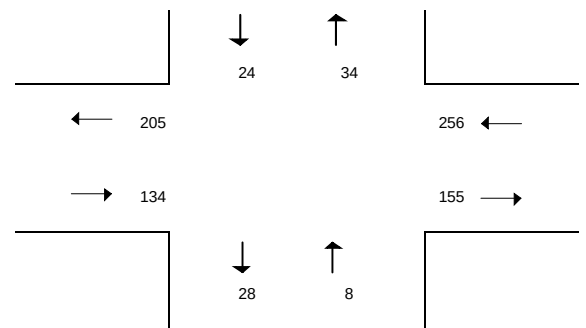
Pedestrians (crossings per hour)



Peak Hour Factor by Approach



Approach & Departure Volumes (vehicles per hour)



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Project #: 1644

PEAK PERIOD TRAFFIC COUNT -- DETAILED COUNT DATA

Count Location: Redmond OR

East-West Street Name: NW Quince Ave

Count Date(s): Wednesday, April 28, 2021

North-South Street Name: NW 8th St

Peak Hour: 4:30 to 5:30 p.m.

ALL VEHICLES

TIME		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL
STARTING	ENDING	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right	Through	Left	
4:00	4:15	1	0	2	1	37	0	1	0	3	12	45	6	108
4:15	4:30	4	0	0	0	41	1	0	0	5	6	32	3	92
4:30	4:45	1	0	0	1	36	1	1	1	3	11	49	3	107
4:45	5:00	2	0	0	0	37	0	1	2	5	9	47	7	110
5:00	5:15	2	0	1	0	33	0	0	0	7	4	54	4	105
5:15	5:30	1	1	0	0	25	1	1	0	3	7	51	10	100
5:30	5:45	4	0	0	1	31	0	0	0	3	9	49	8	105
5:45	6:00	1	0	1	0	24	0	2	0	5	5	50	11	99
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		16	1	4	3	264	3	6	3	34	63	377	52	826
Peak Hour		6	1	1	1	131	2	3	3	18	31	201	24	422

HEAVY VEHICLES

TIME		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL
STARTING	ENDING	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right	Through	Left	
4:00	4:15	0	0	0	0	2	0	0	0	0	0	0	0	2
4:15	4:30	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30	4:45	0	0	0	0	1	0	0	0	0	0	0	0	1
4:45	5:00	0	0	0	0	2	0	0	0	0	0	0	0	2
5:00	5:15	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15	5:30	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30	5:45	0	0	0	0	1	0	0	0	0	0	0	0	1
5:45	6:00	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		0	0	0	0	6	0	0	0	0	0	0	0	6
Peak Hour		0	0	0	0	3	0	0	0	0	0	0	0	3

BICYCLES

TIME		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL
STARTING	ENDING	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right	Through	Left	
4:00	4:15	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15	4:30	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30	4:45	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45	5:00	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	5:15	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15	5:30	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30	5:45	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45	6:00	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		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

PEDESTRIANS

TIME		CROSSINGS			
STARTING	ENDING	South Leg	West Leg	North Leg	East Leg
4:00	4:15	0	0	0	0
4:15	4:30	0	0	0	0
4:30	4:45	0	2	0	0
4:45	5:00	0	0	0	0
5:00	5:15	0	0	0	0
5:15	5:30	0	0	0	0
5:30	5:45	0	1	0	0
5:45	6:00	0	0	0	0
6:00	6:15	0	0	0	0
6:15	6:30	0	0	0	0
6:30	6:45	0	0	0	0
6:45	7:00	0	0	0	0
7:00	7:15	0	0	0	0
7:15	7:30	0	0	0	0
7:30	7:45	0	0	0	0
7:45	8:00	0	0	0	0
TOTAL		0	3	0	0
Peak Hour		0	2	0	0

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Project #: 1644

PEAK HOUR TRAFFIC COUNT SUMMARY

Count Location: Redmond OR

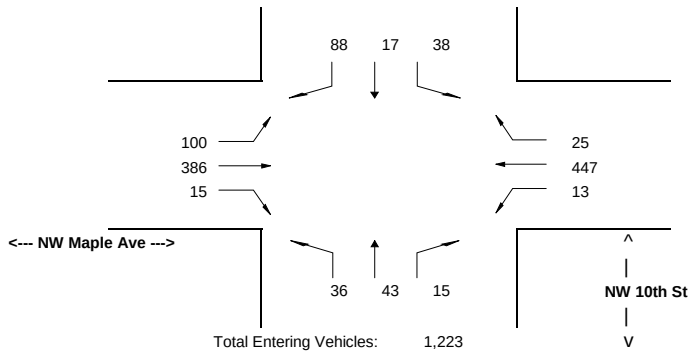
East-West Street Name: NW Maple Ave

Count Date(s): Tuesday, May 04, 2021

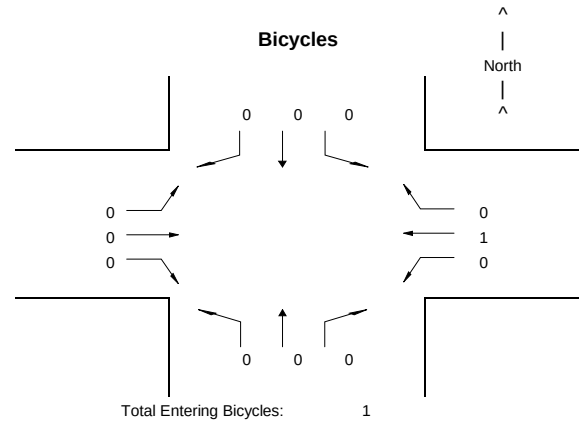
North-South Street Name: NW 10th St

Peak Hour: 4:30 to 5:30 p.m.

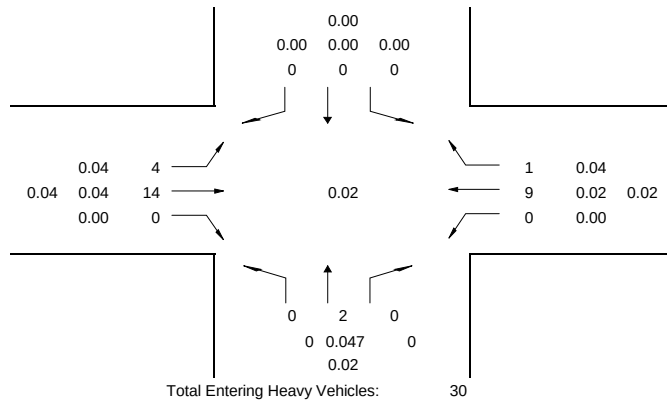
Vehicles per Hour (all vehicles)



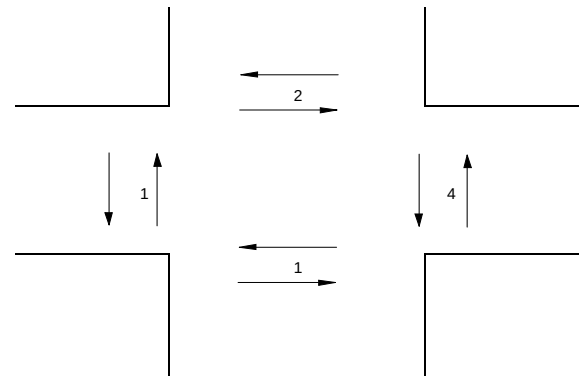
Bicycles



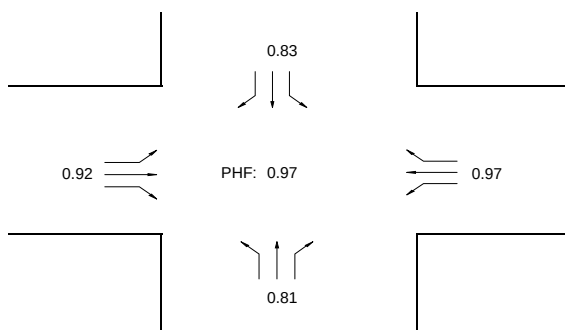
Heavy Vehicles (trucks per hour)



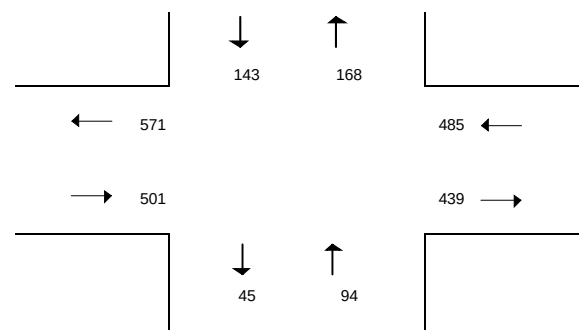
Pedestrians (crossings per hour)



Peak Hour Factor by Approach



Approach & Departure Volumes (vehicles per hour)



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Project #: 1644

PEAK PERIOD TRAFFIC COUNT -- DETAILED COUNT DATA

Count Location: Redmond OR

East-West Street Name:

NW Maple Ave

Count Date(s): Tuesday, May 04, 2021

North-South Street Name:

NW 10th St

Peak Hour:

4:30 to 5:30 p.m.

ALL VEHICLES

TIME		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL
STARTING	ENDING	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right	Through	Left	
4:00	4:15	1	12	15	5	90	23	14	3	4	8	95	7	277
4:15	4:30	6	6	18	4	87	23	18	8	6	5	111	1	293
4:30	4:45	5	8	15	7	97	19	27	5	8	6	114	5	316
4:45	5:00	3	8	1	3	109	24	17	4	5	7	112	6	299
5:00	5:15	4	18	7	4	93	28	22	4	8	3	115	0	306
5:15	5:30	3	9	13	1	87	29	22	4	17	9	106	2	302
5:30	5:45	3	9	7	5	81	24	30	5	6	12	118	3	303
5:45	6:00	4	4	12	3	88	17	15	5	11	9	108	4	280
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		29	74	88	32	732	187	165	38	65	59	879	28	2,376
Peak Hour		15	43	36	15	386	100	88	17	38	25	447	13	1,223

HEAVY VEHICLES

TIME		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL
STARTING	ENDING	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right	Through	Left	
4:00	4:15	0	0	0	0	6	1	2	0	0	1	5	0	15
4:15	4:30	0	0	0	0	9	1	1	0	0	1	5	0	17
4:30	4:45	0	1	0	0	6	0	0	0	0	0	6	0	13
4:45	5:00	0	1	0	0	4	1	0	0	0	1	0	0	7
5:00	5:15	0	0	0	0	1	1	0	0	0	0	2	0	4
5:15	5:30	0	0	0	0	3	2	0	0	0	0	1	0	6
5:30	5:45	0	0	0	0	3	1	1	0	0	0	3	0	8
5:45	6:00	0	0	0	0	3	0	0	0	0	0	3	0	6
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		0	2	0	0	35	7	4	0	0	3	25	0	76
Peak Hour		0	2	0	0	14	4	0	0	0	1	9	0	30

BICYCLES

TIME		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL
STARTING	ENDING	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right	Through	Left	
4:00	4:15	0	0	0	0	1	0	0	0	0	0	0	0	1
4:15	4:30	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30	4:45	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45	5:00	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	5:15	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15	5:30	0	0	0	0	0	0	0	0	0	0	1	0	1
5:30	5:45	0	3	0	0	0	0	0	0	0	0	1	0	4
5:45	6:00	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		0	3	0	0	1	0	0	0	0	0	2	0	6
Peak Hour		0	0	0	0	0	0	0	0	0	0	1	0	1

PEDESTRIANS

TIME		CROSSINGS			
STARTING	ENDING	South Leg	West Leg	North Leg	East Leg
4:00	4:15	0	0	0	0
4:15	4:30	0	0	0	0
4:30	4:45	0	0	0	3
4:45	5:00	0	0	1	0
5:00	5:15	1	1	0	1
5:15	5:30	0	0	1	0
5:30	5:45	1	0	0	0
5:45	6:00	0	0	0	1
6:00	6:15	0	0	0	0
6:15	6:30	0	0	0	0
6:30	6:45	0	0	0	0
6:45	7:00	0	0	0	0
7:00	7:15	0	0	0	0
7:15	7:30	0	0	0	0
7:30	7:45	0	0	0	0
7:45	8:00	0	0	0	0
TOTAL		2	1	2	5
Peak Hour		1	1	2	4

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Project #: 1644

PEAK HOUR TRAFFIC COUNT SUMMARY

Count Location: Redmond OR

East-West Street Name:

Pershall

Count Date(s): Thursday, May 13, 2021

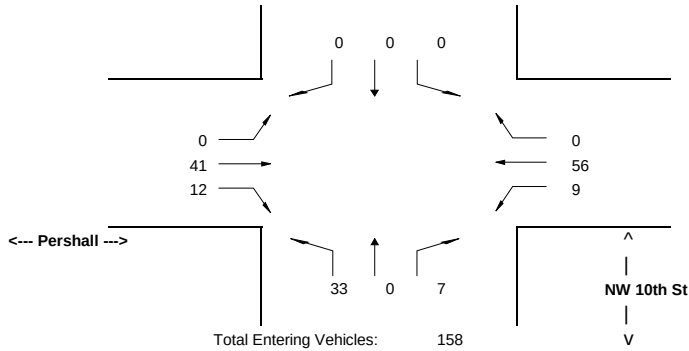
North-South Street Name:

NW 10th St

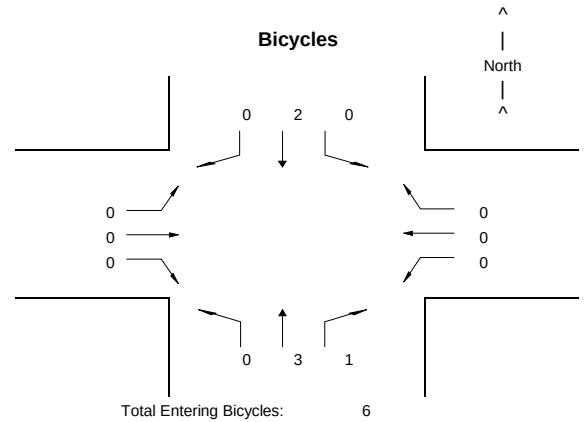
Peak Hour:

4:30 to 5:30 p.m.

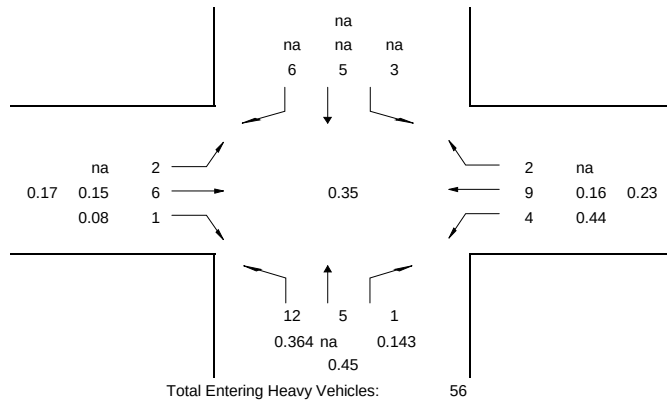
Vehicles per Hour (all vehicles)



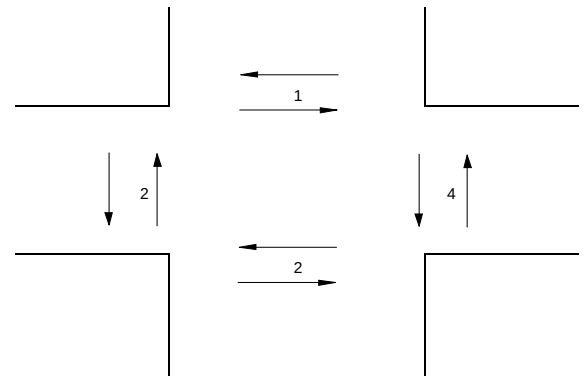
Bicycles



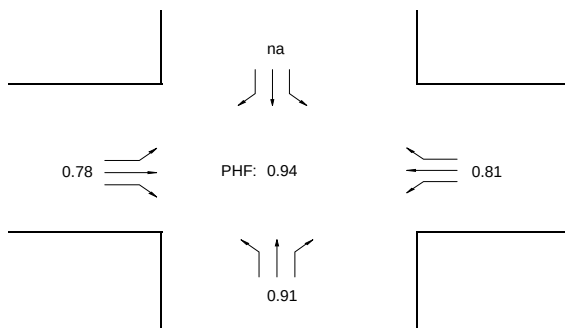
Heavy Vehicles (trucks per hour)



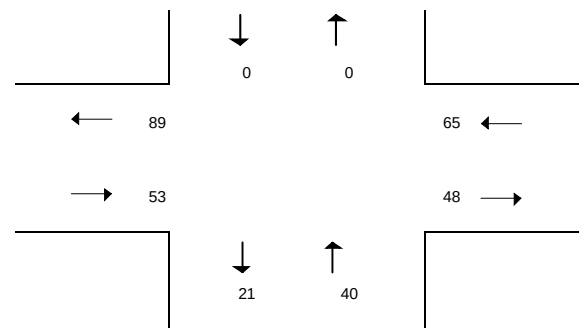
Pedestrians (crossings per hour)



Peak Hour Factor by Approach



Approach & Departure Volumes (vehicles per hour)



Ferguson & Associates, Inc

PO Box 1994
Redmond, OR 97756

Phone: 541-617-9352

gscott@traffic-team.us

Project #: 1644

PEAK PERIOD TRAFFIC COUNT -- DETAILED COUNT DATA

Count Location: Redmond OR

East-West Street Name:

Pershall

Count Date(s): Thursday, May 13, 2021

North-South Street Name:

NW 10th St

Peak Hour:

4:30 to 5:30 p.m.

ALL VEHICLES

TIME		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL
STARTING	ENDING	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right	Through	Left	
4:00	4:15	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15	4:30	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30	4:45	5	0	5	2	9	0	0	0	0	0	15	5	41
4:45	5:00	1	0	10	5	8	0	0	0	0	0	16	2	42
5:00	5:15	1	0	8	3	14	0	0	0	0	0	10	1	37
5:15	5:30	0	0	10	2	10	0	0	0	0	0	15	1	38
5:30	5:45	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45	6:00	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		7	0	33	12	41	0	0	0	0	0	56	9	158
Peak Hour		7	0	33	12	41	0	0	0	0	0	56	9	158

HEAVY VEHICLES

TIME		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL
STARTING	ENDING	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right	Through	Left	
4:00	4:15	0	1	1	0	2	1	1	1	0	0	2	0	9
4:15	4:30	0	1	1	1	0	1	3	0	1	0	1	1	10
4:30	4:45	0	1	3	0	1	0	1	1	0	1	1	2	11
4:45	5:00	0	3	3	0	2	1	1	1	1	1	3	2	18
5:00	5:15	1	1	3	1	1	1	1	1	1	0	3	0	14
5:15	5:30	0	0	3	0	2	0	3	2	1	0	2	0	13
5:30	5:45	2	5	2	0	1	1	0	2	0	0	0	0	13
5:45	6:00	0	1	1	0	0	0	1	0	0	0	1	1	5
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		3	13	17	2	9	5	11	8	4	2	13	6	93
Peak Hour		1	5	12	1	6	2	6	5	3	2	9	4	56

BICYCLES

TIME		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL
STARTING	ENDING	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right	Through	Left	
4:00	4:15	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15	4:30	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30	4:45	1	0	0	0	0	0	0	1	0	0	0	0	2
4:45	5:00	0	0	0	0	0	0	0	1	0	0	0	0	1
5:00	5:15	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15	5:30	0	3	0	0	0	0	0	0	0	0	0	0	3
5:30	5:45	0	1	0	0	0	0	1	0	0	0	1	0	3
5:45	6:00	0	0	0	0	1	0	0	0	0	0	0	0	1
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		1	4	0	0	1	0	1	2	0	0	1	0	10
Peak Hour		1	3	0	0	0	0	0	2	0	0	0	0	6

PEDESTRIANS

TIME		CROSSINGS			
STARTING	ENDING	South Leg	West Leg	North Leg	East Leg
4:00	4:15	0	0	0	0
4:15	4:30	0	0	0	0
4:30	4:45	0	1	0	1
4:45	5:00	0	0	0	2
5:00	5:15	1	1	0	1
5:15	5:30	1	0	1	0
5:30	5:45	0	2	1	1
5:45	6:00	1	1	2	0
6:00	6:15	0	0	0	0
6:15	6:30	0	0	0	0
6:30	6:45	0	0	0	0
6:45	7:00	0	0	0	0
7:00	7:15	0	0	0	0
7:15	7:30	0	0	0	0
7:30	7:45	0	0	0	0
7:45	8:00	0	0	0	0
TOTAL		3	5	4	5
Peak Hour		2	2	1	4

Ferguson & Associates, Inc

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Redmond, OR 97756

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Project #: 1644

PEAK HOUR TRAFFIC COUNT SUMMARY

Count Location: Redmond OR

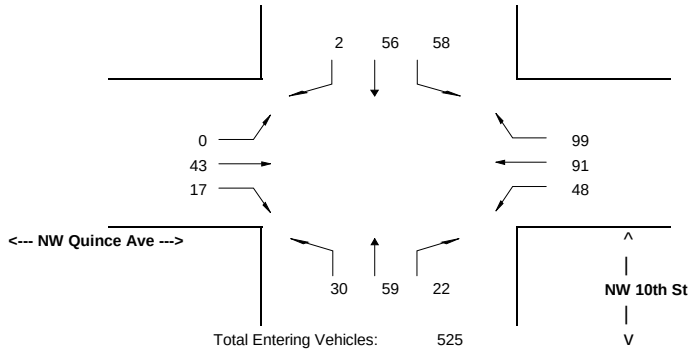
East-West Street Name: NW Quince Ave

Count Date(s): Tuesday, April 27, 2021

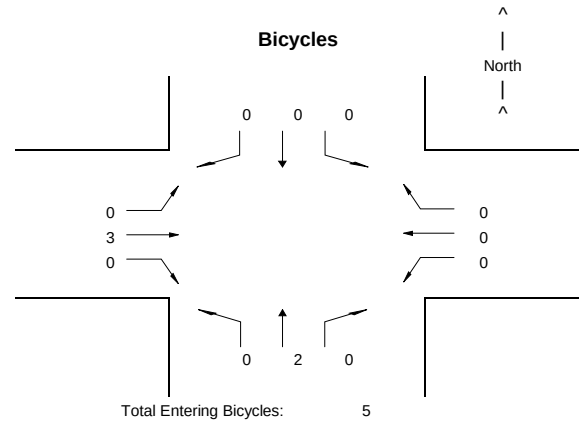
North-South Street Name: NW 10th St

Peak Hour: 4:45 to 5:45 p.m.

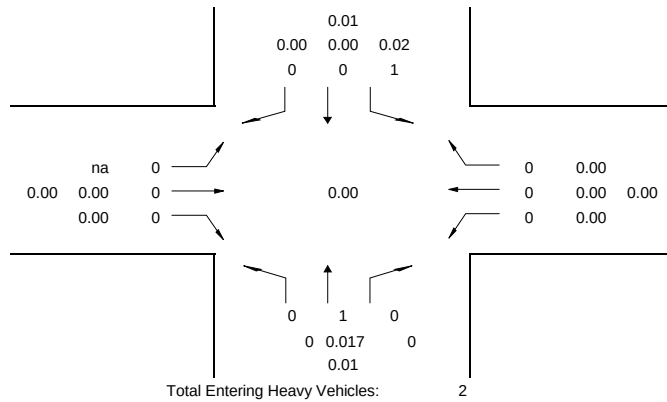
Vehicles per Hour (all vehicles)



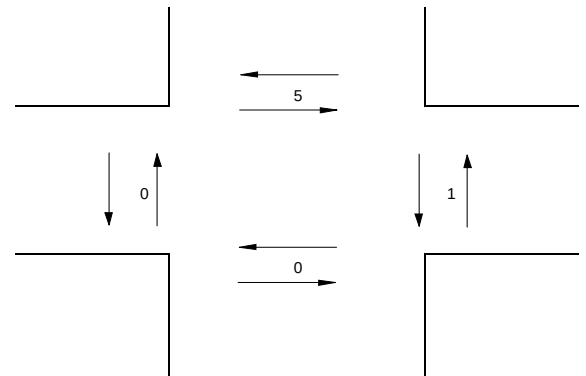
Bicycles



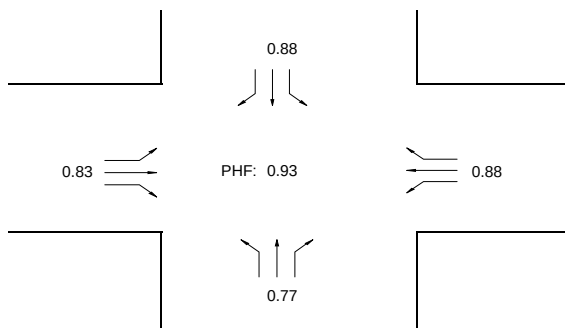
Heavy Vehicles (trucks per hour)



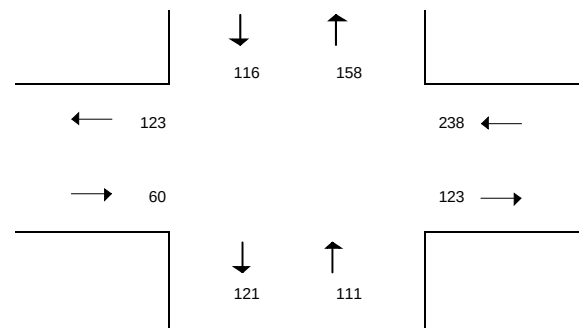
Pedestrians (crossings per hour)



Peak Hour Factor by Approach



Approach & Departure Volumes (vehicles per hour)



Ferguson & Associates, Inc

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Redmond, OR 97756

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Project #: 1644

PEAK PERIOD TRAFFIC COUNT -- DETAILED COUNT DATA

Count Location: Redmond OR

East-West Street Name:

NW Quince Ave

Count Date(s): Tuesday, April 27, 2021

North-South Street Name:

NW 10th St

Peak Hour:

4:45 to 5:45 p.m.

ALL VEHICLES

TIME		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL
STARTING	ENDING	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right	Through	Left	
4:00	4:15	8	2	7	4	12	0	0	15	23	17	20	15	123
4:15	4:30	11	11	4	6	18	0	0	9	15	13	25	7	119
4:30	4:45	5	15	6	7	9	0	0	6	13	18	26	12	117
4:45	5:00	9	19	8	5	11	0	0	14	14	25	22	14	141
5:00	5:15	4	18	6	5	13	0	0	14	16	16	27	6	125
5:15	5:30	3	14	7	3	11	0	2	13	10	32	20	16	131
5:30	5:45	6	8	9	4	8	0	0	15	18	26	22	12	128
5:45	6:00	6	9	6	5	7	0	0	10	8	8	20	6	85
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		52	96	53	39	89	0	2	96	117	155	182	88	969
Peak Hour		22	59	30	17	43	0	2	56	58	99	91	48	525

HEAVY VEHICLES

TIME		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL
STARTING	ENDING	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right	Through	Left	
4:00	4:15	0	0	0	0	0	0	0	0	2	0	1	0	3
4:15	4:30	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30	4:45	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45	5:00	0	1	0	0	0	0	0	0	1	0	0	0	2
5:00	5:15	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15	5:30	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30	5:45	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45	6:00	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		0	1	0	0	0	0	0	0	3	0	1	0	5
Peak Hour		0	1	0	0	0	0	0	0	1	0	0	0	2

BICYCLES

TIME		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL
STARTING	ENDING	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right	Through	Left	
4:00	4:15	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15	4:30	0	1	0	0	0	0	0	0	0	0	1	0	2
4:30	4:45	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45	5:00	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	5:15	0	0	0	0	1	0	0	0	0	0	0	0	1
5:15	5:30	0	2	0	0	2	0	0	0	0	0	0	0	4
5:30	5:45	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45	6:00	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		0	3	0	0	3	0	0	0	0	0	1	0	7
Peak Hour		0	2	0	0	3	0	0	0	0	0	0	0	5

PEDESTRIANS

TIME		CROSSINGS			
STARTING	ENDING	South Leg	West Leg	North Leg	East Leg
4:00	4:15	1	0	0	2
4:15	4:30	0	1	1	1
4:30	4:45	0	0	2	0
4:45	5:00	0	0	2	0
5:00	5:15	0	0	0	0
5:15	5:30	0	0	3	0
5:30	5:45	0	0	0	1
5:45	6:00	0	0	0	1
6:00	6:15	0	0	0	0
6:15	6:30	0	0	0	0
6:30	6:45	0	0	0	0
6:45	7:00	0	0	0	0
7:00	7:15	0	0	0	0
7:15	7:30	0	0	0	0
7:30	7:45	0	0	0	0
7:45	8:00	0	0	0	0
TOTAL		1	1	8	5
Peak Hour		0	0	5	1

Ferguson & Associates, Inc

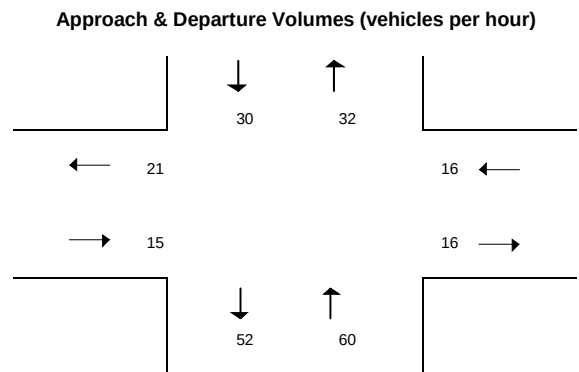
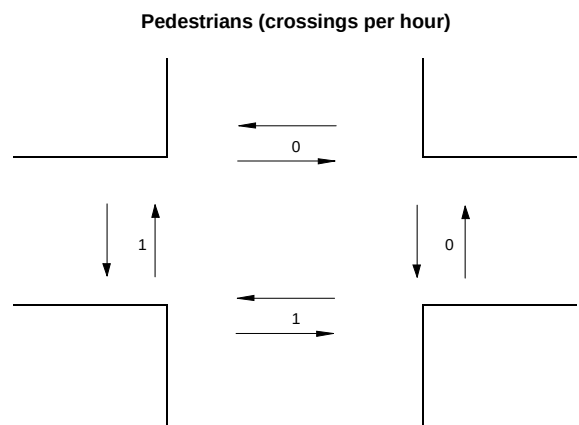
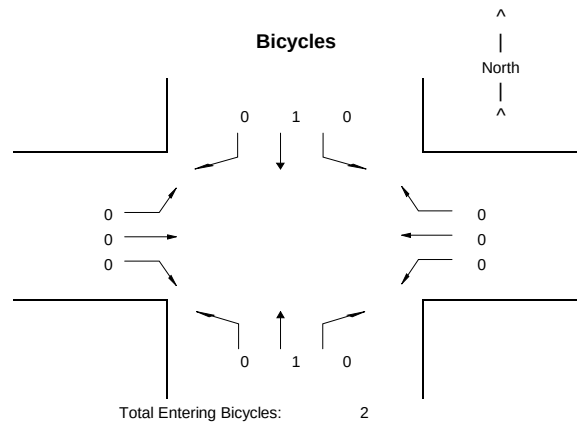
PO Box 1994
Redmond, OR 97756

Phone: 541-617-9352

gscott@traffic-team.us

Project #: 1644

Peak Hour: 5:00 to 6:00 p.m.



PEAK PERIOD TRAFFIC COUNT -- DETAILED COUNT DATA

Count Location: Redmond OR

East-West Street Name: NW Upas Ave

Count Date(s): Tuesday, May 04, 2021

North-South Street Name: NW 10th St

Peak Hour: 5:00 to 6:00 p.m.

ALL VEHICLES

TIME		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL
STARTING	ENDING	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right	Through	Left	
4:00	4:15	2	10	5	1	0	1	0	8	1	1	0	5	34
4:15	4:30	1	6	6	9	0	1	1	2	0	0	1	0	27
4:30	4:45	4	9	6	5	1	0	1	5	0	0	0	1	32
4:45	5:00	3	6	3	4	0	1	0	3	1	1	1	3	26
5:00	5:15	5	5	3	1	0	0	0	8	0	1	0	8	31
5:15	5:30	4	4	3	2	0	1	1	8	1	0	0	2	26
5:30	5:45	4	7	7	4	0	1	2	7	0	0	0	3	35
5:45	6:00	2	12	4	5	0	1	0	3	0	0	1	1	29
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		25	59	37	31	1	6	5	44	3	3	3	23	240
Peak Hour		15	28	17	12	0	3	3	26	1	1	1	14	121

HEAVY VEHICLES

TIME		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL
STARTING	ENDING	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right	Through	Left	
4:00	4:15	0	1	0	0	0	0	0	0	0	0	0	0	1
4:15	4:30	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30	4:45	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45	5:00	0	1	0	0	0	0	0	0	0	0	0	0	1
5:00	5:15	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15	5:30	0	1	0	0	0	0	0	0	0	0	0	0	1
5:30	5:45	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45	6:00	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		0	3	0	0	0	0	0	0	0	0	0	0	3
Peak Hour		0	1	0	0	0	0	0	0	0	0	0	0	1

BICYCLES

TIME		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL
STARTING	ENDING	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right	Through	Left	
4:00	4:15	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15	4:30	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30	4:45	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45	5:00	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	5:15	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15	5:30	0	1	0	0	0	0	0	0	0	0	0	0	1
5:30	5:45	0	0	0	0	0	0	0	1	0	0	0	0	1
5:45	6:00	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		0	1	0	0	0	0	0	1	0	0	0	0	2
Peak Hour		0	1	0	0	0	0	0	1	0	0	0	0	2

PEDESTRIANS

TIME		CROSSINGS			
STARTING	ENDING	South Leg	West Leg	North Leg	East Leg
4:00	4:15	0	0	0	0
4:15	4:30	0	0	0	0
4:30	4:45	0	0	0	0
4:45	5:00	0	0	0	0
5:00	5:15	1	0	0	0
5:15	5:30	0	1	0	0
5:30	5:45	0	0	0	0
5:45	6:00	0	0	0	0
6:00	6:15	0	0	0	0
6:15	6:30	0	0	0	0
6:30	6:45	0	0	0	0
6:45	7:00	0	0	0	0
7:00	7:15	0	0	0	0
7:15	7:30	0	0	0	0
7:30	7:45	0	0	0	0
7:45	8:00	0	0	0	0
TOTAL		1	1	0	0
Peak Hour		1	1	0	0

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Project #: 1644

PEAK HOUR TRAFFIC COUNT SUMMARY

Count Location: Redmond OR

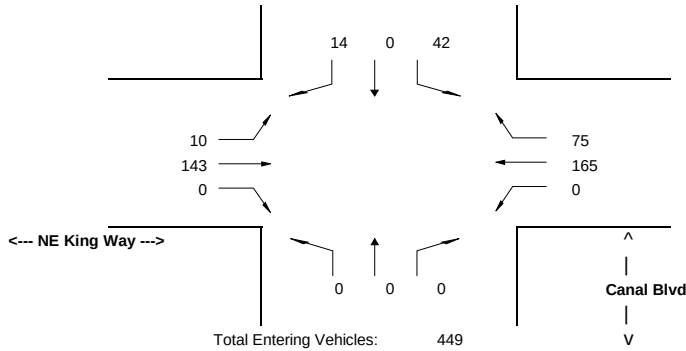
East-West Street Name: NE King Way

Count Date(s): Thursday, May 13, 2021

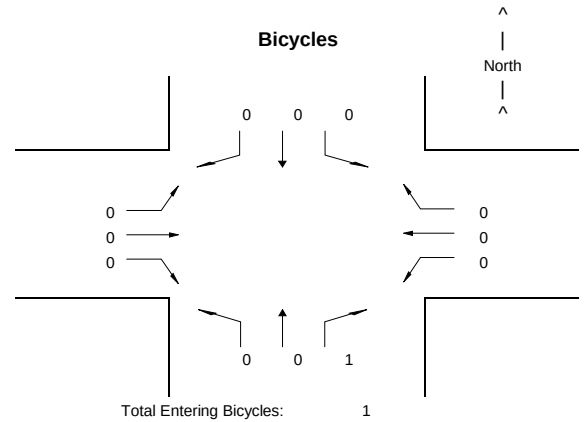
North-South Street Name: Canal Blvd

Peak Hour: 4:30 to 5:30 p.m.

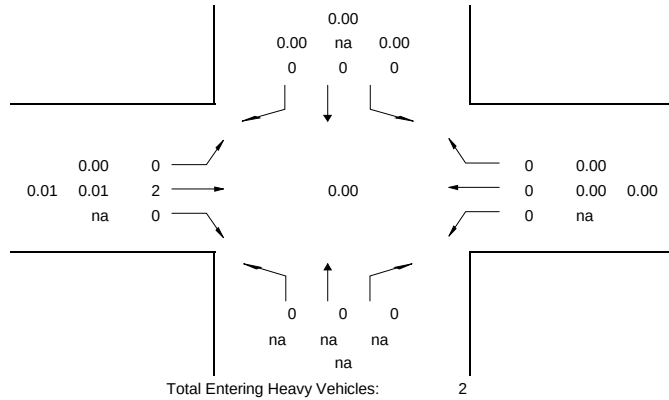
Vehicles per Hour (all vehicles)



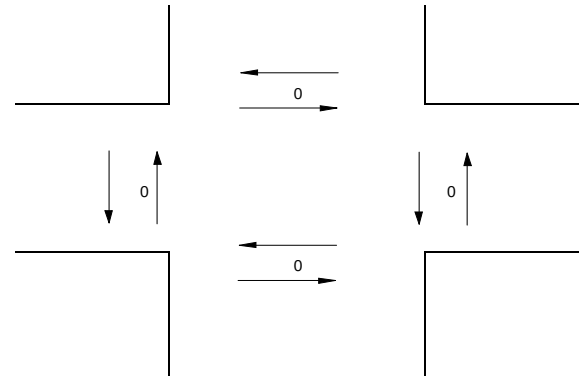
Bicycles



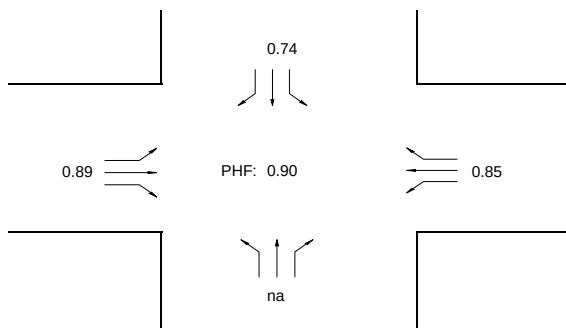
Heavy Vehicles (trucks per hour)



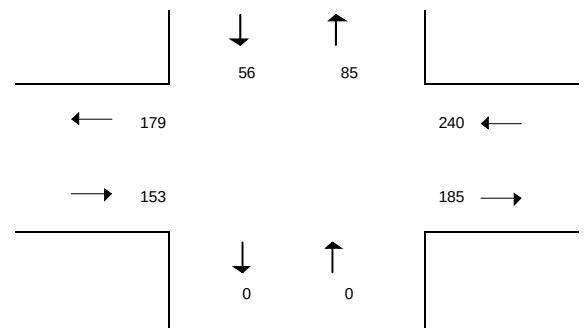
Pedestrians (crossings per hour)



Peak Hour Factor by Approach



Approach & Departure Volumes (vehicles per hour)



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Project #: 1644

PEAK PERIOD TRAFFIC COUNT -- DETAILED COUNT DATA

Count Location: Redmond OR

East-West Street Name: NE King Way

Canal Blvd

Count Date(s): Thursday, May 13, 2021

North-South Street Name: Canal Blvd

Peak Hour: 4:30 to 5:30 p.m.

ALL VEHICLES

TIME		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL
STARTING	ENDING	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right	Through	Left	
4:00	4:15	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15	4:30	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30	4:45	0	0	0	0	35	0	4	0	10	9	39	0	97
4:45	5:00	0	0	0	0	39	4	2	0	9	31	40	0	125
5:00	5:15	0	0	0	0	29	4	2	0	10	17	48	0	110
5:15	5:30	0	0	0	0	40	2	6	0	13	18	38	0	117
5:30	5:45	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45	6:00	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		0	0	0	0	143	10	14	0	42	75	165	0	449
Peak Hour		0	0	0	0	143	10	14	0	42	75	165	0	449

HEAVY VEHICLES

TIME		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL
STARTING	ENDING	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right	Through	Left	
4:00	4:15	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15	4:30	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30	4:45	0	0	0	0	1	0	0	0	0	0	0	0	1
4:45	5:00	0	0	0	0	1	0	0	0	0	0	0	0	1
5:00	5:15	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15	5:30	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30	5:45	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45	6:00	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		0	0	0	0	2	0	0	0	0	0	0	0	2
Peak Hour		0	0	0	0	2	0	0	0	0	0	0	0	2

BICYCLES

TIME		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL
STARTING	ENDING	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right	Through	Left	
4:00	4:15	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15	4:30	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30	4:45	1	0	0	0	0	0	0	0	0	0	0	0	1
4:45	5:00	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	5:15	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15	5:30	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30	5:45	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45	6:00	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		1	0	0	0	0	0	0	0	0	0	0	0	1
Peak Hour		1	0	0	0	0	0	0	0	0	0	0	0	1

PEDESTRIANS

TIME		CROSSINGS			
STARTING	ENDING	South Leg	West Leg	North Leg	East Leg
4:00	4:15	0	0	0	0
4:15	4:30	0	0	0	0
4:30	4:45	0	0	0	0
4:45	5:00	0	0	0	0
5:00	5:15	0	0	0	0
5:15	5:30	0	0	0	0
5:30	5:45	0	0	0	0
5:45	6:00	0	0	0	0
6:00	6:15	0	0	0	0
6:15	6:30	0	0	0	0
6:30	6:45	0	0	0	0
6:45	7:00	0	0	0	0
7:00	7:15	0	0	0	0
7:15	7:30	0	0	0	0
7:30	7:45	0	0	0	0
7:45	8:00	0	0	0	0
TOTAL		0	0	0	0
Peak Hour		0	0	0	0

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Project #: 1644

PEAK HOUR TRAFFIC COUNT SUMMARY

Count Location: Redmond OR

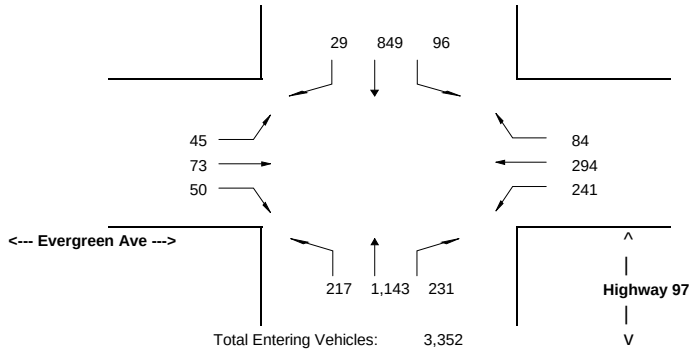
East-West Street Name: Evergreen Ave

Count Date(s): Wednesday, April 28, 2021

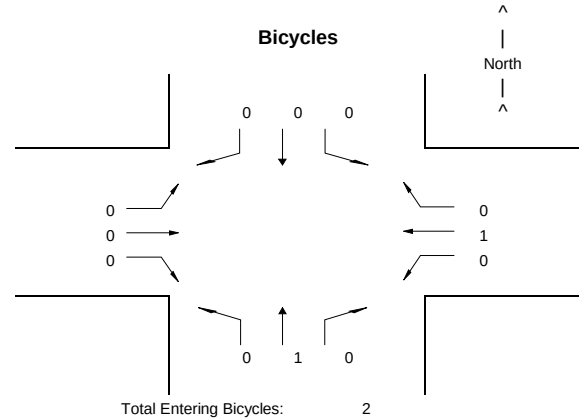
North-South Street Name: Highway 97

Peak Hour: 4:15 to 5:15 p.m.

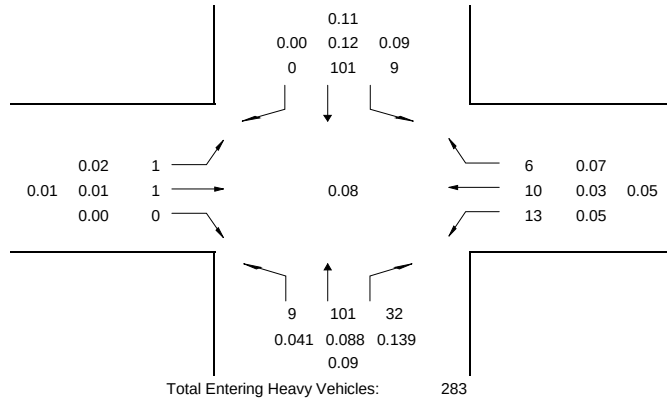
Vehicles per Hour (all vehicles)



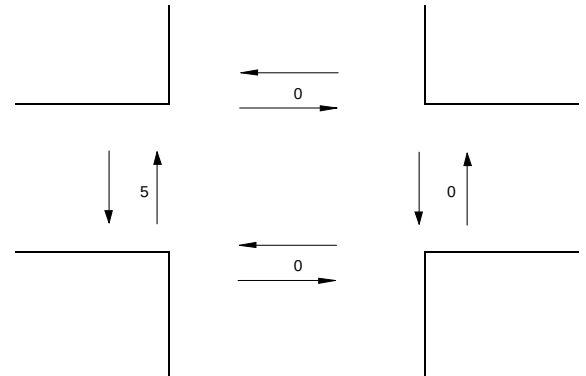
Bicycles



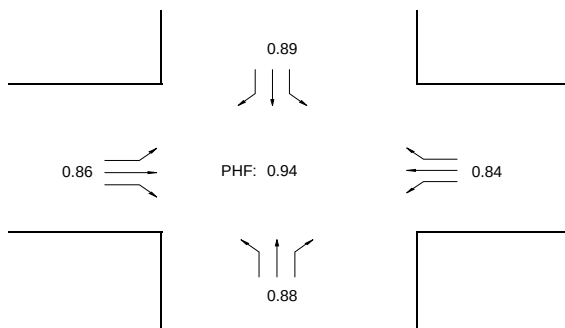
Heavy Vehicles (trucks per hour)



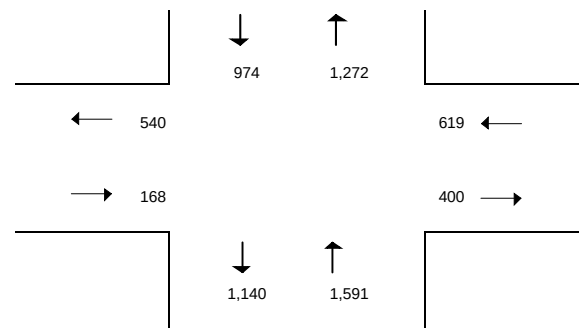
Pedestrians (crossings per hour)



Peak Hour Factor by Approach



Approach & Departure Volumes (vehicles per hour)



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Project #: 1645

PEAK PERIOD TRAFFIC COUNT -- DETAILED COUNT DATA

Count Location: Redmond OR

East-West Street Name: Evergreen Ave

Highway 97

Count Date(s): Wednesday, April 28, 2021

North-South Street Name: Highway 97

Peak Hour: 4:15 to 5:15 p.m.

ALL VEHICLES

TIME		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL
STARTING	ENDING	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right	Through	Left	
4:00	4:15	53	246	40	25	22	12	7	227	25	15	74	55	801
4:15	4:30	66	260	64	12	14	8	7	232	33	13	82	58	849
4:30	4:45	56	298	47	9	22	8	7	192	21	25	54	55	794
4:45	5:00	42	255	51	15	22	12	12	239	22	25	64	58	817
5:00	5:15	67	330	55	14	15	17	3	186	20	21	94	70	892
5:15	5:30	43	294	39	17	23	10	3	214	24	18	58	59	802
5:30	5:45	53	250	59	13	15	12	6	178	15	22	56	40	719
5:45	6:00	40	250	34	18	13	11	10	179	14	11	43	38	661
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		420	2,183	389	123	146	90	55	1,647	174	150	525	433	6,335
Peak Hour		231	1,143	217	50	73	45	29	849	96	84	294	241	3,352

HEAVY VEHICLES

TIME		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL
STARTING	ENDING	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right	Through	Left	
4:00	4:15	9	23	0	1	2	0	0	33	3	1	1	6	79
4:15	4:30	10	26	4	0	0	1	0	25	2	3	1	2	74
4:30	4:45	7	28	3	0	1	0	0	25	2	2	2	6	76
4:45	5:00	7	19	1	0	0	0	0	30	3	0	4	4	68
5:00	5:15	8	28	1	0	0	0	0	21	2	1	3	1	65
5:15	5:30	3	28	1	1	0	0	0	26	3	2	1	6	71
5:30	5:45	4	23	0	0	0	0	1	23	1	0	2	5	59
5:45	6:00	4	20	1	1	0	1	3	25	2	1	2	5	65
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		52	195	11	3	3	2	4	208	18	10	16	35	557
Peak Hour		32	101	9	0	1	1	0	101	9	6	10	13	283

BICYCLES

TIME		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL
STARTING	ENDING	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right	Through	Left	
4:00	4:15	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15	4:30	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30	4:45	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45	5:00	0	1	0	0	0	0	0	0	0	0	1	0	2
5:00	5:15	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15	5:30	0	0	0	0	1	0	0	0	0	0	0	0	1
5:30	5:45	0	0	0	0	0	0	0	33	0	0	1	0	1
5:45	6:00	0	0	0	0	0	0	0	0	0	0	1	0	1
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		0	1	0	0	1	0	0	0	0	0	3	0	5
Peak Hour		0	1	0	0	0	0	0	0	0	0	1	0	2

PEDESTRIANS

TIME		CROSSINGS			
STARTING	ENDING	South Leg	West Leg	North Leg	East Leg
4:00	4:15	0	0	0	0
4:15	4:30	0	0	0	0
4:30	4:45	0	0	0	0
4:45	5:00	0	5	0	0
5:00	5:15	0	0	0	0
5:15	5:30	0	0	0	0
5:30	5:45	0	0	0	0
5:45	6:00	0	0	0	0
6:00	6:15	0	0	0	0
6:15	6:30	0	0	0	0
6:30	6:45	0	0	0	0
6:45	7:00	0	0	0	0
7:00	7:15	0	0	0	0
7:15	7:30	0	0	0	0
7:30	7:45	0	0	0	0
7:45	8:00	0	0	0	0
TOTAL		0	5	0	0
Peak Hour		0	5	0	0

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Project #: 1645

PEAK HOUR TRAFFIC COUNT SUMMARY

Count Location: Redmond OR

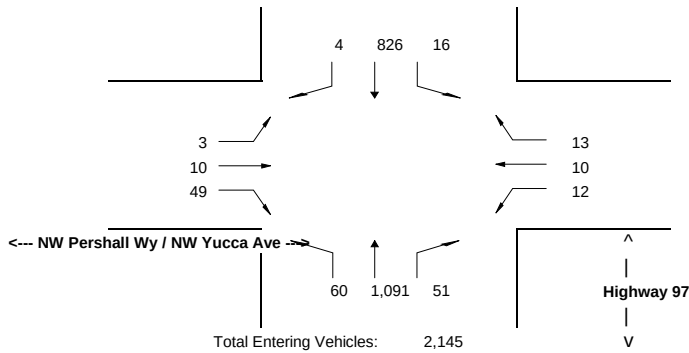
East-West Street Name: NW Pershall Wy / NW Yucca Ave

Count Date(s): Tuesday, April 27, 2021

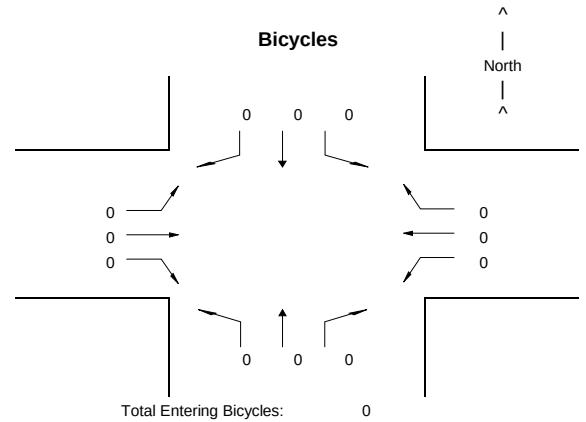
North-South Street Name: Highway 97

Peak Hour: 4:00 to 5:00 p.m.

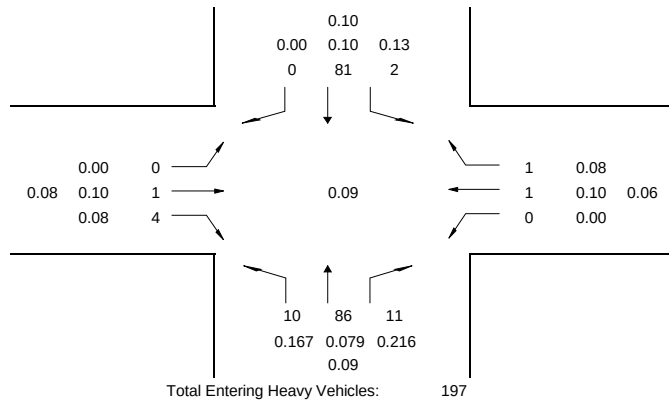
Vehicles per Hour (all vehicles)



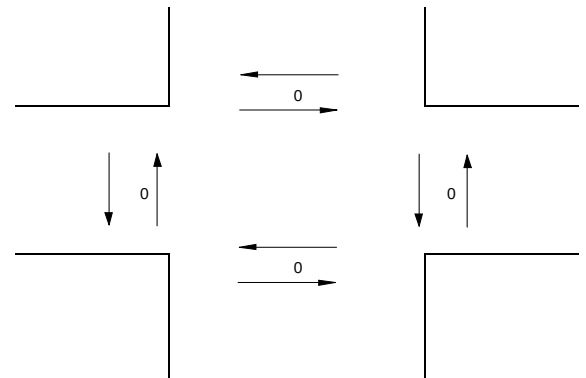
Bicycles



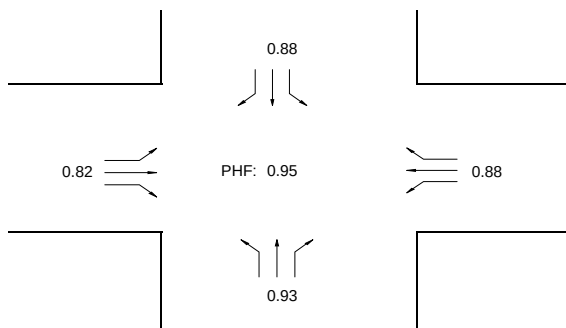
Heavy Vehicles (trucks per hour)



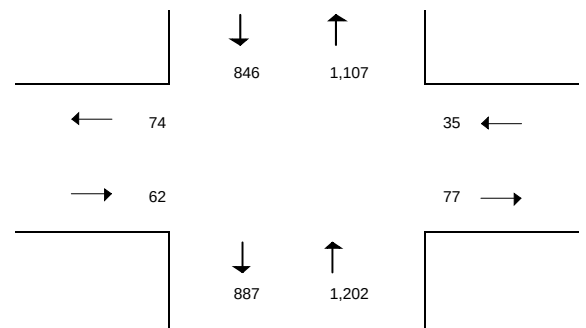
Pedestrians (crossings per hour)



Peak Hour Factor by Approach



Approach & Departure Volumes (vehicles per hour)



Ferguson & Associates, Inc

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Redmond, OR 97756

Phone: 541-617-9352

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Project #: 1644

PEAK PERIOD TRAFFIC COUNT -- DETAILED COUNT DATA

Count Location: Redmond OR

East-West Street Name:

NW Pershall Wy / NW Yucca Ave

Count Date(s): Tuesday, April 27, 2021

North-South Street Name:

Highway 97

Peak Hour:

4:00 to 5:00 p.m.

ALL VEHICLES

TIME		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL
STARTING	ENDING	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right	Through	Left	
4:00	4:15	10	267	19	17	2	0	1	234	4	3	4	3	564
4:15	4:30	10	271	12	10	2	2	1	195	3	6	2	2	516
4:30	4:45	15	266	10	9	2	1	2	190	6	0	1	4	506
4:45	5:00	16	287	19	13	4	0	0	207	3	4	3	3	559
5:00	5:15	12	309	15	11	1	1	1	165	5	9	1	5	535
5:15	5:30	10	278	8	13	1	1	2	150	1	2	2	5	473
5:30	5:45	11	277	15	11	1	1	1	171	5	6	1	2	502
5:45	6:00	9	234	11	7	0	3	0	170	1	3	2	1	441
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		93	2,189	109	91	13	9	8	1,482	28	33	16	25	4,096
Peak Hour		51	1,091	60	49	10	3	4	826	16	13	10	12	2,145

HEAVY VEHICLES

TIME		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL
STARTING	ENDING	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right	Through	Left	
4:00	4:15	3	19	2	2	0	0	0	24	0	1	0	0	51
4:15	4:30	1	25	2	1	0	0	0	19	0	0	1	0	49
4:30	4:45	4	18	1	0	0	0	0	22	1	0	0	0	46
4:45	5:00	3	24	5	1	1	0	0	16	1	0	0	0	51
5:00	5:15	4	27	2	1	0	0	0	10	1	1	0	0	46
5:15	5:30	2	28	0	2	0	0	0	14	1	0	0	0	47
5:30	5:45	1	28	2	0	0	0	0	14	1	0	0	0	46
5:45	6:00	0	24	3	0	0	0	0	17	0	1	0	0	45
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		18	193	17	7	1	0	0	136	5	3	1	0	381
Peak Hour		11	86	10	4	1	0	0	81	2	1	1	0	197

BICYCLES

TIME		NORTHBOUND			EASTBOUND			SOUTHBOUND			WESTBOUND			TOTAL
STARTING	ENDING	Right	Through	Left	Right	Through	Left	Right	Through	Left	Right	Through	Left	
4:00	4:15	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15	4:30	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30	4:45	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45	5:00	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00	5:15	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15	5:30	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30	5:45	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45	6:00	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00	6:15	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15	6:30	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30	6:45	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45	7:00	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15	7:30	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30	7:45	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45	8:00	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		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

PEDESTRIANS

TIME		CROSSINGS			
STARTING	ENDING	South Leg	West Leg	North Leg	East Leg
4:00	4:15	0	0	0	0
4:15	4:30	0	0	0	0
4:30	4:45	0	0	0	0
4:45	5:00	0	0	0	0
5:00	5:15	0	0	0	0
5:15	5:30	0	0	0	0
5:30	5:45	0	0	0	0
5:45	6:00	0	0	0	0
6:00	6:15	0	0	0	0
6:15	6:30	0	0	0	0
6:30	6:45	0	0	0	0
6:45	7:00	0	0	0	0
7:00	7:15	0	0	0	0
7:15	7:30	0	0	0	0
7:30	7:45	0	0	0	0
7:45	8:00	0	0	0	0
TOTAL		0	0	0	0
Peak Hour		0	0	0	0

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Appendix B

ODOT data for Covid-19 Impacts

Table 1 provides traffic volumes by corridor for weekdays and weekends for the last four weeks of available data, April 5 – May 2, 2021. Corridor volumes are prepared by summing traffic volumes from ATRs across 13 corridors for years 2019, 2020 and 2021. Current volumes relative to this time last year are all higher, as expected given the transition to reduced restrictions.

Highlights to be taken from this month's report include:

- *Overall statewide traffic volumes are approaching pre-COVID traffic levels with the exception of some of the highways in Portland;*
- *April traffic volumes were initially rising, but declined somewhat near the end of the month when several counties shifted to higher restrictions as COVID cases increased.*
- *April statewide average weekday traffic volumes ranged between 40% and 61% higher than 2020 volumes, while average weekend volumes ranged between 67% - 113% above 2020 levels.*
- *April statewide average weekday traffic volumes are about 4% below 2019 pre-COVID conditions, while weekend volumes ranged between 0% and 11% below 2019 levels.*

Table 1. Observed Year-Over-Year Difference in Traffic Volumes by Corridor 2019-2021

Date	Corridor	2021 Volumes		2020 Volumes		2019 Volumes		2021 as % of 2020	
		Average Weekday	Average Weekend	Average Weekday	Average Weekend	Average Weekday	Average Weekend	Weekday Diff	Weekend Diff
Week 15 April 5-11, 2021	I-5	620,460	548,638	380,244	254,996	635,244	560,874	63%	115%
	I-205	239,589	212,123	154,277	102,418	261,779	223,342	55%	107%
	I-405	123,360	98,912	82,046	49,368	140,799	109,194	50%	100%
	I-84	360,370	326,787	228,920	154,414	354,086	315,059	57%	112%
	US 97	151,514	127,051	96,630	67,511	146,426	120,485	57%	88%
	US197	3,381	3,330	2,230	1,814	3,033	2,465	52%	84%
	US20	25,277	22,976	16,182	12,644	22,156	18,747	56%	82%
	US26	48,492	50,395	30,909	26,078	47,531	45,707	57%	93%
	US30	13,269	12,976	7,155	5,272	10,858	9,513	85%	146%
	US395	28,415	21,030	19,810	14,150	29,097	22,085	43%	49%
	OR18	19,194	22,975	7,088	6,287	15,537	18,847	171%	265%
	OR22	30,794	25,159	20,237	14,709	29,644	23,016	52%	71%
	US101	88,744	82,208	45,104	30,600	74,882	64,793	97%	169%
Statewide Average		361,242	320,118	224,507	150,608	368,796	323,099	61%	113%

Week 16 April 12-18, 2021	I-5	620,576	551,641	399,249	280,926	649,270	555,370	55%	96%
	I-205	242,543	215,405	163,143	111,233	264,577	224,294	49%	94%
	I-405	121,124	105,388	80,969	41,807	142,950	108,818	50%	152%
	I-84	354,538	330,778	240,886	167,120	359,003	322,016	47%	98%
	US 97	152,927	122,580	107,400	77,992	153,827	115,126	42%	57%
	US197	3,398	3,202	2,381	1,973	3,136	2,639	43%	62%
	US20	26,023	27,403	17,190	13,565	23,704	20,572	51%	102%
	US26	49,336	57,219	32,534	27,568	48,948	50,349	52%	108%
	US30	12,554	14,859	7,579	5,778	11,344	12,026	66%	157%
	US395	28,289	22,159	20,971	15,999	28,855	20,729	35%	39%
	OR18	19,373	27,933	7,781	6,703	16,082	20,994	149%	317%
	OR22	31,214	26,325	21,494	15,352	30,316	24,345	45%	71%
	US101	87,649	86,609	45,610	32,868	77,022	69,800	92%	164%
Statewide Average		360,480	323,168	236,016	164,333	376,223	322,576	53%	97%

Appendix C

ODOT Seasonal Adjustment Factors

North Redmond (09-023)

US97; MP 119.09; THE DALLES-CALIFORNIA HIGHWAY NO. 4; 0.57 mile south of
O'Neil Highway No. 370

Calculation of Seasonal Factor

Percentage of Annual Traffic Using ATR #30-019

	2015	2016	2017	2018	2019	Total
Count Month (April)	101	103	103	102	106	308
Peak Month (Typically Aug)	117	116	117	114	116	349
Factor						1.13
	Excluded: Excluded highest and lowest of the data set					

Redmond-Hemlock (09-022)

US97; MP 120.92; THE DALLES-CALIFORNIA HIGHWAY NO. 4; 0.04 mile north of
S.W. Antler Avenue

Calculation of Seasonal Factor

Percentage of Annual Traffic Using ATR #30-019

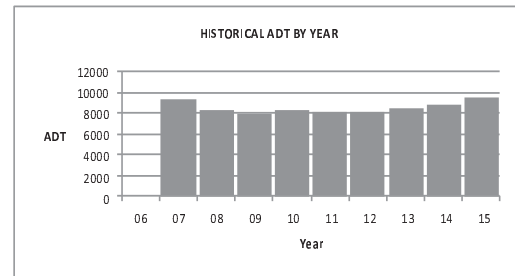
	2015	2016	2017	2018	2019	Total
Count Month (April)	104	106	106	106	100	316
Peak Month (Typically Aug)	118	116	118	115	121	352
Factor						1.11

Excluded: Excluded highest and lowest of the data set

Location:	OR126; MP 108.27; MCKENZIE HIGHWAY NO. 15; 1.38 miles west of S.W. Helmholtz Way (S.W. 43rd Street)	Site Name:	Cline Falls (09-021)
		Installed:	June, 2005

HISTORICAL TRAFFIC DATA

Year	ADT	Percent of ADT				
		Max Day	Max Hour	10TH Hour	20TH Hour	30TH Hour
2006	***	***	***	***	***	***
2007	9354	144	12.2	11.4	11.1	10.9
2008	8248	***	***	***	***	***
2009	7934	***	***	***	***	***
2010	8230	168	16.0	12.1	11.6	11.3
2011	8111	146	12.8	11.7	11.4	11.2
2012	8124	146	12.4	11.5	11.3	11.2
2013	8432	146	12.4	11.5	11.2	11.1
2014	8773	143	12.3	11.3	11.0	10.9
2015	9535	143	11.8	11.0	10.9	10.7



2015 TRAFFIC DATA

	Average Weekday Traffic	Percent of ADT	Average Daily Traffic	Percent of ADT
January	7492	79	7453	78
February	7952	83	7897	83
March	8740	92	8942	94
April	9267	97	9251	97
May	9999	105	10189	107
June	11259	118	11472	120
July	11671	122	11647	122
August	11088	116	11205	118
September	10375	109	10539	111
October	9804	103	9719	102
November	8242	86	8233	86
December	8225	86	7871	83

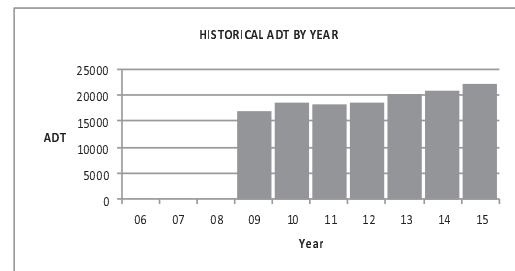
For Vehicle Classification data near this ATR, please go to the following web page:

<https://gis.odot.state.or.us/TransGIS/>

Location:	US97; MP 120.92; THE DALLES-CALIFORNIA HIGHWAY NO. 4; 0.04 mile north of S.W. Antler Avenue	Site Name:	Redmond-Hemlock (09-022)
		Installed:	July, 2008

HISTORICAL TRAFFIC DATA

Year	ADT	Percent of ADT				
		Max Day	Max Hour	10TH Hour	20TH Hour	30TH Hour
2006	***	***	***	***	***	***
2007	***	***	***	***	***	***
2008	***	***	***	***	***	***
2009	17032	***	***	***	***	***
2010	18493	138	11.1	10.6	10.3	10.1
2011	18201	142	11.5	10.6	10.3	10.2
2012	18538	140	11.9	10.6	10.4	10.2
2013	20262	138	11.2	10.5	10.3	10.1
2014	20807	141	11.2	10.6	10.4	10.3
2015	22111	134	10.6	10.2	10.0	9.8



2015 TRAFFIC DATA

	Average Weekday Traffic	Percent of ADT	Average Daily Traffic	Percent of ADT
January	19495	88	18658	84
February	20904	95	20057	91
March	21957	99	21412	97
April	23010	104	22193	100
May	23676	107	23070	104
June	25087	113	24401	110
July	26122	118	25196	114
August	24956	113	24503	111
September	24159	109	23543	106
October	23828	108	23157	105
November	20858	94	19995	90
December	20551	93	19143	87

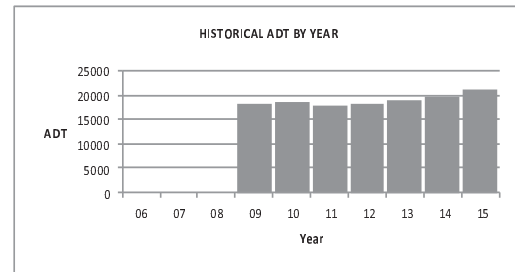
For Vehicle Classification data near this ATR, please go to the following web page:

<https://gis.odot.state.or.us/TransGIS/>

Location:	US97; MP 119.09; THE DALLES-CALIFORNIA HIGHWAY NO. 4; 0.57 mile south of O'Neil Highway No. 370	Site Name:	North Redmond (09-023)
		Installed:	August, 2008

HISTORICAL TRAFFIC DATA

Year	ADT	Percent of ADT				
		Max Day	Max Hour	10TH Hour	20TH Hour	30TH Hour
2006	***	***	***	***	***	***
2007	***	***	***	***	***	***
2008	***	***	***	***	***	***
2009	18311	145	12.7	10.7	10.4	10.3
2010	18408	138	11.4	11.0	10.6	10.4
2011	17996	145	11.7	10.9	10.6	10.4
2012	18186	140	12.1	10.8	10.6	10.5
2013	18968	139	11.2	10.7	10.5	10.3
2014	19725	142	11.3	10.9	10.6	10.5
2015	21090	135	11.0	10.4	10.3	10.1



2015 TRAFFIC DATA

	Average Weekday Traffic	Percent of ADT	Average Daily Traffic	Percent of ADT
January	17800	84	17390	82
February	19289	91	18892	90
March	20370	97	20323	96
April	21282	101	21047	100
May	22064	105	22071	105
June	23451	111	23428	111
July	24571	117	24265	115
August	23568	112	23701	112
September	22778	108	22710	108
October	22140	105	22171	105
November	19464	92	19040	90
December	19030	90	18038	86

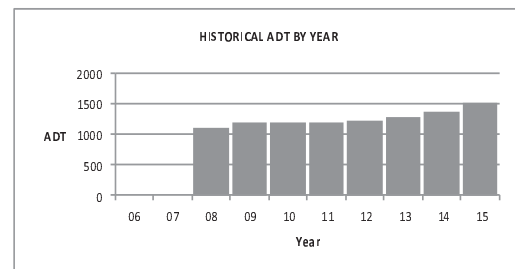
For Vehicle Classification data near this ATR, please go to the following web page:

<https://gis.odot.state.or.us/TransGIS/>

Location:	US20; MP 63.45; CENTRAL OREGON HIGHWAY NO. 7; 5.80 miles northwest of Deschutes-Lake County Line	Site Name:	Hampton (09-024)
		Installed:	January, 2008

HISTORICAL TRAFFIC DATA

Year	ADT	Percent of ADT				
		Max Day	Max Hour	10TH Hour	20TH Hour	30TH Hour
2006	***	***	***	***	***	***
2007	***	***	***	***	***	***
2008	1090	215	28.2	19.3	18.1	16.8
2009	1184	198	20.6	18.0	17.0	16.3
2010	1200	200	21.0	18.2	17.2	16.7
2011	1183	185	20.1	16.7	16.1	15.5
2012	1234	180	22.3	18.1	16.9	16.4
2013	1268	197	21.5	18.7	17.2	16.6
2014	1359	188	20.5	18.0	16.7	16.3
2015	1511	201	20.3	17.3	16.7	16.1



2015 TRAFFIC DATA

	Average Weekday Traffic	Percent of ADT	Average Daily Traffic	Percent of ADT
January	846	56	892	59
February	969	64	985	65
March	1189	79	1319	87
April	1289	85	1337	88
May	1548	102	1609	106
June	1807	120	1930	128
July	1991	132	2063	136
August	1924	127	2070	137
September	1868	124	1944	129
October	1709	113	1759	116
November	1202	80	1305	86
December	924	61	923	61

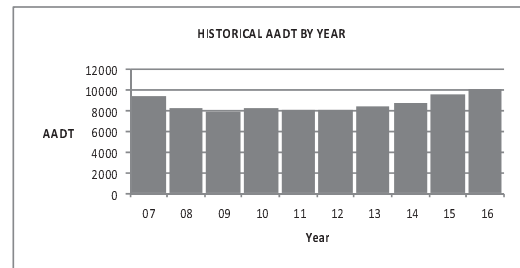
For Vehicle Classification data near this ATR, please go to the following web page:

<https://gis.odot.state.or.us/TransGIS/>

Location:	OR126; MP 108.27; MCKENZIE HIGHWAY NO. 15; 1.38 miles west of S.W. Helmholtz Way (S.W. 43rd Street)	Site Name:	Cline Falls (09-021)
		Installed:	June, 2005

HISTORICAL TRAFFIC DATA

Year	AADT	Percent of AADT				
		Max Day	Max Hour	10TH Hour	20TH Hour	30TH Hour
2007	9354	144	12.2	11.4	11.1	10.9
2008	8248	***	***	***	***	***
2009	7934	***	***	***	***	***
2010	8230	168	16.0	12.1	11.6	11.3
2011	8111	146	12.8	11.7	11.4	11.2
2012	8124	146	12.4	11.5	11.3	11.2
2013	8432	146	12.4	11.5	11.2	11.1
2014	8773	143	12.3	11.3	11.0	10.9
2015	9535	143	11.8	11.0	10.9	10.7
2016	10038	140	12.0	11.3	11.0	10.9



2016 TRAFFIC DATA

	Average Weekday Traffic	Percent of AADT	Average Daily Traffic	Percent of AADT
January	7918	79	7716	77
February	8632	86	8553	85
March	9208	92	9297	93
April	10147	101	10229	102
May	10533	105	10673	106
June	11745	117	11850	118
July	12031	120	12172	121
August	11486	114	11801	118
September	11064	110	11257	112
October	10118	101	9983	99
November	9364	93	9243	92
December	7861	78	7677	76

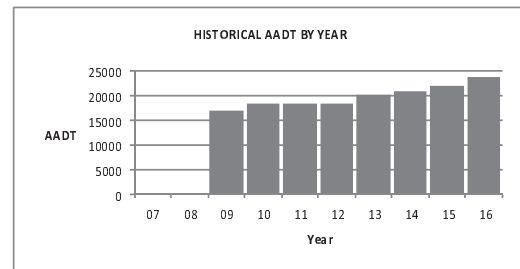
For Vehicle Classification data near your project, please go to the following web page:

<https://gis.odot.state.or.us/TransGIS/>

Location:	US97; MP 120.92; THE DALLES-CALIFORNIA HIGHWAY NO. 4; 0.04 mile north of S.W. Antler Avenue	Site Name:	Redmond-Hemlock (09-022)
		Installed:	July, 2008

HISTORICAL TRAFFIC DATA

Year	AADT	Percent of AADT				
		Max Day	Max Hour	10TH Hour	20TH Hour	30TH Hour
2007	***	***	***	***	***	***
2008	***	***	***	***	***	***
2009	17032	***	***	***	***	***
2010	18493	138	11.1	10.6	10.3	10.1
2011	18201	142	11.5	10.6	10.3	10.2
2012	18538	140	11.9	10.6	10.4	10.2
2013	20262	138	11.2	10.5	10.3	10.1
2014	20807	141	11.2	10.6	10.4	10.3
2015	22111	134	10.6	10.2	10.0	9.8
2016	23609	135	10.4	10.0	9.8	9.7



2016 TRAFFIC DATA

	Average Weekday Traffic	Percent of AADT	Average Daily Traffic	Percent of AADT
January	20552	87	19114	81
February	22372	95	21373	91
March	23409	99	22459	95
April	24950	106	24187	102
May	25923	110	25091	106
June	27020	114	26224	111
July	27134	115	26595	113
August	27425	116	26871	114
September	25906	110	25195	107
October	25068	106	24209	103
November	23675	100	22581	96
December	20748	88	19410	82

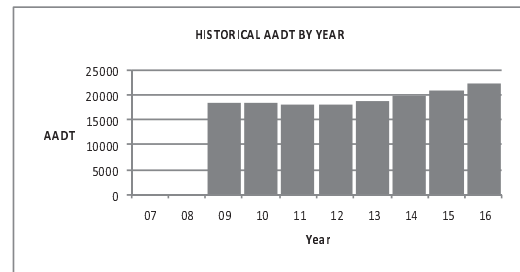
For Vehicle Classification data near your project, please go to the following web page:

<https://gis.odot.state.or.us/TransGIS/>

Location:	US97; MP 119.09; THE DALLES-CALIFORNIA HIGHWAY NO. 4; 0.57 mile south of O'Neil Highway No. 370	Site Name:	North Redmond (09-023)
		Installed:	August, 2008

HISTORICAL TRAFFIC DATA

Year	AADT	Percent of AADT				
		Max Day	Max Hour	10TH Hour	20TH Hour	30TH Hour
2007	***	***	***	***	***	***
2008	***	***	***	***	***	***
2009	18311	145	12.7	10.7	10.4	10.3
2010	18408	138	11.4	11.0	10.6	10.4
2011	17996	145	11.7	10.9	10.6	10.4
2012	18186	140	12.1	10.8	10.6	10.5
2013	18968	139	11.2	10.7	10.5	10.3
2014	19725	142	11.3	10.9	10.6	10.5
2015	21090	135	11.0	10.4	10.3	10.1
2016	22411	140	11.0	10.5	10.4	10.2



2016 TRAFFIC DATA

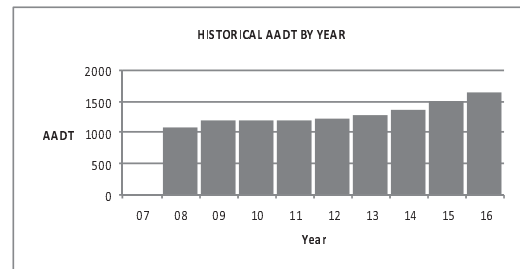
	Average Weekday Traffic	Percent of AADT	Average Daily Traffic	Percent of AADT
January	17617	79	16853	75
February	19799	88	19398	87
March	21589	96	21224	95
April	23182	103	23070	103
May	24507	109	24295	108
June	25403	113	25211	112
July	25822	115	25903	116
August	25886	116	26019	116
September	24366	109	24279	108
October	23275	104	23059	103
November	22013	98	21390	95
December	19313	86	18233	81

For Vehicle Classification data near your project, please go to the following web page:
<https://gis.odot.state.or.us/TransGIS/>

Location:	US20; MP 63.45; CENTRAL OREGON HIGHWAY NO. 7; 5.80 miles northwest of Deschutes-Lake County Line	Site Name:	Hampton (09-024)
		Installed:	January, 2008

HISTORICAL TRAFFIC DATA

Year	AADT	Percent of AADT				
		Max Day	Max Hour	10TH Hour	20TH Hour	30TH Hour
2007	***	***	***	***	***	***
2008	1090	215	28.2	19.3	18.1	16.8
2009	1184	198	20.6	18.0	17.0	16.3
2010	1200	200	21.0	18.2	17.2	16.7
2011	1183	185	20.1	16.7	16.1	15.5
2012	1234	180	22.3	18.1	16.9	16.4
2013	1268	197	21.5	18.7	17.2	16.6
2014	1359	188	20.5	18.0	16.7	16.3
2015	1511	201	20.3	17.3	16.7	16.1
2016	1638	220	28.2	18.0	17.0	16.2



2016 TRAFFIC DATA

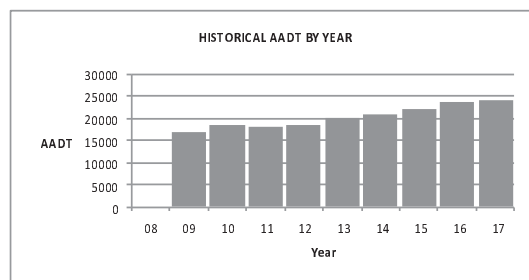
	Average Weekday Traffic	Percent of AADT	Average Daily Traffic	Percent of AADT
January	924	56	958	58
February	1028	63	1046	64
March	1285	78	1395	85
April	1439	88	1521	93
May	1719	105	1786	109
June	2035	124	2154	132
July	2136	130	2310	141
August	2035	124	2142	131
September	2000	122	2111	129
October	1675	102	1731	106
November	1362	83	1487	91
December	1075	66	1014	62

For Vehicle Classification data near your project, please go to the following web page:
<https://gis.odot.state.or.us/TransGIS/>

Location:	US97; MP 120.92; THE DALLES-CALIFORNIA HIGHWAY NO. 4; 0.04 mile north of S.W. Antler Avenue	Site Name:	Redmond-Hemlock (09-022)
		Installed:	July, 2008

HISTORICAL TRAFFIC DATA

Year	AADT	Percent of AADT				
		Max Day	Max Hour	10TH Hour	20TH Hour	30TH Hour
2008	***	***	***	***	***	***
2009	17032	***	***	***	***	***
2010	18493	138	11.1	10.6	10.3	10.1
2011	18201	142	11.5	10.6	10.3	10.2
2012	18538	140	11.9	10.6	10.4	10.2
2013	20262	138	11.2	10.5	10.3	10.1
2014	20807	141	11.2	10.6	10.4	10.3
2015	22111	134	10.6	10.2	10.0	9.8
2016	23609	135	10.4	10.0	9.8	9.7
2017	24051	136	10.4	9.8	9.7	9.6



2017 TRAFFIC DATA

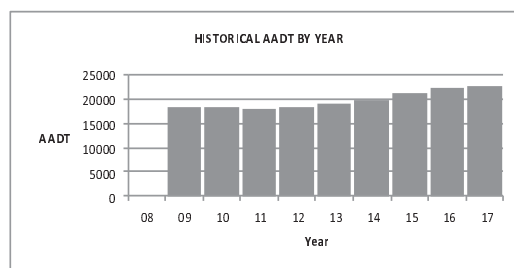
	Average Weekday Traffic	Percent of AADT	Average Daily Traffic	Percent of AADT
January	18257	76	17309	72
February	21404	89	20459	85
March	23535	98	22714	94
April	25536	106	24738	103
May	26702	111	26012	108
June	27729	115	27042	112
July	28033	117	27660	115
August	28437	118	27587	115
September	26185	109	25362	105
October	25679	107	25181	105
November	23777	99	22661	94
December	22959	95	21892	91

For Vehicle Classification data near your project, please go to the following web page:
https://www.oregon.gov/ODOT/Data/Documents/TVT_2017.xlsx

Location:	US97; MP 119.09; THE DALLES-CALIFORNIA HIGHWAY NO. 4; 0.57 mile south of O'Neil Highway No. 370	Site Name:	North Redmond (09-023)
		Installed:	August, 2008

HISTORICAL TRAFFIC DATA

Year	AADT	Percent of AADT				
		Max Day	Max Hour	10TH Hour	20TH Hour	30TH Hour
2008	***	***	***	***	***	***
2009	18311	145	12.7	10.7	10.4	10.3
2010	18408	138	11.4	11.0	10.6	10.4
2011	17996	145	11.7	10.9	10.6	10.4
2012	18186	140	12.1	10.8	10.6	10.5
2013	18968	139	11.2	10.7	10.5	10.3
2014	19725	142	11.3	10.9	10.6	10.5
2015	21090	135	11.0	10.4	10.3	10.1
2016	22411	140	11.0	10.5	10.4	10.2
2017	22809	138	11.2	10.3	10.1	10.1



2017 TRAFFIC DATA

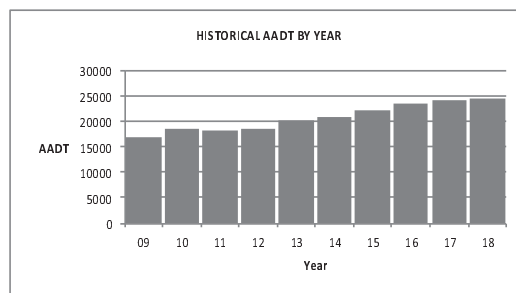
	Average Weekday Traffic	Percent of AADT	Average Daily Traffic	Percent of AADT
January	16512	72	15916	70
February	19810	87	19277	85
March	22225	97	21857	96
April	23549	103	23385	103
May	24774	109	24696	108
June	25877	113	25808	113
July	26328	115	26551	116
August	26636	117	26326	115
September	24516	107	24245	106
October	23891	105	24006	105
November	21826	96	21207	93
December	21096	92	20428	90

For Vehicle Classification data near your project, please go to the following web page:
https://www.oregon.gov/ODOT/Data/Documents/TVT_2017.xlsx

Location:	US97; MP 120.92; THE DALLES-CALIFORNIA HIGHWAY NO. 4; 0.04 mile north of S.W. Antler Avenue	Site Name:	Redmond-Hemlock (09-022)
		Installed:	July, 2008

HISTORICAL TRAFFIC DATA

Year	AADT	Percent of AADT				
		Max Day	Max Hour	10TH Hour	20TH Hour	30TH Hour
2009	17032	***	***	***	***	***
2010	18493	138	11.1	10.6	10.3	10.1
2011	18201	142	11.5	10.6	10.3	10.2
2012	18538	140	11.9	10.6	10.4	10.2
2013	20262	138	11.2	10.5	10.3	10.1
2014	20807	141	11.2	10.6	10.4	10.3
2015	22111	134	10.6	10.2	10.0	9.8
2016	23609	135	10.4	10.0	9.8	9.7
2017	24051	136	10.4	9.8	9.7	9.6
2018	24656	129	10.1	9.5	9.4	9.4



2018 TRAFFIC DATA

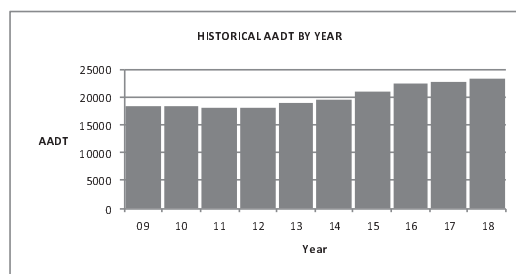
	Average Weekday Traffic	Percent of AADT	Average Daily Traffic	Percent of AADT
January	21821	89	20796	84
February	22940	93	21737	88
March	25029	102	23920	97
April	26096	106	25115	102
May	27148	110	26312	107
June	28323	115	27397	111
July	27813	113	27361	111
August	27632	112	27320	111
September	26682	108	25798	105
October	25771	105	25299	103
November	24102	98	23131	94
December	22305	90	21682	88

For Vehicle Classification data near your project, please go to the following web page:
https://www.oregon.gov/ODOT/Data/Documents/TVT_2018.xlsx

Location:	US97; MP 119.09; THE DALLES-CALIFORNIA HIGHWAY NO. 4; 0.57 mile south of O'Neil Highway No. 370	Site Name:	North Redmond (09-023)
		Installed:	August, 2008

HISTORICAL TRAFFIC DATA

Year	AADT	Percent of AADT				
		Max Day	Max Hour	10TH Hour	20TH Hour	30TH Hour
2009	18311	145	12.7	10.7	10.4	10.3
2010	18408	138	11.4	11.0	10.6	10.4
2011	17996	145	11.7	10.9	10.6	10.4
2012	18186	140	12.1	10.8	10.6	10.5
2013	18968	139	11.2	10.7	10.5	10.3
2014	19725	142	11.3	10.9	10.6	10.5
2015	21090	135	11.0	10.4	10.3	10.1
2016	22411	140	11.0	10.5	10.4	10.2
2017	22809	138	11.2	10.3	10.1	10.1
2018	23386	133	10.7	10.1	10.0	9.8



2018 TRAFFIC DATA

	Average Weekday Traffic	Percent of AADT	Average Daily Traffic	Percent of AADT
January	19884	85	19275	82
February	20834	89	20118	86
March	22888	98	22320	95
April	23944	102	23545	101
May	25311	108	25069	107
June	26733	114	26330	113
July	26324	113	26435	113
August	26100	112	26372	113
September	25117	107	24764	106
October	24037	103	24240	104
November	22303	95	21807	93
December	20636	88	20353	87

For Vehicle Classification data near your project, please go to the following web page:
https://www.oregon.gov/ODOT/Data/Documents/TVT_2018.xlsx

Location	US97; MP 120.92; THE DALLES-CALIFORNIA HIGHWAY NO. 4; 0.04 mile north of SW Antler Ave	Site Name	Redmond-Hemlock (09-022)
		Installed	July, 2008

HISTORICAL ANNUAL TRAFFIC DATA						
Year	Annual Average Daily Traffic (AADT)	Critical Values as percent of Annual Average Daily Traffic (AADT)				
		Max Day	Max Hour	10th Hour	20th Hour	30th Hour
2010	18493	138	11.1	10.6	10.3	10.1
2011	18201	142	11.5	10.6	10.3	10.2
2012	18538	140	11.9	10.6	10.4	10.2
2013	20262	138	11.2	10.5	10.3	10.1
2014	20807	141	11.2	10.6	10.4	10.3
2015	22111	134	10.6	10.2	10.0	9.8
2016	23609	135	10.4	10.0	9.8	9.7
2017	24051	136	10.4	9.8	9.7	9.6
2018	24656	129	10.1	9.5	9.4	9.4
2019	24645	134	10.5	10.1	9.8	9.7

2019 SEASONAL TRAFFIC DATA				
Month	Weekday		Daily	
	Average	% AADT	Average	% AADT
January	22191	90	21169	86
February	19046	77	18842	76
March	23671	96	22791	92
April	26300	107	25440	103
May	27188	110	26535	108
June	28274	115	27756	113
July	28778	117	28049	114
August	28792	117	28314	115
September	27234	111	26264	107
October	26483	107	26035	106
November	23437	95	22658	92
December	22755	92	21882	89

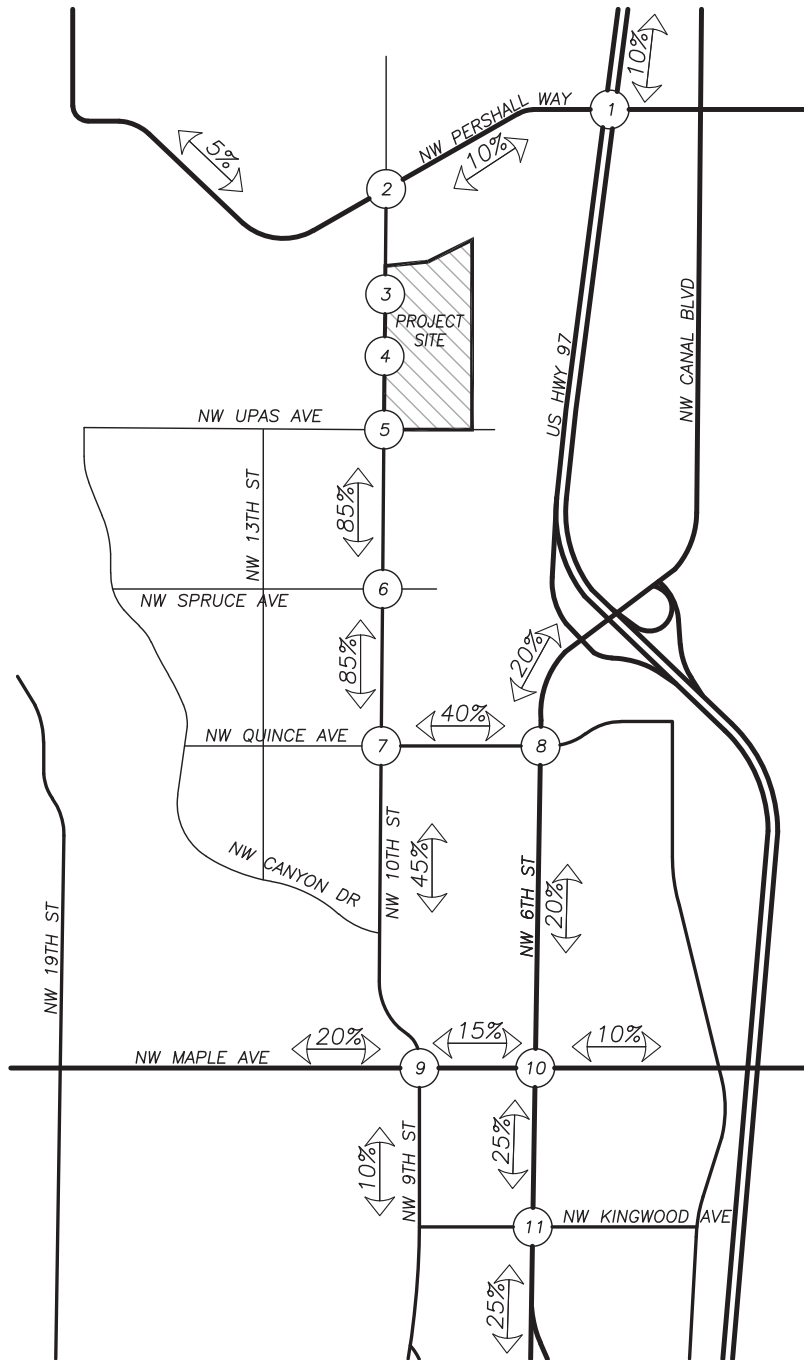
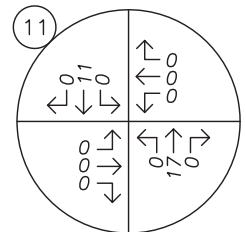
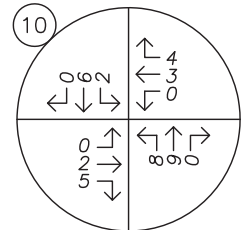
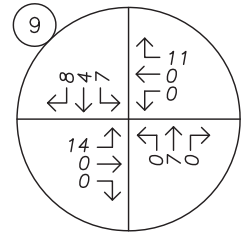
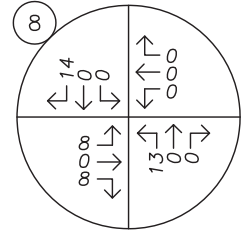
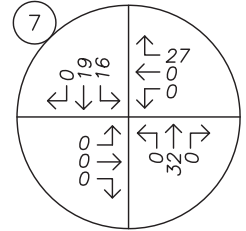
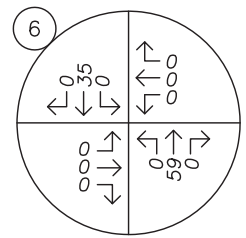
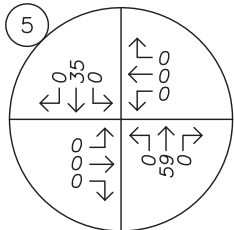
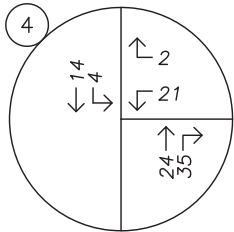
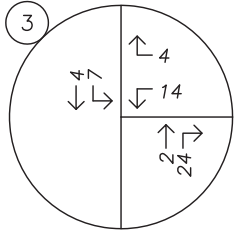
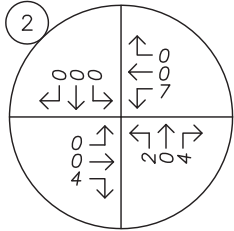
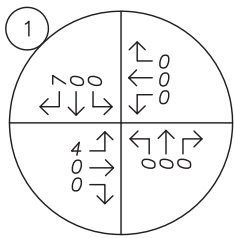
Location	US97; MP 119.09; THE DALLES-CALIFORNIA HIGHWAY NO. 4; 0.57 mile south of O'Neil Highway No. 370	Site Name	North Redmond (09-023)
		Installed	August, 2008

HISTORICAL ANNUAL TRAFFIC DATA						
Year	Annual Average Daily Traffic (AADT)	Critical Values as percent of Annual Average Daily Traffic (AADT)				
		Max Day	Max Hour	10th Hour	20th Hour	30th Hour
2010	18408	138	11.4	11.0	10.6	10.4
2011	17996	145	11.7	10.9	10.6	10.4
2012	18186	140	12.1	10.8	10.6	10.5
2013	18968	139	11.2	10.7	10.5	10.3
2014	19725	142	11.3	10.9	10.6	10.5
2015	21090	135	11.0	10.4	10.3	10.1
2016	22411	140	11.0	10.5	10.4	10.2
2017	22809	138	11.2	10.3	10.1	10.1
2018	23386	133	10.7	10.1	10.0	9.8
2019	23490	137	11.0	10.5	10.3	10.2

2019 SEASONAL TRAFFIC DATA				
Month	Weekday		Daily	
	Average	% AADT	Average	% AADT
January	20360	87	19753	84
February	17480	74	17568	75
March	22128	94	21677	92
April	24917	106	24474	104
May	25644	109	25537	109
June	27002	115	26931	115
July	27358	116	27204	116
August	27077	115	27147	116
September	25670	109	25207	107
October	24555	105	24750	105
November	21592	92	21255	90
December	20860	89	20374	87

Appendix D

Approved Area Developments



TRIP GENERATION			
	IN	OUT	TOTAL
PM	70	41	111



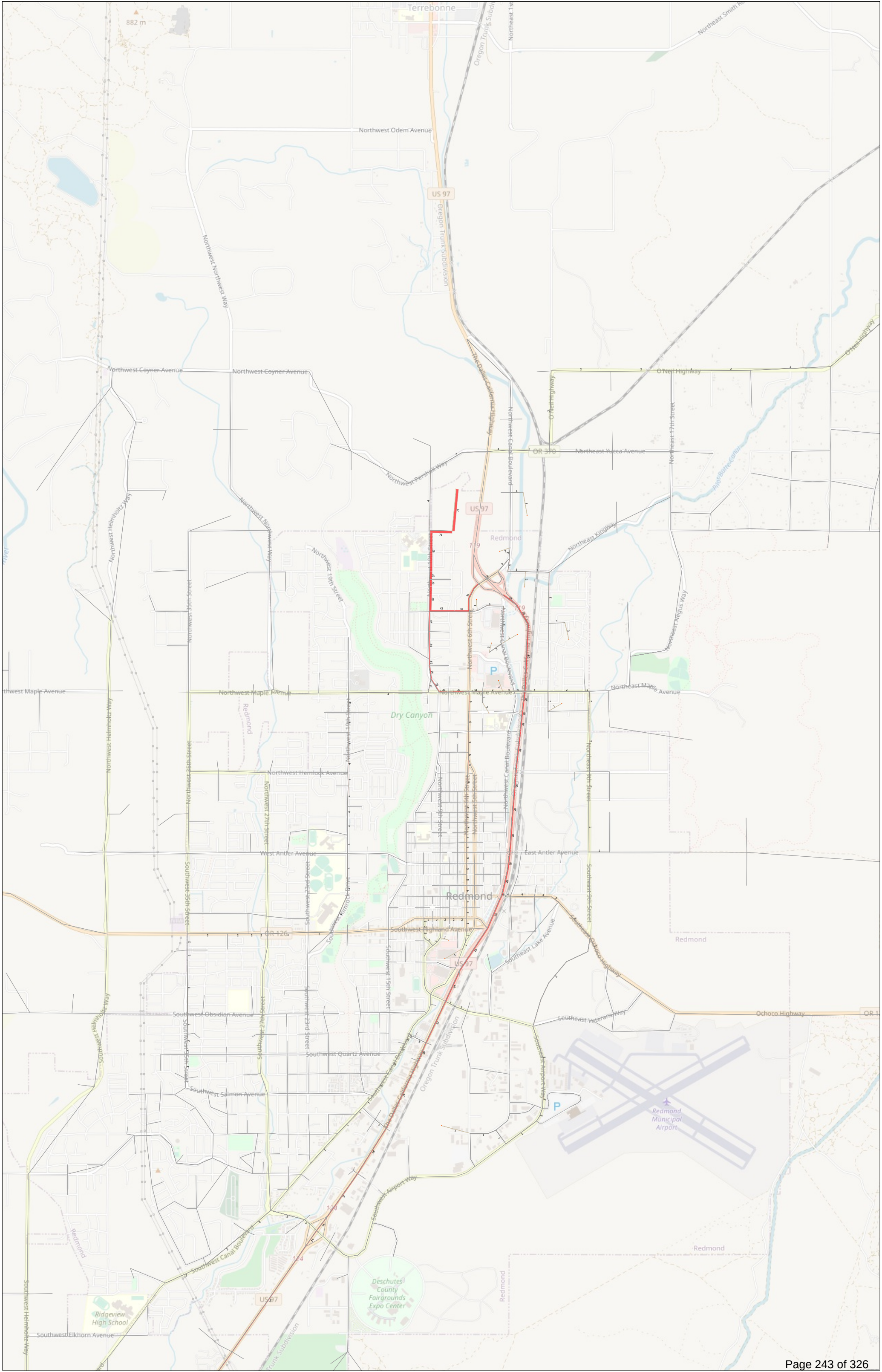
SITE TRIP DISTRIBUTION & ASSIGNMENT
Proposed Development Plan – Site Trips
PM Peak Hour

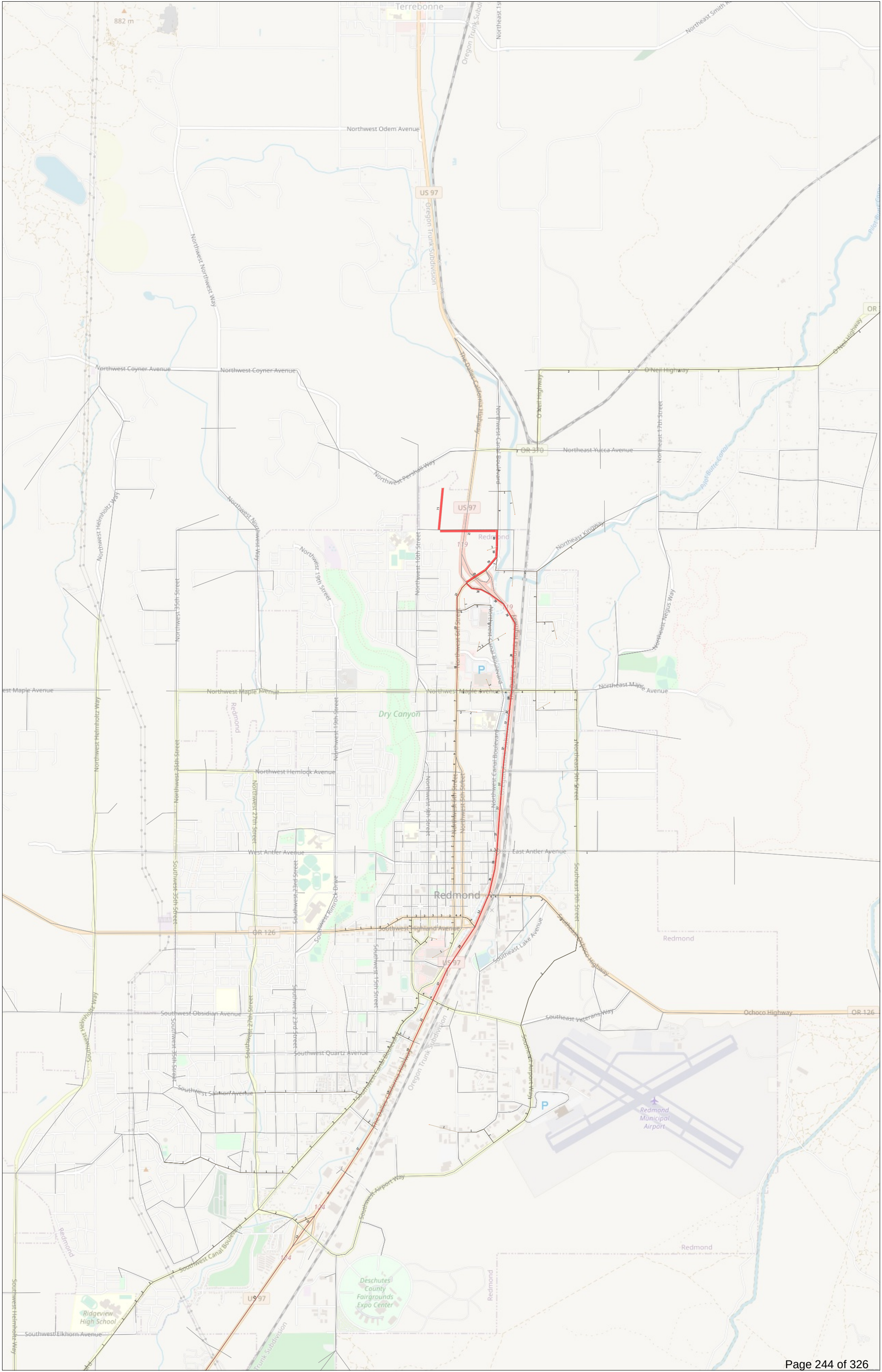


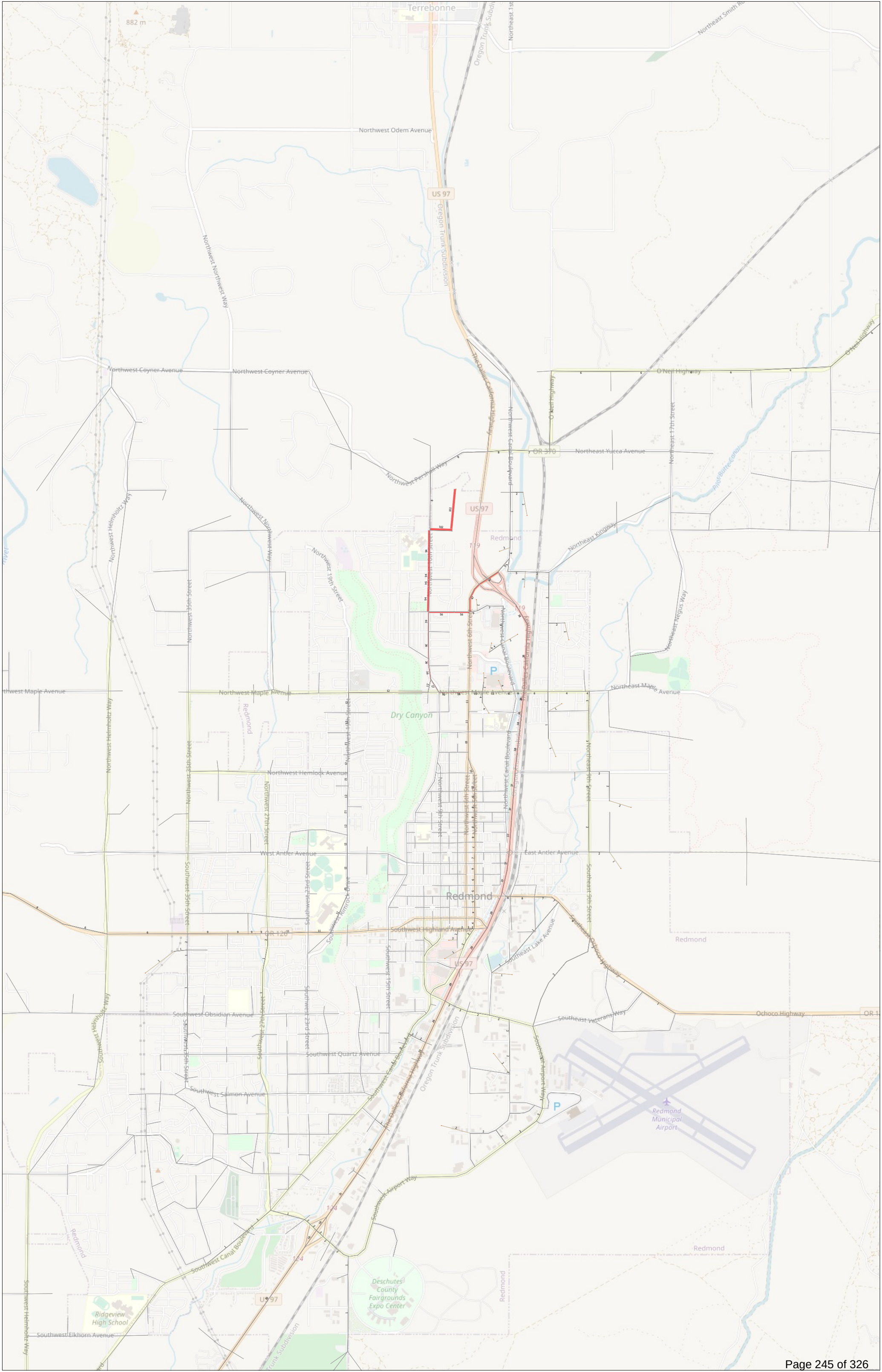
FIGURE 3
PAGE 9

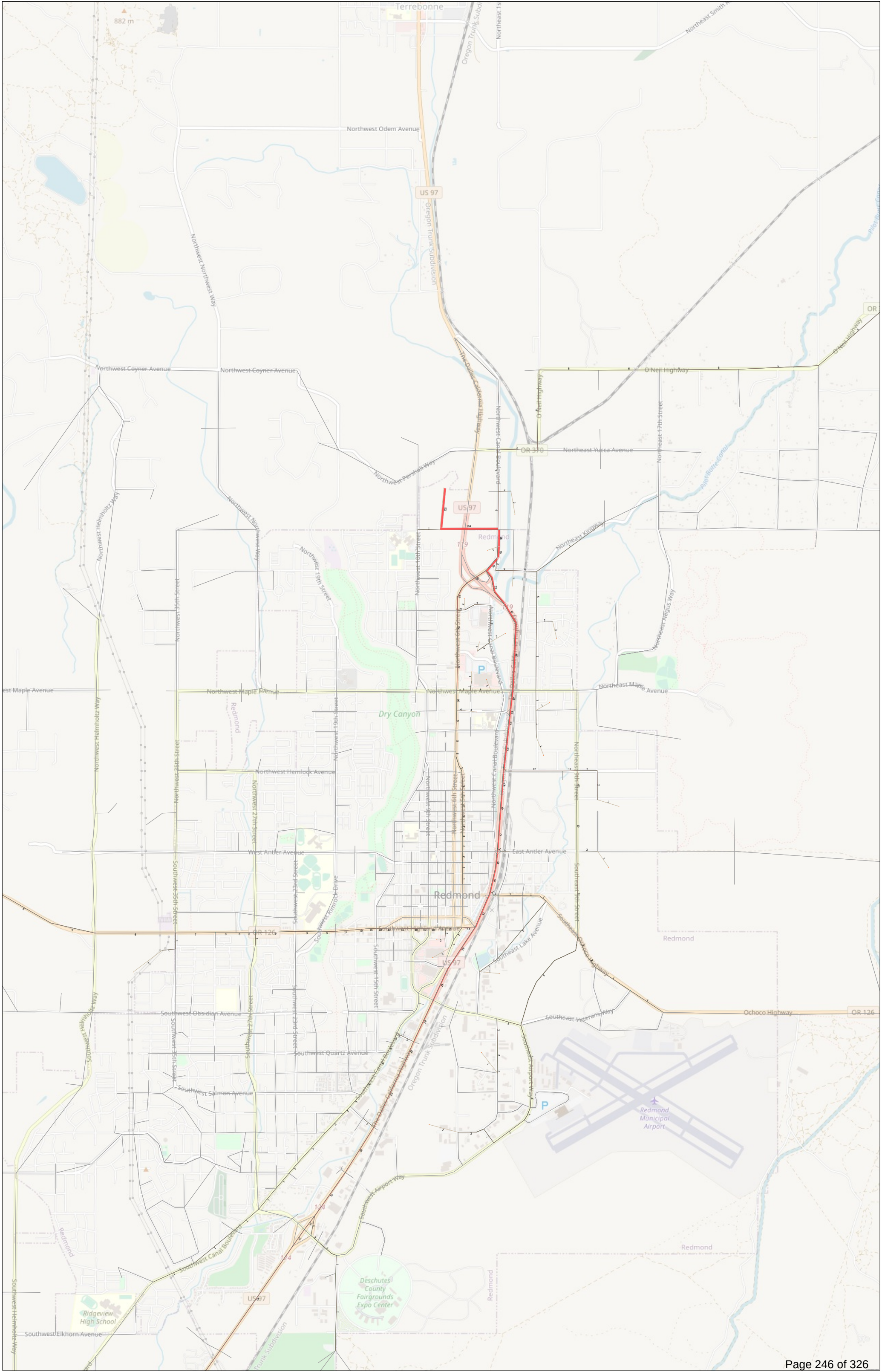
Appendix E

ODOT Model Results – Upas Avenue Bridge









Appendix F

Growth Factors for ODOT facilities

Site id	HWY	MP	DIR	HS	Description	2017	2018	2019	2039	RSQ
9023	004	119.09	1		North Redmond Automatic Traffic Recorder, Sta. 09-023, 0.57 mile south of O'Neil Highway No. 370	22800			30400	MODEL
9022	004	120.92	1		Redmond-Hemlock Automatic Traffic Recorder, Sta. 09-022, 0.04 mile north of S.W. Antler Avenue	24100			34100	MODEL
18002	004	121.06	1		0.10 mile south of SW Antler Avenue	23000			33900	MODEL
18003	004	121.31	1		0.10 mile south of SW Evergreen Avenue	27400			41400	MODEL
18004	004	121.56	1		0.10 mile south of SW Glacier Avenue	27600			38300	MODEL
642	004	122.08	1		0.10 mile south of SW Veterans Way	28500			43500	MODEL
643	004	123.30	1		0.30 mile north of Yew Avenue Interchange	28300			47100	MODEL
9020	004	124.39	1		Redmond Automatic Traffic Recorder, Sta. 09-020, 0.79 mile south of Yew Avenue	34800			56700	MODEL

Appendix G

Level of Service Calculations

Year 2027 -- PM Peak Hour Traffic
121 West -- #01644

Scenario: Year 2027 Scenario Report
Command: base year
Volume: Default Volume
Geometry: Default Geometry
Impact Fee: Default Impact Fee
Trip Generation: Default Trip Generation
Trip Distribution: Default Trip Distribution
Paths: Pathwihtout Bridge
Routes: Default Route
Configuration: Base Year

Year 2027 -- PM Peak Hour Traffic
121 West -- #01644

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 10th/Pershall

Average Delay (sec/veh): 3.1 Worst Case Level Of Service: A[9.4]

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
-----|-----|-----|-----|
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 1! 0 0 0 0 1! 0 0 0 0 0 1 0 0 0
-----|-----|-----|-----|
Volume Module:
Base Vol: 39 0 12 0 0 0 0 0 46 17 17 63 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 39 0 12 0 0 0 0 0 46 17 17 63 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
PHF Volume: 41 0 13 0 0 0 0 0 49 18 18 67 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 41 0 13 0 0 0 0 0 49 18 18 67 0
-----|-----|-----|-----|
Critical Gap Module:
Critical Gp: 6.4 6.5 6.2 7.1 6.5 6.2 xxxxx xxxx xxxxx 4.1 xxxx xxxxx
FollowUpTim: 3.5 4.0 3.3 3.5 4.0 3.3 xxxxx xxxx xxxxx 2.2 xxxx xxxxx
-----|-----|-----|-----|
Capacity Module:
Cnflct Vol: 161 161 58 168 170 67 xxxx xxxx xxxxx 67 xxxx xxxxx
Potent Cap.: 834 735 1014 801 726 1002 xxxx xxxx xxxxx 1547 xxxx xxxxx
Move Cap.: 827 726 1014 784 718 1002 xxxx xxxx xxxxx 1547 xxxx xxxxx
Volume/Cap: 0.05 0.00 0.01 0.00 0.00 0.00 xxxx xxxx xxxxx 0.01 xxxx xxxxx
-----|-----|-----|-----|
Level Of Service Module:
2Way95thQ: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx 0.0 xxxx xxxxx
Control Del: xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx 7.4 xxxx xxxxx
LOS by Move: * * * * * * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx 864 xxxxx xxxx 0 xxxxx xxxx xxxx xxxxx xxxxx xxxx xxxxx
SharedQueue: xxxxx 0.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx 0.0 xxxx xxxxx
Shrd ConDel: xxxxx 9.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx 7.4 xxxx xxxxx
Shared LOS: * A * * * * * * * * *
ApproachDel: 9.4 xxxxxx xxxxxx xxxxxx
ApproachLOS: A * * * *

Note: Queue reported is the number of cars per lane.

Year 2027 Wed Jul 21, 2021 12:22:40 Page 3-1

Year 2027 -- PM Peak Hour Traffic
121 West -- #01644

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 10th/Pershall

Average Delay (sec/veh): 4.2 Worst Case Level Of Service: A[9.8]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0	0	1	0	0	1	0	0	0	0	1	0

Volume Module:

Base Vol:	39	0	12	0	0	0	0	0	46	17	17	63
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	39	0	12	0	0	0	0	0	46	17	17	63
Added Vol:	9	0	18	0	0	0	0	0	13	26	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	48	0	30	0	0	0	0	0	46	30	43	63
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	51	0	32	0	0	0	0	0	49	32	46	67
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	51	0	32	0	0	0	0	0	49	32	46	67

Critical Gap Module:

Critical Gp:	6.4	6.5	6.2	7.1	6.5	6.2	xxxx	xxxx	xxxx	4.1	xxxx	xxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	xxxx	xxxx	xxxx	2.2	xxxx	xxxx

Capacity Module:

Cnflct Vol:	223	223	65	239	239	67	xxxx	xxxx	xxxx	81	xxxx	xxxx
Potent Cap.:	769	679	1005	719	665	1002	xxxx	xxxx	xxxx	1530	xxxx	xxxx
Move Cap.:	751	658	1005	680	645	1002	xxxx	xxxx	xxxx	1530	xxxx	xxxx
Volume/Cap:	0.07	0.00	0.03	0.00	0.00	0.00	xxxx	xxxx	xxxx	0.03	xxxx	xxxx

Level Of Service Module:

2Way95thQ: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx 0.1 xxxx xxxxx

Control Del:xxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx 7.4 xxxx xxxxx

LOS by Move: * * * * * * * * * A * *

Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT

Shared Cap.: xxxx 832 xxxxx xxxx 0 xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx

SharedQueue:xxxx 0.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx 0.1 xxxx xxxxx

Shrd ConDel:xxxx 9.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx 7.4 xxxx xxxxx

Shared LOS: * A * * * * * * * A * *

ApproachDel: 9.8 * xxxxxx * xxxxxx * xxxxxx

ApproachLOS: A * * * * *

Note: Queue reported is the number of cars per lane.

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Year 2027 -- PM Peak Hour Traffic
121 West -- #01644

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Pershall/Oneil/Hwy97

Average Delay (sec/veh): 28.0 Worst Case Level Of Service: F[1348.0]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1	0	2	0	2	0	1	0	1	0	1	0

Volume Module:

Base Vol:	75	1356	63	20	1027	12	8	12	61	15	12	16
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	75	1356	63	20	1027	12	8	12	61	15	12	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	79	1427	66	21	1081	13	8	13	64	16	13	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	79	1427	66	21	1081	13	8	13	64	16	13	17

Critical Gap Module:

Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.5	6.5	6.9	7.5	6.5	6.9
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3

Capacity Module:

Cnflct Vol:	1094	xxxx	xxxxx	1494	xxxx	xxxxx	2001	2775	541	2174	2721	714
Potent Cap.:	646	xxxx	xxxxx	455	xxxx	xxxxx	36	19	491	27	21	378
Move Cap.:	646	xxxx	xxxxx	455	xxxx	xxxxx	13	16	491	7	18	378
Volume/Cap:	0.12	xxxx	xxxx	0.05	xxxx	xxxx	0.66	0.78	0.13	2.12	0.72	0.04

Level Of Service Module:

2Way95thQ: 0.4 xxxx xxxxx 0.1 xxxx xxxxx xxxx xxxx 0.4 xxxx xxxxx xxxxx

Control Del: 11.4 xxxx xxxxx 13.3 xxxx xxxxx xxxxx xxxx 13.4 xxxxx xxxxx xxxxx

LOS by Move: B * * B * * B * B * *

Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT

Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx 15 xxxx xxxxx xxxx 16 xxxxx

SharedQueue:xxxx xxxx xxxxx xxxxx xxxx xxxxx 3.2 xxxx xxxxx xxxxx 6.4 xxxxx

Shrd ConDel:xxxx xxxx xxxxx xxxxx xxxx xxxxx 757.0 xxxx xxxxx xxxxx 1348 xxxxx

Shared LOS: * * * * * * F * * * F *

ApproachDel: xxxxxx * xxxxxx * 197.0 * 1348.0 F

ApproachLOS: * * * * F * F

Note: Queue reported is the number of cars per lane.

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Year 2027 -- PM Peak Hour Traffic
121 West -- #01644

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Pershall/ONEil/Hwy97

Average Delay (sec/veh): OVERFLOW Worst Case Level Of Service: F[xxxxx]

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Rights:	Include	Include	Include	Include
Lanes:	1 0 2 0 1	1 0 2 0 1	0 1 0 0 1	0 0 1! 0 0

Volume Module:

Base Vol:	75 1356 63	20 1027 12	8 12 61	15 12 16
Growth Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
Initial Bse:	75 1356 63	20 1027 12	8 12 61	15 12 16
Added Vol:	8 0 0	0 0 13	9 4 5	0 6 0
PasserByVol:	0 0 0	0 0 0	0 0 0	0 0 0
Initial Fut:	83 1356 63	20 1027 25	17 16 66	15 18 16
User Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
PHF Adj:	0.95 0.95 0.95	0.95 0.95 0.95	0.95 0.95 0.95	0.95 0.95 0.95
PHF Volume:	87 1427 66	21 1081 26	18 17 69	16 19 17
Reduct Vol:	0 0 0	0 0 0	0 0 0	0 0 0
FinalVolume:	87 1427 66	21 1081 26	18 17 69	16 19 17

Critical Gap Module:

Critical Gp:	4.1 xxxx xxxxx	4.1 xxxx xxxxx	7.5 6.5 6.9	7.5 6.5 6.9
FollowUpTim:	2.2 xxxx xxxxx	2.2 xxxx xxxxx	3.5 4.0 3.3	3.5 4.0 3.3

Capacity Module:

Cnflct Vol:	1107 xxxx xxxxx	1494 xxxx xxxxx	2021 2792	541 2193 2752	714
Potent Cap.:	638 xxxx xxxxx	455 xxxx xxxxx	35 19 491	26 20 378	
Move Cap.:	638 xxxx xxxxx	455 xxxx xxxxx	0 16 491	0 17 378	
Volume/Cap:	0.14 xxxx xxxxx	0.05 xxxx xxxxx	xxxx 1.08 0.14	xxxx 1.15 0.04	

Level Of Service Module:

2Way95thQ: 0.5 xxxx xxxxx 0.1 xxxx xxxxx xxxx xxxx 0.5 xxxx xxxx xxxxx

Control Del: 11.5 xxxx xxxxx 13.3 xxxx xxxxx xxxxx xxxx 13.5 xxxxx xxxx xxxxx

LOS by Move: B * * B * * * * * B * * * *

Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT

Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx 0 xxxx xxxxx xxxx 0 xxxxx

SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx

Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx

Shared LOS: * * * * * * * * * * * *

ApproachDel: xxxxxx xxxxxx +Inf xxxxxx

ApproachLOS: * * F F

Note: Queue reported is the number of cars per lane.

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Year 2027 -- PM Peak Hour Traffic
121 West -- #01644

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #3 10th/Walnut

Average Delay (sec/veh): 1.7 Worst Case Level Of Service: A[9.1]

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Rights:	Include	Include	Include	Include
Lanes:	0 0 0 1 0	0 1 0 0 0	0 0 1! 0 0	0 0 1! 0 0

Volume Module:

Base Vol:	0 42 24	7 33 0	0 0 0	14 0 4
Growth Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
Initial Bse:	0 42 24	7 33 0	0 0 0	14 0 4
User Adj:	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00	1.00 1.00 1.00
PHF Adj:	0.84 0.84 0.84	0.84 0.84 0.84	0.84 0.84 0.84	0.84 0.84 0.84
PHF Volume:	0 50 29	8 39 0	0 0 0	17 0 5
Reduct Vol:	0 0 0	0 0 0	0 0 0	0 0 0
FinalVolume:	0 50 29	8 39 0	0 0 0	17 0 5

Critical Gap Module:

Critical Gp:	xxxxx xxxx xxxxx	4.1 xxxx xxxxx	7.1 6.5 6.2	6.4 6.5 6.2
FollowUpTim:	xxxxx xxxx xxxxx	2.2 xxxx xxxxx	3.5 4.0 3.3	3.5 4.0 3.3

Capacity Module:

Cnflct Vol:	xxxx xxxx xxxxx	79 xxxx xxxxx	123 135 39	120 120 64
Potent Cap.:	xxxx xxxx xxxxx	1533 xxxx xxxxx	857 760 1038	880 774 1006
Move Cap.:	xxxx xxxx xxxxx	1533 xxxx xxxxx	849 756 1038	876 770 1006
Volume/Cap:	xxxx xxxx xxxxx	0.01 xxxx xxxxx	0.00 0.00 0.00	0.02 0.00 0.00

Level Of Service Module:

2Way95thQ: xxxx xxxx xxxxx 0.0 xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx

Control Del:xxxxx xxxx xxxxx 7.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx

LOS by Move: * * * A * * * * * * * *

Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT

Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx 0 xxxxx xxxx 902 xxxxx

SharedQueue:xxxxx xxxx xxxxx 0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 0.1 xxxxx

Shrd ConDel:xxxxx xxxx xxxxx 7.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 9.1 xxxxx

Shared LOS: * * * A * * * * * A *

ApproachDel: xxxxxx xxxxxx xxxxxx 9.1

ApproachLOS: * * * A

Note: Queue reported is the number of cars per lane.

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Year 2027 -- PM Peak Hour Traffic
121 West -- #01644

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #3 10th/Walnut

Average Delay (sec/veh): 2.7 Worst Case Level Of Service: A[9.7]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0	0	1	0	1	0	0	1	0	0	1	0

Volume Module:

Base Vol:	0	42	24	7	33	0	0	0	0	14	0	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	42	24	7	33	0	0	0	0	14	0	4
Added Vol:	0	15	27	17	22	0	0	0	0	18	0	11
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	57	51	24	55	0	0	0	0	32	0	15
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
PHF Volume:	0	68	61	29	65	0	0	0	0	38	0	18
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	68	61	29	65	0	0	0	0	38	0	18

Critical Gap Module:

Critical Gap:xxxxx xxxxx xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	6.4	6.5	6.2
FollowUpTim:xxxxx xxxxx xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3

Capacity Module:

Cnflct Vol: xxxxx xxxxx xxxxx	129	xxxx	xxxxx	230	251	65	221	221	98
Potent Cap.: xxxxx xxxxx xxxxx	1470	xxxx	xxxxx	730	655	1004	772	681	963
Move Cap.: xxxxx xxxxx xxxxx	1470	xxxx	xxxxx	705	642	1004	760	668	963
Volume/Cap: xxxxx xxxxx xxxxx	0.02	xxxx	xxxxx	0.00	0.00	0.00	0.05	0.00	0.02

Level Of Service Module:

2Way95thQ: xxxxx xxxxx xxxxx 0.1 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx

Control Del:xxxxx xxxxx xxxxx 7.5 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx

LOS by Move: * * * A * * * * * *

Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT

Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 0 xxxxx xxxxx 815 xxxxx

SharedQueue:xxxxx xxxxx xxxxx 0.1 xxxxx xxxxx xxxxx xxxxx xxxxx 0.2 xxxxx

Shrd ConDel:xxxxx xxxxx xxxxx 7.5 xxxxx xxxxx xxxxx xxxxx xxxxx 9.7 xxxxx

Shared LOS: * * * A * * * A *

ApproachDel: xxxxxx xxxxxx xxxxxx 9.7

ApproachLOS: * * * A

Note: Queue reported is the number of cars per lane.

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Year 2027 -- PM Peak Hour Traffic
121 West -- #01644

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #4 10th/Varnish

Average Delay (sec/veh): 1.4 Worst Case Level Of Service: A[9.4]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0	0	1	0	1	0	0	0	1	0	0	1

Volume Module:

Base Vol:	0	60	35	4	48	0	0	0	0	21	0	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	60	35	4	48	0	0	0	0	21	0	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
PHF Volume:	0	71	42	5	57	0	0	0	0	25	0	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	71	42	5	57	0	0	0	0	25	0	2

Critical Gap Module:

Critical Gap:xxxxx xxxxx xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	6.4	6.5	6.2
FollowUpTim:xxxxx xxxxx xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3

Capacity Module:

Cnflct Vol: xxxxx xxxxx xxxxx	113	xxxx	xxxxx	160	180	57	159	159	92
Potent Cap.: xxxxx xxxxx xxxxx	1489	xxxx	xxxxx	810	718	1015	837	737	971
Move Cap.: xxxxx xxxxx xxxxx	1489	xxxx	xxxxx	806	715	1015	835	735	971
Volume/Cap: xxxxx xxxxx xxxxx	0.00	xxxx	xxxxx	0.00	0.00	0.00	0.03	0.00	0.00

Level Of Service Module:

2Way95thQ: xxxxx xxxxx xxxxx 0.0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx

Control Del:xxxxx xxxxx xxxxx 7.4 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx

LOS by Move: * * * A * * * * *

Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT

Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 0 xxxxx 845 xxxxx

SharedQueue:xxxxx xxxxx xxxxx 0.0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 0.1 xxxxx

Shrd ConDel:xxxxx xxxxx xxxxx 7.4 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 9.4 xxxxx

Shared LOS: * * * A * * * * *

ApproachDel: xxxxxx xxxxxx xxxxxx 9.4

ApproachLOS: * * * A

Note: Queue reported is the number of cars per lane.

Year 2027 -- PM Peak Hour Traffic
121 West -- #01644

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #4 10th/Varnish

Average Delay (sec/veh): 2.2 Worst Case Level Of Service: B[10.3]

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Rights:	Include	Include	Include	Include
Lanes:	0 0 0 1 0	0 1 0 0 0	0 0 1! 0 0	0 0 1! 0 0

Volume Module:

Base Vol:	0	60	35	4	48	0	0	0	0	21	0	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	60	35	4	48	0	0	0	0	21	0	2
Added Vol:	0	34	27	13	28	0	0	0	0	18	0	9
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	94	62	17	76	0	0	0	0	39	0	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
PHF Volume:	0	112	74	20	90	0	0	0	0	46	0	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	112	74	20	90	0	0	0	0	46	0	13

Critical Gap Module:

Critical Gp:	xxxx	xxxx	xxxx	4.1	xxxx	xxxx	7.1	6.5	6.2	6.4	6.5	6.2
FollowUpTim:	xxxx	xxxx	xxxx	2.2	xxxx	xxxx	3.5	4.0	3.3	3.5	4.0	3.3

Capacity Module:

Cnflct Vol:	xxxx	xxxx	xxxx	186	xxxx	xxxx	286	317	90	280	280	149
Potent Cap.:	xxxx	xxxx	xxxx	1401	xxxx	xxxx	670	603	973	714	632	903
Move Cap.:	xxxx	xxxx	xxxx	1401	xxxx	xxxx	653	594	973	706	623	903
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	0.00	0.00	0.00	0.07	0.00	0.01

Level Of Service Module:

2Way95thQ:	xxxx	xxxx	xxxx	0.0	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Control Del:	xxxx	xxxx	xxxx	7.6	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT
Shared Cap.:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
SharedQueue:	xxxx	xxxx	xxxx	0.0	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Shrd ConDel:	xxxx	xxxx	xxxx	7.6	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	10.3	xxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	10.3					
ApproachLOS:	*	*	*	*	*	*	B					

Note: Queue reported is the number of cars per lane.

Year 2027 -- PM Peak Hour Traffic
121 West -- #01644

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #5 10th/Upus

Average Delay (sec/veh): 2.1 Worst Case Level Of Service: B[10.3]

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Rights:	Include	Include	Include	Include
Lanes:	0 0 0 1! 0 0	0 0 0 1! 0 0	1 0 0 1! 0 0	0 0 0 1! 0 0

Volume Module:

Base Vol:	19	90	17	1	64	3	3	0	13	16	1	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	19	90	17	1	64	3	3	0	13	16	1	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	22	105	20	1	74	3	3	0	15	19	1	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	22	105	20	1	74	3	3	0	15	19	1	1

Critical Gap Module:

Critical Gp:	4.1	xxxx	xxxx	4.1	xxxx	xxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxx	2.2	xxxx	xxxx	3.5	4.0	3.3	3.5	4.0	3.3

Capacity Module:

Cnflct Vol:	78	xxxx	xxxx	124	xxxx	xxxx	238	247	76	245	239	115
Potent Cap.:	1533	xxxx	xxxx	1475	xxxx	xxxx	720	659	991	713	666	943
Move Cap.:	1533	xxxx	xxxx	1475	xxxx	xxxx	710	649	991	694	655	943
Volume/Cap:	0.01	xxxx	xxxx	0.00	xxxx	xxxx	0.00	0.00	0.02	0.03	0.00	0.00

Level Of Service Module:

2Way95thQ:	0.0	xxxx	xxxx	0.0	xxxx	xxxx	0.0	xxxx	xxxx	xxxx	xxxx	xxxx
Control Del:	7.4	xxxx	xxxx	7.4	xxxx	xxxx	10.1	xxxx	xxxx	xxxx	xxxx	xxxx
LOS by Move:	A	*	*	A	*	*	B	*	*	*	*	*
Movement:	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT
Shared Cap.:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	952	xxxx	xxxx	702	xxxx	xxxx
SharedQueue:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.1	xxxx	xxxx	0.1	xxxx	xxxx
Shrd ConDel:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	8.9	xxxx	xxxx	10.3	xxxx	xxxx
Shared LOS:	*	*	*	*	*	*	A	*	*	B	*	*
ApproachDel:	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	9.0			10.3		
ApproachLOS:	*	*	*	*	*	*	A			B		

Note: Queue reported is the number of cars per lane.

Year 2027 -- PM Peak Hour Traffic
121 West -- #01644

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)
*****
Intersection #5 10th/Upas
*****
Average Delay (sec/veh):      2.3      Worst Case Level Of Service: B[ 11.3]
*****
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
-----|-----|-----|-----|
Control:      Uncontrolled      Uncontrolled      Stop Sign      Stop Sign
Rights:      Include      Include      Include      Include
Lanes:      0 0 1! 0 0      0 0 1! 0 0      1 0 1! 0 0      0 0 1! 0 0
-----|-----|-----|-----|
Volume Module:
Base Vol:      19 90 17 1 64 3 3 0 13 16 1 1
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 19 90 17 1 64 3 3 0 13 16 1 1
Added Vol: 0 51 10 9 34 3 4 3 0 7 2 6
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 19 141 27 10 98 6 7 3 13 23 3 7
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86
PHF Volume: 22 164 31 12 114 7 8 3 15 27 3 8
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 22 164 31 12 114 7 8 3 15 27 3 8
-----|-----|-----|-----|
Critical Gap Module:
Critical Gp: 4.1 xxxx xxxxx 4.1 xxxx xxxxx 7.1 6.5 6.2 7.1 6.5 6.2
FollowUpTim: 2.2 xxxx xxxxx 2.2 xxxx xxxxx 3.5 4.0 3.3 3.5 4.0 3.3
-----|-----|-----|-----|
Capacity Module:
Cnflct Vol: 121 xxxx xxxxx 195 xxxx xxxxx 370 380 117 374 368 180
Potent Cap.: 1479 xxxx xxxxx 1390 xxxx xxxxx 590 555 940 587 564 868
Move Cap.: 1479 xxxx xxxxx 1390 xxxx xxxxx 571 542 940 564 551 868
Volume/Cap: 0.01 xxxx xxxxx 0.01 xxxx xxxxx 0.01 0.01 0.02 0.05 0.01 0.01
-----|-----|-----|-----|
Level Of Service Module:
2Way95thQ: 0.0 xxxx xxxxx 0.0 xxxx xxxxx 0.0 xxxx xxxxx xxxx xxxx xxxxx
Control Del: 7.5 xxxx xxxxx 7.6 xxxx xxxxx 11.3 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move: A * * A * * B * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx 765 xxxxx xxxx 608 xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxx xxxx xxxxx xxxxx 0.1 xxxxx xxxxx 0.2 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxx xxxx xxxxx xxxxx 9.8 xxxxx xxxxx 11.3 xxxxx
Shared LOS: * * * * * A * * B
ApproachDel: xxxxxx xxxxxx 10.1 11.3
ApproachLOS: * * B B
*****
Note: Queue reported is the number of cars per lane.
*****

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Year 2027 -- PM Peak Hour Traffic
121 West -- #01644

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)
*****
Intersection #6 8th/Upas
*****
Average Delay (sec/veh):      0.0      Worst Case Level Of Service: [ 0.0]
*****
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R      L - T - R      L - T - R      L - T - R
-----|-----|-----|-----|
Control:      Stop Sign      Stop Sign      Uncontrolled      Uncontrolled
Rights:      Include      Include      Include      Include
Lanes:      0 0 1 0 0 0 0 0 1 0 1 0 0 0 0 0 0 0 1! 0 0
-----|-----|-----|-----|
Volume Module:
Base Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Growth Adj: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
Initial Bse: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
User Adj: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
PHF Adj: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
PHF Volume: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
-----|-----|-----|-----|
Critical Gap Module:
Critical Gp: 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 0.0 0.0 0.0 0.0 0.0
FollowUpTim: 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 0.0 0.0 0.0 0.0 0.0
-----|-----|-----|-----|
Capacity Module:
Cnflct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Potent Cap.: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Move Cap.: 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Volume/Cap: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
-----|-----|-----|-----|
Level Of Service Module:
2Way95thQ: 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 0.0 0.0 0.0 0.0 0.0
Control Del: 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 0.0 0.0 0.0 0.0 0.0
LOS by Move:
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
SharedQueue: 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 0.0 0.0 0.0 0.0 0.0
Shrd ConDel: 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
Shared LOS:
ApproachDel: 0.0 0.0 0.0 0.0
ApproachLOS:
*****
Note: Queue reported is the number of cars per lane.
*****

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Year 2027 -- PM Peak Hour Traffic
121 West -- #01644

Level of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 8th/Upas

Average Delay (sec/veh): 8.5 Worst Case Level of Service: A[9.5]

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Uncontrolled	Uncontrolled
Rights:	Include	Include	Include	Include
Lanes:	0 0 1 0 0	0 0 0 1 0	1 0 0 0 0	0 0 1 0 0

Volume Module:

Base Vol:	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	20	0	0	13	15	22	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	20	0	0	13	15	22	0	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
PHF Volume:	0	24	0	0	15	18	26	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	24	0	0	15	18	26	0	0	0	0

Critical Gap Module:

Critical Gp:xxxxx	6.5	xxxxx	xxxxx	6.5	6.2	4.1	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx
FollowUpTim:xxxxx	4.0	xxxxx	xxxxx	4.0	3.3	2.2	xxxxx	xxxxx	xxxxx	xxxxx	xxxxx

Capacity Module:

Cnflct Vol:	xxxx	52	xxxxx	xxxx	52	0	0	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	843	xxxxx	xxxx	843	1091	1636	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	830	xxxxx	xxxx	830	1091	1636	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	0.03	xxxx	xxxx	0.02	0.02	0.02	xxxx	xxxx	xxxx	xxxx	xxxx

Level of Service Module:

2Way95thQ:	xxxx	0.1	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:xxxxx	9.5	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	7.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
Movement:	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	952	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxx	0.1	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxx	8.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:	9.5			8.9			xxxxxx			xxxxxx		
ApproachLOS:	A			A			A			A		

Note: Queue reported is the number of cars per lane.

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Year 2027 -- PM Peak Hour Traffic
121 West -- #01644

Level of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #8 10th Quince

Cycle (sec): 100 Critical Vol./Cap.(X): 0.424

Loss Time (sec): 0 Average Delay (sec/veh): 10.0

Optimal Cycle: 0 Level of Service: B

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Stop Sign	Stop Sign
Rights:	Include	Include	Include	Include
Min. Green:	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0
Lanes:	0 0 1 0 0	0 0 1 0 0	0 0 1 0 0	0 0 1 0 0

Volume Module:

Base Vol:	34	98	25	81	82	2	0	48	19	54	102	138
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	34	98	25	81	82	2	0	48	19	54	102	138
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	37	105	27	87	88	2	0	52	20	58	110	148
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	37	105	27	87	88	2	0	52	20	58	110	148
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	37	105	27	87	88	2	0	52	20	58	110	148

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.22	0.62	0.16	0.49	0.50	0.01	0.00	0.72	0.28	0.18	0.35	0.47
Final Sat.:	146	420	107	324	328	8	0	474	188	137	259	350

Capacity Analysis Module:

Vol/Sat:	0.25	0.25	0.25	0.27	0.27	0.27	xxxx	0.11	0.11	0.42	0.42	0.42
Crit Moves:	9.5	9.5	9.5	9.8	9.8	9.8	0.0	8.5	8.5	10.7	10.7	10.7
Delay/Veh:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.5	9.5	9.5	9.8	9.8	9.8	0.0	8.5	8.5	10.7	10.7	10.7
LOS by Move:	A	A	A	A	A	A	A	A	A	B	B	B
ApproachDel:	9.5			9.8				8.5		10.7		
Delay Adj:	1.00			1.00				1.00		1.00		
ApprAdjDel:	9.5			9.8				8.5		10.7		
LOS by Appr:	A			A				A		B		
AllWayAvgQ:	0.3	0.3	0.3	0.3	0.3	0.3	0.1	0.1	0.1	0.6	0.6	0.6

Note: Queue reported is the number of cars per lane.

Year 2027 -- PM Peak Hour Traffic
121 West -- #01644

Level Of Service Computation Report												
2000 HCM 4-Way Stop Method (Future Volume Alternative)												

Intersection #8 10th Quince												

Cycle (sec):	100		Critical Vol./Cap.(X):								0.474	
Loss Time (sec):	0		Average Delay (sec/veh):								11.0	
Optimal Cycle:	0		Level of Service:								B	

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
----- ----- ----- -----												
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1! 0 0	0	0	1! 0 0	0	0	1! 0 0	0	0	1! 0 0
----- ----- ----- -----												
Volume Module:												
Base Vol:	34	98	25	81	82	2	0	48	19	54	102	138
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	34	98	25	81	82	2	0	48	19	54	102	138
Added Vol:	0	40	3	10	27	4	6	0	0	2	0	14
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	34	138	28	91	109	6	6	48	19	56	102	152
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	37	148	30	98	117	6	6	52	20	60	110	163
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	37	148	30	98	117	6	6	52	20	60	110	163
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	37	148	30	98	117	6	6	52	20	60	110	163
----- ----- ----- -----												
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.17	0.69	0.14	0.44	0.53	0.03	0.08	0.66	0.26	0.18	0.33	0.49
Final Sat.:	111	449	91	282	338	19	50	398	158	127	231	345
----- ----- ----- -----												
Capacity Analysis Module:												
Vol/Sat:	0.33	0.33	0.33	0.35	0.35	0.35	0.13	0.13	0.13	0.47	0.47	0.47
Crit Moves:	****			****			****			****		
Delay/Veh:	10.5	10.5	10.5	10.8	10.8	10.8	9.0	9.0	9.0	11.8	11.8	11.8
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	10.5	10.5	10.5	10.8	10.8	10.8	9.0	9.0	9.0	11.8	11.8	11.8
LOS by Move:	B	B	B	B	B	B	A	A	A	B	B	B
ApproachDel:	10.5			10.8			9.0			11.8		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	10.5			10.8			9.0			11.8		
LOS by Appr:	B			B			A			B		
AllWayAvgQ:	0.4	0.4	0.4	0.4	0.4	0.4	0.1	0.1	0.1	0.8	0.8	0.8

Note: Queue reported is the number of cars per lane.												

Year 2027 -- PM Peak Hour Traffic
121 West -- #01644

Level Of Service Computation Report													
2000 HCM Unsignalized Method (Base Volume Alternative)													

Intersection #9 8th/Quince													

Average Delay (sec/veh):		1.3		Worst Case Level Of Service: B[12.9]									

Approach:		North Bound			South Bound			East Bound			West Bound		
Movement:		L	T	R	L	T	R	L	T	R	L	T	R
----- ----- ----- -----													
Control:		Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:		Include			Include			Include			Include		
Lanes:		0	0	1! 0 0	0	0	1! 0 0	0	0	1! 0 0	0	0	1! 0 0
----- ----- ----- -----													
Volume Module:													
Base Vol:		1	1	7	20	3	3	2	163	1	27	252	35
Growth Adj:		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:		1	1	7	20	3	3	2	163	1	27	252	35
User Adj:		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:		0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:		1	1	7	21	3	3	2	170	1	28	263	36
Reduct Vol:		0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:		1	1	7	21	3	3	2	170	1	28	263	36
----- ----- ----- -----													
Critical Gap Module:													
Critical Gp:		7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxx	4.1	xxxx	xxxx
FollowUpTim:		3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxx	2.2	xxxx	xxxx
----- ----- ----- -----													
Capacity Module:													
Cnflct Vol:		515	530	170	516	512	281	299	xxxx	xxxx	171	xxxx	xxxx
Potent Cap.:		474	458	879	473	468	763	1274	xxxx	xxxx	1419	xxxx	xxxx
Move Cap.:		462	448	879	461	458	763	1274	xxxx	xxxx	1419	xxxx	xxxx
Volume/Cap:		0.00	0.00	0.01	0.05	0.01	0.00	0.00	xxxx	xxxx	0.02	xxxx	xxxx
----- ----- ----- -----													
Level Of Service Module:													
2Way95thQ:		xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.0	xxxx	xxxx	0.1	xxxx	xxxx
Control Del:		xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	7.8	xxxx	xxxx	7.6	xxxx	xxxx
LOS by Move:		*	*	*	*	*	*	A	*	*	A	*	*
Movement:		LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:		xxxx	728	xxxx	xxxx	482	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
SharedQueue:		xxxx	0.0	xxxx	xxxx	0.2	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Shrd ConDel:		xxxx	10.0	xxxx	xxxx	12.9	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Shared LOS:		*	B	*	*	B	*	*	*	*	*	*	*
ApproachDel:		10.0			12.9			xxxxxx			xxxxxx		
ApproachLOS:		B			B			*			*		

Note: Queue reported is the number of cars per lane.													

Year 2027 -- PM Peak Hour Traffic
121 West -- #01644

Level of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #9 8th/Quince

Average Delay (sec/veh): 1.5 Worst Case Level of Service: B[13.7]

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Uncontrolled	Uncontrolled
Rights:	Include	Include	Include	Include
Lanes:	0 0 1 0 0	0 0 1 0 0	0 0 1 0 0	0 0 1 0 0

Volume Module:

Base Vol:	1	1	7	20	3	3	2	163	1	27	252	35
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	1	7	20	3	3	2	163	1	27	252	35
Added Vol:	0	0	0	11	0	2	3	10	0	0	14	17
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	1	7	31	3	5	5	173	1	27	266	52
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
PHF Volume:	1	1	7	32	3	5	5	180	1	28	277	54
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	1	7	32	3	5	5	180	1	28	277	54

Critical Gap Module:

Critical Gap:	7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx

Capacity Module:

Cnflct Vol:	556	579	181	556	552	304	331	xxxx	xxxxx	181	xxxx	xxxxx
Potent Cap.:	445	429	867	445	444	740	1240	xxxx	xxxxx	1406	xxxx	xxxxx
Move Cap.:	431	419	867	432	434	740	1240	xxxx	xxxxx	1406	xxxx	xxxxx
Volume/Cap:	0.00	0.00	0.01	0.07	0.01	0.01	0.00	xxxx	xxxx	0.02	xxxx	xxxx

Level of Service Module:

2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.9	xxxx	xxxxx	7.6	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT
Shared Cap.:	xxxx	704	xxxxx	xxxx	457	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.0	xxxxx	xxxxx	0.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	10.2	xxxxx	xxxxx	13.7	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	B	B	*	B	*	B	*	*	*	B	*	*
ApproachDel:	10.2			13.7			xxxxxx			xxxxxx		
ApproachLOS:	B			B			*			*		

Note: Queue reported is the number of cars per lane.

Year 2027 -- PM Peak Hour Traffic
121 West -- #01644

Level of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #10 6th/Quince

Cycle (sec): 100 Critical Vol./Cap.(X): 0.471
Loss Time (sec): 8 Average Delay (sec/veh): 26.6
Optimal Cycle: 30 Level of Service: C

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Protected	Protected	Protected	Protected
Rights:	Include	Include	Include	Include
Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0
Y+R:	4.0 4.0 4.0	4.0 4.0 4.0	4.0 4.0 4.0	4.0 4.0 4.0
Lanes:	1 0 2 0 1	1 0 1 1 0	1 0 0 1 0	1 0 0 1 0

Volume Module:

Base Vol:	170	477	97	52	413	162	105	32	141	75	36	113
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	170	477	97	52	413	162	105	32	141	75	36	113
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	181	507	103	55	439	172	112	34	150	80	38	120
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	181	507	103	55	439	172	112	34	150	80	38	120
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	181	507	103	55	439	172	112	34	150	80	38	120

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.91	0.91	0.95	0.88	0.88	0.95	0.89	0.89
Lanes:	1.00	2.00	1.00	1.00	1.44	0.56	1.00	0.18	0.82	1.00	0.24	0.76
Final Sat.:	1805	3610	1615	1805	2484	974	1805	309	1360	1805	407	1277

Capacity Analysis Module:

Vol/Sat:	0.10	0.14	0.06	0.03	0.18	0.18	0.06	0.11	0.11	0.04	0.09	0.09
Crit Moves:	****			****			****			****		
Green/Cycle:	0.21	0.48	0.48	0.11	0.38	0.38	0.13	0.24	0.24	0.09	0.20	0.20
Volume/Cap:	0.47	0.29	0.13	0.29	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47
Delay/Veh:	35.3	15.6	14.3	42.1	23.9	23.9	41.7	33.6	33.6	44.9	36.4	36.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.3	15.6	14.3	42.1	23.9	23.9	41.7	33.6	33.6	44.9	36.4	36.4
LOS by Move:	D	B	B	D	C	C	D	C	C	D	D	D
HCM2kAvgQ:	5	5	2	2	8	8	4	5	5	3	5	5

Note: Queue reported is the number of cars per lane.

Year 2027 -- PM Peak Hour Traffic
121 West -- #01644

Level of Service Computation Report															
2000 HCM Operations Method (Future Volume Alternative)															

Intersection #10 6th/Quince															

Cycle (sec):	100		Critical Vol./Cap.(X):								0.494				
Loss Time (sec):	8		Average Delay (sec/veh):								27.0				
Optimal Cycle:	32		Level Of Service:								C				

Approach:	North Bound				South Bound				East Bound			West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
----- ----- ----- ----- ----- ----- -----															
Control:	Protected				Protected				Protected			Protected			
Rights:	Include				Include				Include			Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lanes:	1	0	2	0	1	1	0	1	0	1	0	1	0	1	
----- ----- ----- ----- ----- ----- -----															
Volume Module:															
Base Vol:	170	477	97	52	413	162	105	32	141	75	36	113			
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Initial Bse:	170	477	97	52	413	162	105	32	141	75	36	113			
Added Vol:	11	3	0	0	4	14	9	4	7	0	6	0			
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0			
Initial Fut:	181	480	97	52	417	176	114	36	148	75	42	113			
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94			
PHF Volume:	193	511	103	55	444	187	121	38	157	80	45	120			
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0			
Reduced Vol:	193	511	103	55	444	187	121	38	157	80	45	120			
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
FinalVolume:	193	511	103	55	444	187	121	38	157	80	45	120			
----- ----- ----- ----- ----- ----- -----															
Saturation Flow Module:															
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900			
Adjustment:	0.95	0.95	0.85	0.95	0.91	0.91	0.95	0.88	0.88	0.95	0.89	0.89			
Lanes:	1.00	2.00	1.00	1.00	1.41	0.59	1.00	0.20	0.80	1.00	0.27	0.73			
Final Sat.:	1805	3610	1615	1805	2424	1023	1805	327	1343	1805	459	1234			
----- ----- ----- ----- ----- ----- -----															
Capacity Analysis Module:															
Vol/Sat:	0.11	0.14	0.06	0.03	0.18	0.18	0.07	0.12	0.12	0.04	0.10	0.10			
Crit Moves:	****			****			****			****					
Green/Cycle:	0.22	0.48	0.48	0.10	0.37	0.37	0.14	0.24	0.24	0.09	0.20	0.20			
Volume/Cap:	0.49	0.29	0.13	0.29	0.49	0.49	0.49	0.48	0.48	0.48	0.49	0.49			
Delay/Veh:	35.4	15.7	14.4	42.2	24.5	24.5	41.6	33.5	33.5	45.4	36.8	36.8			
User DeLAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
AdjDeL/Veh:	35.4	15.7	14.4	42.2	24.5	24.5	41.6	33.5	33.5	45.4	36.8	36.8			
LOS by Move:	D	B	B	D	C	C	D	C	C	D	D	D			
HCM2kAvgQ:	5	5	2	2	8	8	4	6	6	3	5	5			

Note: Queue reported is the number of cars per lane.															

Year 2027 -- PM Peak Hour Traffic
121 West -- #01644

Level Of Service Computation Report															
2000 HCM 4-Way Stop Method (Base Volume Alternative)															

Intersection #11 9th/Maple															

Cycle (sec):	100					Critical Vol./Cap.(X):				0.986					
Loss Time (sec):	0					Average Delay (sec/veh):				36.1					
Optimal Cycle:	0					Level of Service:				E					

Approach:	North Bound				South Bound				East Bound				West Bound		
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
----- ----- ----- ----- ----- ----- -----															
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign		
Rights:	Include				Include				Include				Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Lanes:	0	0	1	0	0	0	0	1	0	0	1	0	0	1	
----- ----- ----- ----- ----- ----- -----															
Volume Module:															
Base Vol:	40	55	17	50	23	107	126	432	17	15	501	39			
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Initial Bse:	40	55	17	50	23	107	126	432	17	15	501	39			
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97			
PHF Volume:	41	57	18	52	24	110	130	445	18	15	516	40			
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0			
Reduced Vol:	41	57	18	52	24	110	130	445	18	15	516	40			
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
FinalVolume:	41	57	18	52	24	110	130	445	18	15	516	40			
----- ----- ----- ----- ----- ----- -----															
Saturation Flow Module:															
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Lanes:	0.36	0.49	0.15	0.28	0.13	0.59	1.00	0.96	0.04	1.00	0.93	0.07			
Final Sat.:	163	225	69	139	64	297	517	538	21	513	524	41			
----- ----- ----- ----- ----- ----- -----															
Capacity Analysis Module:															
Vol/Sat:	0.25	0.25	0.25	0.37	0.37	0.37	0.25	0.83	0.83	0.03	0.99	0.99			
Crit Moves:	****			****			****			****					
Delay/Veh:	12.7	12.7	12.7	13.6	13.6	13.6	11.9	31.6	31.6	9.8	58.6	58.6			
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
AdjDel/Veh:	12.7	12.7	12.7	13.6	13.6	13.6	11.9	31.6	31.6	9.8	58.6	58.6			
LOS by Move:	B	B	B	B	B	B	B	D	D	A	F	F			
ApproachDel:	12.7			13.6				27.3			57.2				
Delay Adj:	1.00			1.00				1.00			1.00				
ApprAdjDel:	12.7			13.6				27.3			57.2				
LOS by Appr:	B			B				D			F				
AllWayAvgQ:	0.3	0.3	0.3	0.5	0.5	0.5	0.3	3.5	3.5	0.0	7.8	7.8			

Note: Queue reported is the number of cars per lane.															

Year 2027 -- PM Peak Hour Traffic
121 West -- #01644

Level Of Service Computation Report

2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #11 9th/Maple

Cycle (sec):	100	Critical Vol./Cap.(X):	1.056
Loss Time (sec):	0	Average Delay (sec/veh):	44.9
Optimal Cycle:	0	Level Of Service:	E

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	T	R		L	T	R		L	T	R		L	T	R	
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	
Lanes:	0	0	1	0	0	0	1	0	0	1	0	0	1	0	0	

Volume Module:

Base Vol:	40	55	17	50	23	107	126	432	17	15	501	39
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	40	55	17	50	23	107	126	432	17	15	501	39
Added Vol:	0	13	0	12	9	9	13	0	0	0	0	18
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	40	68	17	62	32	116	139	432	17	15	501	57
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	41	70	18	64	33	120	143	445	18	15	516	59
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	41	70	18	64	33	120	143	445	18	15	516	59
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	41	70	18	64	33	120	143	445	18	15	516	59

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.32	0.54	0.14	0.30	0.15	0.55	1.00	0.96	0.04	1.00	0.90	0.10
Final Sat.:	143	244	61	145	75	272	501	520	20	495	489	56

Capacity Analysis Module:

Vol/Sat:	0.29	0.29	0.29	0.44	0.44	0.44	0.29	0.86	0.86	0.03	1.06	1.06
Crit Moves:	***	***	***	***	***	***	***	***	***	***	***	***
Delay/Veh:	13.5	13.5	13.5	15.1	15.1	15.1	12.7	36.3	36.3	10.1	79.0	79.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	13.5	13.5	13.5	15.1	15.1	15.1	12.7	36.3	36.3	10.1	79.0	79.0
LOS by Move:	B	B	B	C	C	C	B	E	E	B	F	F
ApproachDel:	13.5			15.1			30.7				77.2	
Delay Adj:	1.00			1.00			1.00				1.00	
ApprAdjDel:	13.5			15.1			30.7				77.2	
LOS by Appr:	B			C			D				F	
AllwayAvgQ:	0.4	0.4	0.4	0.7	0.7	0.7	0.4	4.1	4.1	0.0	10.5	10.5

Note: Queue reported is the number of cars per lane.

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Year 2027 -- PM Peak Hour Traffic
121 West -- #01644

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #12 6th/Maple

Cycle (sec):	100	Critical Vol./Cap.(X):	0.644
Loss Time (sec):	8	Average Delay (sec/veh):	32.7
Optimal Cycle:	42	Level Of Service:	C

[illegible]

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Volume Module:												
Base Vol:	239	513	244	66	390	181	169	214	155	196	251	54
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	239	513	244	66	390	181	169	214	155	196	251	54
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	254	546	260	70	415	193	180	228	165	209	267	57
Reducut Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	254	546	260	70	415	193	180	228	165	209	267	57
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	254	546	260	70	415	193	180	228	165	209	267	57

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.90	0.90	0.95	0.90	0.90	0.95	1.00	0.85	0.95	0.97	0.97
Lanes:	1.00	1.36	0.64	1.00	1.37	0.63	1.00	1.00	1.00	1.00	0.92	0.18
Final Sat.:	1895	2329	1108	1805	2347	1089	1805	1900	1615	1805	1521	327

Capacity Analysis Module:

Vol/Sat:	0.14	0.23	0.23	0.04	0.18	0.18	0.10	0.12	0.10	0.12	0.18	0.18
Crit Moves:	****			****			****			****		
Green/Cycle:	0.22	0.42	0.42	0.07	0.27	0.27	0.15	0.22	0.22	0.21	0.27	0.27
Volume/Cap:	0.64	0.55	0.55	0.55	0.64	0.64	0.64	0.55	0.47	0.55	0.64	0.64
Delay/Veh:	39.2	22.2	22.2	50.3	33.5	33.5	44.8	36.4	35.1	37.1	35.0	35.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	39.2	22.2	22.2	50.3	33.5	33.5	44.8	36.4	35.1	37.1	35.0	35.0
LOS by Move:	D	C	C	D	C	C	D	D	D	D	C	C
HCM2kAvgQ:	8	10	10	2	9	9	6	7	5	6	10	10

Note: Queue reported is the number of cars per lane.

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Year 2027 -- PM Peak Hour Traffic
121 West -- #01644

Level of Service Computation Report												
2000 HCM Operations Method (Future Volume Alternative)												

Intersection #12 6th/Maple												

Cycle (sec):	100				Critical Vol./Cap.(X):		0.660					
Loss Time (sec):	8				Average Delay (sec/veh):		33.1					
Optimal Cycle:	44				Level Of Service:		C					

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	-	T - R	L	-	T - R	L	-	T - R	L	-	T - R
----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----												
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1	1	0	1	0	1	0	1	1	0
----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----												
Volume Module:												
Base Vol:	239	513	244	66	390	181	169	214	155	196	251	54
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	239	513	244	66	390	181	169	214	155	196	251	54
Added Vol:	6	6	0	3	4	4	3	6	4	0	8	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	245	519	244	69	394	185	172	220	159	196	259	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	261	552	260	73	419	197	183	234	169	209	276	62
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	261	552	260	73	419	197	183	234	169	209	276	62
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	261	552	260	73	419	197	183	234	169	209	276	62
----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----												
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.90	0.90	0.95	0.90	0.90	0.95	1.00	0.85	0.95	0.97	0.97
Lanes:	1.00	1.36	0.64	1.00	1.36	0.64	1.00	1.00	1.00	1.00	0.82	0.18
Final Sat.:	1805	2338	1099	1805	2339	1098	1805	1900	1615	1805	1510	338
----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----												
Capacity Analysis Module:												
Vol/Sat:	0.14	0.24	0.24	0.04	0.18	0.18	0.10	0.12	0.10	0.12	0.18	0.18
Crit Moves:	****			****			****			****		
Green/Cycle:	0.22	0.42	0.42	0.07	0.27	0.27	0.15	0.22	0.22	0.21	0.28	0.28
Volume/Cap:	0.66	0.56	0.56	0.56	0.66	0.66	0.66	0.56	0.47	0.56	0.66	0.66
Delay/Veh:	39.8	22.7	22.7	50.5	34.1	34.1	45.7	36.2	34.8	37.3	35.2	35.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	39.8	22.7	22.7	50.5	34.1	34.1	45.7	36.2	34.8	37.3	35.2	35.2
LOS by Move:	D	C	C	D	C	C	D	D	C	D	D	D
HCM2kAvgQ:	8	10	10	2	9	9	6	7	5	6	10	10

Note: Queue reported is the number of cars per lane.												

Year 2027 -- PM Peak Hour Traffic
121 West -- #01644

Level of Service Computation Report												
2000 HCM Operations Method (Base Volume Alternative)												

Intersection #27 Evergreen/Hwy 97												

Cycle (sec):	100		Critical Vol./Cap.(X):							0.795		
Loss Time (sec):	8		Average Delay (sec/veh):							31.6		
Optimal Cycle:	64		Level of Service:							C		

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----												
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2	0	1	1	0	1	0	1	0	1
----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----												
Volume Module:												
Base Vol:	275	1447	292	121	1074	37	57	92	63	305	372	106
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	275	1447	292	121	1074	37	57	92	63	305	372	106
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	289	1523	307	127	1131	39	60	97	66	321	392	112
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	289	1523	307	127	1131	39	60	97	66	321	392	112
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	289	1523	307	127	1131	39	60	97	66	321	392	112
----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----												
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	1900	1615	1805	1900	1615
----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----												
Capacity Analysis Module:												
Vol/Sat:	0.16	0.42	0.19	0.07	0.31	0.02	0.03	0.05	0.04	0.18	0.21	0.07
Crit Moves:	****			****			****			****		
Green/Cycle:	0.21	0.53	0.53	0.09	0.41	0.41	0.04	0.07	0.07	0.23	0.26	0.26
Volume/Cap:	0.76	0.80	0.36	0.80	0.76	0.06	0.80	0.76	0.61	0.76	0.80	0.27
Delay/Veh:	46.2	21.5	13.9	68.1	27.8	17.9	90.2	69.0	55.4	43.6	43.3	29.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.2	21.5	13.9	68.1	27.8	17.9	90.2	69.0	55.4	43.6	43.3	29.8
LOS by Move:	D	C	B	E	C	B	F	E	E	D	D	C
HCM2kAvgQ:	10	22	6	6	17	1	4	5	3	11	13	3

Note: Queue reported is the number of cars per lane.												

Year 2027 -- PM Peak Hour Traffic
121 West -- #01644

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #27 Evergreen/Hwy 97

Cycle (sec): 100 Critical Vol./Cap.(X): 0.805
Loss Time (sec): 8 Average Delay (sec/veh): 32.0
Optimal Cycle: 66 Level of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound			
Movement:	L	T	R	L	T	R	L	T	R	L	T	R	
Control:	Protected			Protected			Protected			Protected			
Rights:	Include			Include			Include			Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lanes:	1	0	2	0	1	1	0	2	0	1	1	0	1

Volume Module:

Base Vol:	275	1447	292	121	1074	37	57	92	63	305	372	106
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	275	1447	292	121	1074	37	57	92	63	305	372	106
Added Vol:	0	13	0	9	9	0	0	0	0	0	0	13
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	275	1460	292	130	1083	37	57	92	63	305	372	119
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	289	1537	307	137	1140	39	60	97	66	321	392	125
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	289	1537	307	137	1140	39	60	97	66	321	392	125
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	289	1537	307	137	1140	39	60	97	66	321	392	125

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	1900	1615	1805	1900	1615

Capacity Analysis Module:

Vol/Sat:	0.16	0.43	0.19	0.08	0.32	0.02	0.03	0.05	0.04	0.18	0.21	0.08
Crit Moves:	****			****			****			****		
Green/Cycle:	0.21	0.53	0.53	0.09	0.41	0.41	0.04	0.07	0.07	0.23	0.26	0.26
Volume/Cap:	0.76	0.81	0.36	0.81	0.76	0.06	0.81	0.77	0.62	0.77	0.81	0.30
Delay/Veh:	46.2	22.0	14.0	68.1	27.6	17.7	92.9	70.6	56.1	44.5	44.4	30.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.2	22.0	14.0	68.1	27.6	17.7	92.9	70.6	56.1	44.5	44.4	30.4
LOS by Move:	D	C	B	E	C	B	F	E	E	D	D	C
HCM2kAvgQ:	10	22	6	6	17	1	4	5	3	11	13	3

Note: Queue reported is the number of cars per lane.

Year 2032 -- PM Peak Hour
121 West -- #01644

Scenario Report

Scenario: Year 2032

Command: base year plus five
Volume: Default Volume
Geometry: Default Geometry
Impact Fee: Default Impact Fee
Trip Generation: Default Trip Generation
Trip Distribution: Default Trip Distribution
Paths: Path with Upas Bridge
Routes: Default Route
Configuration: Base Year Plus Five

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #1 10th/Pershall

Average Delay (sec/veh): 3.1 Worst Case Level Of Service: A[9.5]

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
-----|-----|-----|-----|
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 1 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0
-----|-----|-----|-----|
Volume Module:
Base Vol: 42 0 13 0 0 0 0 0 50 19 18 68 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 42 0 13 0 0 0 0 0 50 19 18 68 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
PHF Volume: 45 0 14 0 0 0 0 0 53 20 19 72 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 45 0 14 0 0 0 0 0 53 20 19 72 0
-----|-----|-----|-----|
Critical Gap Module:
Critical Gp: 6.4 6.5 6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx 4.1 xxxxx xxxxx
FollowUpTim: 3.5 4.0 3.3 xxxxx xxxx xxxxx xxxxx xxxxx xxxxx 2.2 xxxxx xxxxx
-----|-----|-----|-----|
Capacity Module:
Cnflct Vol: 174 174 63 xxxxx xxxx xxxxx xxxxx xxxx xxxxx 73 xxxxx xxxxx
Potent Cap.: 821 723 1007 xxxxx xxxx xxxxx xxxxx xxxx xxxxx 1539 xxxxx xxxxx
Move Cap.: 813 714 1007 xxxxx xxxx xxxxx xxxxx xxxx xxxxx 1539 xxxxx xxxxx
Volume/Cap: 0.05 0.00 0.01 xxxxx xxxx xxxxx xxxxx xxxx xxxxx 0.01 xxxxx xxxxx
-----|-----|-----|-----|
Level Of Service Module:
2Way95thQ: xxxxx xxxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxxx xxxx xxxxx 0.0 xxxxx xxxxx
Control Del:xxxxx xxxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx 7.4 xxxxx xxxxx
LOS by Move: * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx 852 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxxx xxxxx
SharedQueue:xxxxx 0.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx 0.0 xxxxx xxxxx
Shrd ConDel:xxxxx 9.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx 7.4 xxxxx xxxxx
Shared LOS: * A * * * * *
ApproachDel: 9.5 xxxxxx xxxxxx xxxxxx
ApproachLOS: A * * *

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 10th/Pershall

Average Delay (sec/veh): 3.6 Worst Case Level Of Service: A[9.7]

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
-----|-----|-----|-----|
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 1 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0
-----|-----|-----|-----|
Volume Module:
Base Vol: 42 0 13 0 0 0 0 0 50 19 18 68 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 42 0 13 0 0 0 0 0 50 19 18 68 0
Added Vol: 9 0 6 0 0 0 0 0 0 0 13 8 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 51 0 19 0 0 0 0 0 50 32 26 68 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
PHF Volume: 54 0 20 0 0 0 0 0 53 34 28 72 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 54 0 20 0 0 0 0 0 53 34 28 72 0
-----|-----|-----|-----|
Critical Gap Module:
Critical Gp: 6.4 6.5 6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx 4.1 xxxxx xxxxx
FollowUpTim: 3.5 4.0 3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx 2.2 xxxxx xxxxx
-----|-----|-----|-----|
Capacity Module:
Cnflct Vol: 198 198 70 xxxxx xxxx xxxxx xxxxx xxxx xxxxx 87 xxxxx xxxxx
Potent Cap.: 795 701 998 xxxxx xxxx xxxxx xxxxx xxxx xxxxx 1521 xxxxx xxxxx
Move Cap.: 784 688 998 xxxxx xxxx xxxxx xxxxx xxxx xxxxx 1521 xxxxx xxxxx
Volume/Cap: 0.07 0.00 0.02 xxxxx xxxx xxxxx xxxxx xxxx xxxxx 0.02 xxxxx xxxxx
-----|-----|-----|-----|
Level Of Service Module:
2Way95thQ: xxxxx xxxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxxx xxxx xxxxx 0.1 xxxxx xxxxx
Control Del:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxx xxxxx 7.4 xxxxx xxxxx
LOS by Move: * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx 833 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxxx xxxxx
SharedQueue:xxxxx 0.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx 0.1 xxxxx xxxxx
Shrd ConDel:xxxxx 9.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx 7.4 xxxxx xxxxx
Shared LOS: * A * * * * *
ApproachDel: 9.7 xxxxxx xxxxxx xxxxxx
ApproachLOS: A * * *

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #2 Pershall/ONeil/Hwy97

Average Delay (sec/veh): OVERFLOW Worst Case Level Of Service: F[xxxxx]

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L - T - R					L - T - R					L - T - R					L - T - R				
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Rights:	Include					Include					Include					Include				
Lanes:	1	0	2	0	1	1	0	2	0	1	0	1	0	0	1	0	0	1	0	0

Volume Module:												
Base Vol:	81	1477	69	22	1119	12	8	14	66	16	14	18
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	81	1477	69	22	1119	12	8	14	66	16	14	18
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	85	1555	73	23	1178	13	8	15	69	17	15	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVol:	85	1555	73	23	1178	13	8	15	69	17	15	19

Critical Gap Module:										
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.5	6.5	6.9	7.5 6.5 6.9
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5 4.0 3.3

Capacity Module:										
CnFlict Vol:	1191	xxxx	xxxxx	1627	xxxx	xxxxx	2179	3022	589	2368 2962 777
Potent Cap.:	594	xxxx	xxxxx	405	xxxx	xxxxx	26	13	457	19 15 344
Move Cap.:	594	xxxx	xxxxx	405	xxxx	xxxxx	0	11	457	0 12 344
Volume/Cap:	0.14	xxxx	xxxx	0.06	xxxx	xxxx	xxxx	1.37	0.15	xxxx 1.25 0.06

Level Of Service Module:															
2Xxy95thQ:	0.5	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxx	xxxx	0.5	xxxx	xxxx	xxxxx			
Control Del:	12.1	xxxx	xxxxx	14.4	xxxx	xxxxx	xxxxx	xxxx	14.3	xxxxx	xxxx	xxxxx			
LOS by Move:	B	*	*	B	*	*	*	*	B	*	*	*			
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0	xxxx	xxxxx	xxxx	0	xxxxx			
SharedQueue:	xxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*			
ApproachDel:	xxxxxx			xxxxxx			+Inf			xxxxxx					
ApproachLOS:					*		F				F				

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 Pershall/ONeil/Hwy97

Average Delay (sec/veh): OVERFLOW Worst Case Level Of Service: F[xxxxx]

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Rights:	Include	Include	Include	Include
Lanes:	1 0 2 0 1	1 0 2 0 1	0 1 0 0 1	0 0 1! 0 0

Volume Module:												
Base Vol:	81	1477	69	22	1119	12	8	14	66	16	14	18
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	81	1477	69	22	1119	12	8	14	66	16	14	18
Added Vol:	4	2	0	6	3	3	2	1	3	0	1	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	85	1479	69	28	1122	15	10	15	69	16	15	22
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	89	1557	73	29	1181	16	11	16	73	17	16	23
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	89	1557	73	29	1181	16	11	16	73	17	16	23

Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.5	6.5	6.9	7.5	6.5	6.9
FollowUpTm:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3

Capacity Module:												
Cnflct Vol:	1197	xxxx	xxxxx	1629	xxxx	xxxxx	2205	3048	591	2393	2992	778
Potent Cap:	590	xxx	xxxxx	404	xxx	xxxxx	25	13	456	18	14	343
Move Cap.:	590	xxxx	xxxxx	404	xxxx	xxxxx	0	10	456	0	11	343
Volume/Cap:	0.15	xxx	xxx	0.07	xxx	xxx	xxx	1.56	0.16	xxx	1.43	0.07

Level Of Service Module:												
2Way95thQ:	0.5	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxx	xxxx	0.6	xxxx	xxxx	xxxxxx
Control Del:	12.2	xxxx	xxxxxx	14.6	xxxx	xxxxxx	xxxxxx	xxxx	14.4	xxxxxx	xxxx	xxxxxx
LOS by Move:	B	*	*	B	*	*	*	*	B	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxxx	xxxx	xxxx	xxxxxx	0	xxxxxx	xxxx	0	xxxxxx	
SharedQueue:	xxxx	xxxx	xxxxxx	xxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	xxxx	xxxx	xxxxxx
Shrd ConDel:	xxxxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			+Inf			xxxxxx		
ApproachLOS:	*			*			F			F		

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report															
2000 HCM Unsignalized Method (Base Volume Alternative)															

Intersection #3 10th/Walnut															

Average Delay (sec/veh):				1.7		Worst Case Level Of Service: A[9.1]									

Approach:			North Bound			South Bound			East Bound			West Bound			
Movement:			L	T	R	L	T	R	L	T	R	L	T	R	
Control:			Uncontrolled			Uncontrolled			Stop Sign			Stop Sign			
Rights:			Include			Include			Include			Include			
Lanes:			0	0	0	1	0	1	0	0	0	0	1	0	0
Volume Module:			----- ----- ----- -----												
Base Vol:			0	46	24	7	35	0	0	0	0	14	0	4	
Growth Adj:			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Initial Bse:			0	46	24	7	35	0	0	0	0	14	0	4	
User Adj:			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PHF Adj:			0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	
PHF Volume:			0	55	29	8	42	0	0	0	0	17	0	5	
Reduct Vol:			0	0	0	0	0	0	0	0	0	0	0	0	
FinalVolume:			0	55	29	8	42	0	0	0	0	17	0	5	
Critical Gap Module:			----- ----- ----- -----												
Critical Gp:			xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	6.4	6.5	6.2	
FollowUpTIm:			xxxxxx	xxxxx	xxxxxx	2.2	xxxx	xxxxxx	3.5	4.0	3.3	3.5	4.0	3.3	
Capacity Module:			----- ----- ----- -----												
Cnflct Vol:			xxxx	xxxx	xxxxxx	83	xxxx	xxxxxx	130	142	42	127	127	69	
Potent Cap.:			xxxx	xxxx	xxxxxx	1526	xxxx	xxxxxx	848	753	1035	872	767	1000	
Move Cap.:			xxxx	xxxx	xxxxxx	1526	xxxx	xxxxxx	840	749	1035	868	763	1000	
Volume/Cap:			xxxx	xxxx	xxxx	0.01	xxxx	xxxx	0.00	0.00	0.00	0.02	0.00	0.00	
Level Of Service Module:			----- ----- ----- -----												
2Way95thQ:			xxxx	xxxx	xxxxxx	0.0	xxxx	xxxxxx	xxxx	xxxx	xxxxxx	xxxx	xxxx	xxxxxx	
Control Del:			xxxxxx	xxxx	xxxxxx	7.4	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	
LOS by Move:			*	*	*	A	*	*	*	*	*	*	*	*	
Movement:			LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	
Shared Cap.:			xxxx	xxxx	xxxxxx	xxxx	xxxx	xxxxxx	0	xxxxxx	xxxxxx	894	xxxxxx		
SharedQueue:			xxxxxx	xxxx	xxxxxx	0.0	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	xxxxxx	0.1	xxxxxx	
Shrd ConDel:			xxxxxx	xxxx	xxxxxx	7.4	xxxx	xxxxxx	xxxxxx	xxxx	xxxxxx	xxxxxx	9.1	xxxxxx	
Shared LOS:			*	*	*	A	*	*	*	*	*	A	*	*	
ApproachDel:			xxxxxx			xxxxxx			xxxxxx			9.1			
ApproachLOS:			*			*			*			A			

Note: Queue reported is the number of cars per lane.															

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Level Of Service Computation Report												
2000 HCM Unsignalized Method (Future Volume Alternative)												

Intersection #3 10th/Walnut												

Average Delay (sec/veh): 2.5 Worst Case Level Of Service: A[9.6]												

Approach: North Bound				South Bound				East Bound				West Bound
Movement: L - T - R				L - T - R				L - T - R				L - T - R
----- ----- ----- -----												
Control:		Uncontrolled		Uncontrolled		Stop Sign		Stop Sign				
Rights:		Include		Include		Include		Include				
Lanes:		0 0 0 1 0		0 1 0 0 0		0 0 1! 0 0		0 0 1! 0 0				
----- ----- ----- -----												
Volume Module:												
Base Vol:		0 46 24		7 35 0		0 0 0		14 0 4				
Growth Adj:		1.00 1.00 1.00		1.00 1.00 1.00		1.00 1.00 1.00		1.00 1.00 1.00				
Initial Bse:		0 46 24		7 35 0		0 0 0		14 0 4				
Added Vol:		0 8 29		9 11 0		0 0 0		19 0 6				
PasserByVol:		0 0 0		0 0 0		0 0 0		0 0 0				
Initial Fut:		0 54 53		16 46 0		0 0 0		33 0 10				
User Adj:		1.00 1.00 1.00		1.00 1.00 1.00		1.00 1.00 1.00		1.00 1.00 1.00				
PHF Adj:		0.84 0.84 0.84		0.84 0.84 0.84		0.84 0.84 0.84		0.84 0.84 0.84				
PHF Volume:		0 64 63		19 55 0		0 0 0		39 0 12				
Reduct Vol:		0 0 0		0 0 0		0 0 0		0 0 0				
FinalVolume:		0 64 63		19 55 0		0 0 0		39 0 12				
----- ----- ----- -----												
Critical Gap Module:												
Critical Gp:xxxxx xxxx xxxxx				4.1 xxxx xxxxx		7.1 6.5		6.2 6.4 6.5		6.2		
FollowUpTim:xxxxx xxxx xxxxx				2.2 xxxx xxxxx		3.5 4.0		3.3 3.5 4.0		3.3		
----- ----- ----- -----												
Capacity Module:												
Cnflct Vol: xxxx xxxx xxxxx				127 xxxx xxxxx		195 220		55 189 189		96		
Potent Cap.: xxxx xxxx xxxxx				1471 xxxx xxxxx		769 682 1018		805 710 966				
Move Cap.: xxxx xxxx xxxxx				1471 xxxx xxxxx		752 673 1018		797 700 966				
Volume/Cap: xxxx xxxx xxxx				0.01 xxxx xxxx		0.00 0.00 0.00		0.05 0.00 0.01				
----- ----- ----- -----												
Level Of Service Module:												
2Way95thQ: xxxx xxxx xxxxx				0.0 xxxx xxxxx		xxxx xxxx xxxxx		xxxx xxxx xxxxx				
Control Del:xxxxx xxxx xxxxx				7.5 xxxx xxxxx		xxxxx xxxx xxxxx		xxxxxx xxxx xxxxx				
LOS by Move: * * *				A * *		* * *		* * *				
Movement: LT - LTR - RT				LT - LTR - RT		LT - LTR - RT		LT - LTR - RT				
Shared Cap.: xxxx xxxx xxxxx				xxxx xxxx xxxxx		xxxx 0 xxxxx		xxxx 831 xxxxx				
SharedQueue:xxxxx xxxx xxxxx				0.0 xxxx xxxxx		xxxxxx xxxx xxxxx		xxxxxx 0.2 xxxxx				
Shrd ConDel:xxxxx xxxx xxxxx				7.5 xxxx xxxxx		xxxxxx xxxx xxxxx		xxxxxx 9.6 xxxxx				
Shared LOS: * * *				A * *		* * *		* * *				
ApproachDel: xxxxxx				xxxxxx		xxxxxx		9.6				
ApproachLOS: *				*		*		A				

Note: Queue reported is the number of cars per lane.												

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #4 10th/Varnish

Average Delay (sec/veh): 1.4 Worst Case Level Of Service: A[9.4]

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Rights: Include Include Include Include
Lanes: 0 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0 0 1! 0 0

Volume Module:
Base Vol: 0 63 35 4 51 0 0 0 0 0 21 0 2
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 63 35 4 51 0 0 0 0 0 21 0 2
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84
PHF Volume: 0 75 42 5 61 0 0 0 0 0 25 0 2
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 75 42 5 61 0 0 0 0 0 25 0 2

Critical Gap Module:
Critical Gp:xxxx xxxx xxxxx 4.1 xxxx xxxxx xxxxx xxxx xxxxx 6.4 6.5 6.2
FollowUpTim:xxxxx xxxx xxxxx 2.2 xxxx xxxxx xxxxx xxxx xxxxx 3.5 4.0 3.3

Capacity Module:
Cnflct Vol: xxxx xxxx xxxxx 117 xxxx xxxxx xxxxx xxxx xxxxx 166 166 96
Potent Cap.: xxxx xxxx xxxxx 1484 xxxx xxxxx xxxxx xxxx xxxxx 829 730 966
Move Cap.: xxxx xxxx xxxxx 1484 xxxx xxxxx xxxxx xxxx xxxxx 827 728 966
Volume/Cap: xxxx xxxx xxxxx 0.00 xxxx xxxxx xxxxx xxxx xxxxx 0.03 0.00 0.00

Level Of Service Module:
2Way95thQ: xxxx xxxx xxxxx 0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx 7.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move: * * * A * * * * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxxx xxxx xxxxx xxxx 838 xxxxx
SharedQueue:xxxxx xxxx xxxxx 0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 0.1 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx 7.4 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 9.4 xxxxx
Shared LOS: * * * A * * * * * * * *
ApproachDel: xxxxxx xxxxxx xxxxxx 9.4
ApproachLOS: * * * A

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #4 10th/Varnish

Average Delay (sec/veh): 2.0 Worst Case Level Of Service: B[10.3]

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Uncontrolled Uncontrolled Stop Sign Stop Sign
Rights: Include Include Include Include
Lanes: 0 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0 0 1! 0 0

Volume Module:
Base Vol: 0 63 35 4 51 0 0 0 0 0 21 0 2
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 63 35 4 51 0 0 0 0 0 21 0 2
Added Vol: 0 32 30 7 23 0 0 0 0 0 21 0 5
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 95 65 11 74 0 0 0 0 0 42 0 7
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84 0.84
PHF Volume: 0 113 77 13 88 0 0 0 0 0 50 0 8
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 113 77 13 88 0 0 0 0 0 50 0 8

Critical Gap Module:
Critical Gp:xxxx xxxx xxxxx 4.1 xxxx xxxxx xxxxx xxxx xxxxx 6.4 6.5 6.2
FollowUpTim:xxxxx xxxx xxxxx 2.2 xxxx xxxxx xxxxx xxxx xxxxx 3.5 4.0 3.3

Capacity Module:
Cnflct Vol: xxxx xxxx xxxxx 190 xxxx xxxxx xxxxx xxxx xxxxx 266 266 152
Potent Cap.: xxxx xxxx xxxxx 1395 xxxx xxxxx xxxxx xxxx xxxxx 727 643 900
Move Cap.: xxxx xxxx xxxxx 1395 xxxx xxxxx xxxxx xxxx xxxxx 722 637 900
Volume/Cap: xxxx xxxx xxxxx 0.01 xxxx xxxxx xxxxx xxxx xxxxx 0.07 0.00 0.01

Level Of Service Module:
2Way95thQ: xxxx xxxx xxxxx 0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx 7.6 xxxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move: * * * A * * * * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxxx xxxx xxxxx xxxx 743 xxxxx
SharedQueue:xxxxx xxxx xxxxx 0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 0.3 xxxxx
Shrd ConDel:xxxxx xxxx xxxxx 7.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx 10.3 xxxxx
Shared LOS: * * * A * * * * * * * *
ApproachDel: xxxxxx xxxxxx xxxxxx 10.3
ApproachLOS: * * * B

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #5 10th/Upus

Average Delay (sec/veh): 2.8 Worst Case Level Of Service: B[10.1]

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Rights:	Include	Include	Include	Include
Lanes:	0 0 1! 0 0	0 0 1! 0 0	0 0 1! 0 0	0 0 1! 0 0

Volume Module:

Base Vol:	21	85	18	11	57	4	4	0	15	17	1	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	21	85	18	11	57	4	4	0	15	17	1	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	24	99	21	13	66	5	5	0	17	20	1	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	24	99	21	13	66	5	5	0	17	20	1	10

Critical Gap Module:

Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3

Capacity Module:

Cnflct Vol:	71	xxxx	xxxxx	120	xxxx	xxxxx	258	263	69	261	255	109
Potent Cap.:	1542	xxxx	xxxxx	1481	xxxx	xxxxx	699	646	1000	696	652	950
Move Cap.:	1542	xxxx	xxxxx	1481	xxxx	xxxxx	677	630	1000	671	636	950
Volume/Cap:	0.02	xxxx	xxxx	0.01	xxxx	xxxx	0.01	0.00	0.02	0.03	0.00	0.01

Level Of Service Module:

2Way95thQ: 0.0 xxxx xxxxx 0.0 xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Control Del: 7.4 xxxx xxxxx 7.5 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move: A * * A * * A * * A * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx 909 xxxxx xxxx 742 xxxxx
SharedQueue: xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 0.1 xxxxx xxxxx 0.1 xxxxx
Shrd ConDel: xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 9.1 xxxxx xxxxx 10.1 xxxxx
Shared LOS: * * * * * * * A * * B * *
ApproachDel: xxxxxx xxxxxx 9.1 10.1
ApproachLOS: * A B

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #5 10th/Upus

Average Delay (sec/veh): 3.1 Worst Case Level Of Service: B[10.9]

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Uncontrolled	Uncontrolled	Stop Sign	Stop Sign
Rights:	Include	Include	Include	Include
Lanes:	0 0 1! 0 0	0 0 1! 0 0	0 0 1! 0 0	0 0 1! 0 0

Volume Module:

Base Vol:	21	85	18	11	57	4	4	0	15	17	1	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	21	85	18	11	57	4	4	0	15	17	1	9
Added Vol:	0	44	10	11	30	3	4	3	0	7	2	14
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	21	129	28	22	87	7	8	3	15	24	3	23
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
PHF Volume:	24	150	33	26	101	8	9	3	17	28	3	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	24	150	33	26	101	8	9	3	17	28	3	27

Critical Gap Module:

Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3

Capacity Module:

Cnflct Vol:	109	xxxx	xxxxx	183	xxxx	xxxxx	387	388	105	382	376	166
Potent Cap.:	1494	xxxx	xxxxx	1405	xxxx	xxxxx	576	550	955	580	559	883
Move Cap.:	1494	xxxx	xxxxx	1405	xxxx	xxxxx	541	531	955	551	539	883
Volume/Cap:	0.02	xxxx	xxxx	0.02	xxxx	xxxx	0.02	0.01	0.02	0.05	0.01	0.03

Level Of Service Module:

2Way95thQ: 0.0 xxxx xxxxx 0.1 xxxx xxxxx xxxx xxxx xxxxx xxxx xxxx xxxxx
Control Del: 7.5 xxxx xxxxx 7.6 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move: A * * A * * A * * A * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx xxxx xxxx xxxxx xxxx 719 xxxxx xxxx 665 xxxxx
SharedQueue: xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 0.1 xxxxx xxxxx 0.3 xxxxx
Shrd ConDel: xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx 10.2 xxxxx xxxxx 10.9 xxxxx
Shared LOS: * * * * * B * * B * *
ApproachDel: xxxxxx xxxxxx 10.2 10.9
ApproachLOS: * B B

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #6 8th/Upas

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: A[7.2]

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Uncontrolled	Uncontrolled
Rights:	Include	Include	Include	Include
Lanes:	0 0 1 0 0	0 0 1! 0 0	0 1 0 0 0	0 0 1! 0 0

Volume Module:

Base Vol:	0	0	0	0	0	10	0	1	8	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	10	0	1	8	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
PHF Volume:	0	0	0	0	0	12	0	1	9	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	0	0	12	0	1	9	0

Critical Gap Module:

Critical Gp:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 4.1 xxxxx xxxxx
FollowUpTim:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 2.2 xxxxx xxxxx

Capacity Module:

Cnflct Vol: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 12 xxxxx xxxxx
Potent Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 1620 xxxxx xxxxx
Move Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 1620 xxxxx xxxxx
Volume/Cap: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 0.00 xxxxx xxxxx

Level Of Service Module:

2Way95thQ: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 0.0 xxxxx xxxxx
Control Del:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 7.2 xxxxx xxxxx
LOS by Move: * * * * * A *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 0.0 xxxxx xxxxx
SharedQueue:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 0.0 xxxxx xxxxx
Shrd ConDel:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx 7.2 xxxxx xxxxx
Shared LOS: * * * * * A *
ApproachDel: xxxxxx xxxxxx xxxxxx xxxxxx
ApproachLOS: * * * *

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 8th/Upas

Average Delay (sec/veh): 5.1 Worst Case Level Of Service: A[9.7]

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Uncontrolled	Uncontrolled
Rights:	Include	Include	Include	Include
Lanes:	0 0 1 0 0	0 0 1! 0 0	0 1 0 0 0	0 0 1! 0 0

Volume Module:

Base Vol:	0	0	0	0	0	10	0	1	8	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	10	0	1	8	0
Added Vol:	0	17	0	11	12	11	17	7	0	11
PasserByVol:	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	17	0	11	12	11	17	17	0	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
PHF Volume:	0	20	0	13	14	13	20	20	0	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	20	0	13	14	13	20	20	0	1

Critical Gap Module:

Critical Gp:xxxxx 6.5 xxxxx 7.1 6.5 6.2 4.1 xxxxx xxxxx 4.1 xxxxx xxxxx
FollowUpTim:xxxxx 4.0 xxxxx 3.5 4.0 3.3 2.2 xxxxx xxxxx 2.2 xxxxx xxxxx

Capacity Module:

Cnflct Vol: xxxxx 104 xxxxx 104 94 32 41 xxxxx xxxxx 20 xxxxx xxxxx
Potent Cap.: xxxxx 790 xxxxx 881 800 1048 1581 xxxxx xxxxx 1609 xxxxx xxxxx
Move Cap.: xxxxx 780 xxxxx 855 789 1048 1581 xxxxx xxxxx 1609 xxxxx xxxxx
Volume/Cap: xxxxx 0.03 xxxxx 0.02 0.02 0.01 0.01 xxxxx xxxxx 0.00 xxxxx xxxxx

Level Of Service Module:

2Way95thQ: xxxxx 0.1 xxxxx xxxxx xxxxx xxxxx 0.0 xxxxx xxxxx 0.0 xxxxx xxxxx
Control Del:xxxxx 9.7 xxxxx xxxxx xxxxx xxxxx 7.3 xxxxx xxxxx 7.2 xxxxx xxxxx
LOS by Move: * A * * * * A * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx xxxxx xxxxx xxxxx 881 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
SharedQueue:xxxxx xxxxx xxxxx xxxxx 0.1 xxxxx 0.0 xxxxx xxxxx xxxxx xxxxx xxxxx
Shrd ConDel:xxxxx xxxxx xxxxx xxxxx 9.3 xxxxx 7.3 xxxxx xxxxx xxxxx xxxxx xxxxx
Shared LOS: * * * * * A * * * *
ApproachDel: 9.7 9.3 xxxxxx xxxxxx
ApproachLOS: A A xxxxxx xxxxxx

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report											
2000 HCM Unsignalized Method (Base Volume Alternative)											
Intersection #7 Upas/Canal											
Average Delay (sec/veh): 0.8 Worst Case Level Of Service: A[8.8]											
Approach:	North Bound			South Bound			East Bound			West Bound	
Movement:	L	T	R	L	T	R	L	T	R	L	T
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign	
Rights:	Include			Include			Include			Include	
Lanes:	0	1	0	0	0	1	0	0	1	0	0
Volume Module:											
Base Vol:	8	104	0	0	68	1	1	0	10	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	8	104	0	0	68	1	1	0	10	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	9	116	0	0	76	1	1	0	11	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	9	116	0	0	76	1	1	0	11	0	0
Critical Gap Module:											
Critical Gp:	4.1	xxxx	xxxx	xxxx	xxxx	xxxx	6.4	6.5	6.2	xxxx	xxxx
FollowUpTim:	2.2	xxxx	xxxx	xxxx	xxxx	xxxx	3.5	4.0	3.3	xxxx	xxxx
Capacity Module:											
Cnflct Vol:	77	xxxx	xxxx	xxxx	xxxx	xxxx	209	209	76	xxxx	xxxx
Potent Cap.:	1535	xxxx	xxxx	xxxx	xxxx	xxxx	783	691	991	xxxx	xxxx
Move Cap.:	1535	xxxx	xxxx	xxxx	xxxx	xxxx	780	687	991	xxxx	xxxx
Volume/Cap:	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	0.00	0.00	0.01	xxxx	xxxx
Level Of Service Module:											
2Way95thQ:	0.0	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Control Del:	7.4	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT
Shared Cap.:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	967	xxxx	xxxx	xxxx	xxxx
SharedQueue:	0.0	xxxx	xxxx	xxxx	xxxx	xxxx	0.0	xxxx	xxxx	xxxx	xxxx
Shrd ConDel:	7.4	xxxx	xxxx	xxxx	xxxx	xxxx	8.8	xxxx	xxxx	xxxx	xxxx
Shared LOS:	A	*	*	*	*	*	A	*	*	*	*
ApproachDel:	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	8.8	xxxxxx	xxxxxx	xxxxxx	xxxxxx
ApproachLOS:	A	*	*	*	*	*	A	*	*	*	*
Note: Queue reported is the number of cars per lane.											

Level Of Service Computation Report											
2000 HCM Unsignalized Method (Future Volume Alternative)											
Intersection #7 Upas/Canal											
Average Delay (sec/veh): 1.9 Worst Case Level Of Service: A[9.2]											
Approach:	North Bound			South Bound			East Bound			West Bound	
Movement:	L	T	R	L	T	R	L	T	R	L	T
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign	
Rights:	Include			Include			Include			Include	
Lanes:	0	1	0	0	0	1	0	0	1	0	0
Volume Module:											
Base Vol:	8	104	0	0	68	1	1	0	10	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	8	104	0	0	68	1	1	0	10	0	0
Added Vol:	16	0	0	0	0	11	8	0	10	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	24	104	0	0	68	12	9	0	20	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	27	116	0	0	76	13	10	0	22	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	27	116	0	0	76	13	10	0	22	0	0
Critical Gap Module:											
Critical Gp:	4.1	xxxx	xxxx	xxxx	xxxx	xxxx	6.4	6.5	6.2	xxxx	xxxx
FollowUpTim:	2.2	xxxx	xxxx	xxxx	xxxx	xxxx	3.5	4.0	3.3	xxxx	xxxx
Capacity Module:											
Cnflct Vol:	89	xxxx	xxxx	xxxx	xxxx	xxxx	251	251	82	xxxx	xxxx
Potent Cap.:	1519	xxxx	xxxx	xxxx	xxxx	xxxx	742	655	983	xxxx	xxxx
Move Cap.:	1519	xxxx	xxxx	xxxx	xxxx	xxxx	732	644	983	xxxx	xxxx
Volume/Cap:	0.02	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	0.00	0.02	xxxx	xxxx
Level Of Service Module:											
2Way95thQ:	0.1	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Control Del:	7.4	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT
Shared Cap.:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	888	xxxx	xxxx	xxxx	xxxx
SharedQueue:	0.1	xxxx	xxxx	xxxx	xxxx	xxxx	0.1	xxxx	xxxx	xxxx	xxxx
Shrd ConDel:	7.4	xxxx	xxxx	xxxx	xxxx	xxxx	9.2	xxxx	xxxx	xxxx	xxxx
Shared LOS:	A	*	*	*	*	*	A	*	*	*	*
ApproachDel:	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	xxxxxx	9.2	xxxxxx	xxxxxx	xxxxxx	xxxxxx
ApproachLOS:	A	*	*	*	*	*	A	*	*	*	*
Note: Queue reported is the number of cars per lane.											

Year 2032 -- PM Peak Hour
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Level of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)
*****
Intersection #8 10th Quince
*****
Cycle (sec):      100          Critical Vol./Cap.(X):      0.453
Loss Time (sec):   0           Average Delay (sec/veh):     10.3
Optimal Cycle:     0           Level of Service:           B
*****
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R        L - T - R        L - T - R        L - T - R
-----|-----|-----|-----|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Min. Green:      0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Lanes:           0 0 1! 0 0 0 0 1! 0 0 0 0 1! 0 0 0 0
-----|-----|-----|-----|
Volume Module:
Base Vol:       37 104 27 77 87 2 0 52 21 59 111 140
Growth Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:    37 104 27 77 87 2 0 52 21 59 111 140
User Adj:       1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:        0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93
PHF Volume:     40 112 29 83 94 2 0 56 23 63 119 151
Reduct Vol:     0 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol:    40 112 29 83 94 2 0 56 23 63 119 151
PCE Adj:        1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:        1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:    40 112 29 83 94 2 0 56 23 63 119 151
-----|-----|-----|-----|
Saturation Flow Module:
Adjustment:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes:          0.22 0.62 0.16 0.46 0.53 0.01 0.00 0.71 0.29 0.19 0.36 0.45
Final Sat.:    146 410 106 300 339 8 0 463 187 140 263 332
-----|-----|-----|-----|
Capacity Analysis Module:
Vol/Sat:        0.27 0.27 0.27 0.28 0.28 0.28 xxxx 0.12 0.12 0.45 0.45 0.45
Crit Moves:
Delay/Veh:      9.8 9.8 9.8 10.0 10.0 10.0 0.0 8.7 8.7 11.2 11.2 11.2
Delay Adj:      1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:     9.8 9.8 9.8 10.0 10.0 10.0 0.0 8.7 8.7 11.2 11.2 11.2
LOS by Move:    A A A B B B * A A B B B
ApproachDel:    9.8 10.0 8.7 11.2
Delay Adj:      1.00 1.00 1.00 1.00
ApprAdjDel:     9.8 10.0 8.7 11.2
LOS by Appr:    A B A B
AllWayAvgQ:     0.3 0.3 0.3 0.3 0.3 0.3 0.1 0.1 0.1 0.7 0.7 0.7
*****
Note: Queue reported is the number of cars per lane.
*****

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Year 2032 -- PM Peak Hour
121 West -- #01644

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Level of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)
*****
Intersection #8 10th Quince
*****
Cycle (sec):      100          Critical Vol./Cap.(X):      0.498
Loss Time (sec):   0           Average Delay (sec/veh):     11.3
Optimal Cycle:     0           Level of Service:           B
*****
Approach:      North Bound      South Bound      East Bound      West Bound
Movement:      L - T - R        L - T - R        L - T - R        L - T - R
-----|-----|-----|-----|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Min. Green:      0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Lanes:           0 0 1! 0 0 0 0 1! 0 0 0 0 1! 0 0 0 0
-----|-----|-----|-----|
Volume Module:
Base Vol:       37 104 27 77 87 2 0 52 21 59 111 140
Growth Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:    37 104 27 77 87 2 0 52 21 59 111 140
Added Vol:      0 38 3 7 26 4 6 0 0 2 0 10
PasserByVol:    0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut:    37 142 30 84 113 6 6 52 21 61 111 150
User Adj:       1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:        0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93
PHF Volume:     40 153 32 90 122 6 6 56 23 66 119 161
Reduct Vol:     0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol:    40 153 32 90 122 6 6 56 23 66 119 161
PCE Adj:        1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:        1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:    40 153 32 90 122 6 6 56 23 66 119 161
-----|-----|-----|-----|
Saturation Flow Module:
Adjustment:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes:          0.18 0.68 0.14 0.41 0.56 0.03 0.08 0.66 0.26 0.19 0.34 0.47
Final Sat.:    114 436 92 260 350 19 45 394 159 132 240 324
-----|-----|-----|-----|
Capacity Analysis Module:
Vol/Sat:        0.35 0.35 0.35 0.35 0.35 0.35 0.14 0.14 0.14 0.50 0.50 0.50
Crit Moves:
Delay/Veh:     10.8 10.8 10.8 10.9 10.9 10.9 9.2 9.2 9.2 12.3 12.3 12.3
Delay Adj:      1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:     10.8 10.8 10.8 10.9 10.9 10.9 9.2 9.2 9.2 12.3 12.3 12.3
LOS by Move:    B B B B B B A A A B B B
ApproachDel:    10.8 10.9 9.2 12.3
Delay Adj:      1.00 1.00 1.00 1.00
ApprAdjDel:     10.8 10.9 9.2 12.3
LOS by Appr:    B B A B
AllWayAvgQ:     0.5 0.5 0.5 0.4 0.4 0.4 0.1 0.1 0.1 0.8 0.8 0.8
*****
Note: Queue reported is the number of cars per lane.
*****

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Level Of Service Computation Report															
2000 HCM Unsignalized Method (Base Volume Alternative)															

Intersection #9 8th/Quince															

Average Delay (sec/veh):				1.3		Worst Case Level Of Service: B[13.3]									

Approach:				North Bound			South Bound			East Bound			West Bound		
Movement:				L - T - R			L - T - R			L - T - R			L - T - R		
----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----															
Control:				Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:				Include			Include			Include			Include		
Lanes:				0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----															
Volume Module:															
Base Vol:				1 1 7			22 4 4			2 166 1			29 272 38		
Growth Adj:				1.00 1.00 1.00			1.00 1.00 1.00			1.00 1.00 1.00			1.00 1.00 1.00		
Initial Bse:				1 1 7			22 4 4			2 166 1			29 272 38		
User Adj:				1.00 1.00 1.00			1.00 1.00 1.00			1.00 1.00 1.00			1.00 1.00 1.00		
PHF Adj:				0.96 0.96 0.96			0.96 0.96 0.96			0.96 0.96 0.96			0.96 0.96 0.96		
PHF Volume:				1 1 7			23 4 4			2 173 1			30 283 40		
Reduct Vol:				0 0 0			0 0 0			0 0 0			0 0 0		
FinalVolume:				1 1 7			23 4 4			2 173 1			30 283 40		
----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----															
Critical Gap Module:															
Critical Gp:				7.1 6.5 6.2			7.1 6.5 6.2			4.1 xxxx xxxxx			4.1 xxxx xxxxx		
FollowUpTim:				3.5 4.0 3.3			3.5 4.0 3.3			2.2 xxxx xxxxx			2.2 xxxx xxxxx		
----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----															
Capacity Module:															
Cnflct Vol:				545 561 173			545 542 303			323 xxxx xxxxx			174 xxxx xxxxx		
Potent Cap.:				452 439 875			452 450 741			1248 xxxx xxxxx			1415 xxxx xxxxx		
Move Cap.:				438 429 875			440 440 741			1248 xxxx xxxxx			1415 xxxx xxxxx		
Volume/Cap:				0.00 0.00 0.01			0.05 0.01 0.01			0.00 xxxx xxxx			0.02 xxxx xxxx		
----- ----- ----- ----- ----- ----- ----- ----- ----- ----- ----- -----															
Level of Service Module:															
2Way95thQ:				xxxx xxxx xxxxx			xxxx xxxx xxxxx			0.0 xxxx xxxxx			0.1 xxxx xxxxx		
Control Del:				xxxxx xxxx xxxxx			xxxxxx xxxx xxxxx			7.9 xxxx xxxxx			7.6 xxxx xxxxx		
LOS by Move:				* * *			* * *			A *			A *		
Movement:				LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:				xxxx 714 xxxxx			xxxx 465 xxxxx			xxxx xxxx xxxxx			xxxx xxxx xxxxx		
SharedQueue:				xxxxx 0.0 xxxxx			xxxxx 0.2 xxxxx			xxxxxx xxxx xxxxx			xxxxxx xxxx xxxxx		
Shrd ConDel:				xxxxx 10.1 xxxxx			xxxxx 13.3 xxxxx			xxxxxx xxxx xxxxx			xxxxxx xxxx xxxxx		
Shared LOS:				* B *			* B *			* * *			* * *		
ApproachDel:				10.1			13.3			xxxxxx			xxxxxx		
ApproachLOS:				B			B			*			*		

Note: Queue reported is the number of cars per lane.															

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Level Of Service Computation Report												
2000 HCM Unsignalized Method (Future Volume Alternative)												

Intersection #9 8th/Quince												

Average Delay (sec/veh): 1.6 Worst Case Level Of Service: B[14.0]												

Approach: North Bound				South Bound				East Bound				West Bound
Movement: L - T - R				L - T - R				L - T - R				L - T - R
----- ----- ----- -----												
Control:		Stop Sign		Stop Sign		Uncontrolled		Uncontrolled				
Rights:		Include		Include		Include		Include				
Lanes:		0 0 1! 0 0		0 0 1! 0 0		0 0 1! 0 0		0 0 1! 0 0				
----- ----- ----- -----												
Volume Module:												
Base Vol:		1 1 7		22 4 4		2 166		1 29 272		38		
Growth Adj:		1.00 1.00 1.00		1.00 1.00 1.00		1.00 1.00 1.00		1.00 1.00 1.00				
Initial Bse:		1 1 7		22 4 4		2 166		1 29 272		38		
Added Vol:		0 0 0		10 0 2		3 7 0		0 0 10		14		
PasserByVol:		0 0 0		0 0 0		0 0 0		0 0 0		0		
Initial Fut:		1 1 7		32 4 6		5 173		1 29 282		52		
User Adj:		1.00 1.00 1.00		1.00 1.00 1.00		1.00 1.00 1.00		1.00 1.00 1.00				
PHF Adj:		0.96 0.96 0.96		0.96 0.96 0.96		0.96 0.96 0.96		0.96 0.96 0.96				
PHF Volume:		1 1 7		33 4 6		5 180		1 30 294		54		
Reduct Vol:		0 0 0		0 0 0		0 0 0		0 0 0		0		
FinalVolume:		1 1 7		33 4 6		5 180		1 30 294		54		
----- ----- ----- -----												
Critical Gap Module:												
Critical Gp:		7.1 6.5 6.2		7.1 6.5 6.2		4.1 xxxx xxxxx		4.1 xxxx xxxxx				
FollowUpTim:		3.5 4.0 3.3		3.5 4.0 3.3		2.2 xxxx xxxxx		2.2 xxxx xxxxx				
----- ----- ----- -----												
Capacity Module:												
Cnflct Vol:		578 599 181		577 573 321		348 xxxx xxxxx		181 xxxx xxxxx				
Potent Cap.:		430 418 867		431 432 725		1222 xxxx xxxxx		1406 xxxx xxxxx				
Move Cap.:		415 407 867		418 421 725		1222 xxxx xxxxx		1406 xxxx xxxxx				
Volume/Cap:		0.00 0.00 0.01		0.08 0.01 0.01		0.00 xxxx xxxx		0.02 xxxx xxxx				
----- ----- ----- -----												
Level Of Service Module:												
2Way95thQ:		xxxx xxxx xxxxx		xxxx xxxx xxxxx		0.0 xxxx xxxxx		0.1 xxxx xxxxx				
Control Del:		xxxxx xxxx xxxxx		xxxxxx xxxx xxxxx		8.0 xxxx xxxxx		7.6 xxxx xxxxx				
LOS by Move:		* * *		* * *		A * *		A * *				
Movement:		LT - LTR - RT		LT - LTR - RT		LT - LTR - RT		LT - LTR - RT				
Shared Cap.:		xxxx 695 xxxxx		xxxx 445 xxxxx		xxxx xxxx xxxxx		xxxx xxxx xxxxx				
SharedQueue:		xxxxx 0.0 xxxxx		xxxxx 0.3 xxxxx		xxxxx xxxx xxxxx		xxxxx xxxx xxxxx				
Shrd ConDel:		xxxxx 10.2 xxxxx		xxxxx 14.0 xxxxx		xxxxx xxxx xxxxx		xxxxx xxxx xxxxx				
Shared LOS:		* B *		* B *		* * *		* * *				
ApproachDel:		10.2		14.0		xxxxxx		xxxxxx				
ApproachLOS:		B		B		*		*				

Note: Queue reported is the number of cars per lane.												

Level of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #10 6th/Quince

Cycle (sec): 100 Critical Vol./Cap.(X): 0.506
Loss Time (sec): 8 Average Delay (sec/veh): 26.8
Optimal Cycle: 32 Level of Service: C

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Protected Protected Protected Protected
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 1 0 2 0 1 1 0 1 1 0 1 0 0 1 0 1 0 0 1 0

Volume Module:
Base Vol: 184 520 106 56 450 175 109 35 148 82 39 123
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 184 520 106 56 450 175 109 35 148 82 39 123
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
PHF Volume: 196 553 113 60 479 186 116 37 157 87 41 131
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 196 553 113 60 479 186 116 37 157 87 41 131
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 196 553 113 60 479 186 116 37 157 87 41 131

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.95 0.95 0.85 0.95 0.91 0.91 0.95 0.88 0.88 0.95 0.89 0.89
Lanes: 1.00 2.00 1.00 1.00 1.44 0.56 1.00 0.19 0.81 1.00 0.24 0.76
Final Sat.: 1805 3610 1615 1805 2490 968 1805 319 1351 1805 405 1278

Capacity Analysis Module:
Vol/Sat: 0.11 0.15 0.07 0.03 0.19 0.19 0.06 0.12 0.12 0.05 0.10 0.10
Crit Moves: **** **** **** ****
Green/Cycle: 0.21 0.49 0.49 0.11 0.38 0.38 0.13 0.23 0.23 0.10 0.20 0.20
Volume/Cap: 0.51 0.31 0.14 0.31 0.51 0.51 0.51 0.51 0.51 0.51 0.51 0.51
Delay/Veh: 35.7 15.5 14.1 42.3 24.1 24.1 42.8 34.6 34.6 45.4 37.0 37.0
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 35.7 15.5 14.1 42.3 24.1 24.1 42.8 34.6 34.6 45.4 37.0 37.0
LOS by Move: D B B D C C D C C D D
HCM2kAvgQ: 5 5 2 2 8 8 4 6 6 3 5

Note: Queue reported is the number of cars per lane.

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #10 6th/Quince

Cycle (sec): 100 Critical Vol./Cap.(X): 0.525
Loss Time (sec): 8 Average Delay (sec/veh): 27.3
Optimal Cycle: 33 Level of Service: C

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Protected Protected Protected Protected
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 1 0 2 0 1 1 0 1 1 0 1 0 0 1 0 1 0 0 1 0

Volume Module:
Base Vol: 184 520 106 56 450 175 109 35 148 82 39 123
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 184 520 106 56 450 175 109 35 148 82 39 123
Added Vol: 11 1 0 1 8 5 4 7 0 6 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 195 521 106 56 451 183 114 39 155 82 45 123
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
PHF Volume: 207 554 113 60 480 195 121 41 165 87 48 131
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 207 554 113 60 480 195 121 41 165 87 48 131
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 207 554 113 60 480 195 121 41 165 87 48 131

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.95 0.95 0.85 0.95 0.91 0.91 0.95 0.88 0.88 0.95 0.89 0.89
Lanes: 1.00 2.00 1.00 1.00 1.42 0.58 1.00 0.20 0.80 1.00 0.27 0.73
Final Sat.: 1805 3610 1615 1805 2458 997 1805 336 1336 1805 453 1238

Capacity Analysis Module:
Vol/Sat: 0.11 0.15 0.07 0.03 0.20 0.20 0.07 0.12 0.12 0.05 0.11 0.11
Crit Moves: **** **** **** ****
Green/Cycle: 0.22 0.49 0.49 0.10 0.37 0.37 0.13 0.24 0.24 0.09 0.20 0.20
Volume/Cap: 0.53 0.32 0.14 0.32 0.53 0.53 0.53 0.52 0.52 0.52 0.53 0.53
Delay/Veh: 35.8 15.7 14.3 42.4 24.9 24.9 43.0 34.5 34.5 46.2 37.2 37.2
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 35.8 15.7 14.3 42.4 24.9 24.9 43.0 34.5 34.5 46.2 37.2 37.2
LOS by Move: D B B D C C D C C D D
HCM2kAvgQ: 5 5 2 2 9 9 4 6 6 3 5

Note: Queue reported is the number of cars per lane.

Year 2032 -- PM Peak Hour
121 West -- #01644

Level of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #11 9th/Maple

Cycle (sec): 100 Critical Vol./Cap.(X): 1.107
Loss Time (sec): 0 Average Delay (sec/veh): 54.7
Optimal Cycle: 0 Level of Service: F

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Stop Sign	Stop Sign
Rights:	Include	Include	Include	Include
Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0
Lanes:	0 0 1 0 0	0 0 1 0 0	1 0 0 1 0	1 0 0 1 0

Volume Module:

Base Vol:	44	59	18	53	25	115	136	471	18	16	545	42
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	44	59	18	53	25	115	136	471	18	16	545	42
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	45	61	19	55	26	119	140	486	19	16	562	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	45	61	19	55	26	119	140	486	19	16	562	43
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	45	61	19	55	26	119	140	486	19	16	562	43

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.36	0.49	0.15	0.27	0.13	0.60	1.00	0.96	0.04	1.00	0.93	0.07
Final Sat.:	165	221	67	136	64	295	509	530	20	497	508	39

Capacity Analysis Module:

Vol/Sat:	0.28	0.28	0.28	0.40	0.40	0.40	0.28	0.92	0.92	0.03	1.11	1.11
Crit Moves:	13.3	13.3	13.3	14.5	14.5	14.5	12.4	45.2	45.2	10.1	95.4	95.4
Delay/Veh:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	13.3	13.3	13.3	14.5	14.5	14.5	12.4	45.2	45.2	10.1	95.4	95.4
LOS by Move:	B	B	B	B	B	B	B	E	E	B	F	F
ApproachDel:	13.3			14.5			38.1			93.1		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	13.3			14.5			38.1			93.1		
LOS by Appr:	B			B			E			F		
AllWayAvgQ:	0.3	0.3	0.3	0.6	0.6	0.6	0.4	5.5	5.5	0.0	13.1	13.1

Note: Queue reported is the number of cars per lane.

Year 2032 -- PM Peak Hour
121 West -- #01644

Level of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #11 9th/Maple

Cycle (sec): 100 Critical Vol./Cap.(X): 1.179
Loss Time (sec): 0 Average Delay (sec/veh): 66.2
Optimal Cycle: 0 Level of Service: F

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
Control:	Stop Sign	Stop Sign	Stop Sign	Stop Sign
Rights:	Include	Include	Include	Include
Min. Green:	0 0 0	0 0 0	0 0 0	0 0 0
Lanes:	0 0 1 0 0	0 0 1 0 0	1 0 0 1 0	1 0 0 1 0

Volume Module:

Base Vol:	44	59	18	53	25	115	136	471	18	16	545	42
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	44	59	18	53	25	115	136	471	18	16	545	42
Added Vol:	0	13	0	11	9	9	13	0	0	0	0	16
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	44	72	18	64	34	124	149	471	18	16	545	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	45	74	19	66	35	128	154	486	19	16	562	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	45	74	19	66	35	128	154	486	19	16	562	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	45	74	19	66	35	128	154	486	19	16	562	60

Saturation Flow Module:

Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.33	0.54	0.13	0.29	0.15	0.56	1.00	0.96	0.04	1.00	0.90	0.10
Final Sat.:	146	238	60	141	75	273	493	512	20	483	476	51

Capacity Analysis Module:

Vol/Sat:	0.31	0.31	0.31	0.47	0.47	0.47	0.31	0.95	0.95	0.03	1.18	1.18
Crit Moves:	14.1	14.1	14.1	16.1	16.1	16.1	13.2	52.3	52.3	10.3	122	121.9
Delay/Veh:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	14.1	14.1	14.1	16.1	16.1	16.1	13.2	52.3	52.3	10.3	122	121.9
LOS by Move:	B	B	B	C	C	C	B	F	F	B	F	F
ApproachDel:	14.1			16.1			43.2			119.0		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	14.1			16.1			43.2			119.0		
LOS by Appr:	B			C			E			F		
AllWayAvgQ:	0.4	0.4	0.4	0.8	0.8	0.8	0.4	6.3	6.3	0.0	16.5	16.5

Note: Queue reported is the number of cars per lane.

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Year 2032 -- PM Peak Hour
121 West -- #01644

Level of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #12 6th/Maple

Cycle (sec): 100 Critical Vol./Cap.(X): 0.700
Loss Time (sec): 8 Average Delay (sec/veh): 34.2
Optimal Cycle: 48 Level of Service: C

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Protected Protected Protected Protected
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 1 0 1 1 0 1 0 1 1 0 1 0 1 0 1 1 0 0 1 0

Volume Module:
Base Vol: 259 558 266 70 421 198 184 233 168 214 273 59
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 259 558 266 70 421 198 184 233 168 214 273 59
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
PHF Volume: 276 594 283 74 448 211 196 248 179 228 290 63
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 276 594 283 74 448 211 196 248 179 228 290 63
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 276 594 283 74 448 211 196 248 179 228 290 63

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.95 0.90 0.90 0.95 0.90 0.90 0.95 1.00 0.85 0.95 0.97 0.97
Lanes: 1.00 1.35 0.65 1.00 1.36 0.64 1.00 1.00 1.00 1.00 0.82 0.18
Final Sat.: 1805 2327 1109 1805 2337 1099 1805 1900 1615 1805 1520 329

Capacity Analysis Module:
Vol/Sat: 0.15 0.26 0.26 0.04 0.19 0.19 0.11 0.13 0.11 0.13 0.19 0.19
Crit Moves: **** **** **** ****
Green/Cycle: 0.22 0.42 0.42 0.07 0.27 0.27 0.15 0.22 0.22 0.21 0.27 0.27
Volume/Cap: 0.70 0.60 0.60 0.60 0.70 0.70 0.70 0.60 0.51 0.60 0.70 0.70
Delay/Veh: 41.6 23.0 23.0 53.3 35.0 35.0 47.7 37.6 35.6 38.3 37.0 37.0
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 41.6 23.0 23.0 53.3 35.0 35.0 47.7 37.6 35.6 38.3 37.0 37.0
LOS by Move: D C C D C C D D D D D D
HCM2kAvgQ: 9 11 11 2 10 10 7 8 5 7 11 11

Note: Queue reported is the number of cars per lane.

Year 2032 Wed Jul 21, 2021 12:22:55 Page 25-1

Year 2032 -- PM Peak Hour
121 West -- #01644

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #12 6th/Maple

Cycle (sec): 100 Critical Vol./Cap.(X): 0.713
Loss Time (sec): 8 Average Delay (sec/veh): 34.6
Optimal Cycle: 50 Level of Service: C

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R

Control: Protected Protected Protected Protected
Rights: Include Include Include Include
Min. Green: 0 0 0 0 0 0 0 0 0 0 0 0
Y+R: 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0 4.0
Lanes: 1 0 1 1 0 1 0 1 1 0 1 0 1 0 1 1 0 0 1 0

Volume Module:
Base Vol: 259 558 266 70 421 198 184 233 168 214 273 59
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 259 558 266 70 421 198 184 233 168 214 273 59
Added Vol: 6 6 0 3 4 1 1 6 4 0 8 4
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 265 564 266 73 425 199 185 239 172 214 281 63
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94 0.94
PHF Volume: 282 600 283 78 452 212 197 254 183 228 299 67
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 282 600 283 78 452 212 197 254 183 228 299 67
PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume: 282 600 283 78 452 212 197 254 183 228 299 67

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.95 0.90 0.90 0.95 0.90 0.90 0.95 1.00 0.85 0.95 0.97 0.97
Lanes: 1.00 1.36 0.64 1.00 1.36 0.64 1.00 1.00 1.00 1.00 0.82 0.18
Final Sat.: 1805 2335 1101 1805 2341 1096 1805 1900 1615 1805 1510 339

Capacity Analysis Module:
Vol/Sat: 0.16 0.26 0.26 0.04 0.19 0.19 0.11 0.13 0.11 0.13 0.20 0.20
Crit Moves: **** **** **** ****
Green/Cycle: 0.22 0.42 0.42 0.07 0.27 0.27 0.15 0.22 0.22 0.21 0.28 0.28
Volume/Cap: 0.71 0.61 0.61 0.61 0.71 0.71 0.71 0.60 0.51 0.60 0.71 0.71
Delay/Veh: 42.2 23.5 23.5 53.7 35.6 35.6 48.8 37.5 35.4 38.6 37.3 37.3
User DelAdj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 42.2 23.5 23.5 53.7 35.6 35.6 48.8 37.5 35.4 38.6 37.3 37.3
LOS by Move: D C C D D D D D D D D D
HCM2kAvgQ: 9 12 12 2 10 10 7 8 5 7 11 11

Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #13 6th/Kingwood

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: [0.0]

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 1 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0
Volume Module:
Base Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Growth Adj: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
Initial Bse: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
User Adj: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
PHF Adj: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
PHF Volume: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Critical Gap Module:
Critical Gp: 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 0.0
FollowUpTim: 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 0.0
Capacity Module:
Cnflct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Potent Cap.: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Move Cap.: 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Volume/Cap: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
Level Of Service Module:
2Way95thQ: 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 0.0
Control Del: 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 0.0
LOS by Move:
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
SharedQueue: 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 0.0
Shrd ConDel: 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0
Shared LOS:
ApproachDel: 0.0 0.0 0.0 0.0
ApproachLOS:
Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #13 6th/Kingwood

Average Delay (sec/veh): 9.1 Worst Case Level Of Service: A[9.1]

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R L - T - R L - T - R L - T - R
Control: Stop Sign Stop Sign Uncontrolled Uncontrolled
Rights: Include Include Include Include
Lanes: 0 0 1 0 0 0 0 1 0 0 0 0 0 0 0 0
Volume Module:
Base Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Added Vol: 0 13 0 0 9 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 0 13 0 0 9 0 0 0 0 0 0 0 0 0 0 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume: 0 13 0 0 9 0 0 0 0 0 0 0 0 0 0 0
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
FinalVolume: 0 13 0 0 9 0 0 0 0 0 0 0 0 0 0 0
Critical Gap Module:
Critical Gp:xxxxx 6.5 xxxxx xxxxx 6.5 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
FollowUpTim:xxxxx 4.0 xxxxx xxxxx 4.0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Capacity Module:
Cnflct Vol: xxxxx 0 xxxxx xxxxx 0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Potent Cap.: xxxxx 900 xxxxx xxxxx 900 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Move Cap.: xxxxx 900 xxxxx xxxxx 900 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Volume/Cap: xxxxx 0.01 xxxxx xxxxx 0.01 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Level Of Service Module:
2Way95thQ: xxxxx 0.0 xxxxx xxxxx 0.0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Control Del:xxxxx 9.1 xxxxx xxxxx 9.0 xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
LOS by Move: * A * A * * * * * * * * * * * * * * * *
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap.: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
SharedQueue:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shrd ConDel:xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
Shared LOS: *
ApproachDel: 9.1 9.0 xxxxxx xxxxxx
ApproachLOS: A A * *
Note: Queue reported is the number of cars per lane.

Year 2032 -- PM Peak Hour
121 West -- #01644

Level of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #27 Evergreen/Hwy 97

Cycle (sec): 100 Critical Vol./Cap.(X): 0.866
Loss Time (sec): 8 Average Delay (sec/veh): 35.9
Optimal Cycle: 85 Level of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2	0	1	1	1	0	1	0	1	0

Volume Module:

Base Vol:	299	1576	318	132	1170	40	62	101	69	332	405	116
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	299	1576	318	132	1170	40	62	101	69	332	405	116
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	315	1659	335	139	1232	42	65	106	73	349	426	122
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	315	1659	335	139	1232	42	65	106	73	349	426	122
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	315	1659	335	139	1232	42	65	106	73	349	426	122

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	1900	1615	1805	1900	1615

Capacity Analysis Module:

Vol/Sat:	0.17	0.46	0.21	0.08	0.34	0.03	0.04	0.06	0.04	0.19	0.22	0.08
Crit Moves:	****			****			****			****		
Green/Cycle:	0.21	0.53	0.53	0.09	0.41	0.41	0.04	0.07	0.07	0.23	0.26	0.26
Volume/Cap:	0.83	0.87	0.39	0.87	0.83	0.06	0.87	0.83	0.67	0.83	0.87	0.29
Delay/Veh:	52.4	24.9	14.2	80.8	30.6	17.9	108.3	80.5	60.2	49.4	50.3	30.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.4	24.9	14.2	80.8	30.6	17.9	108.3	80.5	60.2	49.4	50.3	30.1
LOS by Move:	D	C	B	F	C	B	F	F	E	D	D	C
HCM2kAvgQ:	12	26	6	7	20	1	4	5	3	13	16	3

Note: Queue reported is the number of cars per lane.

Year 2032 -- PM Peak Hour
121 West -- #01644

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #27 Evergreen/Hwy 97

Cycle (sec): 100 Critical Vol./Cap.(X): 0.876
Loss Time (sec): 8 Average Delay (sec/veh): 36.4
Optimal Cycle: 88 Level of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2	0	1	1	1	0	1	0	1	0

Volume Module:

Base Vol:	299	1576	318	132	1170	40	62	101	69	332	405	116
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	299	1576	318	132	1170	40	62	101	69	332	405	116
Added Vol:	0	13	0	8	9	0	0	0	0	0	0	13
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	299	1589	318	140	1179	40	62	101	69	332	405	129
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
PHF Volume:	315	1673	335	147	1241	42	65	106	73	349	426	136
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	315	1673	335	147	1241	42	65	106	73	349	426	136
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	315	1673	335	147	1241	42	65	106	73	349	426	136

Saturation Flow Module:

Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.95	0.95	0.85	0.95	1.00	0.85	0.95	1.00	0.85
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3610	1615	1805	3610	1615	1805	1900	1615	1805	1900	1615

Capacity Analysis Module:

Vol/Sat:	0.17	0.46	0.21	0.08	0.34	0.03	0.04	0.06	0.04	0.19	0.22	0.08
Crit Moves:	****			****			****			****		
Green/Cycle:	0.21	0.53	0.53	0.09	0.41	0.41	0.04	0.07	0.07	0.23	0.26	0.26
Volume/Cap:	0.83	0.88	0.39	0.88	0.83	0.06	0.88	0.84	0.67	0.84	0.88	0.33
Delay/Veh:	52.4	25.5	14.3	81.3	30.4	17.7	111.4	82.6	61.2	50.7	51.8	30.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.4	25.5	14.3	81.3	30.4	17.7	111.4	82.6	61.2	50.7	51.8	30.7
LOS by Move:	D	C	B	F	C	B	F	F	E	D	D	C
HCM2kAvgQ:	12	27	6	7	20	1	4	6	4	13	16	4

Note: Queue reported is the number of cars per lane.

Year 2032 -- PM Peak Hour
121 West -- #01644

Level of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #11 9th/Maple

Cycle (sec): 100 Critical Vol./Cap.(X): 0.709
Loss Time (sec): 12 Average Delay (sec/veh): 29.1
Optimal Cycle: 61 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1	0	0	0	0	0	1	0	0	1

Volume Module:	North Bound			South Bound			East Bound			West Bound		
Base Vol:	44	59	18	53	25	115	136	471	18	16	545	42
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	44	59	18	53	25	115	136	471	18	16	545	42
Added Vol:	0	13	0	11	9	9	13	0	0	0	0	16
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	44	72	18	64	34	124	149	471	18	16	545	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
PHF Volume:	45	74	19	66	35	128	154	486	19	16	562	60
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	45	74	19	66	35	128	154	486	19	16	562	60
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	45	74	19	66	35	128	154	486	19	16	562	60

Saturation Flow Module:	North Bound			South Bound			East Bound			West Bound		
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.97	0.97	0.91	0.91	0.91	0.95	0.99	0.99	0.95	0.99	0.99
Lanes:	0.33	0.54	0.13	0.29	0.15	0.56	1.00	0.96	0.04	1.00	0.90	0.10
Final Sat.:	603	986	247	500	265	968	1805	1819	70	1805	1693	180

Capacity Analysis Module:	North Bound			South Bound			East Bound			West Bound		
Vol/Sat:	0.08	0.08	0.08	0.13	0.13	0.13	0.09	0.27	0.27	0.01	0.33	0.33
Crit Moves:	****			****			****			****		
Green/Cycle:	0.11	0.11	0.11	0.19	0.19	0.19	0.12	0.57	0.57	0.02	0.47	0.47
Volume/Cap:	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.47	0.47	0.47	0.71	0.71
Delay/Veh:	54.7	54.7	54.7	45.3	45.3	45.3	52.7	13.0	13.0	58.1	23.9	23.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.7	54.7	54.7	45.3	45.3	45.3	52.7	13.0	13.0	58.1	23.9	23.9
LOS by Move:	D	D	D	D	D	D	D	B	B	E	C	C
HCM2kAvgQ:	6	6	6	8	8	8	6	9	9	1	16	16

Note: Queue reported is the number of cars per lane.

Appendix H

Preliminary Traffic Signal Warrants

Preliminary Traffic Signal Warrant Analysis ¹						
Major Street: Maple Avenue			Minor Street: 9th Street			
Project: #01644 123 West			City: Redmond, OR			
Year: 2021			Alternative: Existing Traffic			
Preliminary Signal Warrant Volumes						
Number of Approach Lanes		ADT on major street approaching from both directions		ADT on minor street highest approaching volume		
Major Street	Minor Street	Percent of standard warrants		Percent of standard warrants		
		100	70	100	70	
Case A: Minimum Vehicular Traffic						
1	1	8,850	6,200	2,650	1,850	
2 or more	1	10,600	7,400	2,650	1,850	
2 or more	2 or more	10,600	7,400	3,550	2,500	
1	2 or more	8,850	6,200	3,550	2,500	
Case B: Interruption of Continuous Traffic						
1	1	13,300	9,300	1,350	950	
2 or more	1	15,900	11,100	1,350	950	
2 or more	2 or more	15,900	11,100	1,750	1,250	
1	2 or more	13,300	9,300	1,750	1,250	
5.65% of the above ADT volumes is equal to the MUTCD vehicles per hour (vph)						
	100% of standard warrants					
	70% of standard warrants ²					
Preliminary Signal Warrants						
	Street	Number of Lanes	Warrant Volumes	Approach Volumes	App. Vol. > Warr. Vol.	Warrant Met?
Case A 100%	Major	1	8,850	26,071	Yes	Yes
	Minor	1	2,650	3,204	Yes	
Case B 100%	Major	1	13,300	26,071	Yes	Yes
	Minor	1	1,350	3,204	Yes	
Case A 70%	Major	1	6,200	26,071	Yes	Yes
	Minor	1	1,850	3,204	Yes	
Case B 70%	Major	1	9,300	26,071	Yes	Yes
	Minor	1	950	3,204	Yes	

¹ Meeting preliminary signal warrants does not guarantee that a signal will be installed. Before a signal can be installed a traffic signal investigation must be conducted or reviewed by the Region Traffic Manager. Traffic signal warrants must be met and the State Traffic Engineer's approval obtained before a traffic signal can be installed on a state highway.

² Used due to 85th percentile speed in excess of 40 mph or isolated community with population of less than 10,000.00

Appendix I

Left Turn Storage-Lane Warrants



Exhibit 1 Left Turn Warrant for 10th @ Walnut not met (Speed 35 mph); Warrant met for turn lane on Pershall Way at 10th in short term but when Upas Bridge is built, left-turn volume was forecast to be lower. In the latter case, warrant is not met at 45 mph, but met at 55 mph. Speed is not posted.

TTI Guidelines for Left Turn Lanes

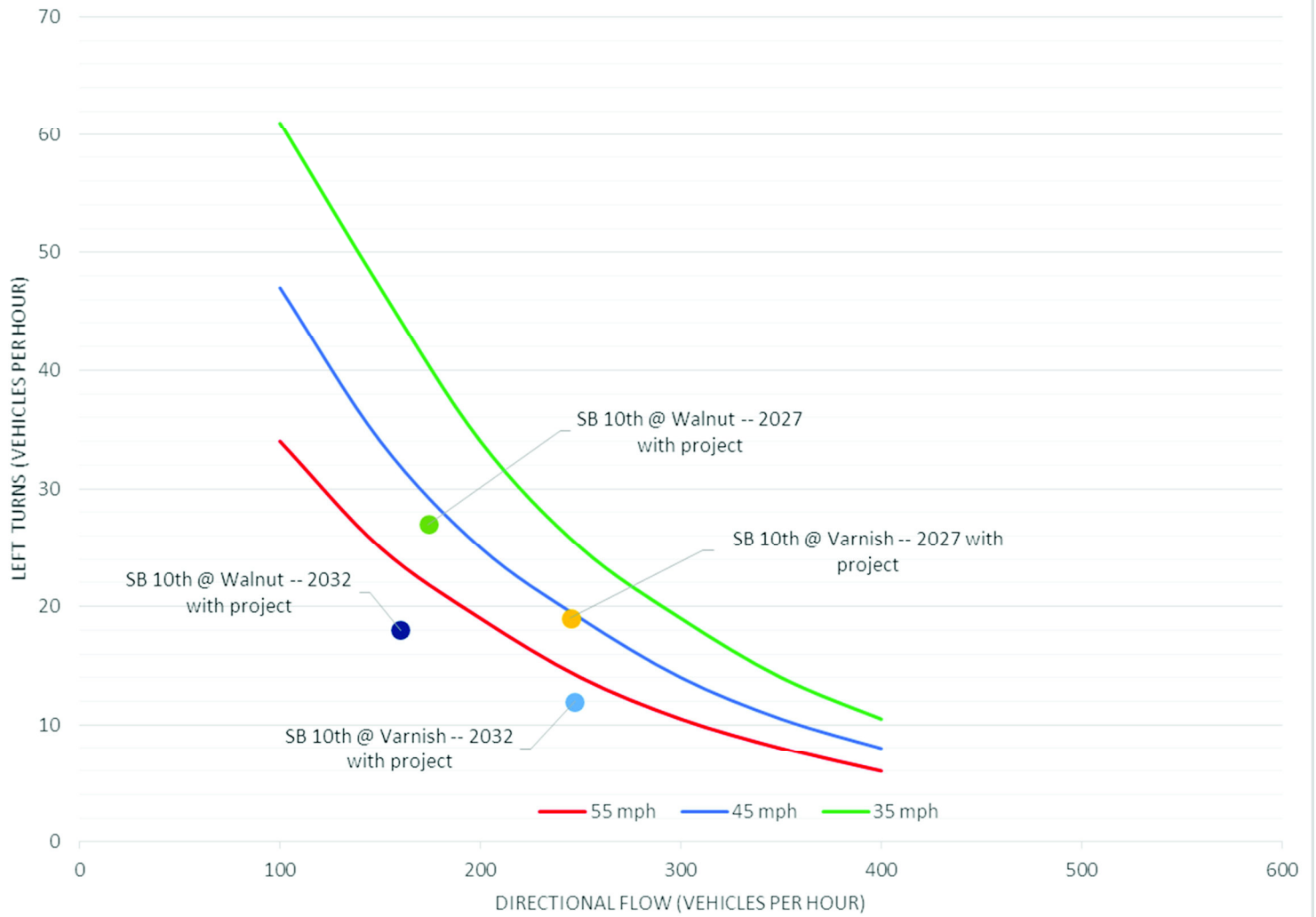


Exhibit 2 Warrant for a left turn lane is not met neither on Walnut nor on Varnish at the posted speed of 35 mph

TTI Guidelines for Left Turn Lanes

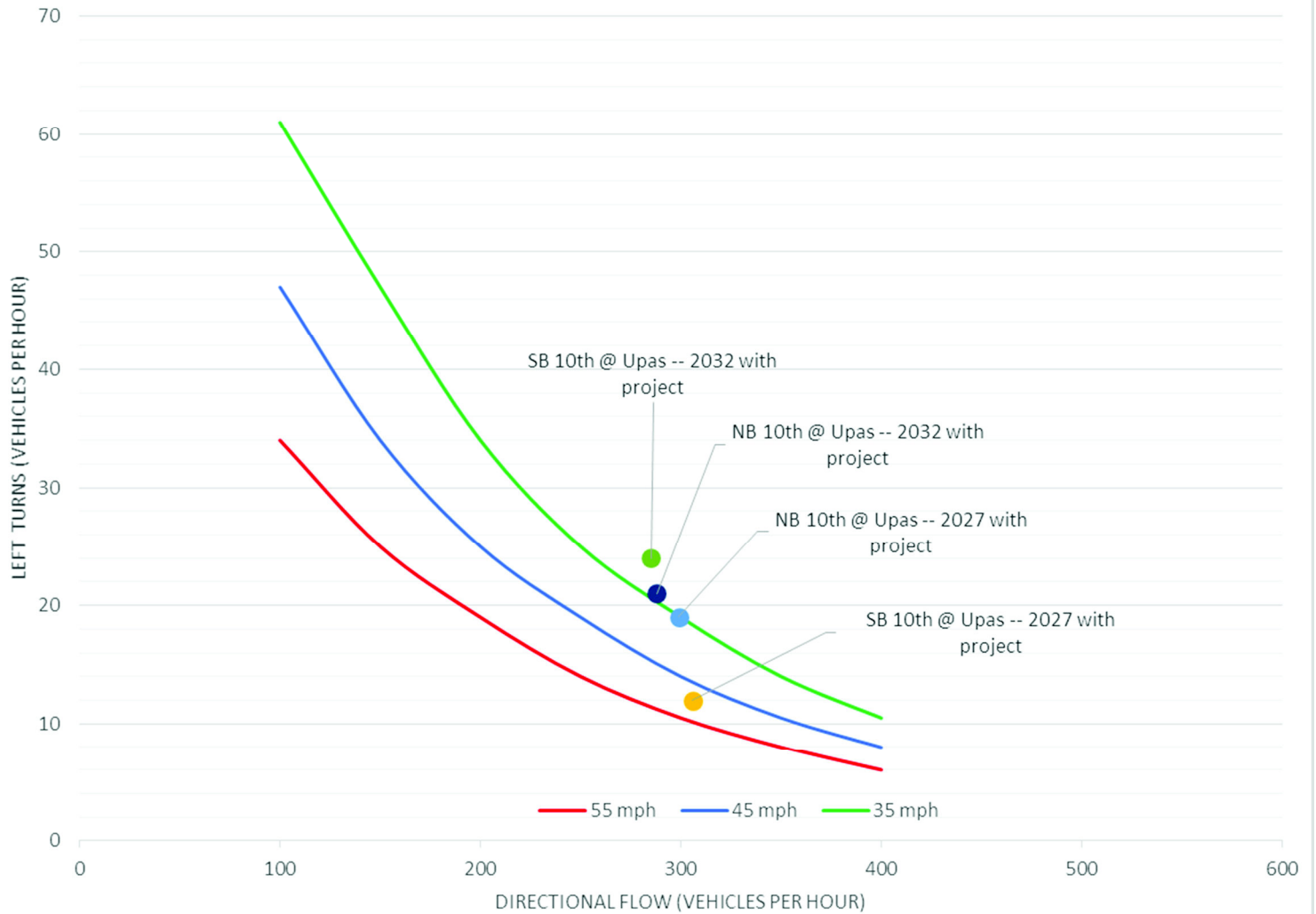


Exhibit 3 – The warrant for a left turn lane on SB 10th Street at Upas would not be met in 2027 but would be met in 2032.

TTI Guidelines for Left Turn Lanes

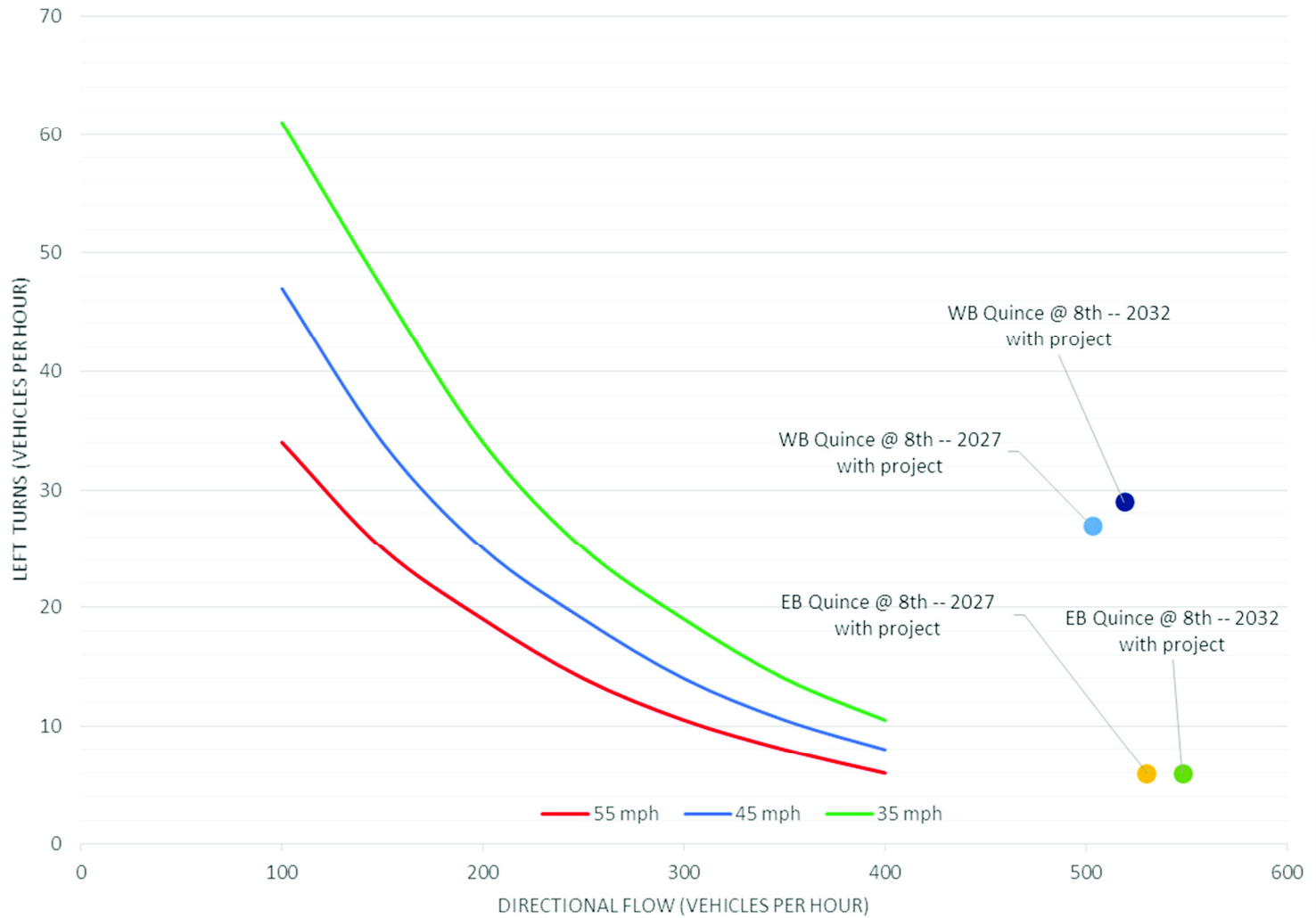


Exhibit 4 – The warrant for a left turn lane would be met on westbound Quince Avenue for all with-project scenarios

TTI Guidelines for Left Turn Lanes

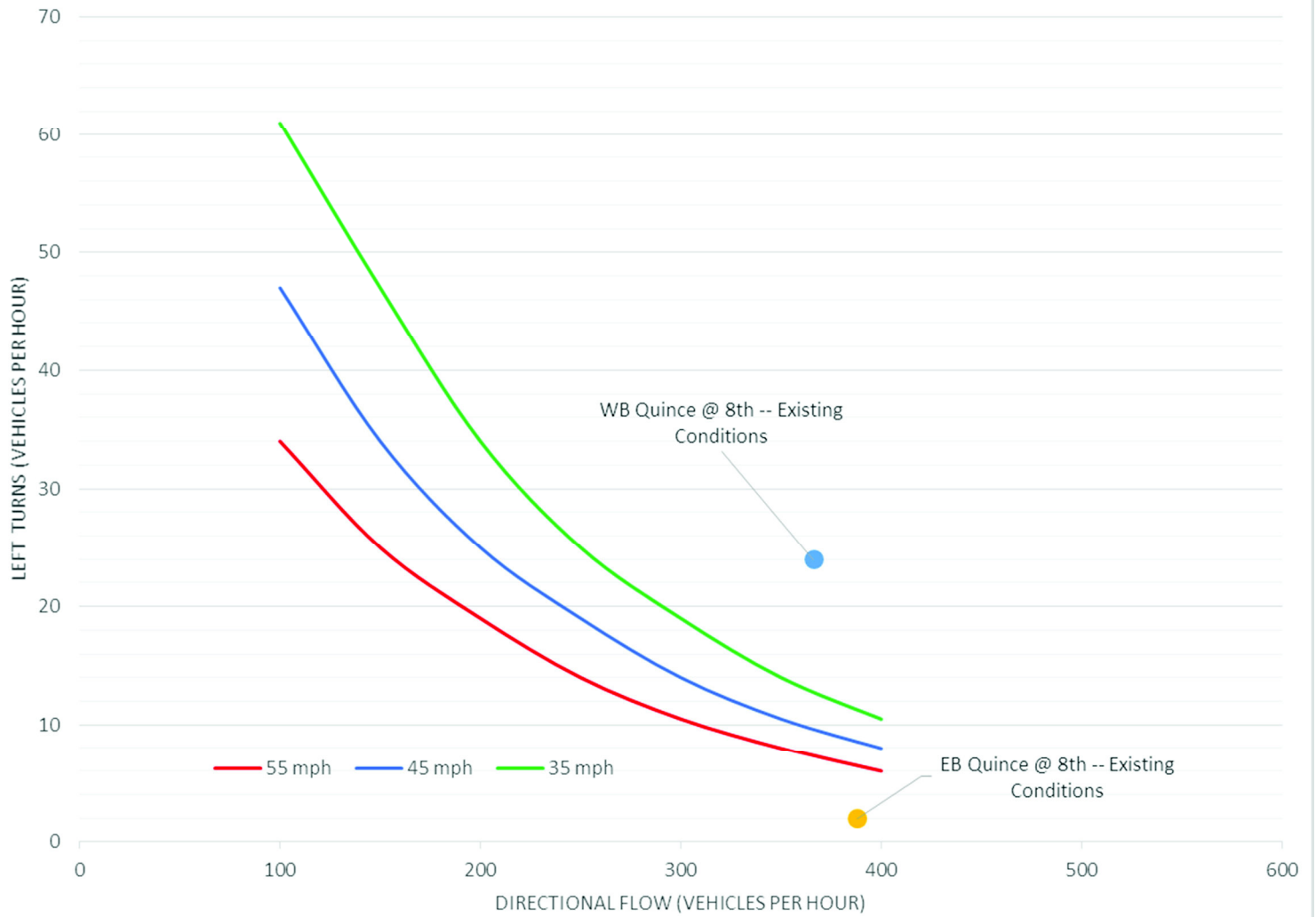


Exhibit 5 –The warrant for a left turn lane would also be meet on Quince Avenue under existing conditions in the westbound direction

Appendix J

Crash Data

Location	US97; MP 119.09; THE DALLES-CALIFORNIA HIGHWAY NO. 4; 0.57 mile south of O'Neil Highway No. 370	Site Name	North Redmond (09-023)
		Installed	August, 2008

HISTORICAL ANNUAL TRAFFIC DATA						
Year	Annual Average Daily Traffic (AADT)	Critical Values as percent of Annual Average Daily Traffic (AADT)				
		Max Day	Max Hour	10th Hour	20th Hour	30th Hour
2010	18408	138	11.4	11.0	10.6	10.4
2011	17996	145	11.7	10.9	10.6	10.4
2012	18186	140	12.1	10.8	10.6	10.5
2013	18968	139	11.2	10.7	10.5	10.3
2014	19725	142	11.3	10.9	10.6	10.5
2015	21090	135	11.0	10.4	10.3	10.1
2016	22411	140	11.0	10.5	10.4	10.2
2017	22809	138	11.2	10.3	10.1	10.1
2018	23386	133	10.7	10.1	10.0	9.8
2019	23490	137	11.0	10.5	10.3	10.2

2019 SEASONAL TRAFFIC DATA				
Month	Weekday		Daily	
	Average	% AADT	Average	% AADT
January	20360	87	19753	84
February	17480	74	17568	75
March	22128	94	21677	92
April	24917	106	24474	104
May	25644	109	25537	109
June	27002	115	26931	115
July	27358	116	27204	116
August	27077	115	27147	116
September	25670	109	25207	107
October	24555	105	24750	105
November	21592	92	21255	90
December	20860	89	20374	87

06/04/2021

TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Highway 004 ALL ROAD TYPES, MP 118.45 to 118.55 01/01/2015 to 12/31/2019, Both Add and Non-Add mileage

COLLISION TYPE	FATAL CRASHES	NON- FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER- SECTION	INTER- SECTION RELATED	OFF- ROAD
YEAR: 2019														
ANGLE	1	0	0	1	1	0	0	1	0	1	0	1	0	0
YEAR 2019 TOTAL	1	0	0	1	1	0	0	1	0	1	0	1	0	0
YEAR: 2018														
FIXED / OTHER OBJECT	0	0	1	1	0	0	0	1	0	0	1	1	0	1
MISCELLANEOUS	0	0	1	1	0	0	0	1	0	0	1	1	0	0
TURNING MOVEMENTS	0	2	0	2	0	2	0	2	0	1	1	2	0	0
YEAR 2018 TOTAL	0	2	2	4	0	2	0	4	0	1	3	4	0	1
YEAR: 2017														
ANGLE	0	0	1	1	0	0	1	1	0	1	0	1	0	0
YEAR 2017 TOTAL	0	0	1	1	0	0	1	1	0	1	0	1	0	0
YEAR: 2016														
ANGLE	0	1	0	1	0	1	0	1	0	0	1	1	0	0
YEAR 2016 TOTAL	0	1	0	1	0	1	0	1	0	0	1	1	0	0
YEAR: 2015														
ANGLE	0	0	1	1	0	0	0	0	1	1	0	1	0	0
FIXED / OTHER OBJECT	0	1	0	1	0	1	0	1	0	0	1	1	0	1
YEAR 2015 TOTAL	0	1	1	2	0	1	0	1	1	1	1	2	0	1
FINAL TOTAL	1	4	4	9	1	4	1	8	1	4	5	9	0	2

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CONTINUOUS SYSTEM CRASH LISTING

004: THE DALLES-CALIFORNIA Highway 004 ALL ROAD TYPES, MP 118.45 to 118.55 01/01/2015 to 12/31/2019, Both Add and Non-Add mileage

1 - 7 of 9 Crash records shown.

SER#	P	R	J	S	W	D	DATE	COUNTY	RD#	FC	CONN#	RD CHAR	INT-TYPE	INT-REL	OFFRD	WTHR	CRASH	SPCL USE	MOVE	A	S	PED	ERROR	ACT	EVENT	CAUSE
INVEST	E	A	U	I	C	O	DAY	CITY	COMPNT	FIRST STREET		DIRECT	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR	QTY							
RD DPT	E	L	G	N	H	R	TIME	URBAN AREA	MLG	TYP	SECOND STREET	LOCTN	LEGS	TRAF-	RND	SURF	COLL	OWNER	FROM							
UNLOC?	D	C	S	V	L	K	LAT	LONG	MILEPNT	LRS			(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE	TO	P#	TYPE	SVRTY	E	X	RES
01692	N	N	N	N	N	N	10/18/2018	DESCHUTES	1	14		INTER	CROSS	N	Y	CLR	FIX OBJ	01	NONE	9	TURN-L					
COUNTY							TH		MN	0		UN		STOP SIGN	N	DRY	FIX	N/A	S	-W						
N							7P	REDMOND UA	118.52			05	0		N	DLIT	PDO	PSNGR	CAR		01	DRVR	NONE	00	Unk	UNK
N							44 18 45.79	-121 10 17.53			000400100S00												000	000	00	00
00210	N	N	N	N	N	N	02/18/2015	DESCHUTES	1	14		INTER	CROSS	N	Y	CLR	FIX OBJ	01	NONE	0	STRGHT					
COUNTY							WE		MN	0		S		FLASHBCN-A	N	DRY	FIX	PRVTE	N	-S						
N							6P	REDMOND UA	118.52			05	0		N	DARK	INJ	PSNGR	CAR		01	DRVR	INJC	62	F	OR-Y
N							44 18 45.79	-121 10 17.53			000400100S00												080,081	000	040	10
01369	N	N	N	N	N	N	08/23/2018	DESCHUTES	1	14		INTER	CROSS	N	N	CLR	ANIMAL	01	NONE	9	STRGHT					
NONE							TH		MN	0		S		UNKNOWN	N	DRY	OTH	N/A	S	-N						
N							3A	REDMOND UA	118.52			06	0		N	DARK	PDO	PSNGR	CAR		01	DRVR	NONE	00	Unk	UNK
N							44 18 45.81	-121 10 17.53			000400100S00												000	000	000	00
01817	N	N	N	N	N	N	11/24/2015	DESCHUTES	1	14		INTER	CROSS	N	N	SNOW	ANGL-OTH	01	NONE	0	STRGHT					
NO RPT							TU		MN	0		CN		FLASHBCN-R	N	ICE	ANGL	UNKN								
N							3P	REDMOND UA	118.52			01	0		N	DAY	PDO	UNKNOWN								
N							44 18 45.79	-121 10 17.53			000400100S00												020	000	04	04

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

004: THE DALLES-CALIFORNIA

Highway 004 ALL ROAD TYPES, MP 118.45 to 118.55 01/01/2015 to 12/31/2019, Both Add and Non-Add mileage

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004: THE DALLES-CALIFORNIA

Highway 004 ALL ROAD TYPES, MP 118.45 to 118.55 01/01/2015 to 12/31/2019, Both Add and Non-Add mileage

8 - 9 of 9 Crash records shown.

SER#	P	R	J	S	W	DATE	COUNTY	RD#	FC	CONN#	RD CHAR	INT-TYPE	INT-REL	OFFRD	WTHR	CRASH	SPCL USE	TRLR	QTY	MOVE	PRTC	INJ	A	S	LICNS	PED	ERROR	ACT	EVENT	CAUSE	
INVEST	E	A	U	I	C	O	DAY	CITY	COMPNT	FIRST STREET	DIRECT	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	OWNER	FROM	TO				E	X	RES	LOC					
RD DPT	E	L	G	N	H	R	TIME	URBAN AREA	MLG TYP	SECOND STREET	LOCTN	LEGS	TRAF-	RNDBT	SURF	COLL															
UNLOC?	D	C	S	V	L	K	LAT	LONG	MILEPNT	LRS		(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V#	TYPE													
																	02	NONE	0	TURN-L											
																		PRVTE											015	00	
																		PSNGR	CAR			01	DRVR	INJC	26	M	OR-Y		028	000	02
																								OR<25							
02366	N	N	N	N	N	N	12/31/2019	DESCHUTES	1	14								01	NONE	0	STRGHT								001	02	
STATE							TU				CN		FLASHBCN-R	N		CLR			PRVTE										000	00	
N							3P	REDMOND UA	118.52					N		DRY	ANGL		MTRCYCLE			01	DRVR	KILL	63	M	OR-Y		000	001	00
N							44 18 45.8	-121 10 17.53					000400100S00			DAY	FAT							OR<25							
																		02	NONE	1	STRGHT								015	00	
																			PRVTE										000	02	
																		PSNGR	CAR			01	DRVR	NONE	70	M	OR-Y		028	000	02
																								OR<25							
																		03	NONE	0	STRGHT								022	00	
																			PRVTE										000	000	00
																		PSNGR	CAR			01	DRVR	NONE	62	F	OR-Y				00
																								OR<25							

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After Recording Return To:
City of Redmond
411 SW 9th Street
Redmond, OR 97756

Deschutes County Official Records **2017-024909**
D-ANXCON
 Stn=0 PG **06/28/2017 10:30:00 AM**
 \$11.00 \$10.00 \$21.00 \$35.00 \$6.00 **\$83.00**

I, Nancy Blankenship, County Clerk for Deschutes County, Oregon,
 certify that the instrument identified herein was recorded in the Clerk
 records.

Nancy Blankenship - County Clerk

ANNEXATION AGREEMENT

This Annexation Agreement is made and entered into this 6th day of June, 2017, by and between the City of Redmond, Oregon, an Oregon municipal corporation (hereinafter "City") and North Canyon Properties LLC, an Oregon limited liability company, and Central Christian School, an Oregon nonprofit corporation, (hereinafter "Owner").

W I T N E S S E T H

WHEREAS, Owner is the record owner of the property (approximately 55 acres) legally described on Exhibit A attached hereto and incorporated herein (hereinafter referred to as the "Property"); and

WHEREAS, the Property is within the City's urban growth boundary and is proposed to be annexed to the City; and

WHEREAS, Owner desires to have the Property annexed to the City; and

WHEREAS, Owner has submitted a petition for annexation and provide the City with all required consents for annexation; and

WHEREAS, the City is willing to annex the Property on the terms and conditions, and subject to the provisions, of this Agreement; and

WHEREAS, the City will initiate ultimate urban zoning upon the successful annexation of this property by Resolution to the City of Redmond; and

NOW, THEREFORE, in consideration of the representations, promises and mutual covenants contained herein, the City and Owner agree as follows:

1. **RECITALS:** The foregoing recitals are incorporated herein as is fully set forth in this Section.
2. **ANNEXATION**
 - a. City agrees that it will initiate a resolution annexing the Property into the City once all required consents and a signed Annexation Agreement have been received by the City, and an approved Master Plan with proposed zone amendments has been achieved. This agreement is void if the Property is not annexed to the City of Redmond within two years after the effective date of this Agreement.
 - b. Owner may terminate this Agreement by serving written notice to the City. The notice must be received by the City at least 60 days prior to the public hearings for council consideration of the annexation. If the City receives such notice, this Agreement terminates as of the effective date of the notice. After the annexation resolution is adopted

by the City, this Agreement may only be terminated or amended by written consent of Owner and City.

3. **COMPREHENSIVE PLAN/ZONING:** Prior to development and annexation of the property, the Owner is required to complete a Master Plan for the property in compliance with the Redmond Comprehensive Plan and Redmond Development Code. The Master Plan will identify Comprehensive Plan and Zoning designations, subject to Redmond City Council review and approval. Upon adoption of the Master Plan, successful annexation, and a Comprehensive Plan Map/Zone Map adoption, the City will apply the Comprehensive Plan and Zoning designations identified in the Master Plan.

4. **DEVELOPMENT:** Owner agrees as follows:

- a. Owner shall waive and shall not assert any claim against the City that may now exist or that may accrue through the date of annexation of the Property that it may claim due to its ownership of the Property. This includes any claim arising out of any land use regulation or under Measure 37 (ORS 197.352), Measure 49, and Measure 56 (ORS 227.186).
- b. Owner agrees that any development of the property will comply with the applicable approved Area Plan and Master Plan for the property, except as modified consistent with City requirements.
- c. Owner agrees to incorporate and follow the City's Great Neighborhood Principles as found in the Redmond Comprehensive Plan and Redmond Development Code as applicable. The Community Development Director or Hearings Body shall determine the applicability of the Great Neighborhood Principles to the subject property as necessary. All development must comply with federal, state and city regulations.
- d. Owner agrees that it will, without any cost to the City, dedicate the necessary rights-of-way or easements for all Planned Improvements identified in the City's Public Facilities Plan. The Public Facilities Plan includes the Wastewater and Water Master Plans and Transportation System Plan. The City's Comprehensive Plan and Transportation System Plan identify the necessary rights-of-way for minor arterial to be 100 feet and for major collector streets to be 80 feet. Owner agrees to provide right-of-way dedication for NW Upas Avenue and NW 10th Street as follows:

NW Upas (10th to 8th): The existing centerline of Upas west of 10th is 30' south of the North Canyon Property tract. Owner shall provide 10' of right-of-way dedication between 10th and 8th on the proposed master plan to meet the 40' requirement;

NW 10th: A 20' of dedication will be required along NW 10th.

NW Upas (8th to US 97): 50' to 100' north of centerline between 8th and US 97 is required to accommodate future overpass/bridge at US 97. This right-of-way for future overpass/bridge at US 97 will not be required at time of masterplan/annexation but during the land use process.

Master planned projects include waterline P-58 in NW 10th Street and the Far East Sewer Interceptor which traverses the property. Design, rights of way and/or easements for the Far East Sewer Interceptor shall be provided with land use applications impacting the

proposed alignment. Right of way legal descriptions and deeds of dedication, signed by property owner, shall be provided prior to annexation.

- e. City agrees to allocate 137.4 gallons per minute capacity in the NW Upas Avenue sewer between NW 10th Street and the Water Pollution Control Facility for the Property as described by Exhibit 1. This reservation of capacity began February 27, 2017 and will remain in place for two years from the date of approval, unless extended by City. If the capacity allocation has not been used or extended in accordance with Section E.4 of the Excess Capacity Infrastructure Allocation Policy (Exhibit 1), the allocation shall expire and capacity made available to other users. Owner shall meet the requirements of the Excess Capacity Infrastructure Allocation Policy during the master planning process. Allocation of sewer capacity does not eliminate the requirement to construct or pay a cash contribution for the sewer that is master planned to serve the property.
- f. Owner agrees to construct and dedicate approximately 2.5 acres for a park (1.8 park and .70 acre of the PF, Public Facility zoned land) to the City. Dedication to occur no later than the final plat for the residential development. This park needs to be centrally located in the future development and at a minimum include a play areas for ages 2 – 12, restrooms, irrigated turf, sheltered picnic area, storm drainage improvements, underground sewer, water and power stub outs, trash cans and benches constructed to City standards. The park design shall be approved by the City prior to construction.
- g. Owner also agrees to construct a 10' wide paved multi-use trail along NW 10th Street and NW Upas Avenue to provide bicycle and pedestrian connectivity through the future development. This trail shall be built to city standards and open to the public. The multi-use trail can serve as a replacement for the City required sidewalk on the street side in which it is being installed. The trail must be built to city standards and maintained by adjacent property owners or homeowner's association (HOA). The Park will be maintained to City standards by the HOA or Developer until the development is fully constructed, whereupon the responsibility for ownership and maintenance shall be transferred to the City. The City will provide System Development Charge credits for qualifying amenities. Value or appraised value will be determined at annexation.
- h. The PF zoned lot shall be located next to the park and shall be a developed with a minimum of irrigated turf until such time that a public facility is developed or other use determined by City.
- i. Owner agrees to donate funds to the Redmond Committee for Art in Public Places for public art to be purchased and installed in the development. \$100 will be charged per housing unit at the time of construction and building permits. These funds will be set aside for a future public art installation. The HOA will be invited to participate in the art selection.
- j. City agrees to the water rights staying with the property for use until time of residential development. At that time, Owner shall remove all Central Oregon Irrigation District (COID) irrigation water rights from Property, unless water use is otherwise approved by the Redmond City Council and COID. If water use is not approved, Owner is directed to remove water via sale or transfer to COID.
- k. Owner shall remove all ground water rights from Property, unless partial use is otherwise approved by the Redmond City Council. Owner is directed to remove water via sale or

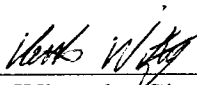
transfer to the City. Removal shall occur prior to the platting of the first phase of development.

- l. Owner agrees to not remonstrate against the formation of a local improvement district or reimbursement district created for funding public improvements that will serve the Property. This waiver applies to the Property until all utility service and all required infrastructure that will service or benefit the Property is completed and accepted by City. If the property is developed in phases, the waiver may be removed on a phase-by- phase basis if all utility service and all required infrastructure that will service or benefit the Property is completed and accepted by City.
- m. Owner agrees to public access to the school's open space/fields subject to necessary security during school hours/school use. Since the acreage of the open space/fields is much larger than what is required for a neighborhood park, the Owner shall have final approval of which sections are considered private versus public and the time the public can utilize these areas.
- n. Owner agrees to form an HOA to maintain the parks and trails to City standards until the last dwelling obtains a final inspection and/or Certificate of Occupancy. The Owner shall maintain the park and trails in the absence of a HOA. The City shall be a party to the CC&Rs to allow the City to enforce this provision.
5. **AMENDMENT:** This Agreement and any exhibits attached hereto may be amended only by the mutual written consent of both parties.
6. **SEVERABILITY:** If any provision, covenant or portion of this Agreement or its application to any person, entity, property or portion of property is held invalid, or if any ordinance or resolution adopted pursuant to this Agreement or its application to any person, entity, property or portion of property is held invalid, such invalidity shall not affect the application or validity of any other provisions, covenants or portions of this Agreement or other ordinances or resolutions passed pursuant hereto, and to that end, all provisions, covenants, and portions of this Agreement and of the ordinances and resolutions adopted pursuant hereto are declared to be severable.
7. **NO WAIVER OF RIGHT TO ENFORCE AGREEMENT:** Failure of any party to this Agreement to insist upon the strict and prompt performance of the terms, covenants, agreements and conditions herein contained, or any of them, upon any other party imposed, shall not constitute or be construed as a waiver or relinquishment of any party's right thereafter to enforce any such term, covenant, agreement or condition, but the same shall continue in full force and effect.
8. **ENTIRE AGREEMENT:** This Agreement supersedes all prior agreements, negotiations and exhibits and is a full integration of the entire agreement of the parties relating to the subject matter hereof. The parties shall have no obligations other than specifically stated in this Agreement except those of general applicability.
9. **SURVIVAL:** The provisions contained in this Agreement shall survive the annexation of the property and shall not be merged or expunged by the annexation of the property or any part thereof to the City.

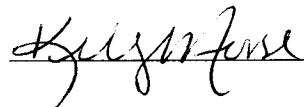
10. **SUCCESSORS AND ASSIGNS:** This Agreement shall run with the land described on Exhibit A and inure to the benefit of, and be binding upon, the successors in title of the Owners and their respective successors, grantees, lessees, and assigns, and upon successor corporate authorities of the City and successor municipalities.
11. **TERM OF AGREEMENT:** This Agreement shall be binding upon the parties and their respective successors and assigns for the full statutory term of twenty (20) years, commencing as of the date of this Agreement
12. **ENFORCEMENT:** Owner agrees that if it fails to perform as required under this Agreement, the City Council may, at the City Council's option, refuse to process any development application submitted for the Property or include as conditions of approval any requirement of this Agreement. Owner hereby waives any claim regarding such conditions of approval, whether to LUBA or to any state or federal court.
13. **ATTORNEY FEES:** In any proceeding to enforce, apply or interpret this Agreement, each party shall bear its own attorneys' fees and costs.

IN WITNESS WHEREOF the parties hereto have executed this Agreement on the date first above written.

CITY

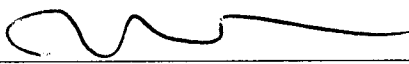

Keith Witcosky City Manager

ATTEST:

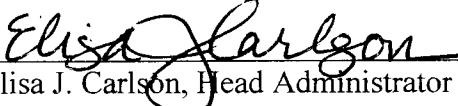

Kelly Morse, City Recorder

STATE OF OREGON)
) ss.
County of Deschutes)

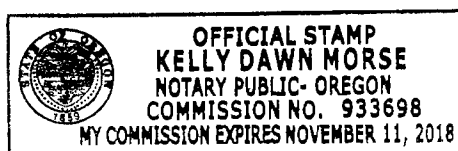
OWNER
NORTH CANYON PROPERTIES, LLC

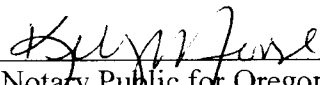
By: 
Ronald L. Bryant, Member/Manager

CENTRAL CHRISTIAN SCHOOL

By: 
Elisa J. Carlson, Head Administrator

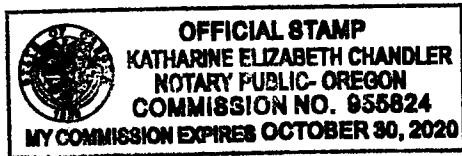
This instrument was acknowledged before me this ^{en} 6th day of June, 2017, by Keith Witcosky, City Manager, on behalf of the City of Redmond, who acknowledged that he had authority to sign on behalf of the City of Redmond and this instrument to be the City's voluntary act and deed.




Notary Public for Oregon

STATE OF OREGON)
) ss.
County of Deschutes)

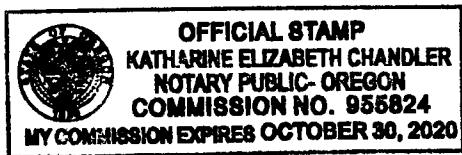
This instrument was acknowledged before me this 18th day of June, 2017, by RONALD L. BRYANT as Member/Manager of North Canyon Properties, LLC, who acknowledged this instrument to be his voluntary act and deed.



Katharine Elizabeth Chandler
Notary Public for Oregon

STATE OF OREGON)
) ss.
County of Deschutes)

This instrument was acknowledged before me this 18th day of June, 2017, by ELISA J. CARLSON as Head Administrator of Central Christian School, who acknowledged this instrument to be her voluntary act and deed.



Katharine Elizabeth Chandler
Notary Public for Oregon

Exhibit "A"

Parcel 2 of Partition Plat No. 1990-9, located in the Southeast Quarter (SE 1/4) of Section 33, Township 14 South, Range 13 East of the Willamette Meridian, Deschutes County, Oregon.

EXCEPTING THEREFROM that portion conveyed to the State of Oregon, by and through its Department of Transportation, Highway Division, by deed recorded January 29, 1990 in Book 201, Page 1746, Deschutes County Records.

TOGETHER WITH that portion of the Northwest Quarter of the Northeast Quarter (NW 1/4 NE 1/4) of Section 4, Township 15 South, Range 13 East of the Willamette Meridian, Deschutes County, Oregon, described as follows:

Commencing at 1/2" pin at the 1/4 corner common to Section 4, Township 15 South, Range 13 East, W. M. and Section 33, Township 14 South, Range 13 East, W. M., the initial point; thence North 89°18'27" East along the North line of said Section 4, 859.06 feet to the near edge of a rock wall monumented by a 1/2" pipe and the Point of Beginning; thence along said edge of a rock wall as follows: South 40°16'22" East 23.84 feet; thence South 59°39'34" East 27.91 feet; thence South 79°23'05" East 16.34 feet; thence South 87°06'34" East 31.53 feet; thence North 82°49'37" East 32.51 feet; thence North 49°39'32" East 18.63 feet; thence North 19°08'03" East 23.77 to the North line of said Section 4; thence South 89°18'27" West along said North line of Section 4, 141.31 feet to the Point of Beginning.



121 WEST

ZONING MAP AMENDMENT, MODIFICATION TO AN AREA PLAN & MASTER PLAN, & TENTATIVE SUBDIVISION #711-21-000260-261, 328-PLNG

**REDMOND CITY COUNCIL
APRIL 26, 2022**

SLIDE / 1





ACTIONS:

LAND USE APPROVAL REQUESTS

01

ZONING MAP AMENDMENT

MODIFICATION TO 5 ZONING DISTRICT BOUNDARIES

02

MODIFICATION TO AN AREA & MASTER PLAN

HIGHWAY AREA PLAN (HAP)

CENTRAL CHRISTIAN MASTER PLAN

03

TENTATIVE 157-LOT SUBDIVISION

6 PHASES | 5 ZONING DISTRICTS | MULTIPLE TRACTS



PROPOSAL:

6 PHASES

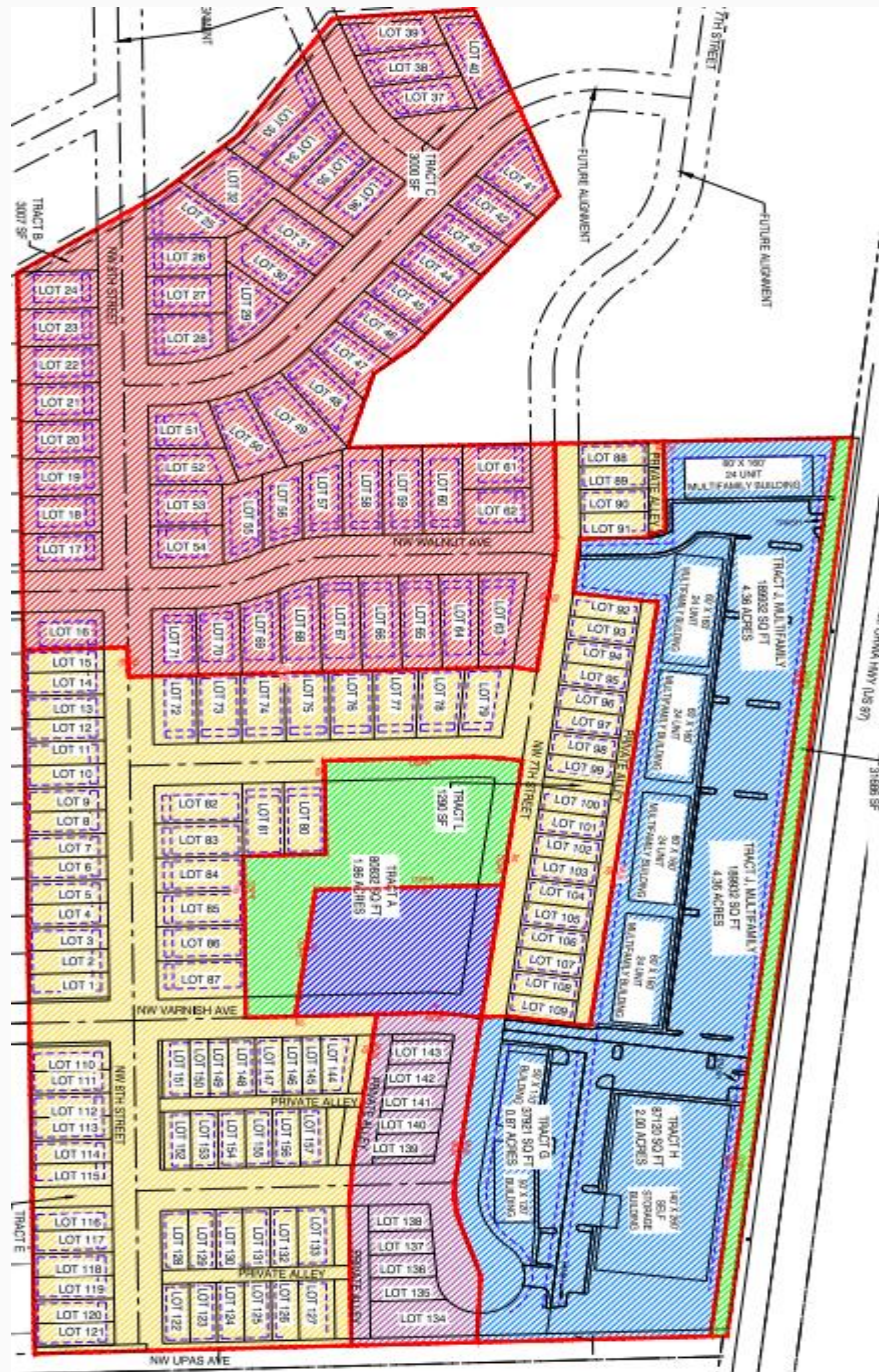
5 ZONING DISTRICTS

157 LOTS

3 MUE TRACTS

4 OPEN SPACE TRACTS

MULTI-USE TRAIL



R-4 (General Residential)	
56 (potential) SF lots	5,500 – 9,916 ft ²
R-5 (High Density Residential)	
75 townhome lots	2,040 – 3,411 ft ²
16 (potential) SF lots	5,500 – 6,143 ft ²
OSPR (Open Space, Park Reserve)	
Central park tract	1.86 acres
MUN (Mixed Use Neighborhood)	
10 (potential) live/work units lots	2,581 – 6,723 ft ²
MUE (Mixed Use Employment)	
3 large tracts	0.87, 2.00, & 4.36 acres



LAND USE HISTORY

HIGHWAY AREA PLAN:

ADOPTED IN 2007

190 ACRES

5 ZONING DISTRICTS

RESIDENTIAL, OPEN SPACES, PARKS, & MIXED USES



Highway 97 Area Plan (HAP) Land Use and Public Improvements

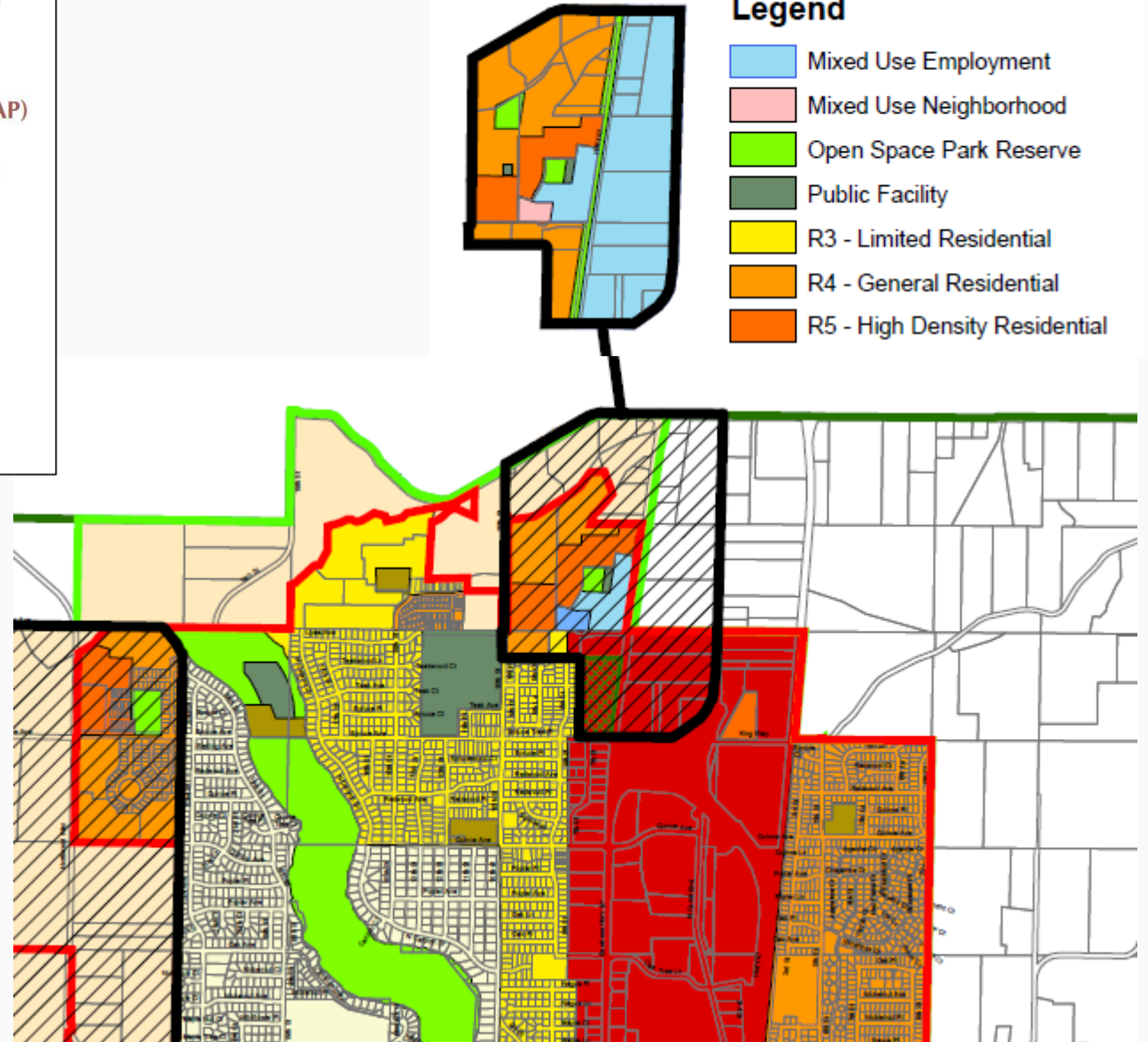
August 2007



Highway Area Plan

Legend

- Mixed Use Employment
- Mixed Use Neighborhood
- Open Space Park Reserve
- Public Facility
- R3 - Limited Residential
- R4 - General Residential
- R5 - High Density Residential





LAND USE HISTORY

CENTRAL CHRISTIAN MASTER PLAN:

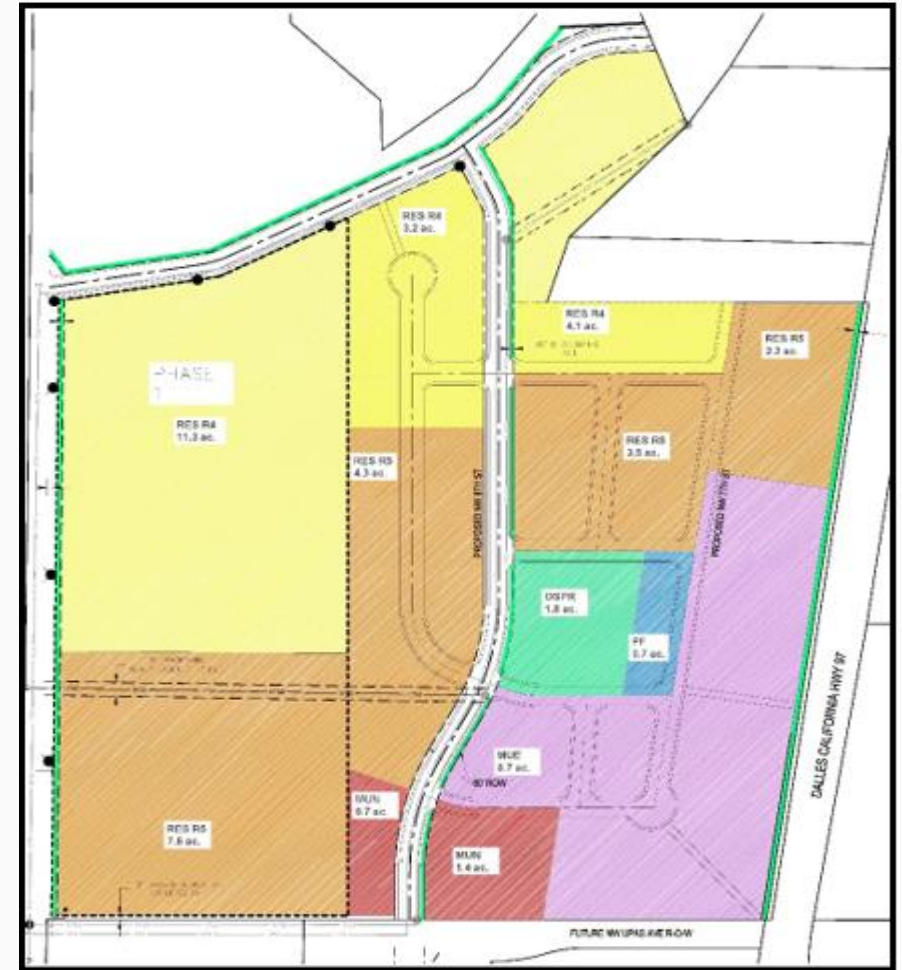
ANNEXATION, MASTER PLAN, & ZONE MAP AMENDMENT IN 2017

55 ACRES

6 ZONING DISTRICTS:
CC SCHOOL WEST 19 ACRES



HIGHWAY AREA PLAN



CENTRAL CHRISTIAN MASTER PLAN

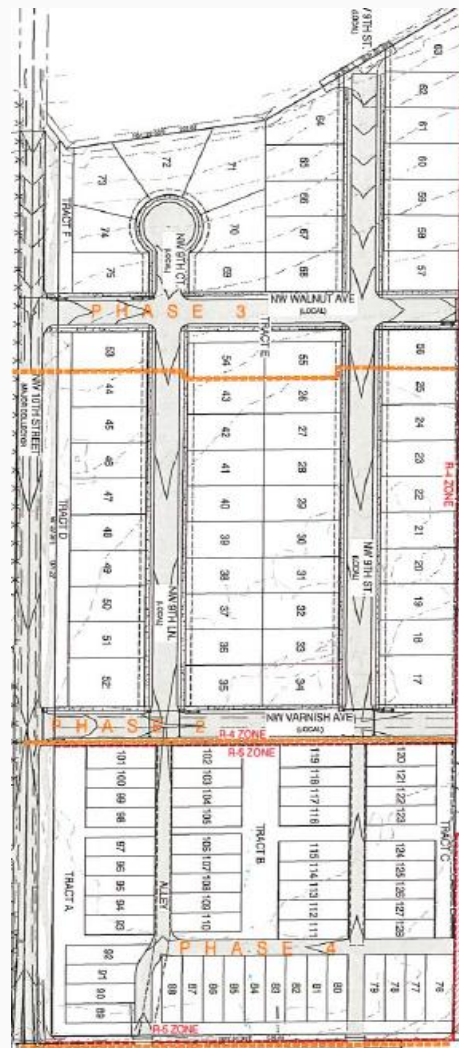


LAND USE HISTORY

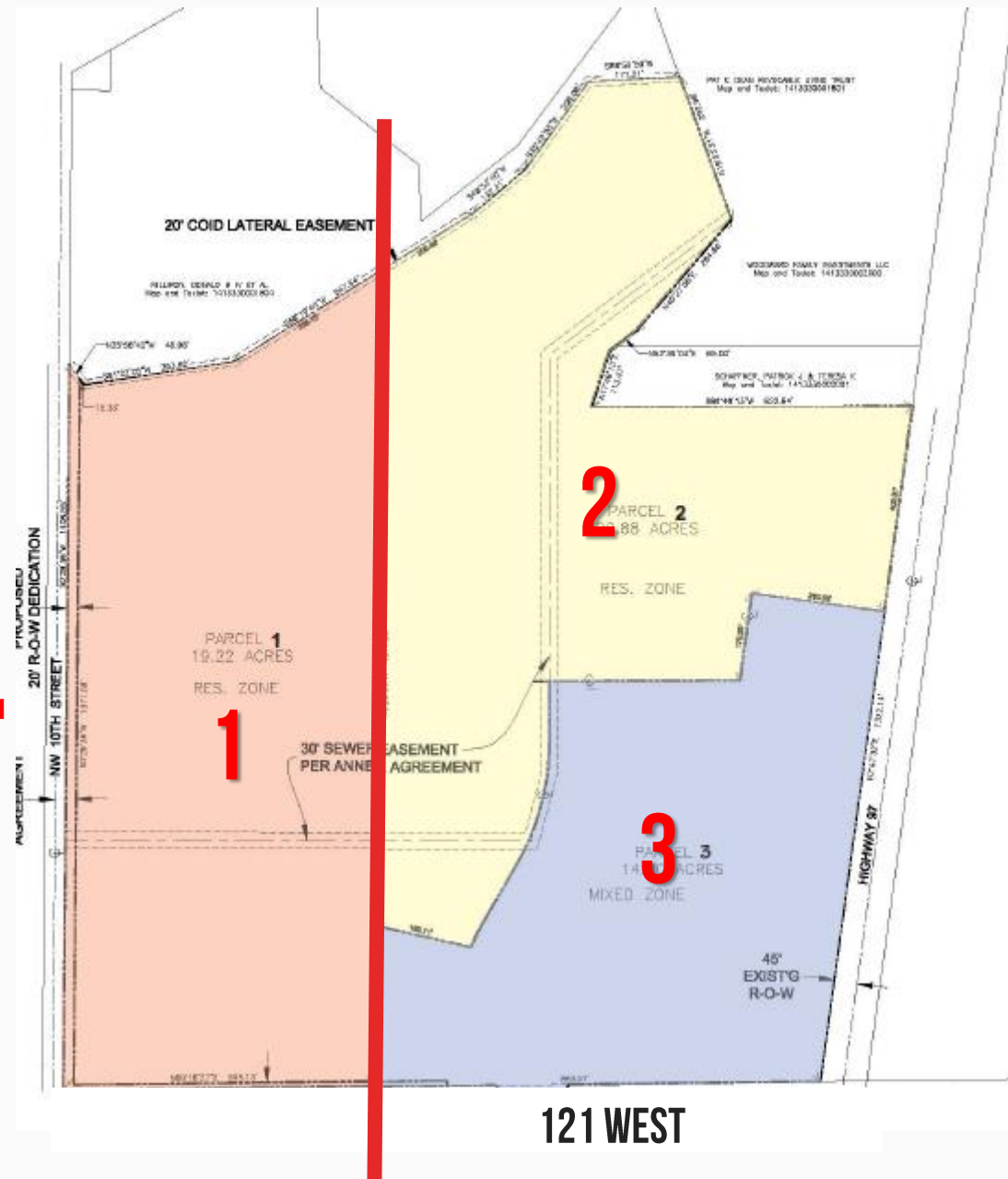
CC MASTER PLAN
PARTITIONED IN 2018:

55-ACRE PARCEL SPLIT
INTO 3 PARCELS

PARCEL 1 SOLD TO
HAYDEN HOMES



CINDER BUTTE SUBDIVISION



121 WEST



ZONING MAP AMENDMENT PROPOSAL

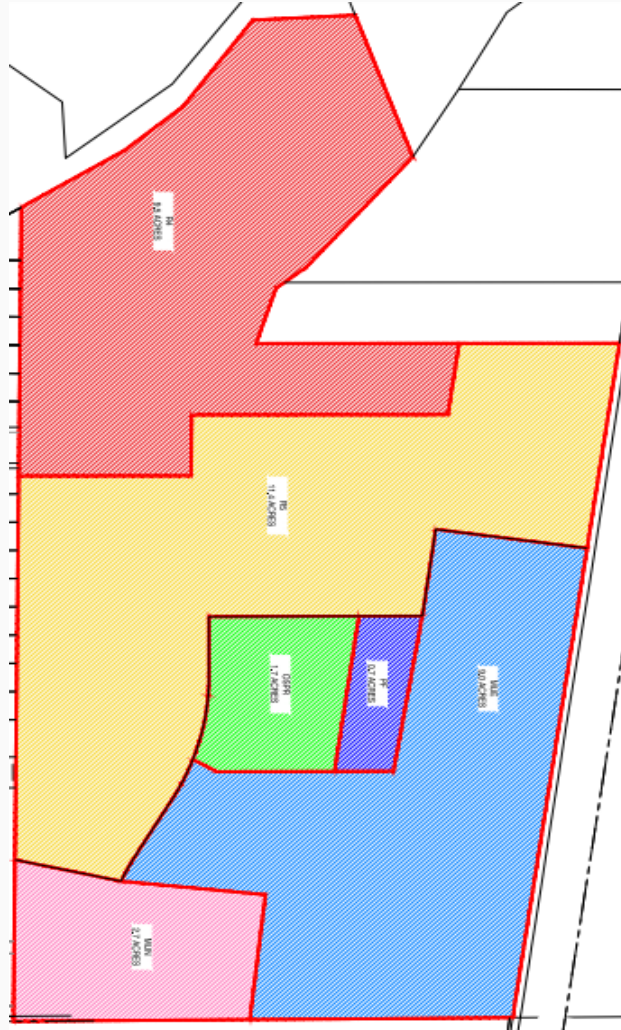
RESIDENTIAL ZONING
AREA INCREASED

MIXED USE ZONING
AREA DECREASED

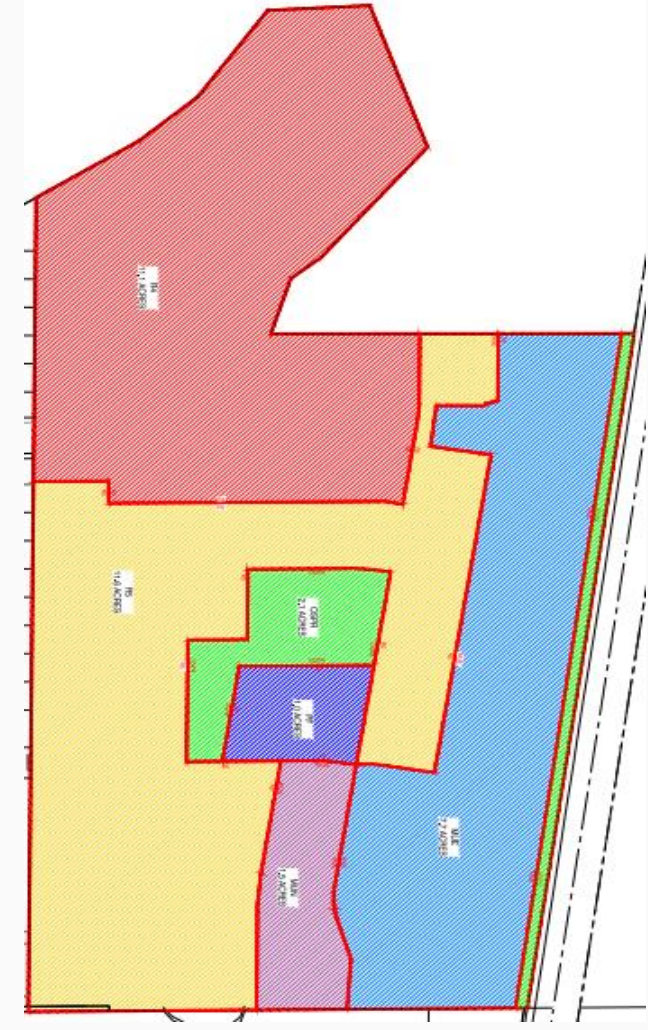
MUE ZONE STRETCHED
ALONG HIGHWAY

MUN ZONE RE-LOCATED

EXISTING ZONING



PROPOSED ZONING



Proposed Zone Changes

Zones	Existing (gross acres)	Proposed (gross acres)	Difference (gross acres)
R-4	9.5	11.1	+1.6
R-5	11.4	11.6	+0.2
OSPR	2.4	3.1	+0.7
MUN	2.7	1.5	-1.2
MUE	9.0	7.7	-1.3



ZONING MAP AMENDMENT

REVIEW CRITERIA

01

**IN CONFORMITY WITH ALL
APPLICABLE STATE
STATUTES**

02

**IN CONFORMITY WITH
APPLICABLE STATE-WIDE
PLANNING GOALS**

03

**IN CONFORMITY WITH THE
REDMOND COMPREHENSIVE
PLAN, LAND USE
REQUIREMENTS, AND
POLICIES**

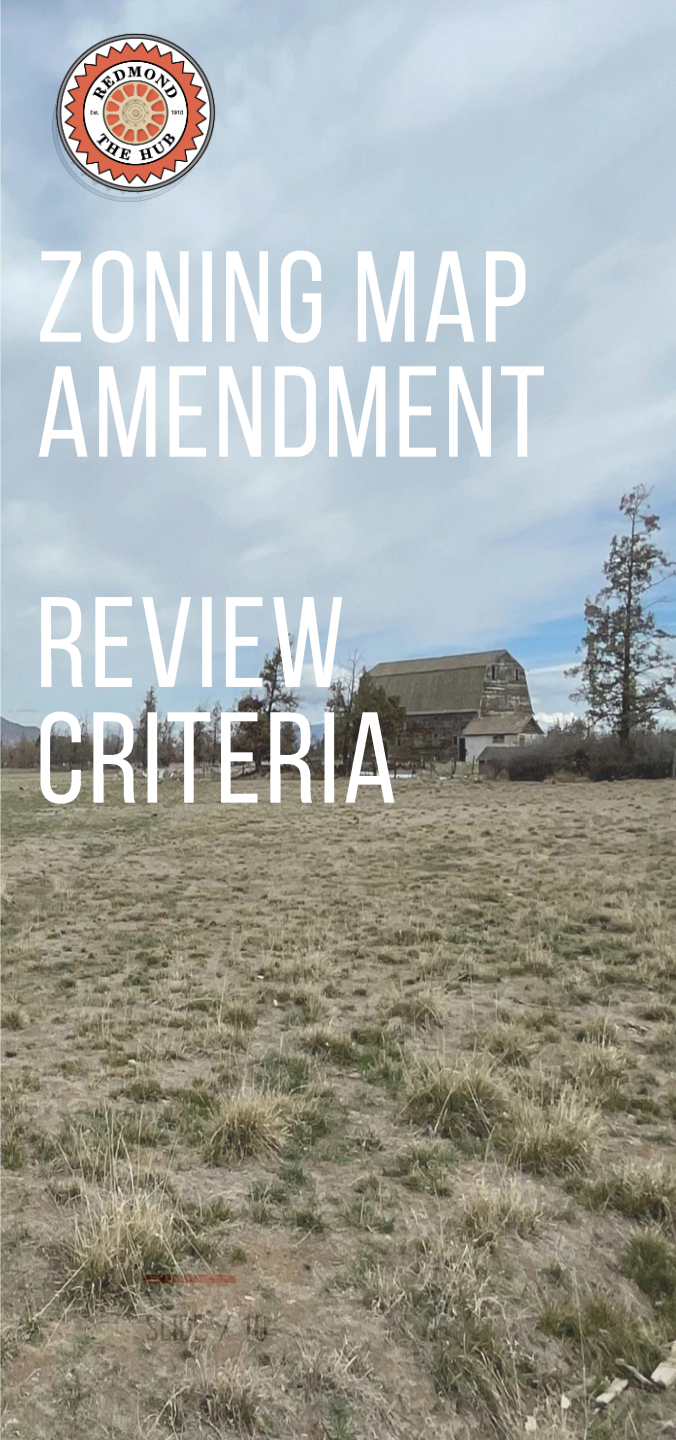
04

**A CHANGE OF
CIRCUMSTANCES, FURTHER
STUDIES JUSTIFYING THE
AMENDMENT, OR MISTAKE
IN THE ORIGINAL ZONING**



ZONING MAP AMENDMENT

REVIEW CRITERIA



03

IN CONFORMITY WITH THE
REDMOND COMPREHENSIVE
PLAN, LAND USE
REQUIREMENTS, AND
POLICIES

HIGHWAY AREA PLAN MOST NOTABLE FEATURES:

Green buffer w/ berm & landscaping along US Hwy. 97



Extension of NW Upas Ave to the east



Utilization of NW 8th St. as a main north-south connection west of US Hwy. 97



Encourage of residential development to be primarily medium to high density housing in central and southern portion of HAP



Incorporation of small neighborhood/civic center & mixed use into neighborhoods



Addition of a neighborhood park & located north of mixed use commercial



Inclusion of mixed use employment area north of NW Upas Ave. and east of NW 8th St.





ZONING MAP AMENDMENT

REVIEW CRITERIA

03

IN CONFORMITY WITH THE
REDMOND COMPREHENSIVE
PLAN, LAND USE
REQUIREMENTS, AND
POLICIES

SEC. 8.0300 (C) (13), REDMOND DEV. CODE:

- | | |
|---------------------------------------|-------------------------------------|
| 1. TRANSPORTATION | ☒ |
| 2. HOUSING | ☒ |
| 3. OPEN SPACES, GREENWAYS, RECREATION | ☒ |
| 4. INTEGRATED DESIGN ELEMENTS | ☒ |
| 5. DIVERSE MIX OF ACTIVITIES | ☒ |
| 6. PUBLIC ART | ☒ |
| 7. SCENIC VIEWS | ☒ |
| 8. URBAN-RURAL INTERFACE | ☒ |
| 9. 'MINI' PARKS IN NEIGHBORHOODS | ☒ |
| 10. CANAL TRAILS | ☒ |
| 11. GREEN DESIGN | ☒ |



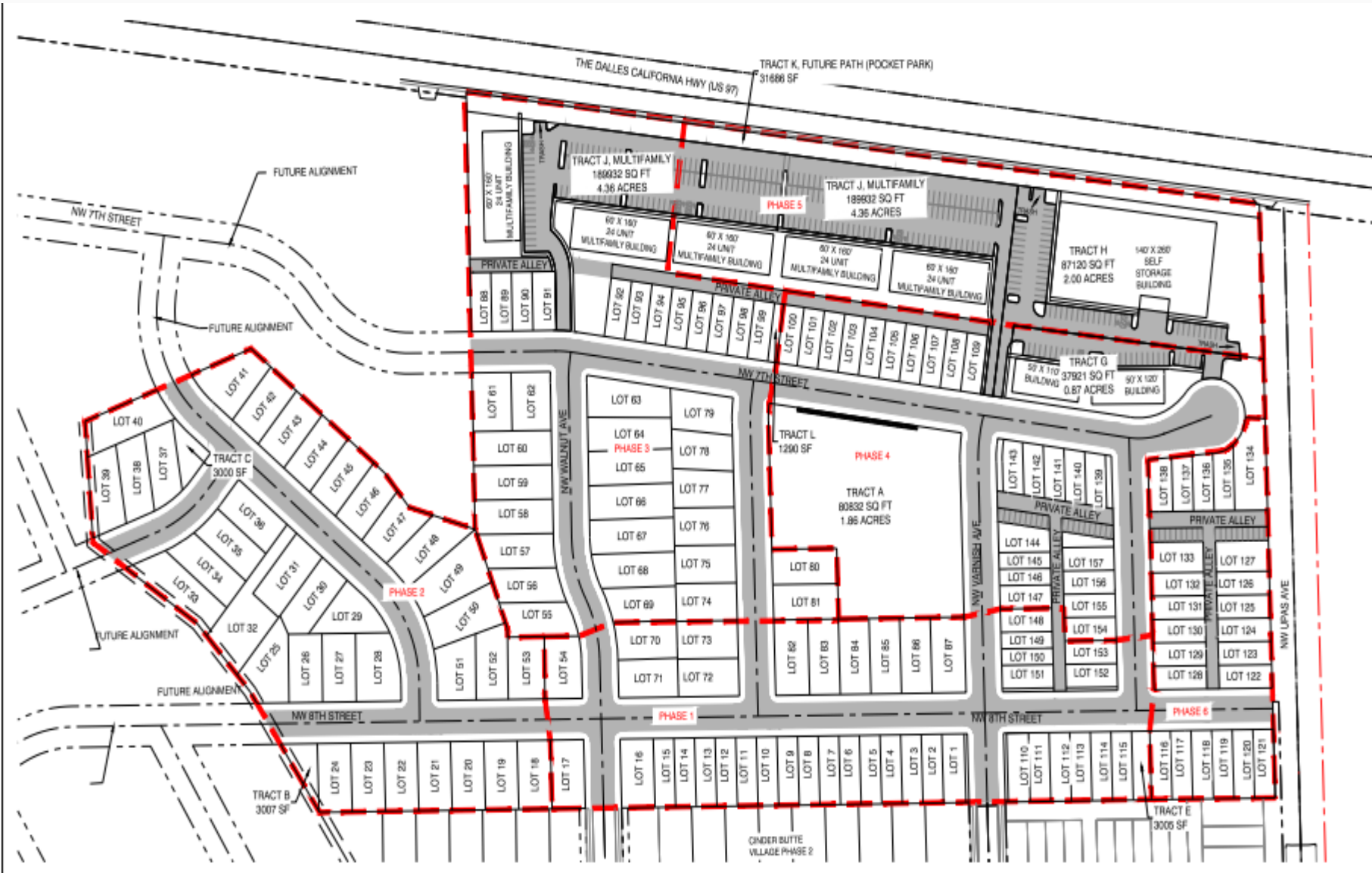
GREAT NEIGHBORHOOD PRINCIPLES TRANSPORTATION

-EXTENDED STREET
NETWORK/FUTURE
CONNECTIONS

-NW 8TH ST. — NORTH-
SOUTH CONNECTION

-NW WALNUT AVE. — EAST-
WEST CONNECTION

-NW UPAS AVENUE





-72 STANDARD
RESIDENTIAL LOTS

-75 TOWNHOME LOTS

-10 MUN LIVE/WORK LOTS

-3 MUE TRACTS

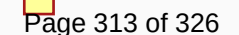
**-LOT SIZES ARE VARIED:
2,040 – 9,900 SQ. FT.**





-40,000 FT² OF POCKET PARKS

**-MULTI-USE PATH ALONG
EASTERN BOUNDARY**





GREAT NEIGHBORHOOD
PRINCIPLES
**DIVERSE MIX OF
ACTIVITIES**

-2/3s RESIDENTIAL ZONES

-1.86-ACRE CENTRAL PARK

-POCKET PARKS DISPERSED
THROUGHOUT

-MIXED USE ZONES





STAFF & UAPC RECOMMENDATION

APPROVAL, SUBJECT TO 15 CONDITIONS

01

ZONING MAP AMENDMENT

MODIFICATION TO 5 ZONING DISTRICT BOUNDARIES

02

MODIFICATION TO AN AREA & MASTER PLAN

HIGHWAY AREA PLAN (HAP)

CENTRAL CHRISTIAN MASTER PLAN

03

TENTATIVE 157-LOT SUBDIVISION

6 PHASES | 5 ZONING DISTRICTS | MULTIPLE TRACTS



CONDITIONS OF APPROVAL

- **VEGETATED BERM ALONG HWY 97:** AS ENVISIONED W/ THE HAP, BERM SHALL BE INCLUDED IN TRACT K TO BUFFER HWY FROM ADJACENT USES
- **COID F-1 LATERAL:** PROPOSED LOTS 25, 32, 33, & 39 OVERLAP WITHIN COID'S EASEMENT
- **CENTRAL PARK:** APPLICANT MUST DEVELOP 1.86-ACRE PARK CONSISTENT W/ REQUIREMENTS DETAILED IN PROPERTY'S ANNEXATION AGREEMENT
- **OPEN SPACE/POCKET PARK TRACTS:** DETAILED LANDSCAPING & AMENITIES PLAN MUST BE SUBMITTED & THESE TRACTS MUST BE PRIVATELY MAINTAINED.
- **TRAFFIC IMPACTS TO O'NEIL JUNCTION:** NEAR-TERM SOLUTIONS AND/OR CONTRIBUTION SHALL BE PROVIDED TO MITIGATE IMPACT ON EXISTING CONDITIONS COMPOUNDED BY PROPOSED DEVELOPMENT SUBJECT TO ODOT REVIEW/APPROVAL.



QUESTIONS



CITY OF REDMOND

CITY HALL
411 SW 9th STREET
REDMOND, OR 97756
541.923.7710
FAX: 541.548.0706
info@redmondoregon.gov
redmondoregon.gov

STAFF REPORT

DATE: April 26, 2022
TO: City Council
THROUGH: Keith Witcosky, City Manager
John Roberts, Deputy City Manager
FROM: Mike Caccavano, City Engineer
SUBJECT: Resolution #2022-10 - A resolution of the City of Redmond, Oregon, extending the Sewer Line D Reimbursement District.

Addresses Council Goal:

3.D. Develop the City's infrastructure pursuant to the priorities identified in the City's infrastructure systems plans.

Report in Brief:

This item requests a five-year extension of the Sewer Line D Reimbursement District, which runs from SW 35th St./SW Obsidian Avenue to SW Helmholtz Way/Wickiup Avenue.

Background:

This reimbursement district was initially created in 2007.

The City can create a reimbursement district when public improvements are constructed that have the potential to benefit adjacent properties. During the active life of the district, if an adjacent property develops, the owner is required to reimburse the entity that originally constructed the infrastructure improvements. Reimbursements are typically half the cost of waterlines, sewers or streets.

In 2007, D.R. Horton extended Sewer Line D roughly 1-3/4 miles from the intersection of SW Obsidian Avenue and SW 35th Street to SW Wickiup Avenue with a portion paid for by the City under a cost sharing agreement. In addition to the 15-inch diameter sewer, they also installed 16 and 12-inch waterlines. These lines allowed for the development of D.R. Horton's Summit Crest subdivision. The construction served 13 undeveloped parcels along its alignment and made possible future development of much of southwest Redmond. Map attached.

After receiving a request from D.R. Horton, Council created the Sewer Line D reimbursement district on May 8, 2007. Reimbursement districts are initially approved for a 10-year life, but may be extended at the discretion of Council for a maximum of two 5-year periods. The Council approved a five-year extension in May 2017 and it will expire May 8, 2022. As such, D.R. Horton is requesting a second and final 5-year extension.

Discussion:

Reimbursement districts are an equitable way for the City or a developer to recoup significant infrastructure investments that benefit adjacent properties. During the first ten years of the Sewer Line D reimbursement district, the economic downturn significantly limited development and D.R. Horton's ability to recoup their investment.

Of the 13 properties included in the initial reimbursement district, five have developed and paid their fees. Several are in the development process and will be required to pay their fees before the plats are approved. The remaining properties are undeveloped or have not redeveloped.

If the extension is approved, Sewer Line D Reimbursement District will remain in place until May 8, 2027. When properties in the reimbursement district develop over the next five years, property owners will be required to pay their share of the improvements. Approval of a resolution is required to extend the reimbursement district.

Fiscal Impact:

The financial impact of the reimbursement district extension to the City includes the ability to recover up to \$79,972.97 for the portion of the sewerline costs. Recording and reconveyance fees are recovered from the reimbursement amount. D.R. Horton's financial impact is significant in that they have the ability to recover up to \$454,551.04 in sewer and waterline costs.

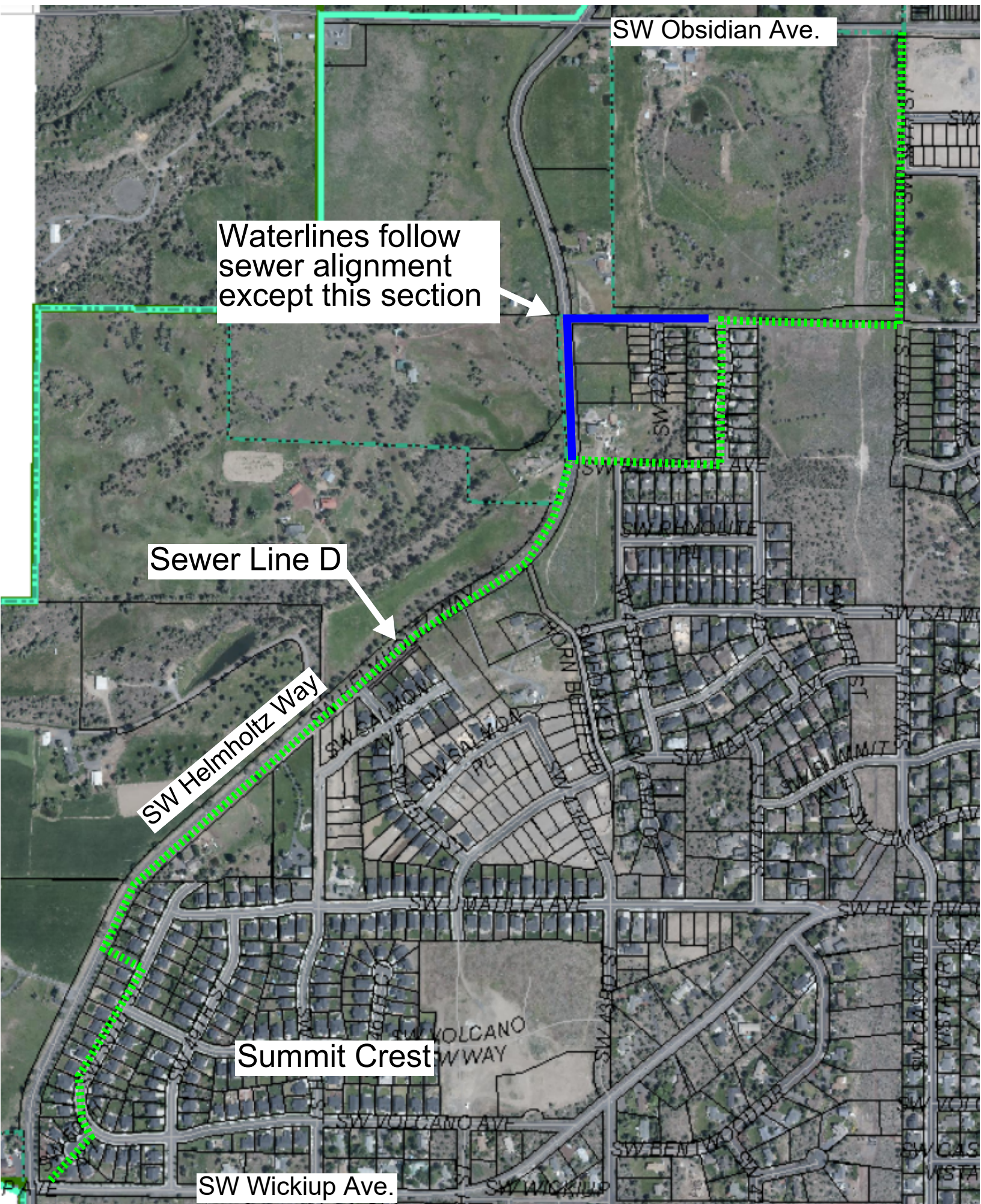
Alternative Courses of Action:

1. Adopt Resolution #2022-10 extending the Sewer Line D Reimbursement District through May 8, 2027.
2. Do not adopt Resolution #2022-10.
3. Request additional information.

Recommendation / Suggested Motion:

Option 1: "I move to adopt Resolution #2022-10 extending the Sewer Line D Reimbursement District through May 8, 2027."

Sewer Line D Reimbursement District Extension



AFTER RECORDING RETURN TO:
City Recorder's Office
City of Redmond
411 SW 9th Street
Redmond, OR 97756

**REDMOND RESOLUTION
RESOLUTION NO. 2022-10**

**A RESOLUTION OF THE CITY OF REDMOND, OREGON, EXTENDING THE SEWER LINE D
REIMBURSEMENT DISTRICT**

WHEREAS, Redmond City Code Sections 4.600 to 4.665 provide for establishment of a reimbursement district; and

WHEREAS, the Sewer Line D Reimbursement District was formed May 8, 2007, recorded as Resolution No. 2007-11 and extended to May 8, 2022, by Resolution No. 2017-12; and

WHEREAS, pursuant to Section 4.650 of the Redmond City Code the City of Redmond may authorize up to two consecutive five year extensions for sewer and water improvements; and

WHEREAS, the original applicant for the Sewer Line D Reimbursement District requested a five year extension because adjacent properties have not developed or paid the reimbursement.

NOW, THEREFORE, THE REDMOND CITY COUNCIL RESOLVES AS FOLLOWS:

Section 1: The Sewer Line D Reimbursement District shall be extended for five years for sewer and water improvements. Payment of the reimbursement shall be in accordance with Redmond City Code Section 4.650. The total amount which could be reimbursed to the applicant, D.R. Horton, pursuant to the Reimbursement District is \$454,551.04. The total amount which could be reimbursed to the City of Redmond as part of a cost-sharing agreement is \$79,972.97. Potential reimbursements to both parties total \$534,524.01.

Section 2: The applicant's right to reimbursement shall end May 8, 2027.

PASSED by the Redmond City Council and **APPROVED** by the Mayor this 26th day of April 2022.

George Endicott, Mayor

ATTEST:

Kelly Morse, City Recorder

CITY OF REDMOND

COMMITTEE FOR ARTS IN PUBLIC PLACES APPLICATION

Please type or print answers to the following questions and submit to the City Recorder at City Hall, 411 SW 9th St, Redmond, OR 97756. If you have any questions, please feel free to contact the City Recorder at 541-923-7751. Thank you for your time and interest in the City of Redmond. Attach additional sheets if necessary.

I, Jennifer Palmer, respectfully request to be considered as an applicant for a
(Please print first and last name)

position on the City of Redmond Arts in Public Places Committee.

[REDACTED], Redmond, OR 97756

(Address)

[REDACTED]
(Home phone)

[REDACTED]
(Cell phone)

[REDACTED]
(E-mail)

Human Resources Manager
(Occupation)

Deschutes Public Library System
(Place of Employment)

The Arts in Public Places Committee shall be composed of nine members who reside within the Redmond School District 2J Boundary. Individual seats are not geographically designated; however a majority of the members should reside within the Urban Growth Boundary.

How long have you resided within the Redmond School District 2J boundary?

Years: 8 Months: 9

Please list special skills, interests, and/or hobbies that you believe would bring special value to your ability to serve on this committee? I love art! I have an extensive fine and performing arts background, both in performance and Board service. I have served on several fine arts Boards including Board Chair of the Ross Ragland Theater & Cultural Center in Klamath Falls. I also have a solid artistic and technical background in photography.

Why are you interested in serving on the Arts in Public Places Committee? I admire the City of Redmond's

commitment to art in public places. Public Art enhances community enjoyment and livability, and is

unfortunately often over looked. I want to support Redmond's efforts to make our community interesting and beautiful.

What contributions do you feel you can make to the Committee? I would bring a balance of my fine arts background, corporate business skills, professional networking and contacts, public sector work experience, and commitment to civic responsibility. If appointed I would bring my attention, engagement and enthusiasm to this committee.

Why do you think a committee on art is important to a city like Redmond? A community is often defined by its aesthetic. Redmond's public art installations are uniquely reflective of our community, life in the PNW, and inclusive of different tastes, mediums, and backgrounds. Public art is a community's visible commitment to livability and progress.

What can the Arts in Public Places Committee do to foster citizen awareness of the committee? _____

Continue what you are doing, its working! Pull the community into as many opportunities as possible.

Engaging community youth is essential, especially with the elimination of art programs in public schools. I would also look at public art through an equity lens that includes representation from historically underrepresented cultures and communities.

How did you hear about the position? In a City of Redmond newsletter

Are you available to attend special meetings, in addition to the regularly scheduled meetings? Yes- with notice.

My signature affirms that the information in this application is true to the best of my knowledge. I understand that misrepresentations of facts are cause for removal from any advisory committee, board or commission I may be appointed to. I also understand that City policy requires disclosure of actual or potential conflicts of interest by persons appointed by the Mayor and Council. All information and documentation related to service on this commission is subject to public records disclosure.

()

04/05/22

(Date)

**CITY OF REDMOND
COMMITTEE FOR ARTS IN PUBLIC PLACES APPLICATION**

Please type or print answers to the following questions and submit to the City Recorder at City Hall, 411 SW 9th St, Redmond, OR 97756. If you have any questions, please feel free to contact the City Recorder at 541-923-7751. Thank you for your time and interest in the City of Redmond. Attach additional sheets if necessary.

I, Julie Wilson, respectfully request to be considered as an applicant for a
(Please print first and last name)
position on the City of Redmond Arts in Public Places Committee.

[Redacted] Redmond OR 97756
(Address)

[Redacted] (Home phone) [Redacted] (Cell phone)

[Redacted]
(Occupation) Artist / Art Teacher (Place of Employment) Self / Bend Parks + Rec

The Arts in Public Places Committee shall be composed of nine members who reside within the Redmond School District 2J Boundary. Individual seats are not geographically designated; however a majority of the members should reside within the Urban Growth Boundary.

How long have you resided within the Redmond School District 2J boundary?

Years: 2 yrs Months: _____

Please list special skills, interests, and/or hobbies that you believe would bring special value to your ability to

serve on this committee? I have been an art teacher and Artist for 20 yrs. I have created public art for cities in VA.

Why are you interested in serving on the Arts in Public Places Committee? I feel we can do so much more and better Art in public

What contributions do you feel you can make to the Committee? As an actual Artist and creator I understand what is realistic and would like to see better public art options for artists who are not super rich or children.

Why do you think a committee on art is important to a city like Redmond? Art is for everyone, not just the 2 outliers that are currently being served.

What can the Arts in Public Places Committee do to foster citizen awareness of the committee? offer
art opportunities to artists in the community, not
just children and artists with deep pockets.

How did you hear about the position? website

Are you available to attend special meetings, in addition to the regularly scheduled meetings? yes

My signature affirms that the information in this application is true to the best of my knowledge. I understand that misrepresentations of facts are cause for removal from any advisory committee, board or commission I may be appointed to. I also understand that City policy requires disclosure of actual or potential conflicts of interest by persons appointed by the Mayor and Council. All information and documentation related to service on this commission is subject to public records disclosure.



3/14/2022
(Date)