



City of Oregon City

625 Center Street
Oregon City, OR 97045
503-657-0891

Meeting Agenda Planning Commission

Monday, February 24, 2020

7:00 PM

Commission Chambers

1. Call to Order

2. Public Comments

3. Public Hearing

3a. [PC 20-030](#) GLUA-19-00044/MP-19-00004/VAR-19-00014: 2-Lot Minor Partition with Variance to Minimum Lot Size

Sponsors: Assistant Planner Diliانا Vassileva

Attachments: [Commission Report](#)

[GLUA 19-000044/MP-19-00004/VAR-19-00014 Staff Report and Recommendation](#)

[Exhibit 1: Vicinity Map](#)

[Exhibit 2: GLUA-19-00044/MP-19-00004/VAR-19-00014 Applicant's Narrative and Plans](#)

[Exhibit 3: Public Comments](#)

3b. [PC 20-029](#) LEG 19-00003 - Beavercreek Road Concept Plan- Code and Zoning Amendments- Formal Planning Commission Recommendation

Sponsors: Sr. Planner Christina Robertson-Gardiner

Attachments: [Commission Report](#)

[Public Comment: Nancy Broshot, Ph.D](#)

[Staff Report LEG 19-00003](#)

[Exhibit 1 Vicinity Map](#)

[Exhibit 2 Proposed Oregon City Comprehensive Plan Map](#)

[Exhibit 3 Proposed Oregon City Zoning Map](#)

[Exhibit 4 Proposed Amendments to Title 16 and 17 of the Oregon City Municipal Code](#)

[Exhibit 5 Revisions to the Thimble Creek Concept Plan](#)

[Exhibit 6 Proposed Amendments Parks Master Plan](#)

[Exhibit 7 Proposed Amendments to the Trails Master Plan](#)

[Exhibit 8 Proposed Amendments to the Transportation System Plan](#)

[Exhibit 9 Beavercreek Road Concept Plan Adopted 2008 \(readopted 2016\)](#)

[Exhibit 10 Planning Commission Public Comment Matrix -Revised February 3, 2020](#)

[Exhibit 11 Applicant's Submittal](#)

[Exhibit 12 June 7, 2019 Draft Zoning Code Amendments](#)

[Exhibit 13 June 7, 2019 Revised Draft Zoning Map \(with and without major streets\)](#)

[Exhibit 14 June 7, 2019 Zoning Code Memo](#)

[Exhibit 15 June 7, 2019 Zoning Map Memo](#)

[Exhibit 16 Beaver Creek Road Concept Plan Implementation Acreage Estimate](#)

[Exhibit 17 Economic/Jobs Analysis Memo](#)

[Exhibit 18 Infrastructure Memo](#)

[Exhibit 19 Transportation Memo](#)

[Exhibit 20 Transportation Memo- Beaver Creek Road Design](#)

[Exhibit 21 Transportation Memo- Beaver Creek Road Design Appendix](#)

[Exhibit 22 Public Comment Tracker January 2019-June 2019](#)

[Exhibit 23 Planning Commission Memo February 10, 2020 Hearing](#)

[Exhibit 23a Staff Presentation](#)

[Exhibit 23b Collector Width Survey Results](#)

[Exhibit 23c Email from Mike Mitchell](#)

[Exhibit 24 Planning Commission Memo January 13, 2020 Hearing](#)

[Exhibit 24a Staff Presentation](#)

[Exhibit 24b Natural Resource Committee- Letter to Planning Commission- Upland Habitat](#)

[Exhibit 24c Home Occupations Cottage Industry- Revised Code](#)

[Exhibit 24d Public Park and Open Space Requirements in Beaver Creek Road Concept Plan - Revised Code](#)

[Exhibit 24e Todd Mobley Email- Collector Streets](#)

[Exhibit 24f Todd Mobley Memo- Collector Streets](#)

[Exhibit 24g Upland Habitat vs GEO-NROD Overlay Map](#)

[Exhibit 25 Planning Commission Memo- November 25, 2019 Hearing](#)

[Exhibit 25a Staff Presentation](#)

[Exhibit 25b FAQ- Transportation Planning Rule \(TPR\)](#)

[Exhibit 25c John Replinger Comment](#)

[Exhibit 25d November 18, 2019 ODOT Comment](#)

[Exhibit 25e Staff Memo- November 12, 2019 City Commission Work Session](#)

[Exhibit 25f Staff Presentation - November 12, 2019 City Commission Work session](#)

[Exhibit 25g Roundabout Conceptual Study- November 12, 2019 City Commission Work Session](#)

[Exhibit 25h November 4, 2019 ODOT Comments](#)

[Exhibit 25i Survey Results- Transportation Options](#)

[Exhibit 26 Planning Commission Memo November 18, 2019 Hearing](#)

[Exhibit 26a Staff Presentation](#)

[Exhibit 27 Planning Commission Memo October 14, 2019 Hearing](#)

[Exhibit 27a Staff Presentation](#)

[Exhibit 27b Beaver Creek Road Concept Plan- Cottage Industry-](#)

[Expanded Home Occupation Options Survey Results](#)

[Exhibit 28 Planning Commission Memo September 23 2019 Hearing](#)

[Exhibit 28a Staff Presentation](#)

[Exhibit 28b Development Services Presentation](#)

[Exhibit 28c OCMC 17.44 Geologic Hazards](#)

[Exhibit 28d Metro Title 13 Compliance Letter](#)

[Exhibit 29 Planning Commission Memo September 9, 2019 Hearing](#)

[Exhibit 29a Staff Presentation](#)

[Exhibit 29b City Wide Home Occupation License Worksheet](#)

[Exhibit 30 Staff Presentation- August 26, 2019](#)

[Exhibit 31 Staff Presentation- August 12, 2019](#)

4. Communications

5. Adjournment

Public Comments: The following guidelines are given for citizens presenting information or raising issues relevant to the City but not listed on the agenda.

- *Complete a Comment Card prior to the meeting and submit it to the staff member.*
- *When the Chair calls your name, proceed to the speaker table and state your name and city of residence into the microphone.*
- *Each speaker is given 3 minutes to speak. To assist in tracking your speaking time, refer to the timer at the dais.*
- *As a general practice, Oregon City Officers do not engage in discussion with those making comments.*

Agenda Posted at City Hall, Pioneer Community Center, Library, and City Web site(oregon-city.legistar.com).

Video Streaming & Broadcasts: The meeting is streamed live on Oregon City's Web site at www.orcity.org and is available on demand following the meeting.

ADA: City Hall is wheelchair accessible with entry ramps and handicapped parking located on the east side of the building. Hearing devices may be requested from the City staff member prior to the meeting. Disabled individuals requiring other assistance must make their request known 48 hours preceding the meeting by contacting the City Recorder's Office at 503-657-0891.



City of Oregon City

625 Center Street
Oregon City, OR 97045
503-657-0891

Staff Report

File Number: PC 20-030

Agenda Date: 2/24/2020

Status: Agenda Ready

To: Planning Commission

Agenda #: 3a.

From: Assistant Planner Diliana Vassileva

File Type: Planning Item

SUBJECT:

GLUA-19-00044/MP-19-00004/VAR-19-00014: 2-Lot Minor Partition with Variance to Minimum Lot Size

RECOMMENDED ACTION (Motion):

Staff recommends that the Planning Commission approve files GLUA-19-00044/MP-19-00004/VAR-19-00014 with conditions.

BACKGROUND:

The property located at 15910 Swan Avenue, Oregon City is located on the corner of Swan Avenue and Ames Street and has R-10 zoning. The property is approximately 20,000 square feet in size and is developed with a single-family home. The R-10 zoning district requires a minimum lot size of 10,000 square feet and the applicant has requested to divide the property into two lots, approximately 9,100 and 9,000 square feet in size respectively, therefore, a variance to minimum lot size is required. Variances for a reduction to lot size of up to 5% are reviewed at a staff level, however, variances for a reduction to lot size of more than 5% require Planning Commission approval.

Staff recommends the Planning Commission approve the application with the conditions of approval within the staff report.



TYPE III STAFF REPORT AND RECOMMENDATION

A preliminary analysis of the applicable approval criteria is enclosed within the following staff report. All applicable criteria shall be met, or met with conditions, in order to be approved. The Planning Commission may choose to adopt the findings as recommended by staff or alter any finding as determined appropriate.

February 24, 2020

FILE NUMBER: GLUA-19-00044/MP-19-00004/VAR-19-00014

APPLICANT: Chuck Grant
1913 Main Street, Suite 151
Oregon City, OR 97045

Submitted: November 14, 2019

Complete: January 16, 2020

120 Day Deadline: May 15, 2020

PC Hearing: February 24, 2020

OWNER: Ashley Punch
15910 Swan Avenue
Oregon City, OR 97045

REPRESENTATIVE: Ben Altman
Pioneer Design Group
9020 SW Washington Square Road, #170
Portland, OR 97223

REQUEST: The applicant is requesting approval of a Minor Partition application to divide the subject site into two lots, with a Variance for minimum lot size.

LOCATION: 15910 Swan Avenue, Oregon City, OR 97045
Clackamas County Map 2-2E-21 CD, Tax Lot 2000

REVIEWER: Diliana Vassileva, Assistant Planner
Jeremy Tamargo, PE, Development Engineer

RECOMMENDATION: Approval with Conditions.

PROCESS: Type III decisions involve the greatest amount of discretion and evaluation of subjective approval standards, yet are not required to be heard by the city commission, except upon appeal. Applications evaluated through this process include conditional use permits. The process for these land use decisions is controlled by ORS 197.763. Notice of the application and the planning commission hearing is published and mailed to the applicant, recognized neighborhood association and property owners within three hundred feet of the subject property. Notice must be issued at least twenty days pre-hearing, and the staff report must be available at least seven days pre-hearing. At the evidentiary hearing held before the planning commission, all issues are addressed. The decision is final unless appealed and description of the requirements for perfecting an appeal. The decision of the planning

commission is appealable to the city commission within fourteen days of the issuance of the final decision. The city commission hearing on appeal is on the record and no new evidence shall be allowed. Only those persons or a city-recognized neighborhood association who have participated either orally or in writing have standing to appeal the decision of the planning commission. Grounds for appeal are limited to those issues raised either orally or in writing before the close of the public record. A city-recognized neighborhood association requesting an appeal fee waiver pursuant to OCMC 17.50.290.C must officially approve the request through a vote of its general membership or board at a duly announced meeting prior to the filing of an appeal. The city commission decision on appeal from the planning commission is the city's final decision and is appealable to the Land Use Board of Appeals (LUBA) within twenty-one days of when it becomes final.

Conditions of Approval
Planning File GLUA-19-00044/MP-19-00004/VAR-19-00014

(P) = Verify that condition of approval has been met with the Planning Division.

(DS) = Verify that condition of approval has been met with the Development Services Division.

(B) = Verify that condition of approval has been met with the Building Division.

(F) = Verify that condition of approval has been met with Clackamas Fire Department.

The applicant shall include the following information with submittal of a public improvement and/or grading permit associated with the proposed application. The information shall be approved prior to issuance.

1. The development shall comply with all current Oregon City Public Works design standards, specifications, codes and policies. (DS)
2. The developer shall submit or address all items in section 16.12.014 of the Oregon City Municipal Code based on the timing requirements contained therein and as deemed applicable by the City. (DS)
3. The developer and engineer for the project shall execute a "Developer/Engineer Agreement for Public Works Improvements" and commit to the responsibilities outlined in the agreement. (DS)
4. The applicant shall provide construction plans, stamped and signed by a professional engineer licensed in the State of Oregon, containing street, grading, stormwater, sanitary sewer and water infrastructure improvements that conforms to all current Oregon City Public Works standards, specifications, codes, and policies for review and approval by the City. (DS)
5. The development's contractor(s) and engineer(s) shall attend a pre-construction meeting with Oregon City staff prior to beginning construction work associated with the project. (DS)
6. The required improvements on the subject side of the centerline along the development's Swan Avenue frontage shall be: 11-foot-wide travel lane, 6-foot-wide bike lane, 0.5-foot-wide curb, 5-foot-wide planter, 6-foot-wide sidewalk and a 0.5-foot-wide public access strip. The applicant shall provide approximately 9 feet of right-of-way dedication along Swan Avenue. (DS)
7. The applicant shall provide 5 feet of right-of-way dedication along the Ames Street frontage. (DS)
8. The applicant shall provide a curb ramp along the development's frontage at the intersection of Ames Street and Swan Avenue in compliance with Americans with Disabilities Act (ADA) requirements. (DS)
9. The development shall include streetlights along the property's frontage along Ames Street and Swan Avenue in conformance with all City standards, specifications, codes, and policies and as approved by Portland General Electric (PGE). The developer shall submit a photometric plan to demonstrate that proposed street lighting meets IESNA ANSI RP-8-14 standards. (DS)
10. All pavement cuts and restoration shall comply with the City of Oregon City Pavement Cut Standards. (DS)
11. All driveways (curb cuts), new and existing, shall meet the minimum driveway width standards identified in Table 16.12.035.D. (DS)
12. All driveway approaches, proposed and existing, that intersect with a public sidewalk, shall be made ADA compliant. (DS)
13. The applicant shall reestablish and protect monuments of the type required by ORS 92.060 in monument boxes with covers at every public street intersection and all points of curvature and points of tangency of their center line, and at such other points as directed by the city engineer. (DS)
14. The development shall provide a sanitary service lateral and two-way cleanout for each lot per City standards. (DS)
15. If the applicant intends to use the existing sanitary sewer service line serving Lot 1, it shall be at least 4-inch in diameter and the applicant shall provide a video inspection report to the City who will

determine if the lateral is in usable condition. Otherwise, the development shall install a new 4-inch service lateral to serve Lot 1. (DS)

16. All lots for the proposed development shall have an individual water service connecting to the water main and each water meter shall front the property that it serves. (DS)
17. If the applicant intends to use the existing water service line serving Lot 1, it shall be at least 1" in diameter and the applicant shall perform inspections to confirm that it is in usable condition to the satisfaction of the City. Otherwise, the development shall install, at a minimum, a new 1" water service line to serve Lot 1. (DS)
18. The development shall comply with the current version of the Oregon City Stormwater and Grading Design Standards. (DS)
19. The applicant shall provide an engineered drainage plan, signed by a professional engineer in the State of Oregon, for review and approval to fully address all applicable Stormwater and Grading Design Standards. The development shall comply with the current version of the Oregon City Stormwater and Grading Design Standards. (DS)
20. The engineering plans shall provide a local benchmark onsite using the NAVD88 datum. (DS)
21. The applicant shall provide a Residential Lot Grading Plan adhering to the State of Oregon Structural Specialty Code, Chapter 18 and the Oregon City Public Works Stormwater and Grading Design Standards. (DS)
22. The applicant shall provide an Erosion Prevention and Sedimentation Control Plan prior to issuance of an erosion control permit. The applicant shall obtain an erosion control permit prior to commencement of any earth disturbing activities. (DS)
23. The applicant shall submit a performance guarantee which is equal to one hundred twenty percent of the estimated cost of constructing the public improvements shown in a city approved construction plan submitted by the applicant's engineer. The estimated costs shall be supported by a verified engineering estimate and approved by the city engineer. The guarantee shall be in a form identified in Code 17.50.140.A of the Oregon City Municipal Code. The guarantee shall remain in effect until the improvement is actually constructed and accepted by the city. (DS)
24. The applicant shall submit documentation demonstrating compliance with standards for tree protection during construction in accordance with OCMC 17.41.130. (P)

The applicant shall include the following information with submittal of a Building permit associated with the proposed application. The information shall be approved prior to issuance.

25. The workmanship and materials for any work performed under permits issued by Oregon City Public Works shall be in accordance with the edition of the "Oregon Standard Specifications for Construction" as prepared by the Oregon Department of Transportation (ODOT) and the Oregon Chapter of American Public Works Association (APWA) and as modified and adopted by the City. (DS)
26. The lot (Lot 2) containing the proposed driveway on Ames Street dwelling shall have an asphalt driveway approach with a minimum hard surface for at least ten feet back into the lot as measured from the edge of street pavement. The hard surface shall be concrete, asphalt, or other surface approved by the city engineer. (DS)
27. The development shall include a 10-foot-wide public utility easement along all property lines fronting existing or proposed right-of-way. (DS)
28. Improvements shall be constructed under the inspection and approval of the City. Expenses incurred thereby shall be borne by the developer and paid prior to final approval. The developer's project engineer also shall inspect construction. (DS)

29. Underground utilities, waterlines, sanitary sewers and storm drains proposed within streets shall be constructed prior to the surfacing of the streets. Stubs for service connections for underground utilities, such as, storm, water and sanitary sewer shall be placed beyond the franchise utility easement within private property. (DS)
30. All new franchise utilities shall be placed underground. (DS)
31. The property owner(s) shall sign a Restrictive Covenant Non-Remonstrance Agreement for the purpose of making storm sewer, sanitary sewer, water or street improvements in the future that benefit the property and all fees associated with processing and recording the Non-Remonstrance Agreement shall be paid. (DS)
32. The applicant shall provide a Maintenance Guarantee in the amount of fifteen percent of the cost to construct all public improvements as shown in a city approved construction plan submitted by the applicant's engineer. The estimated costs shall be supported by a verified engineering estimate approved by the City Engineer. The guarantee shall be in a form identified in Code 17.50.140.A of the Oregon City Municipal Code. The guarantee shall warrant to the City of Oregon City that construction of public improvements will remain, for a period of twenty-four (24) months from the date of acceptance, free from defects in materials and workmanship. (DS)
33. If a new house on Lot 1 is proposed in the future, the front setback and the most architecturally significant elevation of the house shall be oriented towards Swan Avenue. (P)

The applicant shall include the following information prior to final plat of the proposed land division. The information shall be approved prior to recording of the final plat.

34. The applicant shall provide a street tree plan which demonstrates compliance with street tree placement, species and spacing standards within Chapter 12.08. If the required street trees cannot be accommodated within the public right-of-way, the applicant may plant street trees on private property within ten feet of the right-of-way or pay a fee-in-lieu of planting. (P)
35. The applicant shall submit a mitigation plan utilizing any of the mitigation compliance options in Section 17.41.050 and demonstrating compliance with mitigation tree planting size, species and location requirements in OCMC Chapter 17.41. (P)
36. The existing shed located behind the existing house on Lot 1 shall be removed prior to final plat of the minor partition. (P)

The applicant shall include the following information prior to issuance of an occupancy permit associated with the proposed application. The information shall be approved prior to issuance.

37. The applicant shall record a protective covenant for all saved trees and provide a copy of the recorded protective covenant to the City prior to occupancy of a new home within this development. (P)
38. As-builts conforming to City standards shall be provided within 90 days of completion of the public improvements. (DS)

I. BACKGROUND:

1. Existing Conditions

The subject site is located at 15910 Swan Avenue. The property is a corner lot with frontage on both Swan Avenue and Ames Street. The subject site is developed with a single-family home and shed. The lot is approximately 20,000 square feet in size and is zoned R-10, Low Density Residential District. Surrounding properties are also zoned R-10 and are developed with single-family homes.

Figure 1. Vicinity Map



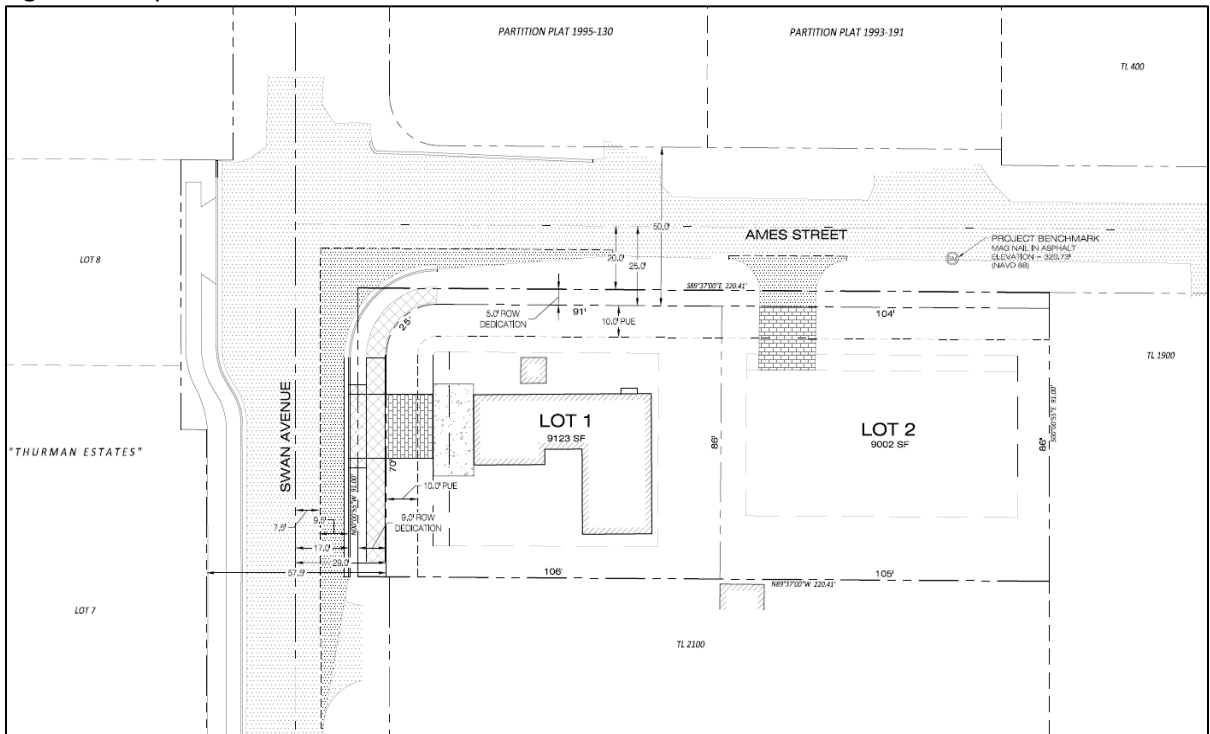
Figure 2: Existing Conditions – Aerial Image



2. Project Description

The applicant is requesting to divide the property into two lots, approximately 9,100 and 9,000 square feet in size respectively. The applicant is proposing to remove the shed located on proposed Lot 2 and keep the existing home on Lot 1. Frontage improvements are proposed only on the Ames Street frontage of the property.

Figure 3: Proposed Site Plan



3. Permits and Approvals: The applicant is responsible for obtaining approval and permits from each applicable governmental agency and department at Oregon City including but not limited to the Engineering and Building Divisions.

4. Public Comment

Public comments submitted include (Exhibit 3):

- A comment from ODOT identifying no concerns with the proposed development.
- A comment from Oregon City School District identifying no concerns with the proposed development.

Comments of the Public Works Department and Development Services Division are incorporated into this report and Conditions of Approval.

None of the comments provided indicate that an approval criterion has not been met or cannot be met through the Conditions of Approval attached to this Staff Report.

II. ANALYSIS AND FINDINGS:

Municipal Code Standards and Requirements: The following chapters of the Oregon City Municipal Code are applicable to this land use approval:

CHAPTER 12.04 STREETS, SIDEWALKS, AND PUBLIC PLACES

CHAPTER 12.08 - PUBLIC AND STREET TREES

CHAPTER 13.12 STORMWATER MANAGEMENT

CHAPTER 15.48 - GRADING, FILLING AND EXCAVATING

CHAPTER 16.08 LAND DIVISIONS - PROCESS AND STANDARDS

CHAPTER 16.12 MINIMUM PUBLIC IMPROVEMENTS AND DESIGN STANDARDS FOR DEVELOPMENT

CHAPTER 17.08 LOW DENSITY RESIDENTIAL DISTRICTS

CHAPTER 17.41 TREE PROTECTION, PRESERVATION, REMOVAL AND REPLANTING STANDARDS

CHAPTER 17.50 ADMINISTRATION AND PROCEDURES

CHAPTER 17.60 VARIANCES

The City Code Book is available on-line at www.orcity.org.

REQUIRED CODE RESPONSES:

CHAPTER 17.08 LOW DENSITY RESIDENTIAL DISTRICTS

17.08.020 - Permitted uses.

Permitted uses in the R-10, R-8 and R-6 districts are:

- A. Single-family detached residential units;*
- B. Accessory uses, buildings and dwellings;*
- C. Internal conversions;*
- D. Corner duplexes;*
- E. Cluster housing;*
- F. Residential homes;*
- G. Parks, playgrounds, playfields and community or neighborhood centers;*
- H. Home occupations;*

I. Family day care providers;

J. Farms, commercial or truck gardening and horticultural nurseries on a lot not less than twenty thousand square feet in area (retail sales of materials grown on-site is permitted);

K. Temporary real estate offices in model homes located on and limited to sales of real estate on a single piece of platted property upon which new residential buildings are being constructed;

L. Transportation facilities.

Finding: Complies as Proposed. The property is developed with a single-family home. The applicant has proposed a partition to divide the property into two lots and build an additional single-family home on the newly created lot.

17.08.025 - Conditional uses.

The following uses are permitted in the R-10, R-8 and R-6 districts when authorized by and in accordance with the standards contained in OCMC 17.56:

A. Golf courses, except miniature golf courses, driving ranges or similar commercial enterprises;

B. Bed and breakfast inns/boarding houses;

C. Cemeteries, crematories, mausoleums and columbariums;

D. Child care centers and nursery schools;

E. Emergency service facilities (police and fire), excluding correctional facilities;

F. Residential care facilities;

G. Private and/or public educational or training facilities;

H. Public utilities, including sub-stations (such as buildings, plants and other structures);

I. Religious institutions;

J. Assisted living facilities; nursing homes and group homes for over fifteen patients;

Finding: Not Applicable. The applicant has not proposed a conditional use.

17.08.030 - Master plans.

The following are permitted in the R-10, R-8 and R-6 districts when authorized by and in accordance with the standards contained in OCMC 17.65.

A. Single-family attached residential units.

Finding: Not Applicable. The applicant has not proposed a master plan.

17.08.035 - Prohibited uses.

Prohibited uses in the R-10, R-8 and R-6 districts are:

A. Any use not expressly listed in OCMC 17.08.020, 17.08.025 or 17.08.030;

B. Marijuana businesses.

Finding: Complies as Proposed. The applicant has not proposed a prohibited use.

17.08.040 - Dimensional standards.

Dimensional standards in the R-10, R-8 and R-6 districts are as follows:

Table 17.08.040

<i>Standard</i>	<i>R-10 Standard</i>	Lot 1	Lot 2
<i>Minimum lot size</i>	<i>10,000 sq. ft.</i>	9,123 SF	9,002 SF
<i>Maximum height</i>	<i>35 ft.</i>	Existing	Will be reviewed with building permit

<i>Maximum building lot coverage With ADU</i>	<i>40%, except 45%</i>	18%	Will be reviewed with building permit
<i>Minimum lot width</i>	<i>65 ft.</i>	86 feet	104 feet
<i>Minimum lot depth</i>	<i>80 ft.</i>	107 feet	86 feet
<i>Minimum front yard setback</i>	<i>20 ft., except 15 ft. - Porch</i>	28 feet	Will be reviewed with building permit
<i>Minimum interior side yard setback</i>	<i>8 ft.</i>	14 feet	Will be reviewed with building permit
<i>Minimum corner side yard setback</i>	<i>10 ft.</i>	28 feet	N/A – not a corner lot
<i>Minimum rear yard setback</i>	<i>20 ft, except 15 ft - Porch 10 ft - ADU</i>	22 feet	Will be reviewed with building permit
<i>Garage setback</i>	<i>20 ft. from ROW, except 5 ft. Alley</i>	28 feet	Will be reviewed with building permit

Notes:

For land divisions, lot sizes may be reduced pursuant to OCMC 16.08.065.

Accessory structures may have reduced setbacks pursuant to OCMC 17.54.010.B.

Finding: Complies with Condition. The proposed development is in compliance with all dimensional standards of the R-10 zoning district with the exception of minimum lot size which the applicant has requested a variance to. Please refer to the findings in Chapter 17.60 within this report. Compliance with setbacks for new structures on Lot 2 will be evaluated upon submittal of a building permit application. The property includes a shed behind the existing house, which is proposed to be removed as part of this development. The shed is located where the new property line dividing the two lots is proposed and shall be removed prior to final plat of the minor partition. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.08.045 - Exceptions to setbacks.

A. Projections from buildings. Ordinary building projections such as cornices, eaves, overhangs, canopies, sunshades, gutters, chimneys, flues, sills or similar architectural features may project into the required yards up to twenty-four inches.

Finding: Complies as Proposed. The existing single-family home does not include projections which project into the required setback more than 24 inches. For Lot 2, compliance with setbacks, including projections from buildings, will be reviewed upon submittal of a building permit application for a new home.

B. Through lot setbacks. Through lots having a frontage on two streets shall provide the required front yard on each street. The required rear yard is not necessary.

Finding: Not Applicable. The applicant has not proposed a through lot.

17.08.050 - Density standards.

A. *Density standards in the R-10, R-8 and R-6 districts are as follows:*

Table 17.08.050

<i>Standard</i>	<i>R-10</i>
<i>Minimum net density</i>	<i>3.5 du/acre</i>
<i>Maximum net density</i>	<i>4.4 du/acre</i>

B. *Exceptions.*

- 1. Any dwelling units created as accessory dwelling units or internal conversions do not count towards the minimum or maximum density limits in Table 17.08.050.*
- 2. Corner duplexes shall count as a single dwelling unit for the purposes of calculating density.*
- 3. Cluster housing is permitted at higher densities exempt from the standards in Table 17.08.050; see OCMC 17.20.020.*

Finding: Complies as Proposed. Following required dedication, the lot would be approximately 18,100 square feet in size requiring a minimum net density of 1 dwelling unit and a maximum density of 2 dwelling units. The applicant has proposed to divide the property into two lots resulting in two dwelling units. The applicant is in compliance with minimum and maximum density standards.

CHAPTER 12.04 STREETS, SIDEWALKS, AND PUBLIC PLACES

12.04.005 - Jurisdiction and management of the public rights-of-way.

A. *The City has jurisdiction and exercises regulatory management over all public rights-of-way within the City under authority of the City Charter and state law by issuing separate public works right-of-way permits or permits as part of issued public infrastructure construction plans. No work in the public right-of-way shall be done without the proper permit. Some public rights-of-way within the city are regulated by the State of Oregon Department of Transportation (ODOT) or Clackamas County and as such, any work in these streets shall conform to their respective permitting requirements.*

B. *Public rights-of-way include, but are not limited to, streets, roads, highways, bridges, alleys, sidewalks, trails, paths, public easements and all other public ways or areas, including the subsurface under and air space over these areas.*

C. *The City has jurisdiction and exercises regulatory management over each public right-of-way whether the City has a fee, easement, or other legal interest in the right-of-way. The City has jurisdiction and regulatory management of each right-of-way whether the legal interest in the right-of-way was obtained by grant, dedication, prescription, reservation, condemnation, annexation, foreclosure or other means.*

D. *No person may occupy or encroach on a public right-of-way without the permission of the City. The City grants permission to use rights-of-way by franchises, licenses and permits.*

E. *The exercise of jurisdiction and regulatory management of a public right-of-way by the City is not official acceptance of the right-of-way, and does not obligate the City to maintain or repair any part of the right-of-way.*

Finding: Complies as Proposed. The applicant acknowledges the City's jurisdiction and management of the public right-of-way. The applicant shall receive all necessary approvals from the City prior to installation of any public improvements within the adjacent right-of-way.

12.04.025 - Driveways.

Driveways shall be reviewed in accordance with OCMC 16.12.035. Driveway requirements may be modified through the procedures in OCMC 16.12.013.

Finding: Please refer to section 16.12.035 of this report.

12.04.030 - Maintenance and repair.

The owner of land abutting the street where a sidewalk has been constructed shall be responsible for maintaining said sidewalk and abutting curb, if any, in good repair.

Finding: Applicable. The applicant is responsible for maintaining said existing sidewalk and abutting curb during construction and maintain all new sidewalk and curb after construction.

12.04.031 - Liability for sidewalk injuries.

A. The owner or occupant of real property responsible for maintaining the adjacent sidewalk shall be liable to any person injured because of negligence of such owner or occupant in failing to maintain the sidewalk in good condition.

B. If the City is required to pay damages for an injury to persons or property caused by the failure of an owner or occupant to perform the duty that this ordinance imposes, the owner or occupant shall compensate the City for the amount of the damages paid. The City may maintain an action in a court of competent jurisdiction to enforce this section.

Finding: Not Applicable. This is not a criterion for this development.

12.04.032 - Required sidewalk repair.

A. When the Public Works Director determines that repair of a sidewalk is necessary, written notice shall be provided to the owner of property adjacent to the defective sidewalk.

B. The notice shall require the owner of the property adjacent to the defective sidewalk to complete the repair of the sidewalk within ninety days after the service of notice. The notice shall also state that if the repair is not made by the owner, the City may do the work and the cost of the work shall be assessed against the property adjacent to the sidewalk.

1. All sidewalks hereafter constructed in the City on improved streets shall be constructed to city standards and widths required in the Oregon City Transportation System Plan and OCMC 16.12. Sidewalks and curbs are to be constructed according to plans and specifications provided by the City Engineer.

2. Sidewalks constructed on unimproved streets shall be constructed of concrete according to lines and grades established by the City Engineer. On unimproved streets, curbs do not have to be constructed.

C. The Public Works Director shall cause a copy of the notice to be served personally upon the owner of the property adjacent to the defective sidewalk, or the notice may be served by registered or certified mail, return receipt requested. If after diligent search the owner is not discovered, the Public Works Director shall cause a copy of the notice to be posted in a conspicuous place on the property, and such posting shall have the same effect as service of notice by mail or by personal service upon the owner of the property.

D. The person serving the notice shall file with the City recorder a statement stating the time, place and manner of service or notice.

Finding: Not Applicable. This is not a criterion for this development because no sidewalk repair is required.

12.04.033 - City may do work.

If repair of the sidewalk is not completed within ninety days after the service of notice, the Public Works Director shall carry out the needed work on the sidewalk. Upon completion of the work, the Public Works Director shall submit an itemized statement of the cost of the work to the finance director. The City may,

at its discretion, construct, repair or maintain sidewalks deemed to be in disrepair by the Public Works Director for the health, safety and general welfare of the residents of the City.

Finding: Not Applicable. This is not a criterion for this development because no sidewalk repair is required.

12.04.034 - Assessment of costs.

Upon receipt of the report, the Finance Director shall assess the cost of the sidewalk work against the property adjacent to the sidewalk. The assessment shall be a lien against the property and may be collected in the same manner as is provided for in the collection of street improvement assessment.

Finding: Not Applicable. This is not a criterion for this development because no sidewalk repair is required.

12.04.040 – Sidewalks—Enforcement.

Any person whose duty it is to maintain and repair any sidewalk, as provided by this chapter, and who fails to do so shall be subject to the enforcement procedures of OCMC 1.16, 1.20 and 1.24. Failure to comply with the provisions of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of OCMC 1.16, 1.20 and 1.24.

Finding: Not Applicable. This is not a criterion for this development.

12.04.050 - Retaining walls—Required.

Every owner of a lot within the City, abutting upon an improved street, where the surface of the lot or tract of land is above the surface of the improved street and where the soil or earth from the lot, or tract of land is liable to, or does slide or fall into the street or upon the sidewalk, or both, shall build a retaining wall, the outer side of which shall be on the line separating the lot, or tract of land from the improved street, and the wall shall be so constructed as to prevent the soil or earth from the lot or tract of land from falling or sliding into the street or upon the sidewalk, or both, and the owner of any such property shall keep the wall in good repair.

Finding: Not Applicable. Applicant is not proposing construction of a retaining wall.

12.04.060 - Retaining walls—Maintenance.

When a retaining wall is necessary to keep the earth from falling or sliding onto the sidewalk or into a public street and the property owner or person in charge of that property fails or refuses to build such a wall, such shall be deemed a nuisance. The violation of any provision of this chapter is subject to the code enforcement procedures of OCMC 1.16, 1.20 and 1.24.

Finding: Not Applicable. Applicant is not proposing construction of a retaining wall.

12.04.070 - Removal of sliding dirt.

It shall be the duty of the owner of any property as mentioned in OCMC 12.04.050, and in case the owner is a nonresident, then the agent or other person in charge of the same, to remove from the street or sidewalk or both as the case may be, any and all earth or dirt falling on or sliding into or upon the same from the property, and to build and maintain in order at all times, the retaining wall as herein required; and upon the failure, neglect or refusal of the land owner, the agent or person in charge of the same to clean away such earth or dirt, falling or sliding from the property into the street or upon the sidewalk, or both, or to build the retaining wall, shall be deemed guilty of a misdemeanor.

Finding: Not Applicable. The applicant has not proposed and is not required to remove sliding dirt with this application.

12.04.080 - Excavations—Permit required.

It shall be unlawful for any person to dig up, break, excavate, disturb, dig under or undermine any public street or alley, or any part thereof or any macadam, gravel, or other street pavement or improvement without first applying for and obtaining from the engineer a written permit so to do.

Finding: Complies as Proposed. The applicant has indicated that permits will be obtained from the City prior to any work being conducted within the right-of-way.

12.04.090 - Excavations—Permit restrictions.

The permit shall designate the portion of the street to be so taken up or disturbed, together with the purpose for making the excavation, the number of days in which the work shall be done, and the trench or excavation to be refilled and such other restrictions as may be deemed of public necessity or benefit.

Finding: Complies as Proposed. The applicant has indicated that permits will be obtained from the City prior to any work being conducted within the right-of-way. The City shall review a permit upon submittal.

12.04.100 - Excavations—Restoration of pavement.

Whenever any excavation shall have been made in any pavement or other street improvement on any street or alley in the City for any purpose whatsoever under the permit granted by the engineer, it shall be the duty of the person making the excavation to restore the pavement in accordance with the City of Oregon City Public Works Pavement Cut Standard in effect at the time a right-of-way permit is granted. The City Commission may adopt and modify the City of Oregon City Public Works Pavement Cut Standards by resolution as necessary to implement the requirements of this chapter.

Finding: Complies with Condition. The applicant has proposed work in the public right-of-way, including roadway and utility work, within Ames Street and Swan Avenue that will require pavement restoration. All pavement cuts and restoration with Ames Street and Swan Avenue shall comply with the City of Oregon City Pavement Cut Standards. At the time of the application, the pavement restoration requirement for Ames Street is the T-Cut Standard and the requirement for Swan Avenue is the Modified Standard. However, specific pavement cut standard requirements are determined at the time of construction. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

12.04.110 - Excavations—Nuisance—Penalty.

Any excavation in violation of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of OCMC 1.16, 1.20 and 1.24.

Finding: Complies as Proposed. All excavations will comply with this Chapter via the conditions of approval.

12.04.120 - Obstructions—Permit required.

A. Permanent Obstructions. It is unlawful for any person to place, put or maintain any obstruction, other than a temporary obstruction, as defined in subsection B. of this section, in any public street or alley in the City, without obtaining approval for a right-of-way permit from the City Commission by passage of a resolution.

1. The City Engineer shall provide applicants with an application form outlining the minimum submittal requirements.

2. The applicant shall submit at least the following information in the permitting process in order to allow the City Commission to adequately consider whether to allow the placement of an obstruction and whether any conditions may be attached:

- a. Site plan showing right-of-way, utilities, driveways as directed by staff;*
- b. Sight distance per OCMC 10.32, Traffic Sight Obstructions;*

- c. *Traffic control plan including parking per Manual on Uniform Traffic Control Devices (MUTCD);*
- d. *Alternative routes if necessary;*
- e. *Minimizing obstruction area; and*
- f. *Hold harmless/maintenance agreement.*
- 3. *If the City Commission adopts a resolution allowing the placement of a permanent obstruction in the right-of-way, the City Engineer shall issue a right-of-way permit with any conditions deemed necessary by the City Commission.*
- B. *Temporary Obstructions.*
 - 1. *A "temporary obstruction" is defined as an object placed in a public street, road or alley for a period of not more than sixty consecutive days. A "temporary obstruction" includes, but is not limited to, moving containers and debris dumpsters.*
 - 2. *The City Engineer, or designee, is authorized to grant a permit for a temporary obstruction.*
 - 3. *The City Engineer shall provide applicants with an application form outlining the minimum submittal requirements.*
 - 4. *The applicant shall submit, and the City Engineer, or designee, shall consider, at least the following items in the permitting process. Additional information may be required in the discretion of the City Engineer:*
 - a. *Site plan showing right-of-way, utilities, driveways as directed by staff;*
 - b. *Sight distance per OCMC 10.32, Traffic Sight Obstructions;*
 - c. *Traffic control plan including parking per Manual on Uniform Traffic Control Devices (MUTCD);*
 - d. *Alternative routes if necessary;*
 - e. *Minimizing obstruction area; and*
 - f. *Hold harmless/maintenance agreement.*
 - 5. *In determining whether to issue a right-of-way permit to allow a temporary obstruction, the City Engineer may issue such a permit only after finding that the following criteria have been satisfied:*
 - a. *The obstruction will not unreasonably impair the safety of people using the right-of-way and nearby residents;*
 - b. *The obstruction will not unreasonably hinder the efficiency of traffic affected by the obstruction;*
 - c. *No alternative locations are available that would not require use of the public right-of-way; and*
 - d. *Any other factor that the City Engineer deems relevant.*
 - 6. *The permittee shall post a weatherproof copy of the temporary obstruction permit in plain view from the right-of-way.*
- C. *Fees. The fee for obtaining a right-of-way permit for either a permanent obstruction or a temporary obstruction shall be set by resolution of the City Commission.*

Finding: Not Applicable. The applicant has not proposed any obstructions in the right-of-way.

12.04.130 - Obstructions—Sidewalk sales.

- A. *It is unlawful for any person to use the public sidewalks of the city for the purpose of packing, unpacking or storage of goods or merchandise or for the display of goods or merchandise for sale. It is permissible to use the public sidewalks for the process of expeditiously loading and unloading goods and merchandise.*
- B. *The City Commission may, in its discretion, designate certain areas of the City to permit the display and sale of goods or merchandise on the public sidewalks under such conditions as may be provided.*

Finding: Not Applicable. The applicant has not proposed a sidewalk sale with this application.

12.04.140 - Obstructions—Nuisance—Penalty.

Any act or omission in violation of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of OCMC 1.16, 1.20 and 1.24.

Finding: Not Applicable. The applicant has not proposed an obstruction in the right-of-way.

12.04.150 - Street and alley vacations—Cost.

At the time of filing a petition for vacation of a street, alley or any part thereof, a fee as established by City Commission resolution shall be paid to the City. The City Commission, upon hearing such petition, may grant the same in whole or in part, or may deny the same in whole or in part, or may grant the same with such reservations as would appear to be for the public interest, including reservations pertaining to the maintenance and use of underground public utilities in the portion vacated.

Finding: Not Applicable. The applicant has not proposed a street or alley vacation with this application.

12.04.170 - Street design—Purpose and general provisions.

All development shall be in conformance with the city's public facility master plans, public works policies, standard drawings and engineering specifications. All streets shall be reviewed and approved by the city engineer prior to construction. All streets and driveway connections to another jurisdiction's facility or right-of-way must be reviewed by the appropriate jurisdiction as a condition of the preliminary plat or site planning and when required by law or intergovernmental agreement shall be approved by the appropriate jurisdiction.

Finding: Complies as Proposed. The applicant has stated that all streets will be in conformance with the policies and design standards established by this Chapter and with applicable standards in the City's public facility master plans and City design standards and specifications.

12.04.194 - Traffic sight obstructions.

All streets shall comply with the Traffic Sight Obstructions in OCMC 10.32.

Finding: Not applicable. There will be no new street intersections created by this development.

12.04.270 - Standard construction specifications.

The workmanship and materials for any work performed under permits issued per this chapter shall be in accordance with the current edition of the "Oregon Standard Specifications for Construction" as prepared by the Oregon Department of Transportation (ODOT) and the Oregon Chapter of American Public Works Association (APWA) and as modified and adopted by the City in accordance with this ordinance, in effect at the time of application. The exception to this requirement is where this chapter and the Public Works Street Standard Drawings provide other design details, in which case the requirements of this chapter and the Public Works Street Standard Drawings shall control. In the case of work within ODOT or Clackamas County rights-of-way, work shall be in conformance with their respective construction standards.

Finding: Complies with Condition. The workmanship and materials for any work performed under permits issued by Oregon City Public Works shall be in accordance with the edition of the "Oregon Standard Specifications for Construction" as prepared by the Oregon Department of Transportation (ODOT) and the Oregon Chapter of American Public Works Association (APWA) and as modified and adopted by the City. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

12.04.280 - Violation—Penalty.

Any act or omission in violation of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of OCMC 1.16, 1.20 and 1.24.

Finding: Applicable. Any act or omission in violation of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of OCMC 1.16, 1.20 and 1.24.

CHAPTER 12.08 - PUBLIC AND STREET TREES

12.08.015 - Street tree selection, planting and maintenance requirements.

All development shall provide street trees adjacent to all street frontages. Species and locations of trees shall be selected based upon vision clearance requirements, but shall in all cases be selected from the Oregon City Street Tree List, an approved street tree list for a jurisdiction in the metropolitan region, or be approved by a certified arborist unless otherwise approved pursuant to this section. If a setback sidewalk has already been constructed or the Public Works Department determines that the forthcoming street design shall include a setback sidewalk, then all street trees shall be installed with a planting strip or within tree wells. If existing street design includes a curb-tight sidewalk, then all street trees shall be placed according to OCMC 12.08.035.C.

A. One street tree shall be planted for every thirty-five feet of property frontage. The tree spacing shall be evenly distributed throughout the total development frontage to meet the clearance distances required in subsection (B) below. The Community Development Director may approve an alternative street tree plan, or accept fee-in-lieu of planting pursuant to OCMC 12.08.035, if site or other constraints prevent meeting the required total number of tree plantings.

Finding: Complies with Condition. The applicant indicated the development will comply with this standard, however, a street tree plan has not been submitted. Prior to final plat of the minor partition, the applicant shall provide a street tree plan which demonstrates compliance with street tree placement, species and spacing standards within Chapter 12.08. If the required street trees cannot be accommodated within the public right-of-way, the applicant may plant street trees on private property within ten feet of the right-of-way or pay a fee-in-lieu of planting. **Staff has determined that it is possible, likely, and reasonable that the applicant can comply with this standard through the Conditions of Approval.**

B. The following clearance distances shall be maintained when planting trees:

1. Fifteen feet from streetlights;
2. Five feet from fire hydrants;
3. Twenty feet from intersections;
4. Five feet from all public utilities (i.e. sewer, storm and water lines, utility meters, etc.);

C. All street trees planted in conjunction with development shall be a minimum of two inches in caliper at six inches above the root crown and installed to city specifications. Larger caliper size trees may be approved if recommended by a certified arborist or registered landscape architect.

D. All established trees shall be pruned tight to the trunk to a height that provides adequate clearance for street cleaning equipment and ensures ADA complaint clearance for pedestrians.

E. All trees planted within the right-of-way shall be planted with root barriers at least eighteen inches in depth adjacent to the sidewalk and curb to ensure proper root growth and reduce potential damage to sidewalks, curbs and gutters.

F. All trees planted beneath powerlines shall be selected based on what is appropriate for the location. In addition, the tree species shall be approved by the associated franchise powerline utility company.

G. Tree species, spacing and selection for stormwater facilities in the public right-of-way and in storm water facilities shall conform to requirements of OCMC 13.12 and the adopted Stormwater and Grading Design Standards and be approved by the City Engineer.

H. Any public or street trees planted within the Natural Resource Overlay District shall conform to the applicable requirements of OCMC 17.49 - Natural Resources Overlay District (NROD).

Finding: Complies with Condition. The applicant indicated the development will comply with this standard, however, a street tree plan has not been submitted. Prior to final plat of the minor partition,

the applicant shall provide a street tree plan which demonstrates compliance with street tree placement, species and spacing standards within Chapter 12.08. If the required street trees cannot be accommodated within the public right-of-way, the applicant may plant street trees on private property within ten feet of the right-of-way or pay a fee-in-lieu of planting. **Staff has determined that it is possible, likely, and reasonable that the applicant can comply with this standard through the Conditions of Approval.**

12.08.035 - Tree removal and replacement.

Existing street trees, trees in the right-of-way, and trees on public property shall be retained and protected during development unless removal is specified as part of a land use approval or in conjunction with a public capital improvement project, in accordance with OCMC 17.41. Tree removal shall be mitigated by the following:

A. A diseased or hazardous street tree, as determined by a registered arborist and approved by the City, may be removed, if replaced with one new tree for each diseased or hazardous tree. Hazardous trees which have raised the adjacent sidewalk in a manner which does not comply with the Americans with Disabilities Act may be removed and replaced without approval of an arborist.

B. A non-diseased, non-hazardous street tree that is removed shall be replaced in accordance with the Table 12.08.035. All replaced street trees shall have a minimum 1.5-inch caliper trunk measured six inches above the root crown.

Table 12.08.035

<i>Replacement Schedule for Trees Determined to be Dead, Diseased or Hazardous by a Certified Arborist</i>		<i>Replacement Schedule for Trees Not Determined to be Dead, Diseased or Hazardous by a Certified Arborist</i>	
<i>Diameter of tree to be Removed (Inches of diameter at 4-ft height)</i>	<i>Number of Replacement Trees to be Planted</i>	<i>Diameter of tree to be Removed (Inches of diameter at 4-ft height)</i>	<i>Number of Replacement Trees to be Planted</i>
<i>Any Diameter</i>	<i>1 Tree</i>	<i>Less than 6"</i>	<i>1 Tree</i>
		<i>6" to 12"</i>	<i>2 Trees</i>
		<i>13" to 18"</i>	<i>3 Trees</i>
		<i>19" to 24"</i>	<i>4 Trees</i>
		<i>25" to 30"</i>	<i>5 Trees</i>
		<i>31" and over</i>	<i>8 Trees</i>

C. For the purposes of this chapter, removed trees shall be replaced by trees within the right-of-way abutting the frontage subject to the clearance distances required under OCMC 12.08.015(B). If a sufficient location to replant tree(s) is not available, the Community Development Director may allow:

- 1. Off-site installation of replacement trees within the right-of-way or on public property;*
- 2. Planting of replacement trees or designation of existing trees on the abutting property within ten feet of the right-of-way as street trees. Designated street trees shall be a minimum of two inches in caliper and shall comply with the requirements in section B. In order to assure protection and replacement of the trees on private property, a covenant shall be recorded identifying the tree(s) as subject to the protections and replacement requirements in this chapter; or*

3. If sufficient space to replant tree(s) is not available, the Community Development Director may allow a fee in-lieu of planting the tree(s) to be placed into a City fund dedicated to obtaining trees, planting trees and/or tree education in Oregon City.

D. Trees that are listed as invasive or nuisance species as defined in OCMC 17.04.605 may be removed without replacement.

Finding: Not Applicable. Tree removal proposed as part of this development is subject to the mitigation standards in OCMC Chapter 17.41. This section is not applicable.

CHAPTER 13.12 STORMWATER MANAGEMENT

13.12.050 - Applicability and exemptions.

This chapter establishes performance standards for stormwater conveyance, quantity and quality.

Additional performance standards for erosion prevention and sediment control are established in OCMC 17.47.

A. *Stormwater Conveyance. The stormwater conveyance requirements of this chapter shall apply to all stormwater systems constructed with any development activity, except as follows:*

- 1. The conveyance facilities are located entirely on one privately owned parcel;*
- 2. The conveyance facilities are privately maintained; and*
- 3. The conveyance facilities receive no stormwater runoff from outside the parcel's property limits.*

Those facilities exempted from the stormwater conveyance requirements by the above subsection will remain subject to the requirements of the Oregon Uniform Plumbing Code. Those exempted facilities shall be reviewed by the Building Official.

Finding: Applicable. Connection to a public stormwater conveyance system is required to serve this development.

B. *Water Quality and Flow Control. The water quality and flow control requirements of this chapter shall apply to the following proposed uses or developments, unless exempted under subsection C:*

- 1. Activities located wholly or partially within water quality resource areas pursuant to OCMC 17.49 that will result in the creation of more than five hundred square feet of impervious surface within the NROD or will disturb more than one thousand square feet of existing impervious surface within the NROD as part of a commercial or industrial redevelopment project. These square footage measurements will be considered cumulative for any given five-year period; or*
- 2. Activities that create or replace more than five thousand square feet of impervious surface, cumulated over any given five-year period.*

Finding: Not Applicable. The proposed development is not located wholly or partially within the NROD. The applicant has proposed to add 2,906 square feet of new impervious area. As the development proposes to add or replace less than 5,000 square feet of the impervious surface, the water quality and flow control requirements of this chapter are not applicable.

C. *Exemptions. The following exemptions to subsection B of this section apply:*

- 1. An exemption to the flow control requirements of this chapter will be granted when the development site discharges to the Willamette River, Clackamas River or Abernethy Creek; and either lies within the one hundred-year floodplain or is up to ten feet above the design flood elevation as defined in OCMC 17.42, provided that the following conditions are met:*
 - a. The project site is drained by a conveyance system that is comprised entirely of manmade elements (e.g. pipes, ditches, culverts outfalls, outfall protection, etc.) and extends to the ordinary high water line of the exempt receiving water; and*

b. The conveyance system between the project site and the exempt receiving water has sufficient hydraulic capacity and erosion stabilization measures to convey discharges from the proposed conditions of the project site and the existing conditions from non-project areas from which runoff is collected.

2. Projects in the following categories are generally exempt from the water quality and flow control requirements:

a. Stream enhancement or restoration projects approved by the City.

b. Farming practices as defined by ORS 30.960 and farm use as defined in ORS 214.000; except that buildings associated with farm practices and farm use are subject to the requirements of this chapter.

c. Actions by a public utility or any other governmental agency to remove or alleviate an emergency condition.

d. Road and parking area preservation/maintenance projects such as pothole and square cut patching, surface sealing, replacing or overlaying of existing asphalt or concrete pavement, provided the preservation/maintenance activity does not expand the existing area of impervious coverage above the thresholds in subsection B of this section.

e. Pedestrian and bicycle improvements (sidewalks, trails, pathways, and bicycle paths/lands) where no other impervious surfaces are created or replaced, built to direct stormwater runoff to adjacent vegetated areas.

f. Underground utility projects that replace the ground surface with in-kind material or materials with similar runoff characteristics.

g. Maintenance or repair of existing utilities.

Finding: Not Applicable. No exemptions apply to the proposed development.

D. Uses Requiring Additional Management Practices. In addition to any other applicable requirements of this chapter, the following uses are subject to additional management practices, as defined in the Public Works Stormwater and Grading Design Standards:

1. Bulk petroleum storage facilities;

2. Above ground storage of liquid materials;

3. Solid waste storage areas, containers, and trash compactors for commercial, industrial, or multi-family uses;

4. Exterior storage of bulk construction materials;

5. Material transfer areas and loading docks;

6. Equipment and/or vehicle washing facilities;

7. Development on land with suspected or known contamination;

8. Covered vehicle parking for commercial or industrial uses;

9. Industrial or commercial uses locating in high traffic areas, defined as average daily count trip of two thousand five hundred or more trips per day; and

10. Land uses subject to DEQ 1200-Z Industrial Stormwater Permit Requirements.

Finding: Not Applicable. The development has not proposed use of the land that requires additional management practices as defined in the Public Works Stormwater and Grading Design Standards.

13.12.060 - Abrogation and greater restrictions.

Where the provisions of this chapter are less restrictive or conflict with comparable provisions of other portions of this code, regional, state or federal law, the provisions that are more restrictive shall govern.

Where this chapter imposes restrictions that are more stringent than regional, state or federal law, the provisions of this chapter shall govern. However, nothing in this chapter shall relieve any party from the obligation to comply with any applicable federal, state or local regulations or permit requirements.

Compliance with this chapter and the minimum requirements, minimum standards, and design procedures as set forth in the City adopted Public Works Stormwater and Grading Design Standards does

not relieve the designer, owner, or developer of the responsibility to apply conservative and sound professional judgment to protect the health, safety and welfare of the public. It is not the intent of this chapter to make the City a guarantor or protector of public or private property in regard to land development activity.

Finding: Applicable. Findings from the provision of this chapter does not relieve the development from the obligation to comply with any applicable federal, state or local regulations or permit requirements.

13.12.080 - Submittal requirements.

A. Applications subject to stormwater conveyance, water quality, and/or flow control requirements of this chapter shall prepare engineered drainage plans, drainage reports, and design flow calculation reports in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards.

B. Each project site, which may be composed of one or more contiguous parcels of land, shall have a separate valid city approved plan and report before proceeding with construction.

Finding: Complies with Condition. The development shall comply with the current version of the Oregon City Stormwater and Grading Design Standards. The [JW1] applicant shall provide an engineered drainage plan, signed by a professional engineer in the State of Oregon, for review and approval to fully address all applicable Stormwater and Grading Design Standards. The applicant is subject to the stormwater conveyance requirements of this chapter. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

13.12.090 - Approval criteria for engineered drainage plans and drainage report.

An engineered drainage plan and/or drainage report shall be approved only upon making the following findings:

A. The plan and report demonstrate how the proposed development and stormwater facilities will accomplish the purpose statements of this chapter.

B. The plan and report meet the requirements of the Public Works Stormwater and Grading Design Standards adopted by resolution under OCMC 13.12.020.

C. The storm drainage design within the proposed development includes provisions to adequately control runoff from all public and private streets and roof, footing, and area drains and ensures future extension of the current drainage system.

D. Streambank erosion protection is provided where stormwater, directly or indirectly, discharges to open channels or streams.

E. Specific operation and maintenance measures are proposed that ensure that the proposed stormwater quantity control facilities will be properly operated and maintained.

Finding: Complies with Condition. The development shall comply with the current version of the Oregon City Stormwater and Grading Design Standards. The applicant shall provide an engineered drainage plan, signed by a professional engineer in the State of Oregon, for review and approval to full address all applicable Stormwater and Grading Design Standards. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

13.12.100 - Alternative materials, alternative design and methods of construction.

The provisions of this chapter are not intended to prevent the use of any material, alternate design or method of construction not specifically prescribed by this chapter or the Public Works Stormwater and Grading Design Standards, provided any alternate has been approved and its use authorized by the City Engineer. The City Engineer may approve any such alternate, provided that the City Engineer finds that the proposed design is satisfactory and complies with the intent of this chapter and that the material, method, or work offered is, for the purpose intended, at least the equivalent of that prescribed by this

chapter in effectiveness, suitability, strength, durability and safety. The City Engineer shall require that sufficient evidence or proof be submitted to substantiate any claims that may be made regarding its use. The details of any action granting approval of an alternate shall be recorded and entered in the City files.

Finding: Not Applicable. The applicant has not proposed alternative design methods requiring special approval by the City Engineer. However, should the applicant propose such methods with the public facilities construction plan submittal, the proposal will be reviewed and approved by the City Engineer as required.

13.12.110 - Transfer of engineering responsibility.

Project drainage plans shall always have a project engineer. If the project engineer is changed during the course of the work, the City shall be notified in writing and the work shall be stopped until the replacement engineer has agreed to accept the responsibilities of the project engineer. The new project engineer shall provide written notice of accepting project responsibility to the City within seventy-two hours of accepting the position as project engineer.

Finding: Complies with Condition. The development has not identified a project engineer for the project. The developer and engineer for the project shall execute a "Developer/Engineer Agreement for Public Works Improvements" and commit to the responsibilities outlined in the agreement. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

13.12.120 - Standard construction specifications.

The workmanship and materials shall be in accordance with the current edition of the "Standard Specifications for Public Works Construction," as prepared by the Oregon Chapter of American Public Works Association (APWA) and as modified and adopted by the City, in effect at the time of application. The exception to this requirement is where this chapter and the Public Works Stormwater and Grading Design Standards provide other design details, in which case the requirements of this chapter and the Public Works Stormwater and Grading Design Standards shall be complied with.

Finding: Complies with Condition. The workmanship and materials for any work performed under permits issued by Oregon City Public Works shall be in accordance with the edition of the "Oregon Standard Specifications for Construction" as prepared by the Oregon Department of Transportation (ODOT) and the Oregon Chapter of American Public Works Association (APWA) and as modified and adopted by the city. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

13.12.140 - Maintenance of public stormwater facilities.

A. A stormwater facility that receives stormwater runoff from a public right-of-way shall be a public facility. Upon expiration of the warranty period and acceptance by the City as described below, the City shall be responsible for maintenance of those public stormwater facilities. Access for maintenance of the stormwater facilities shall be provided to the City through the granting of a stormwater easement or other means acceptable to the City.

B. Responsibility for maintenance of stormwater facilities including all landscaping, irrigation systems, structures and appurtenances shall remain with the property owner/developer for two years (known as the warranty period). The owner/developer shall provide the City a separate two-year landscaping maintenance surety bond for one hundred ten percent of the landscaping cost. Transfer of maintenance of stormwater conveyance systems shall occur when the City accepts the stormwater conveyance system.

C. The City will perform an inspection of the development's entire publicly maintained stormwater system approximately forty-five days before the two-year warranty period expires. The stormwater system shall

be found to be in a clean, functional condition by the City engineer before acceptance of maintenance responsibility by the City.

Finding: Not applicable. The applicant has not proposed public stormwater management facilities.

13.12.145 - Maintenance of private stormwater facilities.

A. An applicant shall submit an operation and maintenance plan for each proposed stormwater facilities, unless exempted in the Public Works Stormwater and Grading Design Standards. The information in the operation and maintenance plan shall satisfy the requirements of the Public Works Stormwater and Grading Design Standards.

B. Private owners are required to inspect and maintain stormwater facilities on their property in accordance with an approved operation and maintenance plan. A maintenance log is required to document facility inspections and specific maintenance activities. The log shall be available to City inspection staff upon request.

C. Failure to operate or maintain a stormwater facility according to the operation and maintenance plan may result in an enforcement action under Section 13.12.150.

Finding: Not applicable. The applicant has not proposed private stormwater management facilities.

13.12.150 - Penalties and enforcement.

A. The City is authorized to make inspections and take such actions as required to enforce the provisions of this chapter. The City has the authority to enter onto land for the purpose of inspecting site development activities or resulting improvements. City staff will make an effort to contact the property owner before entering onto that property.

B. If the City Engineer determines a site has any unpermitted or illegal facilities placed, constructed or installed on the site, then the City Engineer shall notify the owner in writing directing the owner to submit a written plan (with construction drawings completed by a professional engineer, if otherwise required by this chapter) within ten calendar days. This plan (and drawings, if required) shall depict the restoration or stabilization of the site or correct the work that has adversely impacted adjacent or downstream property owners. The City Engineer shall review the plan (and drawings, if required) for compliance with City standards and issue comments for correction, if necessary, or issue an approval to the owner. The City shall establish a fee by resolution for such review, with all costs borne by the owner. If the required corrective work constitutes a grading permit, then the City shall collect the appropriate grading permit fee.

C. Any person, firm, corporation or entity violating any of the provisions of this chapter, whether they be the property owner, the applicant, the contractor or any other person acting with or without the authorization of the property owner or applicant, shall be subject to the code enforcement procedures of OCMC 1.16, 1.20 and 1.24.

Finding: Applicable. The City is authorized to make inspections and take such actions as required to enforce the provisions of this chapter.

13.12.160 - Hazardous conditions.

A. Determination and Notification. If the City Engineer determines that any excavation, embankment, erosion/sedimentation control or drainage facility is a safety hazard; endangers property; or adversely affects the safety, use or stability of a public way, water quality resource areas (pursuant to OCMC 17.49) or drainage course, the owner(s) of the subject property and/or the person or agent in control of the property shall be required to repair or eliminate the hazard in conformance with the requirements of this chapter and the Public Works Stormwater and Grading Design Standards. At the time that the City Engineer makes the determination that a hazardous condition exists, the property owner and/or person or agent in control of the property will be notified in writing that the hazard exists.

B. Order to Correct. The City Engineer will order the specific work to be undertaken or will order that an engineering design be submitted for review and approval by the City Engineer, and will specify the time periods within which the hazardous conditions be repaired or eliminated. In the event that the owner and/or the person or agent in control of the property fails to comply with this order, that person shall be subject to the code enforcement procedures of OCMC 1.16, 1.20, and 1.24.

Finding: Applicable. If the City Engineer determines that a drainage facility is a safety hazard, the property owner shall be notified in writing and the City Engineer will order the specific work to be undertaken to correct the hazardous condition.

13.12.170 - Permits from other jurisdictions.

A. The Oregon State Department of Environmental Quality (DEQ) currently issues NPDES 1200-C permits for projects that cover areas of one acre or greater. No permit shall be issued for projects of this size (or any other size as modified by DEQ) without a copy of said DEQ permit being on file with Oregon City. DEQ is responsible for policing its own permits; however, if City personnel observe conditions that are believed to be in violation of any such permit, and cannot get corrections made, the City will bring such conditions to the attention of the appropriate DEQ representatives.

Finding: Not applicable. The project does not cover one acre or greater; therefore, the developer does not require issuance of a NPDES 1200-C permit.

B. Projects may require Oregon State Division of State Lands (DSL) and/or United States Army Corps of Engineers (USACE) permits. If such permits are required, no permission to construct will be granted until such a time as a copy of such permit is on file with the City or notice is received from those agencies that a permit is not required. DSL/USACE is responsible for enforcing its own permits; however, if City personnel observe conditions that are believed to be in violation of any such permit, and cannot get corrections made, the City will bring such conditions to the attention of the appropriate DSL/USACE representatives.

Finding: Not Applicable. DSL and USACE permits are not required with this proposed development based on the application provided.

C. Projects may require Oregon State Department of Fish and Wildlife (ODFW) permits. When ODFW permits are required, no work will be authorized until the receipt of a copy of the ODFW permit. ODFW is responsible for policing its own permits; however, if City personnel observe conditions that are believed to be in violation of any such permit, and cannot get corrections made, the City will bring such conditions to the attention of the appropriate ODFW representatives.

Finding: Not Applicable. ODFW permits are not required with this proposed development based on the application provided.

13.12.180 - Violation—Penalty.

Any act or omission in violation of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of OCMC 1.16, 1.20 and 1.24.

Finding: Applicable. Any act or omission in violation of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of OCMC 1.16, 1.20 and 1.24.

CHAPTER 15.48 - GRADING, FILLING AND EXCAVATING

15.48.030 Applicability—Grading permit required.

A. A city-issued grading permit shall be required before the commencement of any of the following filling or grading activities:

1. Grading activities in excess of ten cubic yards of earth;
2. Grading activities which may result in the diversion of existing drainage courses, both natural and man-made, from their natural point of entry or exit from the grading site;
3. Grading and paving activities resulting in the creation of impervious surfaces greater than two thousand square feet or more in area;
4. Any excavation beyond the limits of a basement or footing excavation, having an unsupported soil height greater than five feet after the completion of such a structure; or
5. Grading activities involving the clearing or disturbance of one-half acres (twenty-one thousand seven hundred eighty square feet) or more of land.

Finding: Complies with Condition. The applicant provided a preliminary grading plan demonstrating general compliance with the City's Public Works requirements for grading standards. The preliminary plan presents grading and paving activities that will result in the disturbance of more than one-half acre, thus triggering the requirements of Chapter 15.48. The applicant shall provide a Residential Lot Grading Plan adhering to the State of Oregon Structural Specialty Code, Chapter 18 and the Oregon City Public Works Stormwater and Grading Design Standards. City standards for grading, fill and excavation are found in Chapter 3 of the Oregon City Public Works Stormwater and Grading Design Standards. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

15.48.090 Submittal requirements.

An engineered grading plan or an abbreviated grading plan shall be prepared in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards whenever a city approved grading permit is required. In addition, a geotechnical engineering report and/or residential lot grading plan may be required pursuant to the criteria listed below.

A. Abbreviated Grading Plan. The city shall allow the applicant to submit an abbreviated grading plan in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards if the following criteria are met:

1. *No portion of the proposed site is within the flood management area overlay district pursuant to [Chapter 17.42](#), the unstable soils and hillside constraints overlay district pursuant to [Chapter 17.44](#), or a water quality resource area pursuant to [Chapter 17.49](#); and*
2. *The proposed filling or grading activity does not involve more than fifty cubic yards of earth.*

B. Engineered Grading Plan. The city shall require an engineered grading plan in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards to be prepared by a professional engineer if the proposed activities do not qualify for abbreviated grading plan.

C. Geotechnical Engineering Report. The city shall require a geotechnical engineering report in compliance with the minimum report requirements of the Public Works Stormwater and Grading Design Standards to be prepared by a professional engineer who specializes in geotechnical work when any of the following site conditions may exist in the development area:

1. *When any publicly maintained facility (structure, street, pond, utility, park, etc.) will be supported by any engineered fill;*
2. *When an embankment for a stormwater pond is created by the placement of fill;*
3. *When, by excavation, the soils remaining in place are greater than three feet high and less than twenty feet wide.*

D. Residential Lot Grading Plan. The city shall require a residential lot grading plan in compliance with the minimum report requirements of the Public Works Stormwater and Grading Design Standards to be prepared by a professional engineer for all land divisions creating new residential building lots or where a public improvement project is required to provide access to an existing residential lot.

Finding: Complies with Condition. The developer shall provide an engineered grading plan prepared by

a professional engineer in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards. The developer shall provide a Residential Lot Grading Plan adhering to the State of Oregon Structural Specialty Code, Chapter 18 and the Oregon City Public Works Stormwater and Grading Design Standards. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

CHAPTER 16.08 LAND DIVISIONS - PROCESS AND STANDARDS

16.08.010 - Purpose and general provisions.

A. Applicability. This chapter controls the process and approval standards applicable to land divisions including:

- 1. Partitions, defined as a single division of land into two or three lots, and/or*
- 2. Subdivisions, defined as a single division of land into four or more lots and/or*
- 3. Master plans and planned unit developments and/or*
- 4. Expedited land divisions.*

B. Approval of a land division shall be granted only upon determination by the City that all applicable requirements of this title, ORS Chapter 92, the applicable zoning designation, applicable overlay districts, and OCMC 12.08, 13.12, 15.48, 16.12, 17.41, and 17.50 of the Oregon City Municipal Code are met or can be met with conditions of approval.

C. Minor partitions and subdivisions shall generally follow a Type II process and master plans/planned unit developments shall be processed as a Type III process pursuant to OCMC 17.50. However, if an applicant opts to process a subdivision as an expedited land division, the City shall follow the decision-making process provided by state law and apply the applicable approval standards set forth in this code and elsewhere.

D. Purpose. The purpose of this chapter is to provide a speedy review and decision-making process with relatively clear and objective criteria indicating little discretion, with little opportunity to deviate from the City's dimensional standards. If an applicant wishes greater flexibility in lot pattern or layout, phasing of development, or relief from dimensional or public improvement standards, the appropriate procedure would be a Master Plan / Planned Unit Development pursuant to OCMC 17.65 or an additional application for a variance(s) pursuant to OCMC 17.60.

E. Process Overview. Land division review process requires a two-step process: preliminary and final plats. The preliminary plat, reviewed through a Type II process, provides all of the essential information about the proposal, including layout, number and pattern of lots, location of all existing structures and improvements, significant natural features, development schedule and any other required information. The final plat shall be processed as identified in OCMC 16.08.100.

Finding: Complies as Proposed. The applicant has proposed a two-lot minor partition with a Planning Commission variance to minimum lot size. The application is being reviewed pursuant with the Type III process due to the Planning Commission variance request.

16.08.025 - Preliminary plat—Required information.

The preliminary plat shall specifically and clearly show the following features and information on the maps, drawings, application form or attachments. The preliminary plat layout may be prepared by a civil engineer, architect, land use planner or similarly qualified professional. All maps and site drawings shall be at a minimum scale of one inch to fifty feet.

A. Site Plan. A detailed site development plan drawn to scale by a licensed professional based on an existing conditions plan drawn by a licensed surveyor. The site plan shall include the location and dimensions of lots, streets, existing and proposed street names, pedestrian ways, transit stops, common areas, building envelopes and setbacks, all existing and proposed utilities and improvements including

sanitary sewer, stormwater and water facilities, total impervious surface created (including streets, sidewalks, etc.), all areas designated as being within an overlay district and an indication of existing and proposed land uses for the site. If required by staff at the pre-application conference, a connectivity analysis shall be prepared by a transportation engineer licensed by the State of Oregon that describes the existing and future vehicular, bicycle and pedestrian connections between the proposed subdivision and existing or planned land uses on adjacent properties. The connectivity analysis shall include shadow plats of adjacent properties demonstrating how lot and street patterns within the proposed land division will extend to and/or from such adjacent properties and can be developed meeting the existing OCMC design standards and adopted Transportation System Plan, street design standards, and adopted concept plans, corridor and access management studies, engineering standards and infrastructure analyses.

B. Traffic/Transportation Plan. The applicant's traffic/transportation information shall include two elements: (1) A detailed site circulation plan showing proposed vehicular, bicycle, transit and pedestrian access points and connections to the existing system, circulation patterns and connectivity to existing rights-of-way or adjacent tracts, parking and loading areas and any other transportation facilities in relation to the features illustrated on the site plan; and (2) a traffic impact study prepared by a qualified professional transportation engineer, licensed in the State of Oregon, that assesses the traffic impacts of the proposed development on the existing transportation system and analyzes the adequacy of the proposed internal transportation network to handle the anticipated traffic and the adequacy of the existing system to accommodate the traffic from the proposed development. In the preparation of the Traffic/Transportation Plan, the applicant shall reference the adopted Transportation System Plan. The Community Development Director may waive any of the foregoing requirements if determined that the requirement is unnecessary in the particular case.

C. Natural Features Plan and Topography, Preliminary Grading and Drainage Plan. The applicant shall submit a map illustrating all of the natural features and hazards on the subject property and, where practicable, within 250 feet of the property's boundary. The map shall also illustrate the approximate grade of the site before and after development. Illustrated features shall include all proposed streets and cul-de-sacs, the location and estimated volume of all cuts and fills, and all stormwater management features. This plan shall identify the location of drainage patterns and courses on the site and within 250 feet of the property boundaries where practicable. Features that shall be illustrated shall include the following:

1. Proposed and existing street rights-of-way and all other transportation facilities;
2. All proposed lots and tracts;
3. All trees proposed to be removed prior to final plat with a diameter six inches or greater diameter at breast height (d.b.h);
4. All natural resource areas pursuant to OCMC 17.49, 17.48, 17.44, and 17.42;
5. The location of any known state or federal threatened or endangered species or wildlife habitat or other natural features listed on any of the City's official inventories;
6. All historic areas or cultural features acknowledged as such on any federal, state or city inventory;

D. Archeological Monitoring Recommendation. For all projects that will involve ground disturbance, the applicant shall provide,

1. A letter or email from the Oregon State Historic Preservation Office Archaeological Division indicating the level of recommended archeological monitoring on-site, or demonstrate that the applicant had notified the Oregon State Historic Preservation Office and that the Oregon State Historic Preservation Office had not commented within forty-five days of notification by the applicant; and
2. A letter or email from the applicable tribal cultural resource representative of the Confederated Tribes of the Grand Ronde, Confederated Tribes of the Siletz, Confederated Tribes of the Umatilla, Confederated Tribes of the Warm Springs and the Confederated Tribes of the Yakama Nation indicating the level of

recommended archeological monitoring on-site, or other written demonstration that the applicant notified the applicable tribal cultural resource representative and that the applicable tribal cultural resource representative had not commented within forty-five days of notification by the applicant. If, after forty-five days notice from the applicant, the Oregon State Historic Preservation Office or the applicable tribal cultural resource representative fails to provide comment, the City will not require any responsive letter or email as part of the completeness review. For the purpose of this section, ground disturbance is defined as the movement of native soils.

The Community Development Director may waive any of the foregoing requirements if the Community Development Director determines that the requirement is unnecessary in the particular case and that the intent of this chapter has been met.

Finding: Complies as Proposed. The applicant submitted all required application materials and the application was deemed complete on January 16, 2020.

16.08.030 - Preliminary plat—Narrative statement.

In addition to the plans required in the previous section, the applicant shall also prepare and submit a narrative statement that addresses the following issues:

A. Description. A detailed description of the proposed development, including a description of proposed uses, number and type of residential units, allocation and ownership of all lots, tracts, streets, and public improvements, the structure of any homeowner's association, and each instance where the proposed subdivision will vary from some dimensional or other requirement of the underlying zoning district.

B. Timely Provision of Public Services and Facilities. The applicant shall explain in detail how and when each of the following public services or facilities is, or will be, adequate to serve the proposed development by the time construction begins:

- 1. Water,*
- 2. Sanitary sewer,*
- 3. Storm sewer and stormwater drainage,*
- 4. Parks, trails and recreation facilities, if determined to be necessary pursuant to the Oregon City adopted Trail Master Plan and / or Parks and Recreation Master Plan*
- 5. Traffic and transportation, and*
- 6. Fire and police services*

Where adequate capacity for any of these public facilities and services is not demonstrated to be currently available, the applicant shall describe how adequate capacity in these services and facilities will be financed and constructed before recording of the plat;

C. Drafts of the proposed covenants, conditions and restrictions (CC&Rs), maintenance agreements, homeowner association agreements, dedications, deeds easements, or reservations of public open spaces not dedicated to the City, and related documents for the land division;

D. Overall density of the land division and the density by dwelling type for each.

Finding: Complies as Proposed. The applicant submitted all required application materials and the application was deemed complete on January 16, 2020.

16.08.045 - Frontage width requirement.

Each lot shall abut upon a street other than an alley for a width of at least twenty feet unless flag lots are provided pursuant to OCMC 16.08.050, except for Cluster Housing development pursuant to OCMC 17.20.020.

Finding: Complies as Proposed. Lot 1 has approximately 80 feet of frontage and Lot 2 has approximately 110 feet of frontage. Both lots are in compliance with frontage requirements in this section.

16.08.050 - Flag lots.

A. Flag lots shall not be permitted except where the applicant can show that the existing parcel configuration, topographic constraints or the location of a pre-existing dwelling unit precludes a land division that meets the minimum density, dimensional standards of the underlying zone, and except where street connectivity is not practicable as determined by the City Engineer.

B. A shared joint accessway shall be provided unless the existing topography of the site or the pre-existing dwelling unit is located on the property to prevent a joint accessway. A perpetual reciprocal access easement and maintenance agreement shall be recorded for the joint accessway, in a form acceptable to the City Attorney.

C. Accessways shall have a pavement width of at least sixteen feet to service one or two units or twenty feet to service three or more units. A fire access corridor of at least twenty feet shall be provided to all parcels with a minimum pavement width of sixteen feet to service two units or twenty feet to service three or more units. At least six inches of shoulder on each side of the fire access corridor shall be provided in order that construction work does not infringe on adjacent properties. A narrower pavement width may be approved by the Fire District and City Engineer. The City Engineer and/or Fire District may require that additional fire suppression devices be provided to assure an adequate level of fire and life safety. The City Engineer and/or Fire District may prohibit vehicular obstruction, including trees, fences, landscaping and structures within the fire access corridor.

If the proposed accessway exceeds 150 feet in length the accessway shall conform to Fire District standards and shall be paved to a minimum width of twenty feet unless an alternative is approved by the Planning Division and Fire District. If more than two residences are served, a turnaround for emergency vehicles shall be provided. The turnaround shall be approved by the City Engineer and Fire District.

D. The pole portion of the flag lot shall connect to a street.

E. The pole shall be at least ten feet wide for the entire length.

F. The pole shall be part of the flag lot and shall remain under the same ownership as the flag portion of the lot.

Finding: Not Applicable. No flag lots have been proposed as part of the partition.

16.08.053 Tracts

Tracts which cannot be developed with a home or office, commercial, residential, institutional, industrial, parking or other uses as determined by the City Engineer or Community Development Director are not subject to compliance with the dimensional standards of the zoning designation, frontage requirements, or flag lot standards.

Finding: Not Applicable. The applicant has not proposed any tracts.

16.08.060 - Building sites.

A. The size, width, shape and orientation of building sites shall be rectangular or square to the maximum extent practicable.

Finding: Complies as Proposed. The applicant has proposed rectangular lots.

B. Sites abutting an alley shall gain vehicular access from the alley unless deemed impracticable by the decision maker. Adequate access for emergency services (fire and police) shall be provided.

Finding: Not Applicable. The subject site does not abut an alley.

16.08.063 - Minimum density.

All layouts shall achieve at least the minimum density of the base zone for the net developable area as defined in OCMC 17.04. Alternatively, a site may be partitioned into two lots, though one of the lots shall not contain sufficient lot area to allow further division.

Finding: Complies as Proposed. Following required dedication, the lot would be approximately 18,100 square feet in size requiring a minimum net density of 1 dwelling unit and a maximum density of 2 dwelling units. The applicant has proposed to divide the property into two lots resulting in two dwelling units. The applicant is in compliance with minimum and maximum density standards.

16.08.065 – Lot size reduction.

A subdivision in the R-10, R-8, R-6, R-5, or R-3.5 dwelling district may utilize lot size reduction for up to twenty-five percent of the lots proposed for single-family detached residential use. The reduced-size lots may be up to ten percent less than the required minimum lot area of the applicable zoning designation provided the average lot size of all proposed single-family detached residential lots meet the minimum requirement of the underlying zone. Any area within a powerline easement on a lot shall not count towards the lot area for that lot. Lot size reduction is only permitted through a subdivision or, master plan and planned unit developments processes and may not be used for minor partitions or any other residential uses.

The average lot area is determined by first calculating the total net developable area devoted to single-family detached dwelling units, subtracting the powerline easement areas, open space, tracts, stormwater facilities, roads, right-of-way, or accessways and dividing that figure by the proposed number of single-family detached dwelling lots.

A lot that was created pursuant to this section may not be further divided unless the average lot size requirements are still met for the entire subdivision.

When a lot abuts a public alley, an area equal to the length of the alley frontage along the lot times the width of the alley right-of-way measured from the alley centerline may be added to the area of the abutting lot in order to satisfy the lot area requirement for the abutting lot. It may also be used in calculating the average lot area.

Finding: Not Applicable. The lot size reduction provisions in this section are available only to subdivisions. The applicant has not proposed a subdivision, therefore, this section is not applicable.

16.08.070 - Through lots.

Through lots and parcels shall be avoided except where they are essential to provide separation of residential development from major arterials or to overcome specific disadvantages of topography of existing development patterns. A reserve strip may be required. A planting screen restrictive covenant may be required to separate residential development from major arterial streets, adjacent nonresidential development, or other incompatible use, where practicable. Where practicable, alleys or shared driveways shall be used for access for lots that have frontage on a collector or minor arterial street, eliminating through lots.

Finding: Not Applicable. **The applicant has not proposed any through lots.**

16.08.075 - Building site—Lot and parcel side lines.

The lines of lots and parcels, as far as is practicable, shall run at right angles to the street upon which they face, except that on curved streets they shall be radial to the curve. Lot and parcel side lines for cluster housing projects proposed consistent with the standards in OCMC 17.20.020 are not subject to this standard.

Finding: Complies as Proposed. The lines of the proposed lots run at right angles on the street upon which they face.

16.08.080 - Setbacks and building location.

This standard ensures that lots are configured in a way that development can be oriented toward streets to provide a safe, convenient and aesthetically pleasing environment for pedestrians and bicyclists.

Houses oriented in this manner assure a sense of openness by avoiding the “bowling alley” effect caused by uninterrupted, continuous privacy fences along higher volume streets. The objective is for lots located on a neighborhood collector, collector or minor arterial street to locate the front yard setback on and design the most architecturally significant elevation of the primary structure to face the neighborhood collector, collector or minor arterial street,

A. The front setback of all lots located on a neighborhood collector, collector or minor arterial shall be orientated toward the neighborhood collector, collector or minor arterial street.

B. The most architecturally significant elevation of the house shall face the neighborhood collector, collector or minor arterial street.

Finding: Complies with Condition. Swan Avenue is classified as a collector. Lot 1 is a corner lot with frontage on both Swan Avenue and Ames Street, however Lot 1 is already developed with a single-family home which is in compliance with this standard. If a new house on Lot 1 is proposed in the future, the front setback and the most architecturally significant elevation of the house shall be oriented towards Swan Avenue. Compliance with this standard would be reviewed upon submittal of a building permit application for new construction on Lot 1. **Staff has determined that it is possible, likely and reasonable that the applicant can comply with this standard through the Conditions of Approval.**

C. On corner lots located on the corner of two local streets, the main façade of the dwelling may be oriented towards either street.

Finding: Not Applicable. The development does not include a lot which has frontage on two local streets.

D. The decision maker may approve an alternative design, consistent with the intent of this section, where the applicant can show that existing development patterns preclude the ability to practically meet this standard.

Finding: Not Applicable. The applicant has not proposed an alternative design.

16.08.085 - Division of large lots.

Where land is to be divided into lots or parcels capable of redivision in accordance with this chapter, the Community Development Director shall require an arrangement of lots, parcels, buildings on lots, utilities and streets which facilitates future redivision. In such a case, development limitations including building locations and setback lines may be required and made a matter of record in order to preserve future right-of-way or building sites.

Finding: Not Applicable. The existing lot is approximately 20,000 square feet in size and is not large enough to be divided into lots that are large enough for further division within the R-10 District, which requires a 10,000 square-foot minimum lot size.

CHAPTER 16.12 MINIMUM PUBLIC IMPROVEMENTS AND DESIGN STANDARDS FOR DEVELOPMENT

16.12.010 - Purpose and general provisions.

All development shall be in conformance with the policies and design standards established by this chapter and with applicable standards in the City's public facility master plans and City design standards and specifications. In reviewing applications for development, the City Engineer shall take into consideration any approved development and the remaining development potential of adjacent properties. All street, water, sanitary sewer, storm drainage and utility plans associated with any development shall be reviewed and approved by the City Engineer prior to construction. All streets, driveways or storm drainage connections to another jurisdiction's facility or right-of-way shall be

reviewed by the appropriate jurisdiction as a condition of the preliminary plat and when required by law or intergovernmental agreement shall be approved by the appropriate jurisdiction.

Finding: Applicable. All development shall be in conformance with the policies and design standards established by this chapter and with applicable standards in the City's public facility master plans and City design standards and specifications.

16.12.011 - Applicability.

A. Compliance with this chapter is required for all development including land divisions, site plan and design review, master plan, detailed development plan and conditional use applications and all public improvements. Minor Site Plan and Design Review applications shall not be subject to this chapter unless improvements are proposed within the right-of-way.

B. Compliance with this chapter is also required for new construction or additions which exceed fifty percent of the existing square footage of all single and two-family dwellings living space. Garages, carports, sheds, and porches may not be included in the calculation if these spaces are not living spaces. Accessory dwelling units are not subject to compliance with this chapter. All applicable single and two-family dwellings shall provide any necessary dedications, easements or agreements as identified in the transportation system plan and this chapter, subject to constitutional limitations. In addition, the street frontage shall be improved to include the following priorities for improvements:

- 1. Improve street pavement, construct curbs, gutters, sidewalks and planter strips; and*
- 2. Plant street trees.*

The cost of compliance with the standards identified in 16.12.011.B.1 and 16.12.011.B.2 is calculated based on the square footage valuation from the State of Oregon Building Codes Division and limited to ten percent of the total construction costs. The value of the alterations and improvements is based on the total construction costs for a complete project rather than costs of various project component parts subject to individual building permits. The entire proposed construction project cost includes engineering and consulting fees and construction costs. It does not include permit fees, recording fees, or any work associated with drafting or recording dedications or easements.

Finding: Applicable. This development application is for a land division, therefore compliance with this chapter is required.

16.12.012 - Jurisdiction and management of the public rights-of-way.

The City has jurisdiction and exercises regulatory management over all public rights-of-way as defined and outlined within 12.04 of the Oregon City Municipal Code.

Finding: Applicable. The City has jurisdiction and exercises regulatory management over all public rights-of-way as defined and outlined within 12.04 of the Oregon City Municipal Code.

16.12.013 - Modifications.

The applicant may request and the review body may consider modification of the standards in this chapter resulting from constitutional limitations restricting the City's ability to require the dedication of property or for any other reason, based upon the criteria listed below and other criteria identified in the standard to be modified. All modifications shall be processed through a Type II Land Use application and may require additional evidence from a transportation engineer or others to verify compliance.

Compliance with the following criteria is required:

Finding: Applicable. The applicant has requested two modifications. A modification to the standard street section has been requested for Ames Street and Swan Avenue.

Swan Avenue

A modification to the standard street section has been requested for Swan Avenue based on the development pattern of the corridor. The required improvements on the subject side of the centerline along the development's Swan Avenue frontage shall be: 11-foot-wide travel lane, 6-foot-wide bike lane, 0.5-foot-wide curb, 5-foot-wide planter, 6-foot-wide sidewalk and a 0.5-foot-wide public access strip. The applicant shall provide approximately 9 feet of right-of-way dedication along Swan Avenue. The applicant shall provide a curb ramp along the development's frontage at the intersection of Ames Street and Swan Avenue in compliance with Americans with Disabilities Act (ADA) requirements.

The applicant has proposed to continue to use the existing driveway on Swan Avenue for the existing home on Lot 1. The City's standard for driveways on a collector street requires a 100-foot spacing from intersections. The existing driveway is 34 feet south of the Ames Street intersection. Following the dedication of 5 feet of right-of-way along Ames Street, the distance to the intersection will be reduced to 29 feet. The lot depth along Swan Avenue is 86 feet, which means it is not possible to space the driveway 100 feet from the intersection.

A. The modification meets the intent of the standard;

The standards listed in Table 12.04.180 are listed as maximum design standards and it is recognized that they may be reduced through the modification process where appropriate. The intent of the standards is not specifically listed, but is clearly intended to achieve the goals of the TSP to provide for safe and efficient traffic flows throughout the city. The proposed plan would provide for adequate right-of-way for the modified street section. The application indicates that there are no anticipated operational or safety issues associated with the proposed development. Thus, the intent of the standard will be met.

B. The modification provides safe and efficient movement of pedestrians, motor vehicles, bicyclists and freight;

The proposed street section is adequate for vehicular traffic as it matches the existing street section of Swan Avenue and will be designed to provide safe movement of pedestrians and bicycles. The modification involves an existing driveway that has functioned safely for many years, as the house was built in 1972. Proposed frontage improvements along Swan Avenue will enhance the Ames Street intersection with curb, gutter, sidewalk and 7 feet of additional lane width.

C. The modification is consistent with an adopted transportation or utility plan; and

The adopted TSP provides maximum street sections with the understanding that lesser standards may be approved where appropriate through the modification process.

D. The modification is complementary with a surrounding street design; or, in the alternative;

The proposed street section is adequate for vehicular traffic as it matches the existing maximum street section of Swan Avenue and will be designed to provide safe movement of pedestrians and bicycles.

E. If a modification is requested for constitutional reasons, the applicant shall demonstrate the constitutional provision or provisions to be avoided by the modification and propose a modification that complies with the state or federal constitution. The City shall be under no obligation to grant a modification in excess of that which is necessary to meet its constitutional obligations.

At this time, the applicant is not asserting a constitutional basis for the requested modification.

Ames Street

A modification to the standard street section has been requested for Ames Street based on proportionality. The applicant has stated that improvements to Ames Street, coupled with the proposed improvements to the Swan Avenue frontage, would exceed the rough proportionality of impacts to existing infrastructure. The applicant argues that requiring frontage improvements along both Swan Avenue and Ames Street violates the proportional nexus and proportional cost tests of Nolan/Dolan case law. The limited impact of approximately 10 trips per day does not warrant frontage improvements for both streets. The cost for such improvements would not be roughly proportional to the limited traffic impact of the additional one single family home. Therefore, the applicant is proposing to provide frontage improvements along Swan Avenue only because it is a higher classification roadway and this would enhance the intersection with Ames Street. As a result of proportionality arguments, no frontage improvements are required along Ames Street. The applicant shall provide 5 feet of right-of-way dedication along the Ames Street frontage.

A. The modification meets the intent of the standard;

The standards listed in Table 12.04.180 are listed as maximum design standards and it is recognized that they may be reduced through the modification process where appropriate. The intent of the standards is not specifically listed, but is clearly intended to achieve the goals of the TSP to provide for safe and efficient traffic flows throughout the city. The proposed plan would provide for adequate right-of-way for the modified street section. The application indicates that there are no anticipated operational or safety issues associated with the proposed development. Thus, the intent of the standard will be met.

B. The modification provides safe and efficient movement of pedestrians, motor vehicles, bicyclists and freight;

The proposed street section is adequate for vehicular traffic as it matches the existing street section of Ames Street and will be designed to provide safe movement of pedestrians and bicycles.

C. The modification is consistent with an adopted transportation or utility plan; and

The adopted TSP provides maximum street sections with the understanding that lesser standards may be approved where appropriate through the modification process.

D. The modification is complementary with a surrounding street design; or, in the alternative;

The proposed street section is adequate for vehicular traffic as it matches the existing street section of Ames Street and will be designed to provide safe movement of pedestrians and bicycles.

E. If a modification is requested for constitutional reasons, the applicant shall demonstrate the constitutional provision or provisions to be avoided by the modification and propose a modification that complies with the state or federal constitution. The City shall be under no obligation to grant a modification in excess of that which is necessary to meet its constitutional obligations.

The applicant argues that requiring frontage improvements along both Swan Avenue and Ames Street violates the proportional nexus and proportional cost tests of Nolan/Dolan case law. The limited impact of approximately 10 trips per day does not warrant frontage improvements for both streets. The cost for such improvements would not be roughly proportional to the limited traffic impact of the additional one single family home.

16.12.014 - Administrative provisions.

An applicant shall submit the following items to the City and complete the following tasks prior to proceeding with construction of proposed development plans. These items include the following:

A. Pre-Design Meeting;

B. Final Engineering Plans, Stamped and Signed by an Oregon Licensed Professional Engineer;

- C. Stormwater Report, Stamped and Signed by an Oregon Licensed Professional Engineer;*
- D. Geotechnical Report, Stamped and Signed by an Oregon Licensed Professional Engineer (if applicable);*
- E. Engineer's Preliminary and Final Cost Estimates (also may be known as engineer's opinion of probable construction cost);*
- F. Plan Check and Inspection Fees (as set by City resolution);*
- G. Certificate of Liability Insurance for city funded public projects contracted by the City (not less than one million dollars single incident and two million dollars aggregate);*
- H. Preconstruction Meeting Notes;*
- I. Financial Guarantee(s) per OCMC 17.50.140;*
- J. Applicable Approvals/Permits from other agencies or entities;*
- K. Developer/Engineer Agreement for public works improvements.*

An applicant shall submit the following additional items to the City and complete the following tasks prior to completing construction of proposed development plans. These items include the following:

- L. Project Engineer's Certificate of Completion;*
- M. Stormwater Operation and Maintenance Easement (if applicable);*
- N. Deed of Dedication (Bargain and Sale Deed);*
- O. Recorded Plat and/or Easements (if applicable);*
- P. Recorded Non-Remonstrance Covenant Agreement;*
- Q. Land Division Compliance Agreement (if applicable);*
- R. Permanent Stabilization and/or Restoration of the impact from the development;*
- S. Fulfillment of all Conditions of Approval;*
- T. Payment of all Outstanding Fees;*
- U. Maintenance Guarantee(s). per OCMC 17.50.141;*
- V. Indemnity Agreement (if applicable);*
- W. Completed Punchlist;*
- X. As-Built Drawings;*

Details on individual items required by this subsection can be obtained by contacting Public Works. Many items, such as the engineer's cost estimate and plan check and inspection fee, maybe be submitted in conjunction with documentation for other infrastructure improvements that are done with the development (such as street, sanitary sewer, and water).

Finding: Complies with Condition. The developer shall submit or address all items in section 16.12.014 of the Oregon City Municipal Code based on the timing requirements contained therein and as deemed applicable by the City. The developer and engineer for the project shall execute a "Developer/Engineer Agreement for Public Works Improvements" and commit to the responsibilities outlined in the agreement. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

16.12.015 - Street design—Generally.

Development shall be required to provide existing or future connections to adjacent sites through the use of vehicular and pedestrian access easements where applicable. Development shall provide any necessary dedications, easements or agreements as identified in the Transportation System Plan, Trails Master Plan, and/or Parks and Recreation Master Plan and this chapter, subject to constitutional limitations. The location, width and grade of street shall be considered in relation to: existing and planned streets, topographical conditions, public convenience and safety for all modes of travel, existing and identified future transit routes and pedestrian/bicycle accessways, overlay districts, and the proposed use of land to be served by the streets. The street system shall assure an adequate traffic

circulation system with intersection angles, grades, tangents and curves appropriate for the traffic to be carried considering the terrain. To the extent possible, proposed streets shall connect to all existing or approved stub streets that abut the development site. The arrangement of streets shall either:

A. Provide for the continuation or appropriate projection of existing principal streets in the surrounding area and on adjacent parcels or conform to a plan for the area approved or adopted by the City to meet a particular situation where topographical or other conditions make continuance or conformance to existing streets impractical;

B. Where necessary to give access to or permit a satisfactory future development of adjoining land, streets shall be extended to the boundary of the development and the resulting dead-end street (stub) may be approved with a temporary turnaround as approved by the City Engineer. Notification that the street is planned for future extension shall be posted on the stub street until the street is extended and shall inform the public that the dead-end street may be extended in the future. Access control in accordance with OCMC 16.12.017 shall be required to preserve the objectives of street extensions.

C. Adequate right-of-way and improvements to streets, pedestrian ways, bike routes and bikeways, and transit facilities shall be provided and be consistent with the City's Transportation System Plan. Consideration shall be given to the need for street widening and other improvements in the area of the proposed development impacted by traffic generated by the proposed development. This shall include, but not be limited to, improvements to the right-of-way, such as installation of lighting, signalization, turn lanes, median and parking strips, traffic islands, paving, curbs and gutters, sidewalks, bikeways, street drainage facilities and other facilities needed because of anticipated vehicular and pedestrian traffic generation.

Finding: Complies with Condition. The location, widths, and grades of the proposed street network provide connectivity for adjacent properties, a convenient street system, and for the safety of all modes of travel, including pedestrian and bicycle to, from, and through the subject site. A modification to the standard street section has been requested for Ames Street and Swan Avenue. See Section 16.12.013 for the required street section for Ames Street and Swan Avenue. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

16.12.016 - Street design.

All development regulated by this chapter shall provide street improvements in compliance with the standards in Table 16.12.016 depending on the street classification set forth in the Transportation System Plan and the Comprehensive Plan designation of the adjacent property, unless an alternative plan has been adopted. The table implements the adopted Transportation System Plan and illustrates the maximum design standards. These standards may be reduced with an alternative street design which may be approved based on the modification criteria in OCMC 16.12.013. The steps for reducing the street design are found in the Transportation System Plan.

Table 16.12.016 Street Design

Table 16.12.016 Street Design. To read the table select the road classification as identified in the Transportation System Plan and the Comprehensive Plan designation of the adjacent properties to find the maximum design standards for the road cross section. If the Comprehensive Plan designation for lands on either side of the street differs, the wider right-of-way standard shall apply.

Road Classification	Comprehensive Plan Designation	Right-of-	Pavement Width	Public Access	Sidewalk	Landscape Strip	Bike Lane	Street Parking	Travel Lanes	Median
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		<i>Way Width</i>								
<i>Major Arterial</i>	<i>Mixed Use, Commercial or Public/Quasi Public</i>	116 ft.	94 ft.	0.5 ft.	10.5 ft. sidewalk including 5 ft. x 5 ft. tree wells		6 ft.	8 ft.	(5) 12 ft. Lanes	6 ft.
	<i>Industrial</i>	120 ft.	88 ft.	0.5 ft.	5 ft.	10.5 ft.	6 ft.	N/A	(5) 14 ft. Lanes	6 ft.
	<i>Residential</i>	126 ft.	94 ft.	0.5 ft.	5 ft.	10.5 ft.	6 ft.	8 ft.	(5) 12 ft. Lanes	6 ft.

<i>Road Classification</i>	<i>Comprehensive Plan Designation</i>	<i>Right-of-Way Width</i>	<i>Pavement Width</i>	<i>Public Access</i>	<i>Sidewalk</i>	<i>Landscape Strip</i>	<i>Bike Lane</i>	<i>Street Parking</i>	<i>Travel Lanes</i>	<i>Median</i>
<i>Minor Arterial</i>	<i>Mixed Use, Commercial or Public/Quasi Public</i>	116 ft.	94 ft.	0.5 ft.	10.5 ft. sidewalk including 5 ft. x 5 ft. tree wells		6 ft.	8 ft.	(5) 12 ft. Lanes	6 ft.
	<i>Industrial</i>	118 ft.	86 ft.	0.5 ft.	5 ft.	10.5 ft.	6 ft.	7 ft.	(5) 12 ft. Lanes	N/A
	<i>Residential</i>	100 ft.	68 ft.	0.5 ft.	5 ft.	10.5 ft.	6 ft.	7 ft.	(3) 12 ft. Lanes	6 ft.

<i>Road Classification</i>	<i>Comprehensive Plan Designation</i>	<i>Right-of-Way Width</i>	<i>Pavement Width</i>	<i>Public Access</i>	<i>Sidewalk</i>	<i>Landscape Strip</i>	<i>Bike Lane</i>	<i>Street Parking</i>	<i>Travel Lanes</i>	<i>Median</i>
<i>Collector</i>	<i>Mixed Use, Commercial or Public/Quasi Public</i>	86 ft.	64 ft.	0.5 ft.	10.5 ft. sidewalk including 5 ft. x 5 ft. tree wells		6 ft.	8 ft.	(3) 12 ft. Lanes	N/A
	<i>Industrial</i>	88 ft.	62 ft.	0.5 ft.	5 ft.	7.5 ft.	6 ft.	7 ft.	(3) 12 ft. Lanes	N/A
	<i>Residential</i>	85 ft.	59 ft.	0.5 ft.	5 ft.	7.5 ft.	6 ft.	7 ft.	(3) 11 ft. Lanes	N/A

<i>Road Classification</i>	<i>Comprehensive Plan Designation</i>	<i>Right-of-Way Width</i>	<i>Pavement Width</i>	<i>Public Access</i>	<i>Sidewalk</i>	<i>Landscape Strip</i>	<i>Bike Lane</i>	<i>Street Parking</i>	<i>Travel Lanes</i>	<i>Median</i>
<i>Local</i>	<i>Mixed Use, Commercial or Public/Quasi Public</i>	62 ft.	40 ft.	0.5 ft.	10.5 ft. sidewalk including 5 ft. x 5 ft. tree wells		N/A	8 ft.	(2) 12 ft. Lanes	N/A
	<i>Industrial</i>	60 ft.	38 ft.	0.5 ft.	5 ft.	5.5 ft.	(2) 19 ft. Shared Space			N/A
	<i>Residential</i>	54 ft.	32 ft.	0.5 ft.	5 ft.	5.5 ft.	(2) 16 ft. Shared Space			N/A

1. Pavement width includes, bike lane, street parking, travel lanes and median.
2. Public access, sidewalks, landscape strips, bike lanes and on-street parking are required on both sides of the street in all designations. The right-of-way width and pavement widths identified above include the total street section.
3. A 0.5 foot curb is included in landscape strip or sidewalk width.
4. Travel lanes may be through lanes or turn lanes.
5. The 0.5 foot public access provides access to adjacent public improvements.
6. Alleys shall have a minimum right-of-way width of twenty feet and a minimum pavement width of sixteen feet. If alleys are provided, garage access shall be provided from the alley.
7. A raised concrete median or landscape median shall be utilized for roads identified to have access restrictions.

Finding: Complies with Condition. A modification to the standard street section has been requested for Ames Street and Swan Avenue. See Section 16.12.013 for the required street section for Ames Street and Swan Avenue. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

A. Sidewalks. The applicant shall provide for sidewalks on both sides of all public streets, on any private street if so required by the decision-maker, and in any special pedestrian way within the development. Both sidewalks and curbs are to be constructed to City standards and at widths set forth above, and according to plans and specifications provided by the City Engineer. Exceptions to this requirement may be allowed in order to accommodate topography, trees or some similar site constraint. In the case of major or minor arterials, the decision-maker may approve a development without sidewalks where sidewalks are found to be dangerous or otherwise impractical to construct or are not reasonably related to the applicant's development. The decision-maker may require the applicant to provide sidewalks concurrent with the issuance of the initial building permit within the area that is the subject of the development application. Applicants for partitions may be allowed to meet this requirement by providing the City with a financial guarantee per OCMC 16.12.110.

Finding: Complies with Condition. A modification to the standard street section has been requested for Ames Street and Swan Avenue. See Section 16.12.013 for the required street section for Ames Street and Swan Avenue. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

B. Pedestrian and Bicycle Accessways Routes. If deemed appropriate to extend pedestrian and bicycle routes, existing or planned, the decision-maker may require the installation of separate pedestrian and bicycle facilities.

Finding: Not Applicable. No separate pedestrian or bicycle access routes are required for this development.

C. Street Name Signs and Traffic Control Devices. The applicant shall install street signs and traffic control devices as directed by the City Engineer. Street name signs and traffic control devices shall be in conformance with all applicable city regulations and standards.

Finding: Not Applicable. Installation of street signs and traffic control devices is not anticipated for the proposed extension of minor partition.

D. Street Lights. The applicant shall install street lights which shall be served from an underground source of supply. Street lights shall be in conformance with all City regulations.

Finding: Complies with Condition. Street lighting along the frontage of the development appears to be inadequate. Illumination plans which meet specifications found in the Illuminating Engineering Society of North America (IESNA) ANSI RP-8-14 Roadway Lighting book will be required. The materials for this design must be from the latest PGE approved material list. The development shall include streetlights along the property's frontage along Ames Street and Swan Avenue in conformance with all City standards, specifications, codes, and policies and as approved by Portland General Electric (PGE). The developer shall submit a photometric plan to demonstrate that proposed street lighting meets IESNA ANSI RP-8-14 standards. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

E. Any new street proposed with a pavement width of less than thirty-two feet shall be processed through OCMC 16.12.013 and meet minimum life safety requirements, which may include fire suppression devices as determined by the Fire Marshall to assure an adequate level of fire and life safety. The modified street shall have no less than a twenty-foot wide unobstructed travel lane.

Finding: Not Applicable. No new streets are proposed.

F. All development shall include vegetated planter strips that are five feet in width or larger and located between the sidewalk and curb unless otherwise approved pursuant to this chapter. All development shall utilize the vegetated planter strip for the placement of street trees or place street trees in other acceptable locations, as prescribed by OCMC 12.08. Development proposed along a collector, minor arterial, or major arterial roads may place street trees within tree wells within a wider sidewalk in lieu of a planter strip. In addition to street trees per OCMC 12.08, vegetated planter strips shall include ground cover and/or shrubs spaced four feet apart and appropriate for the location. No invasive or nuisance plant species shall be permitted.

Finding: Complies with Condition. A modification to the standard street section has been requested for Ames Street and Swan Avenue. See Section 16.12.013 for the required street section for Ames Street and Swan Avenue. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

G. Vehicle and pedestrian access easements may serve in lieu of streets when approved by the decision maker and only where dedication of a street is deemed impracticable.

Finding: Not Applicable. The decision maker has not approved access easements in lieu of streets nor has dedication of a street been deemed impracticable.

H. Vehicular and pedestrian easements shall allow for public access and shall comply with all applicable pedestrian access requirements.

Finding: Not Applicable. No vehicular or pedestrian easements are proposed.

16.12.017 - Street design—Access control.

A. A street which is dedicated to end at the boundary of the development or in the case of half-streets dedicated along a boundary shall have an access control granted to the City as a City controlled plat restriction for the purposes of controlling ingress and egress to the property adjacent to the end of the dedicated street. The access control restriction shall exist until such time as a public street is created, by dedication and accepted, extending the street to the adjacent property.

Finding: Not Applicable. No new streets with dead ends are proposed for this development.

B. The City may grant a permit for the adjoining owner to access through the access control.

Finding: Not Applicable. No new streets with dead ends are proposed for this development.

C. The plat shall contain the following access control language or similar on the face of the map at the end of each street for which access control is required: "Access Control (See plat restrictions)."

Finding: Not Applicable. No new streets with dead ends are proposed for this development.

D. Said plats shall also contain the following plat restriction note(s): "Access to (name of street or tract) from adjoining tracts (name of deed document number[s]) shall be controlled by the City of Oregon City by the recording of this plat, as shown. These access controls shall be automatically terminated upon the acceptance of a public road dedication or the recording of a plat extending the street to adjacent property that would access through those Access Controls."

Finding: Not Applicable. No new streets with dead ends are proposed for this development.

16.12.018 - Street design—Alignment.

The centerline of streets shall be:

A. Aligned with existing streets by continuation of the centerlines; or

B. Offset from the centerline by no more than five feet, provided appropriate mitigation, in the judgment of the City Engineer, is provided to ensure that the offset intersection will not pose a safety hazard.

C. Driveways that are at least twenty-four feet wide shall align with existing or planned streets on adjacent sites.

Finding: Not Applicable. No new streets are proposed with this development.

16.12.019 - Traffic sight obstructions.

All new streets shall comply with the Traffic Sight Obstructions in Chapter 10.32.

Finding: Not Applicable. No new streets are proposed with this development.

16.12.020 - Street design—Intersection angles.

Except where topography requires a lesser angle, streets shall be laid out to intersect at angles as near as possible to right angles. In no case shall the acute angles be less than eighty degrees unless there is a special intersection design. An arterial or collector street intersecting with another street shall have at least one hundred feet of tangent adjacent to the intersection unless topography requires a lesser distance. Other streets, except alleys, shall have at least fifty feet of tangent adjacent to the intersection unless topography requires a lesser distance. All street intersections shall be provided with a minimum curb return radius of twenty-five feet for local streets. Larger radii shall be required for higher street classifications as determined by the City Engineer. Additional right-of-way shall be required to

accommodate curb returns and sidewalks at intersections. Ordinarily, intersections should not have more than two streets at any one point.

Finding: Not Applicable. No new streets are proposed with this development.

16.12.021 - Street design—Grades and curves.

Grades and center line radii shall conform to standards approved by the City Engineer.

Finding: Not Applicable. No new streets are proposed with this development.

16.12.022 - Street design—Development abutting arterial or collector street.

Where development abuts or contains an existing or proposed arterial or collector street, the decision maker may require: access control; screen planting or wall contained in an easement or otherwise protected by a restrictive covenant in a form acceptable to the decision maker along the rear or side property line; or such other treatment it deems necessary to adequately protect residential properties or afford separation of through and local traffic. Reverse frontage lots with suitable depth may also be considered an option for residential property that has arterial frontage. Where access for development abuts and connects for vehicular access to another jurisdiction's facility then authorization by that jurisdiction may be required.

Finding: Not Applicable. The decision maker has not required additional restrictions for the development abutting a collector street.

16.12.023 - Street design—Pedestrian and bicycle safety.

Where deemed necessary to ensure public safety, reduce traffic hazards and promote the welfare of pedestrians, bicyclists and residents of the subject area, the decision maker may require that local streets be so designed as to discourage their use by nonlocal automobile traffic.

The City Engineer may require that crosswalks include a large vegetated or sidewalk area which extends into the street pavement as far as practicable to provide safer pedestrian crossing opportunities. These curb extensions can increase the visibility of pedestrians and provide a shorter crosswalk distance as well as encourage motorists to drive slower. The City Engineer may approve an alternative design that achieves the same standard for constrained sites.

Finding: Not Applicable. The development does not require a street design that discourages use by non-local traffic. The City Engineer has not required that crosswalks include a large vegetated or sidewalk area which extends into the street pavement as far as practicable to provide safer pedestrian crossing opportunities.

16.12.024 - Street design—Half street.

Half streets, while generally not acceptable, may be approved where essential to the development, when in conformance with all other applicable requirements, and where it will not create a safety hazard.

When approving half streets, the decision maker shall first determine that it will be practical to require the dedication of the other half of the street when the adjoining property is divided or developed. Where the decision maker approves a half street, the applicant shall construct a half street with at least twenty feet of pavement width and provide signage prohibiting street parking so as to make the half street safe until such time as the other half is constructed. Whenever a half street is adjacent to property capable of being divided or developed, the other half of the street shall be provided and improved when that adjacent property divides or develops. Access control may be required to preserve the objectives of half streets.

When the remainder of an existing half-street improvement is completed it shall include the following items: dedication of required right-of-way, construction of the remaining portion of the street including pavement, curb and gutter, landscape strip, sidewalk, street trees, lighting and other improvements as

required for that particular street. It shall also include at a minimum the pavement replacement to the centerline of the street. Any damage to the existing street shall be repaired in accordance with the City's "Pavement Cut Standards" or as approved by the City Engineer.

Finding: Not Applicable. No half streets are proposed with this development. A modification to the standard street section has been requested for Ames Street and Swan Avenue. See Section 16.12.013 for the required street section for Ames Street and Swan Avenue.

16.12.025 - Street design—Cul-de-sacs and dead-end streets.

The City discourages the use of cul-de-sacs and permanent dead-end streets except where construction of a through street is found by the decision maker to be impracticable due to topography or some significant physical constraint such as geologic hazards, wetland, natural or historic resource areas, pre-existing dedicated open space, pre-existing development patterns, arterial access restrictions or similar situation as determined by the decision maker. This section is not intended to preclude the use of curvilinear eyebrow widening of a street where needed.

A. When permitted, access from new cul-de-sacs and permanent dead-end streets shall be limited to a maximum of twenty-five dwelling units.

Finding: Not Applicable. No cul-de-sacs or dead-end streets are proposed or required for this development.

B. Cul-de-sacs and permanent dead-end streets shall include pedestrian/bicycle accessways to meet minimum block width standards as prescribed in OCMC 16.12.030.

Finding: Not Applicable. No cul-de-sacs or dead-end streets are proposed or required for this development.

C. Cul-de-sacs shall have sufficient radius to provide adequate turn-around for emergency vehicles in accordance with fire district and city adopted street standards.

Finding: Not Applicable. No cul-de-sacs or dead-end streets are proposed or required for this development.

D. Permanent dead-end streets shall provide public street right-of-way/easements sufficient to provide a sufficient amount of turn-around space complete with appropriate no-parking signs or markings to accommodate waste disposal, sweepers, emergency and other long vehicles in the form of a hammerhead or other design to be approved by the decision maker.

Finding: Not Applicable. No cul-de-sacs or dead-end streets are proposed or required for this development.

E. In the case of dead-end stub streets that will connect to streets on adjacent sites in the future, notification that the street is planned for future extension shall be posted on the stub street until the street is extended and shall inform the public that the dead-end street may be extended in the future. A dead-end street shall include signage or barricade meeting Manual on Uniform Traffic Control Devices (MUTCD).

Finding: Not Applicable. No cul-de-sacs or dead-end streets are proposed or required for this development.

16.12.026 - Street design—Alleys.

Alleys with public access easements on private property shall be provided in the Park Place and South End concept plan areas for the following districts R-5, R-3.5, R-2, MUC-1, MUC-2 and NC zones unless other permanent provisions for private access to off-street parking and loading facilities are approved by

the decision maker. All alleys intended to provide access for emergency vehicles shall be a minimum width of twenty feet. The corners of alley intersections shall have a radius of not less than ten feet and shall conform to standards approved by the City Engineer. Access easements and maintenance agreements shall be recorded on affected properties.

Finding: Not applicable. Alleys are not proposed or required for this development.

16.12.027 - Street design—Off-site street improvements.

During consideration of the preliminary plan for a development, the decision maker shall determine whether existing streets impacted by, adjacent to, or abutting the development meet the applicable design or dimensional requirements. Where such streets fail to meet these requirements, the decision-maker shall require the applicant to make proportional improvements sufficient to achieve conformance with minimum applicable design standards required to serve the proposed development.

Finding: Not Applicable. Off-site street improvements are not proposed or required for this development.

16.12.028 - Street design—Transit.

Streets shall be designed and laid out in a manner that promotes pedestrian and bicycle circulation. The applicant shall coordinate with transit agencies where the application impacts transit streets as identified in OCMC 17.04.1310. Pedestrian/bicycle access ways shall be provided as necessary to minimize the travel distance to transit streets and stops and neighborhood activity centers. The decision maker may require provisions, including easements, for transit facilities along transit streets where a need for bus stops, bus pullouts or other transit facilities within or adjacent to the development has been identified.

Finding: Not Applicable. There are no transit facilities adjacent to the proposed development.

16.12.029 - Excavations—Restoration of pavement.

Whenever any excavation shall have been made in any pavement or other street improvement on any street or alley in the City for any purpose whatsoever under the permit granted by the engineer, it shall be the duty of the person making the excavation to restore the pavement in accordance with the City of Oregon City Public Works Pavement Cut Standards in effect at the time the permit is granted. The City Commission may adopt and modify the City of Oregon City Public Works Pavement Cut Standards by resolution as necessary to implement the requirements of this chapter.

Finding: Complies with Condition. The applicant has proposed work in the public right-of-way that will require pavement restoration. This includes new utility service lines. All pavement cuts and restoration shall comply with the City of Oregon City Pavement Cut Standards. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

16.12.030 - Blocks—Width.

The width of blocks shall ordinarily be sufficient to allow for two tiers of lots with depths consistent with the type of land use proposed. The length, width and shape of blocks shall take into account the need for adequate building site size, convenient motor vehicle, pedestrian, bicycle and transit access, control of traffic circulation, and limitations imposed by topography and other natural features.

All new streets shall be designed as local streets unless otherwise designated as arterials and collectors in the current adopted Transportation System Plan. The maximum block spacing between streets is 530 feet and the minimum block spacing between streets is 150 feet as measured between the right-of-way centerlines except in zones GI, CI, MUE, I, and WFDD where determining the appropriate street spacing

will be determined by the City Engineer. If the maximum block size is exceeded, pedestrian accessways shall be provided every 330 feet. The spacing standards within this section do not apply to alleys.

Finding: Complies as Proposed. The proposal is in compliance with block spacing standards. No new streets or pedestrian and bicycle accessways are required to comply with block spacing requirements.

16.12.031 - Street design—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. Street names shall conform to the established standards in the City and shall be subject to the approval of the City.

Finding: Not Applicable. No new streets are proposed with this development.

16.12.032 – Public off-street pedestrian and bicycle accessways.

Pedestrian/bicycle accessways are intended to provide direct, safe and convenient connections between residential areas, retail and office areas, institutional facilities, industrial parks, transit streets, neighborhood activity centers, rights-of-way, and pedestrian/bicycle accessways which minimize out-of-direction travel, and transit-orientated developments where public street connections for automobiles, bicycles and pedestrians are unavailable. Pedestrian/bicycle accessways are appropriate in areas where public street options are unavailable, impractical or inappropriate. Pedestrian and bicycle accessways are required through private property or as right-of-way connecting development to the right-of-way at intervals not exceeding 330 feet of frontage; or where the lack of street continuity creates inconvenient or out of direction travel patterns for local pedestrian or bicycle trips.

A. Entry points shall align with pedestrian crossing points along adjacent streets and with adjacent street intersections.

B. Accessways shall be free of horizontal obstructions and have a nine foot six inch high vertical clearance to accommodate bicyclists. To safely accommodate both pedestrians and bicycles, accessway right-of-way widths shall be as follows:

1. Accessways shall have a fifteen- foot wide right-of-way with a seven-foot wide paved surface with a minimum four-foot planter strip on either side.

2. If an accessway also provides secondary fire access, the right-of-way width shall be at least twenty-four feet wide with a - sixteen foot paved surface between four-foot planter strips on either side.

C. Accessways shall be direct with at least one end point of the accessway always visible from any point along the accessway. On-street parking shall be prohibited within fifteen feet of the intersection of the accessway with public streets to preserve safe sight distance and promote safety.

D. To enhance pedestrian and bicycle safety, accessways shall be lighted with pedestrian-scale lighting. Accessway lighting shall be to a minimum level of one-half-foot-candles, a one and one-half foot-candle average, and a maximum to minimum ratio of seven-to-one and shall be oriented not to shine upon adjacent properties. Street lighting shall be provided at both entrances.

E. Accessways shall comply with Americans with Disabilities Act (ADA).

F. The planter strips on either side of the accessway shall be landscaped along adjacent property by installation of the following:

1. Either an evergreen hedge screen of thirty to forty-two inches high or shrubs spaced no more than four feet apart on average; and

2. Ground cover covering one hundred percent of the exposed ground. No bark mulch shall be allowed except under the canopy of shrubs and within two feet of the base of trees; and

3. A two-inch minimum caliper tree for every thirty-five -feet along the accessway. Trees may be planted on either side of the accessway, provided they are spaced no more than thirty-five feet apart; and

4. In satisfying the requirements of this section, evergreen plant materials that grow over forty-two inches in height shall be avoided. All plant materials shall be selected from the Oregon City Native Plant List.

G. Accessways shall be designed to prohibit unauthorized motorized traffic. Curbs and removable, lockable bollards are suggested mechanisms to achieve this.

H. Accessway surfaces shall be paved with all-weather materials as approved by the City. Pervious materials are encouraged. Accessway surfaces shall be designed to drain stormwater runoff to the side or sides of the accessway. Minimum cross slope shall be two percent.

I. In parks, greenways or other natural resource areas, accessways may be approved with a five-foot wide gravel path with wooden, brick or concrete edgings.

J. The decision maker may approve an alternative accessway design due to existing site constraints through the modification process set forth in OCMC 16.12.013.

K. Ownership, liability and maintenance of accessways. To ensure that all pedestrian/bicycle accessways will be adequately maintained over time, the City Engineer shall require one of the following:

1. Dedicate the accessways to the public as public right-of-way prior to the final approval of the development; or

2. The developer incorporates the accessway into a recorded easement or tract that specifically requires the property owner and future property owners to provide for the ownership, liability and maintenance of the accessway.

Finding: Not applicable. No new pedestrian or bicycle accessways are required or proposed.

16.12.033 - Mobility standards.

Development shall demonstrate compliance with intersection mobility standards. When evaluating the performance of the transportation system, the City of Oregon City requires all intersections, except for the facilities identified in subsection E below, to be maintained at or below the following mobility standards during the two-hour peak operating conditions. The first hour has the highest weekday traffic volumes and the second hour is the next highest hour before or after the first hour. Except as provided otherwise below, this may require the installation of mobility improvements as set forth in the Transportation System Plan (TSP) or as otherwise identified by the City Engineer.

A. For intersections within the regional center, the following mobility standards apply:

1. During the first hour, a maximum v/c ratio of 1.10 shall be maintained. For signalized intersections, this standard applies to the intersection as a whole. For unsignalized intersections, this standard applies to movements on the major street. There is no performance standard for the minor street approaches.

2. During the second hour, a maximum v/c ratio of 0.99 shall be maintained at signalized intersections. For signalized intersections, this standard applies to the intersection as a whole. For unsignalized intersections, this standard applies to movements on the major street. There is no performance standard for the minor street approaches.

3. Intersections located on the Regional Center boundary shall be considered within the Regional Center.

B. For intersections outside of the Regional Center but designated on the Arterial and Throughway Network, as defined in the Regional Transportation Plan, the following mobility standards apply:

1. During the first hour, a maximum v/c ratio of 0.99 shall be maintained. For signalized intersections, this standard applies to the intersection as a whole. For unsignalized intersections, this standard applies to movements on the major street. There is no performance standard for the minor street approaches.

2. During the second hour, a maximum v/c ratio of 0.99 shall be maintained at signalized intersections. For signalized intersections, this standard applies to the intersection as a whole. For unsignalized intersections, this standard applies to movements on the major street. There is no performance standard for the minor street approaches.

C. For intersections outside the boundaries of the Regional Center and not designated on the Arterial and Thoroughway Network, as defined in the Regional Transportation Plan, the following mobility standards apply:

1. For signalized intersections:

a. During the first hour, LOS "D" or better will be required for the intersection as a whole and no approach operating at worse than LOS "E" and a v/c ratio not higher than 1.0 for the sum of the critical movements.

b. During the second hour, LOS "D" or better will be required for the intersection as a whole and no approach operating at worse than LOS "E" and a v/c ratio not higher than 1.0 for the sum of the critical movements.

2. For unsignalized intersections outside of the boundaries of the Regional Center:

a. For unsignalized intersections, during the peak hour, all movements serving more than twenty vehicles shall be maintained at LOS "E" or better. LOS "F" will be tolerated at movements serving no more than twenty vehicles during the peak hour.

D. For the intersection of OR 213 & Beavercreek Road, the following mobility standards apply:

1. During the first, second & third hours, a maximum v/c ratio of 1.00 shall be maintained. Calculation of the maximum v/c ratio will be based on an average annual weekday peak hour.

E. Until the City adopts new performance measures that identify alternative mobility targets, the City shall exempt proposed development that is permitted, either conditionally, outright, or through detailed development master plan approval, from compliance with the above-referenced mobility standards for the following state-owned facilities:

I-205/OR 99E Interchange

State intersections located within or on the Regional Center Boundaries

1. In the case of conceptual development approval for a master plan that impacts the above references intersections:

a. The form of mitigation will be determined at the time of the detailed development plan review for subsequent phases utilizing the Code in place at the time the detailed development plan is submitted; and

b. Only those trips approved by a detailed development plan review are vested.

2. Development which does not comply with the mobility standards for the intersections identified in OCMC 16.12.033 shall provide for the improvements identified in the Transportation System Plan (TSP) in an effort to improve intersection mobility as necessary to offset the impact caused by development. Where required by other provisions of the Code, the applicant shall provide a traffic impact study that includes an assessment of the development's impact on the intersections identified in this exemption and shall construct the intersection improvements listed in the TSP or required by the Code.

Finding: Complies as Proposed. The proposal is for a two-lot partition which would create one additional dwelling unit. The development will generate traffic volumes that are below the threshold at which transportation analysis is required by Oregon City and will have a minimal impact to the existing transportation system.

16.12.035 - Driveways.

A. All new development and redevelopment shall meet the minimum driveway spacing standards identified in Table 16.12.035.A.

Table 16.12.035.A Minimum Driveway Spacing Standards		
Street Functional Classification	Minimum Driveway Spacing Standards	Distance

Major Arterial Streets	Minimum distance from a street corner to a driveway for all uses other than detached single and two-family dwellings	175 ft.
Minor Arterial Streets	Minimum distance from a street corner to a driveway for all uses other than detached single and two-family dwellings	175 ft.
Collector Streets	Minimum distance from a street corner to a driveway for all uses other than detached single and two-family dwellings	100 ft.
Local Streets	Minimum distance from a street corner to a driveway for all uses other than detached single and two-family dwellings	25 ft.

The distance from a street corner to a driveway is measured along the right-of-way from the edge of the intersection (on the same side of the road) right-of-way to the nearest portion of the driveway and the distance between driveways is measured at the nearest portions of the driveway at the right-of-way.

B. Nonresidential or multi-family residential driveways that generate high traffic volumes shall be treated as intersections and shall adhere to requirements of OCMC 16.12.020.

C. One driveway may be allowed per frontage, unless otherwise restricted. In no case shall more than two driveways be allowed for any single-family attached or detached residential property, duplex, 3-4 plex, or property developed with an ADU or internal conversion with multiple frontages, unless otherwise approved by the City Engineer.

D. When a property fronts multiple roads, access shall be provided from the road with the lowest classification in the Transportation System Plan whenever possible to minimize points of access to arterials and collectors. At the discretion of the City Engineer, properties fronting a collector or arterial road may be allowed a second driveway, for the creation of a circulation pattern that eliminates reverse maneuvers for vehicles exiting a property if applied for and granted through procedures in OCMC 16.12.013. All lots proposed with a driveway and lot orientation on a collector or minor arterial shall combine driveways into one joint access per two or more lots unless the City Engineer determines that:

1. No driveway access may be allowed since the driveway(s) would cause a significant traffic safety hazard; or

2. Allowing a single driveway access per lot will not cause a significant traffic safety hazard.

E. All driveway approaches shall be limited to the dimensions identified in Table 16.12.035.D.

Table 16.12.035.D Driveway Approach Size Standards

Property Use	Minimum Driveway Approach Width		Maximum Driveway Approach Width
Single-Family Attached	10 feet		12 feet
Single-Family Detached in R-5 & R-3.5	10 feet		12 feet
Single-Family Detached in R-10, R-8, & R-6	12 feet		24 feet
Duplexes	12 feet		24 feet
3-4 Plexes	12 feet		24 feet
Multi-Family	18 feet		30 feet
Commercial, Industrial, Office, Institutional, Mixed Use, and/or Nonresidential	One-Way 12 feet	Two-Way 20 feet	40 feet

Driveway widths shall match the width of the driveway approach where the driveway meets sidewalk or property line but may be widened onsite (for example between the property line and the entrance to a garage). Groups of more than four parking spaces shall be so located and served by driveways so that their use will not require backing movements or other maneuvering within a street right-of-way other than an alley.

F. The City Engineer reserves the right to require a reduction in the number and size of driveway approaches as far as practicable for any of the following purposes:

- 1. To provide adequate space for on-street parking;*
- 2. To facilitate street tree planting requirements;*
- 3. To assure pedestrian and vehicular safety by limiting vehicular access points; and*
- 4. To assure that adequate sight distance requirements are met.*

a. Where the decision maker determines any of these situations exist or may occur due to the approval of a proposed development for non-residential uses or attached or multi-family housing, a shared driveway shall be required and limited to twenty-four feet in width adjacent to the sidewalk or property line.

G. For all driveways, the following standards apply.

- 1. Each new or redeveloped curb cut shall have an approved concrete approach or asphalted street connection where there is no concrete curb and a minimum hard surface for at least ten feet back into the property as measured from the current edge of sidewalk or street pavement to provide for controlling gravel tracking onto the public street. The hard surface may be concrete, asphalt, or other surface approved by the City Engineer.*
- 2. Any driveway approach built within public right-of-way shall be built and permitted per City requirements as approved by the City Engineer.*
- 3. No driveway with a slope of greater than fifteen percent shall be permitted without approval of the City Engineer.*

H. Exceptions. The City Engineer reserves the right to waive these standards or not allow driveway access, if the driveway(s) would cause a significant traffic safety hazard. Narrower driveway widths may be considered where field conditions preclude use of recommended widths. When larger vehicles and trucks will be the predominant users of a particular driveway, turning templates may be utilized to develop a driveway width that can safely and expeditiously accommodate the prevalent type of ingress and egress traffic.

Finding: Complies with Condition. The applicant has proposed 20-foot-wide driveway approach along Swan Avenue and an 18-foot-wide driveway approach along Ames Street. Driveway widths and spacing appear to be in conformance with City standards. All driveways (curb cuts), new and existing, shall meet the minimum driveway width standards identified in Table 16.12.035.D. The lot (Lot 2) containing the proposed driveway on Ames Street dwelling shall have an asphalt driveway approach with a minimum hard surface for at least ten feet back into the lot as measured from the edge of street pavement. The hard surface shall be concrete, asphalt, or other surface approved by the city engineer. All driveway approaches, proposed and existing, that intersect with a public sidewalk, shall be made ADA compliant. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

16.12.065 - Building site—Grading.

Grading of building sites shall conform to the State of Oregon Structural Specialty Code, Title 18, any approved grading plan and any approved residential lot grading plan in accordance with the requirements of OCMC 13.12,15.48, 16.12 and the Public Works Stormwater and Grading Design Standards, and the erosion control requirements of OCMC 17.47.

Finding: Please refer to findings in Sections 13.12, 15.48, 16.12 and 17.47 of this report.

16.12.085 - Easements.

The following shall govern the location, improvement and layout of easements:

A. Utilities. Utility easements shall be required where necessary as determined by the City Engineer. Insofar as practicable, easements shall be continuous and aligned from block-to-block within the development and with adjoining subdivisions or partitions. Specific utility easements for water, sanitary or storm drainage shall be provided based on approved final engineering plans.

Finding: Complies with Condition. The development shall include a 10-foot-wide public utility easement along all property lines fronting existing or proposed right-of-way. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

B. Unusual Facilities. Easements for unusual facilities such as high voltage electric transmission lines, drainage channels and stormwater detention facilities shall be adequately sized for their intended purpose, including any necessary maintenance roads. These easements shall be shown to scale on the preliminary and final plats or maps. If the easement is for drainage channels, stormwater detention facilities or related purposes, the easement shall comply with the requirements of the Public Works Stormwater and Grading Design Standards.

Finding: Not Applicable. The applicant has not proposed unusual facilities.

C. Watercourses. Where a development is traversed or bounded by a watercourse, drainageway, channel or stream, a stormwater easement or drainage right-of-way shall be provided which conforms substantially to the line of such watercourse, drainageway, channel or stream and is of a sufficient width to allow construction, maintenance and control for the purpose as required by the responsible agency. For those subdivisions or partitions which are bounded by a stream of established recreational value, setbacks or easements may be required to prevent impacts to the water resource or to accommodate pedestrian or bicycle paths.

Finding: Not Applicable. The development is not traversed by a watercourse.

D. Access. When easements are used to provide vehicular access to lots within a development, the construction standards, but not necessarily width standards, for the easement shall meet City specifications. The minimum width of the easement shall be 20 feet. The easements shall be improved and recorded by the applicant and inspected by the City Engineer. Access easements may also provide for utility placement.

Finding: Not Applicable. The applicant has not proposed any access easements as part of this development.

E. Resource Protection. Easements or other protective measures may also be required as the Community Development Director deems necessary to ensure compliance with applicable review criteria protecting any unusual significant natural feature or features of historic significance.

Finding: Not Applicable. The development is not traversed by a significant natural feature or features of historic significance.

16.12.090 - Minimum improvements—Procedures.

In addition to other requirements, improvements installed by the applicant either as a requirement of these or other regulations, or at the applicant's option, shall conform to the requirements of this title and be designed to City specifications and standards as set out in the City's facility master plan and Public Works Stormwater and Grading Design Standards. The improvements shall be installed in accordance with the following procedure:

A. Improvement work shall not commence until construction plans have been reviewed and approved by the City Engineer and to the extent that improvements are located in County or State right-of-way, they shall be approved by the responsible authority. To the extent necessary for evaluation of the proposal, the plans may be required before approval of the preliminary plat of a subdivision or partition. Expenses incurred thereby shall be borne by the applicant and paid for prior to final plan review.

B. Improvements shall be constructed under the inspection and approval of the City Engineer. Expenses incurred thereby shall be borne by the applicant and paid prior to final approval. Where required by the City Engineer or other City decision-maker, the applicant's project engineer also shall inspect construction.

C. Erosion control or resource protection facilities or measures are required to be installed in accordance with the requirements of OCMC 17.47, 17.49 and the Public Works Erosion and Sediment Control Standards.

Finding: Please refer to findings in section 17.47, 17.49 of this report.

D. Underground utilities, waterlines, sanitary sewers and storm drains installed in streets shall be constructed prior to the surfacing of the streets. Stubs for service connections for underground utilities, such as, storm, water and sanitary sewer shall be placed beyond the ten-foot wide franchise utility easement within private property.

E. As-built construction plans and digital copies of as-built drawings shall be filed with the City Engineer upon completion of the improvements.

F. The City Engineer may regulate the hours of construction and access routes for construction equipment to minimize impacts on adjoining residences or neighborhoods.

Finding: Complies with Condition. The applicant indicated that construction plans for all required improvements will be presented to the city for review and approval prior to the commencement of any construction activities on the site. As required by these standards and city policy, inspections will occur during construction of these improvements. Erosion control measures will be provided and are depicted in conceptual form on the attached preliminary grading plans.

The development shall comply with all current Oregon City Public Works design standards, specifications, codes and policies. The development's engineer(s) may schedule a pre-design meeting with Oregon City staff prior to official review of the development construction plans. The applicant shall provide construction plans, stamped and signed by a professional engineer licensed in the State of Oregon, containing street, grading, stormwater, sanitary sewer and water infrastructure improvements that conforms to all current Oregon City Public Works standards, specifications, codes, and policies for review and approval by the City. The engineering plans shall provide a local benchmark onsite using the NAVD88 datum. The development's contractor(s) and engineer(s) shall attend a pre-construction meeting with Oregon City staff prior to beginning construction work associated with the project. As-builts conforming to City standards shall be provided within 90 days of completion of the public improvements.

Improvements shall be constructed under the inspection and approval of the City. Expenses incurred thereby shall be borne by the developer and paid prior to final approval. The developer's project engineer also shall inspect construction. Underground utilities, waterlines, sanitary sewers and storm drains proposed within streets shall be constructed prior to the surfacing of the streets. Stubs for service connections for underground utilities, such as, storm, water and sanitary sewer shall be placed beyond the franchise utility easement within private property.

Furthermore, the applicant shall sign a Non-Remonstrance Agreement for the purpose of making sanitary sewer, storm sewer, water or street improvements in the future that benefit the Property and assessing the cost to benefited properties pursuant to the City's capital improvement regulations in

effect at the time of such improvement. Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

16.12.095 - Minimum improvements—Public facilities and services.

The following minimum improvements shall be required of all applicants for a development, unless the decision-maker determines that any such improvement is not proportional to the impact imposed on the City's public systems and facilities:

A. Transportation System. Applicants and all subsequent lot owners shall be responsible for improving the City's planned level of service on all public streets, including alleys within the development and those portions of public streets adjacent to but only partially within development. Applicants are responsible for designing and providing adequate vehicular, bicycle and pedestrian access to their developments and for accommodating future access to neighboring undeveloped properties that are suitably zoned for future development. Storm drainage facilities shall be installed and connected to off-site natural or man-made drainageways. Upon completion of the street improvement survey, the applicant shall reestablish and protect monuments of the type required by ORS 92.060 in monument boxes with covers at every public street intersection and all points of curvature and points of tangency of their center line, and at such other points as directed by the City Engineer.

Finding: Complies with Condition. The applicant shall sign a Non-Remonstrance Agreement for the purpose of making sanitary sewer, storm sewer, water or street improvements in the future that benefit the property and assessing the cost to benefited properties pursuant to the City's capital improvement regulations in effect at the time of such improvement. The applicant shall reestablish and protect monuments of the type required by ORS 92.060 in monument boxes with covers at every public street intersection and all points of curvature and points of tangency of their center line, and at such other points as directed by the city engineer. See 16.12.027 for findings related to required off-site street improvements. A modification to the standard street section has been requested for Ames Street and Swan Avenue. See Section 16.12.013 for the required street section for Ames Street and Swan Avenue. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

B. Stormwater Drainage System. Applicants shall design and install drainage facilities within a development and shall connect the development's drainage system to the appropriate downstream storm drainage system as a minimum requirement for providing services to the applicant's development. The applicant shall obtain county or state approval when appropriate. Applicants are responsible for extending the appropriate storm drainage system to the development site and for providing for the connection of upgradient properties to that system. The applicant shall design the drainage facilities in accordance with City drainage master plan requirements, OCMC 13.12 and the Public Works Stormwater and Grading Design Standards.

Finding: Please refer to findings in section 13.12 of this report.

C. Sanitary Sewer System. The applicant shall design and install a sanitary sewer system to serve all lots or parcels within a development in accordance with the City's sanitary sewer design standards, and shall connect those lots or parcels to the City's sanitary sewer system, except where connection is required to the county sanitary sewer system as approved by the county. Applicants are responsible for extending the City's sanitary sewer system to the development site and through the applicant's property to allow for the future connection of neighboring undeveloped properties that are suitably zoned for future development. The applicant shall obtain all required permits and approvals from all affected jurisdictions

prior to final approval and prior to commencement of construction. Design shall be approved by the City Engineer before construction begins.

Finding: Complies with Condition. The applicant has proposed to connect to the existing 10-inch sanitary sewer main within Ames Street. The development shall provide a sanitary service lateral and two-way cleanout for each lot per City standards. If the applicant intends to use the existing sanitary sewer service line serving Lot 1, it shall be at least 4-inch in diameter and the applicant shall provide a video inspection report to the City who will determine if the lateral is in usable condition. Otherwise, the development shall install a new 4-inch service lateral to serve Lot 1. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

D. Water System. The applicant shall design and install a water system to serve all lots or parcels within a development in accordance with the City public works water system design standards, and shall connect those lots or parcels to the City's water system. Applicants are responsible for extending the City's water system to the development site and through the applicant's property to allow for the future connection of neighboring undeveloped properties that are suitably zoned for future development.

Finding: Complies with Condition. The applicant has proposed water service connection to the existing 6-inch ductile water main within Ames Street. If the applicant intends to use the existing water service line serving Lot 1, it shall be at least 1" in diameter and the applicant shall perform inspections to confirm that it is in usable condition to the satisfaction of the City. Otherwise, the development shall install, at a minimum, a new 1" water service line to serve Lot 1. All lots for the proposed development shall have an individual water service connecting to the water main and each water meter shall front the property that it serves. Any new fire hydrants shall be located and installed per Clackamas Fire District No. 1's requirements. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

E. Street Trees. Refer to OCMC 12.08, Street Trees.

Finding: Please refer to findings in section 12.08 of this report.

F. Bench Marks. At least one bench mark shall be located within the subdivision boundaries using datum plane specified by the City Engineer.

Finding: Complies with Condition. The engineering plans shall provide a local benchmark, onsite, using the NAVD88 datum. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

G. Other Utilities. The applicant shall make all necessary arrangements with utility companies or other affected parties for the installation of underground lines and facilities. Existing and new electrical lines and other wires, including but not limited to communication, street lighting and cable television, shall be placed underground.

Finding: Complies with Condition. All new franchise utilities shall be placed underground. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

H. Oversizing of Facilities. All facilities and improvements shall be designed to City standards as set out in the City's facility master plan, public works design standards, or other City ordinances or regulations. Compliance with facility design standards shall be addressed during final engineering. A development may be required to modify or replace existing offsite systems if necessary to provide adequate public facilities. The City may require oversizing of facilities to meet standards in the City's facility master plan

or to allow for orderly and efficient development. Where oversizing is required, the applicant may request reimbursement from the City for oversizing based on the City's reimbursement policy and funds available, or provide for recovery of costs from intervening properties as they develop.

Finding: Not Applicable. The applicant is not required to oversize facilities.

I. Erosion Control Plan—Mitigation. The applicant shall be responsible for complying with all applicable provisions of OCMC 17.47 with regard to erosion control.

Finding: Please refer to findings in section 17.47 of this report

16.12.100 - Same—Road standards and requirements.

A. The creation of a public street and the resultant separate land parcels shall be in conformance with requirements for subdivisions or partitions and the applicable street design standards of this Chapter. However, the decision-maker may approve the creation of a public street to be established by deed without full compliance with the regulations applicable to subdivisions or partitions where any of the following conditions exist:

- 1. The establishment of the public street is initiated by the City Commission and is declared essential for the purpose of general traffic circulation and the partitioning of land is an incidental effect rather than the primary objective of the street;*
- 2. The tract in which the street is to be dedicated is within an isolated ownership either not over one acre or of such size and characteristics as to make it impossible to develop building sites for more than three dwelling units.*

Finding: Not Applicable. The creation of a new public street is not proposed or required.

B. For any public street created pursuant to subsection A of this section, a copy of a preliminary plan and the proposed deed shall be submitted to the Community Development Director and City Engineer at least ten days prior to any public hearing scheduled for the matter. The plan, deed and any additional information the applicant may submit shall be reviewed by the decision-maker and, if not in conflict with the standards of Title 16 and Title 17, may be approved with appropriate conditions.

Finding: Not Applicable. The applicant has not proposed the creation of a public street to be established by deed without full compliance with the regulations applicable to subdivisions or partitions.

16.12.105 - Same—Timing requirements.

A. Prior to applying for final plat approval, the applicant shall either complete construction of all public improvements required as part of the preliminary plat approval or guarantee the construction of those improvements. Whichever option the applicant elects shall be in accordance with OCMC 17.50.140.

B. Construction. The applicant shall construct the public improvements according to approved final engineering plans and all applicable requirements of this Code, and under the supervision of the City Engineer. Under this option, the improvement shall be complete and accepted by the City Engineer prior to final plat approval.

Finding: Complies as Proposed. The applicant has proposed to complete construction improvements required as part of the preliminary plat approval.

16.12.110 -Public improvements—Financial guarantees.

A. To ensure construction of required public improvements, the applicant shall provide the City with a performance guarantee in accordance with OCMC 17.50.140.

B. After satisfactory completion of required public improvements and facilities, all public improvements not constructed by the City, shall be maintained and under warranty provided by the property owner or

developer constructing the facilities until the City accepts the improvements at the end of the warranty period as prescribed in OCMC 17.50.141.

Finding: Complies with Condition. The developer shall provide a performance guarantee which is equal to 120% of the estimated cost to construct all public improvements shown in a city approved construction plan submitted by the developer's engineer. The estimated costs shall be supported by a verified engineering estimate and approved by the city engineer. The guarantee shall be in a form identified in Code 17.50.140.A of the Oregon City Municipal Code. The guarantee shall remain in effect until the construction of all required improvements are completed and accepted by the city. The developer shall provide a Maintenance Guarantee in the amount of fifteen percent of the cost to construct all public improvements as shown in a city approved construction plan submitted by the developer's engineer. The estimated costs shall be supported by a verified engineering estimate approved by the City Engineer. The guarantee shall be in a form identified in Code 17.50.140.A of the Oregon City Municipal Code. The guarantee shall warrant to the City of Oregon City that construction of public improvements will remain, for a period of twenty-four (24) months from the date of acceptance, free from defects in materials and workmanship. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

16.12.120 Waiver of Remonstrance

The review authority may require a property owner to sign a waiver of remonstrance against the formation of and participation in a local improvement district where it deems such a waiver necessary to provide needed improvements reasonably related to the impacts created by the proposed development. To ensure compliance with this chapter, the review authority may require an applicant to sign or accept a legal and enforceable covenant, contract, dedication, easement, performance guarantee, or other document, which shall be approved in form by the City Attorney.

Finding: Complies with Condition. The property owner(s) shall sign a Restrictive Covenant Non-Remonstrance Agreement for the purpose of making storm sewer, sanitary sewer, water or street improvements in the future that benefit the property and all fees associated with processing and recording the Non-Remonstrance Agreement shall be paid. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

16.12.125 - Violation—Penalty.

Any act or omission in violation of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of OCMC 1.16, 1.20 and 1.24.

Finding: Applicable. Any act or omission in violation of this chapter shall be deemed a nuisance. Violation of any provision of this chapter is subject to the code enforcement procedures of OCMC 1.16, 1.20 and 1.24.

CHAPTER 17.41 TREE PROTECTION, PRESERVATION, REMOVAL AND REPLANTING STANDARDS

17.41.010 - Protection of trees—Intent.

The intent of this chapter is to ensure that new development is designed in a manner that preserves trees to the maximum extent practicable. As a requirement of any Type II land use application, the siting of structures, roadways and utility easements, shall provide for the protection of tree resources to the maximum extent practicable. This chapter applies to all Land Division and Site Plan and Design Review applications.

17.41.020 - Tree protection—Applicability.

1. Applications for development subject to OCMC 16.08 (Land Divisions) or OCMC 17.62 (Site Plan and Design Review) shall demonstrate compliance with these standards as part of the review proceedings for

those developments. Compliance with this chapter is required from the date a land use application is filed until a land division is recorded or other development approval is final.

2. For public capital improvement projects, the City Engineer shall demonstrate compliance with these standards pursuant to a Type I process.

3. Tree canopy removal greater than twenty-five percent on areas with greater than twenty-five percent slope, unless exempted under OCMC 17.41.040, shall be subject to these standards.

4. A heritage tree or grove which has been designated pursuant to the procedures of OCMC 12.32 shall be subject to the standards of this section.

5. A tree that has been planted pursuant to this section shall remain or shall be replaced with a new tree if removed.

Finding: Applicable. The applicant has proposed a land division, therefore, Chapter 17.41 is applicable.

17.41.030 - Tree protection—Conflicting code provisions.

Except as otherwise specified in this section, where these standards conflict with adopted city development codes or policies, the provision which provides the greater protection for regulated trees or groves, as defined in OCMC 17.04, shall govern.

Finding: Not Applicable. No conflicts have been identified.

17.41.050 - Compliance options.

Applicants for review shall comply with these requirements through one or a combination of the following procedures:

A. Option 1—Mitigation. Retention and removal of trees, with subsequent mitigation by replanting pursuant to OCMC 17.41.060.

B. Option 2—Dedicated Tract. Protection of trees or groves by placement in a tract within a new subdivision or partition plat pursuant to OCMC 17.41.080; or

C. Option 3—Restrictive Covenant. Protection of trees or groves by recordation of a permanent restrictive covenant pursuant to OCMC 17.41.110; or

D. Option 4—Cash-in-lieu of planting pursuant to OCMC 17.41.120.

Finding: Complies with Condition. The applicant has proposed removal of two trees and indicated that Option 1 will be used for mitigation, however, a mitigation plan was not submitted. Prior to final plat, the applicant shall submit a mitigation plan utilizing any of the mitigation compliance options in Section 17.41.050. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.41.060 - Tree removal and replanting—Mitigation (Option 1).

A. Applicants for development who select this option shall ensure that all healthy trees shall be preserved outside the construction area as defined in OCMC 17.04 to the extent practicable. Preserved trees are subject to Option 3 of this Chapter. Compliance with these standards shall be demonstrated in a tree mitigation plan report prepared by a certified arborist, horticulturalist or forester or other environmental professional with experience and academic credentials in forestry or arboriculture. Tree inventories for the purposes of mitigation calculations may be prepared by a licensed surveyor. At the applicant's expense, the City may require the report to be reviewed by a consulting arborist. The number of replacement trees required on a development site shall be calculated separately from, and in addition to, any public or street trees in the public right-of-way required under OCMC 12.08— Public and Street Trees, any required tree planting in parking lots, and any trees planted in pedestrian and bicycle accessways.

B. The applicant shall determine the number of trees to be mitigated on the site by counting all of the trees six-inch DBH (minimum four and one-half feet from the ground) or larger on the entire site and either:

- 1. Trees that are removed outside of the construction area shall be replanted with the number of trees specified in Column 1 of Table 17.41.060-1. Trees that are removed within the construction area shall be replanted with the number of replacement trees required in Column 2; or*
- 2. Dying, diseased or hazardous trees, when the condition is verified by a certified arborist to be consistent with the definitions in OCMC 17.04, may be removed from the tree replacement calculation. Dead trees may also be removed from the calculation, with the condition of the tree verified either by the Community Development Director or by a certified arborist at the applicant's expense, when the Community Development Director cannot make a determination. To the extent that the Community Development Director determines that the dead, dying, hazardous or diseased condition of the tree is the result of intentional action, the removal of that tree shall require mitigation pursuant to Column 2 of Table 17.41.060-1.*

Table 17.41.060-1

Tree Replacement Requirements

<i>Size of tree removed (DBH)</i>	<i>Column 1 Number of trees to be planted. (If removed Outside of construction area)</i>	<i>Column 2 Number of trees to be planted. (If removed Within the construction area)</i>
<i>6 to 12"</i>	<i>3</i>	<i>1</i>
<i>13 to 18"</i>	<i>6</i>	<i>2</i>
<i>19 to 24"</i>	<i>9</i>	<i>3</i>
<i>25 to 30"</i>	<i>12</i>	<i>4</i>
<i>31 and over"</i>	<i>15</i>	<i>5</i>

Steps for calculating the number of replacement trees:

- 1. Count all trees measuring six inches DBH (minimum four and one-half feet from the ground) or larger on the entire development site.*
- 2. Designate the size (DBH) of all trees pursuant to accepted industry standards.*
- 3. Document in a certified arborist report any trees that are currently dead, dying, diseased or hazardous.*
- 4. Subtract the number of dead, dying, diseased or hazardous trees in step 3 from the total number of trees on the development site in step 1. The remaining number is the number of healthy trees on the site. Use this number to determine the number of replacement trees in steps 5 through 8.*
- 5. Identify the construction area (as defined in OCMC 17.04.230).*
- 6. Determine the number and diameter of trees to be removed within the construction area. Based on the size of each tree, use Column 2 to determine the number of replacement trees required.*
- 7. Determine the number and diameter of trees to be removed outside of the construction area. Based on the size of each tree, use Column 1 to determine the number of replacement trees required.*
- 8. Determine the total number of replacement trees from steps 6 and 7.*

Finding: Complies with Condition. The applicant submitted an arborist report identifying that there are ten trees onsite and two are proposed to be removed. The arborist report identified that one of the two trees designated for removal is diseased, therefore, no mitigation for that tree is required. The other tree proposed to be removed is within the construction area and is 17 inches in diameter requiring two

mitigation trees. The applicant has not submitted a mitigation plan identifying where the replacement trees will be planted. Prior to final plat, the applicant shall submit a mitigation plan demonstrating compliance with mitigation tree planting size, species and location requirements in Chapter 17.41. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

C. Planting area priority for mitigation.

Development applications which opt for removal of trees with subsequent replanting pursuant to OCMC 17.41.050.A. shall be required to mitigate for tree cutting by complying with the following priority for replanting standards below:

- 1. First Priority. Replanting on the development site.*
- 2. Second Priority. Off-site replacement tree planting locations. If the Community Development Director determines that it is not practicable to plant the total number of replacement trees on-site, a suitable off-site planting location for the remainder of the trees may be approved that will reasonably satisfy the objectives of this section. Such locations may include either publicly owned or private land and shall be approved by the Community Development Director.*

D. Replacement tree planting standards.

- 1. All replacement trees shall be either two-inch caliper deciduous or six-foot high conifer.*
- 2. Replacement tree species shall be approved by a landscape architect or certified arborist or shall be found on the City's Native Plant or Street Tree lists.*
- 3. Due to their diminishing range in the region, Oregon white oak (Quercus garryana) trees, if removed, shall be replaced by the same species.*

Finding: Complies with Condition. The applicant has not submitted a mitigation plan identifying where the replacement trees will be planted. Prior to final plat, the applicant shall submit a mitigation plan demonstrating compliance with mitigation tree planting size, species and location requirements in Chapter 17.41. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

E. All existing tree(s) in the tract shall be protected by a permanent restrictive covenant or easement approved in form by the City.

Finding: Complies with Condition. The applicant shall record a protective covenant for all saved trees and provide a copy of the recorded protective covenant to the City prior to occupancy of a new home within this development. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

F. Alternative mitigation plan.

The Community Development Director may, subject to a Type II procedure, approve an alternative mitigation plan that adequately protects habitat pursuant to the standards for the Natural Resource Overlay District alternative mitigation plan in OCMC 17.49.190.

Finding: Not Applicable. The applicant has not proposed an alternative mitigation plan.

17.41.080 - Tree preservation within subdivisions and partitions—Dedicated tract (Option 2).

A. An applicant for a new subdivision and partition may delineate and show the regulated trees or groves as either a separate tract or part of a larger tract that meets the requirements of subsection D. of this section. All existing tree(s) in the tract shall be protected by a permanent restrictive covenant or easement approved in form by the City.

Finding: Not Applicable. The applicant has not proposed to utilize Option 3.

17.41.110 - Tree protection by restrictive covenant (Option 3).

Any regulated tree or grove which cannot be protected in a tract pursuant to Section 17.41.080 above shall be protected with a restrictive covenant in a format to be approved by the Community Development Director. Such covenant shall be recorded against the property deed and shall contain provisions to permanently protect the regulated tree or grove unless such tree or grove, as determined by a certified arborist and approved by the Community Development Director, are determined to be diseased or hazardous.

A. Permitted adjustments.

1. The Community Development Director, pursuant to a Type II procedure, may grant an adjustment to the side, front and rear yard setback standards by up to fifty percent if necessary to retain a Regulated Tree or Grove through a restrictive covenant pursuant to this section. In no case may the side yard setback be reduced to less than three feet. The adjustment shall be the minimum necessary to accomplish preservation of trees on the lot and shall not conflict with other conditions imposed on the property.

2. The Community Development Director, pursuant to a Type II procedure, may grant an adjustment to street standards, pursuant to adopted public works standards, in order to preserve a tree. This may include flexibility to redesign sidewalk and planter strip sizes and locations and allow placement of sidewalks and planter strips in an easement within private lots.

3. The Community Development Director, pursuant to a Type II procedure, may allow other adjustments in order to preserve any healthy tree that cannot be moved due to its size, but will contribute to the landscape character of the area and will not present a foreseeable hazard if retained.

Finding: Complies with Condition. The applicant shall record a protective covenant for all saved trees and provide a copy of the recorded protective covenant to the City prior to occupancy of a new home within this development. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.41.120 - Cash-in-lieu of planting (Option 4).

The applicant may choose this option in-lieu-of or in addition to Compliance Options 1 through 3. In this case, the Community Development Director may approve the payment of cash-in-lieu into a dedicated fund for the remainder of trees that cannot be replanted in the manner described above.

The cash-in-lieu payment per required mitigation tree shall be as listed on the adopted fee schedule and shall be adjusted annually based on the Consumer Price Index. The price shall include 150% of the cost of materials, transportation and planting.

Finding: Complies with Condition. The applicant has proposed removal of two trees and indicated that Option 1 will be used for mitigation, however, a mitigation plan was not submitted. Prior to final plat, the applicant shall submit a mitigation plan utilizing any of the mitigation compliance options in Section 17.41.050. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.41.130 - Regulated tree protection procedures during construction.

A. No permit for any grading or construction of public or private improvements may be released prior to verification by the Community Development Director that regulated trees designated for protection or conservation have been protected according to the following standards. No trees designated for removal shall be removed without prior written approval from the Community Development Director.

B. Tree protection shall be as recommended by a qualified arborist or, as a minimum, to include the following protective measures:

1. Except as otherwise determined by the Community Development Director, all required tree protection measures set forth in this section shall be instituted prior to any development activities, including, but

not limited to clearing, grading, excavation or demolition work, and such measures shall be removed only after completion of all construction activity, including necessary landscaping and irrigation installation, and any required plat, tract, conservation easement or restrictive covenant has been recorded.

2. Approved construction fencing, a minimum of four feet tall with steel posts placed no farther than ten feet apart, shall be installed at the edge of the tree protection zone or dripline, whichever is greater. An alternative may be used with the approval of the Community Development Director.

3. Approved signs shall be attached to the fencing stating that inside the fencing is a tree protection zone, not to be disturbed unless prior approval has been obtained from the Community Development Director.

4. No construction activity shall occur within the tree protection zone, including, but not limited to; dumping or storage of materials such as building supplies, soil, waste items; nor passage or parking of vehicles or equipment.

5. The tree protection zone shall remain free of chemically injurious materials and liquids such as paints, thinners, cleaning solutions, petroleum products, and concrete or dry wall excess, construction debris, or run-off.

6. No excavation, trenching, grading, root pruning or other activity shall occur within the tree protection zone unless directed by an arborist present on site and approved by the Community Development Director.

7. No machinery repair or cleaning shall be performed within ten feet of the dripline of any trees identified for protection.

8. Digging a trench for placement of public or private utilities or other structure within the critical root zone of a tree to be protected is prohibited. Boring under or through the tree protection zone may be permitted if approved by the Community Development Director and pursuant to the approved written recommendations and on-site guidance and supervision of a certified arborist.

9. The Community Development Director may require that a certified arborist be present during any construction or grading activities that may affect the dripline of trees to be protected.

10. The Community Development Director may impose conditions to avoid disturbance to tree roots from grading activities and to protect trees and other significant vegetation identified for retention from harm. Such conditions may include, if necessary, the advisory expertise of a qualified consulting arborist or horticulturist both during and after site preparation, and a special maintenance/management program to provide protection to the resource as recommended by the arborist or horticulturist.

C. Changes in soil hydrology due to soil compaction and site drainage within tree protection areas shall be avoided. Drainage and grading plans shall include provision to ensure that drainage of the site does not conflict with the standards of this section. Excessive site run-off shall be directed to appropriate storm drainage facilities and away from trees designated for conservation or protection.

Finding: Complies with Condition. The existing onsite trees are subject to compliance with tree protection standards during construction. Prior to issuance of grading permit and/or building permit associated with the proposed development, the applicant shall submit documentation demonstrating compliance with standards for tree protection during construction in accordance with OCMC 17.41.130. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

CHAPTER 17.47 – EROSION AND SEDIMENT CONTROL

17.47.030 - Applicability.

A. This chapter, which may also be referred to as "erosion control" in this Code, applies to development that may cause visible or measurable erosion on any property within the city limits of Oregon City.

B. This chapter does not apply to work necessary to protect, repair, maintain or replace existing structures, utility facilities, roadways, driveways, accessory uses and exterior improvements in response to emergencies, provided that after the emergency has passed, adverse impacts are mitigated in accordance with applicable standards.

Finding: Applicable. The applicant has proposed a minor partition with associated street improvements.

17.47.060 - Permit required.

The applicant must obtain an erosion and sediment control permit prior to, or contemporaneous with, the approval of an application for any building, land use or other city-issued permit that may cause visible or measurable erosion.

Finding: Complies with Condition. The applicant has proposed to construct a minor partition with associated street improvements. The applicant shall provide an Erosion Prevention and Sedimentation Control Plan prior to issuance of an erosion control permit. The applicant shall obtain an erosion control permit prior to commencement of any earth disturbing activities. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.47.070 - Erosion and sediment control plans.

A. An application for an erosion and sediment control permit shall include an erosion and sediment control plan, which contains methods and interim measures to be used during and following construction to prevent or control erosion prepared in compliance with City of Oregon City public works standards for erosion and sediment control. These standards are incorporated herein and made a part of this title and are on file in the office of the city recorder.

B. Approval Standards. An erosion and sediment control plan shall be approved only upon making the following findings:

1. The erosion and sediment control plan meets the requirements of the City of Oregon City public works standards for erosion and sediment control incorporated by reference as part of this chapter;

2. The erosion and sediment control plan indicates that erosion and sediment control measures will be managed and maintained during and following development. The erosion and sediment control plan indicates that erosion and sediment control measures will remain in place until disturbed soil areas are permanently stabilized by landscaping, grass, approved mulch or other permanent soil stabilizing measures.

C. The erosion and sediment control plan shall be reviewed in conjunction with the requested development approval. If the development does not require additional review, the manager may approve or deny the permit with notice of the decision to the applicant.

D. The city may inspect the development site to determine compliance with the erosion and sediment control plan and permit.

E. Erosion that occurs on a development site that does not have an erosion and sediment control permit, or that results from a failure to comply with the terms of such a permit, constitutes a violation of this chapter.

F. If the manager finds that the facilities and techniques approved in an erosion and sediment control plan and permit are not sufficient to prevent erosion, the manager shall notify the owner or his/her designated representative. Upon receiving notice, the owner or his/her designated representative shall immediately install interim erosion and sediment control measures as specified in the City of Oregon City public works standards for erosion and sediment control. Within three days from the date of notice, the owner or his/her designated representative shall submit a revised erosion and sediment control plan to the city. Upon approval of the revised plan and issuance of an amended permit, the owner or his/her designated representative shall immediately implement the revised plan.

G. Approval of an erosion and sediment control plan does not constitute an approval of permanent road or drainage design (e.g., size and location of roads, pipes, restrictors, channels, retention facilities, utilities, etc.).

Finding: Complies with Condition. The applicant shall provide an Erosion Prevention and Sedimentation Control Plan to the City for approval. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

CHAPTER 17.50 ADMINISTRATION AND PROCEDURES

17.50.030 - Summary of the City's decision-making processes.

Finding: Complies as Proposed. The application is being reviewed pursuant to the Type III process. Notice was posted onsite, online and mailed to property owners within 300 feet of the proposed development site.

17.50.050 - Pre-application conference.

A Pre-application Conference. Prior to a Type II—IV or legislative application, excluding historic review, being deemed complete, the applicant shall schedule and attend a pre-application conference with city staff to discuss the proposal, unless waived by the community development director. The purpose of the pre-application conference is to provide an opportunity for staff to provide the applicant with information on the likely impacts, limitations, requirements, approval standards, fees and other information that may affect the proposal.

1. To schedule a pre-application conference, the applicant shall contact the Planning Division, submit the required materials, and pay the appropriate conference fee.

2. At a minimum, an applicant should submit a short narrative describing the proposal and a proposed site plan, drawn to a scale acceptable to the city, which identifies the proposed land uses, traffic circulation, and public rights-of-way and all other required plans.

3. The planning division shall provide the applicant(s) with the identity and contact persons for all affected neighborhood associations as well as a written summary of the pre-application conference.

B. A pre-application conference shall be valid for a period of six months from the date it is held. If no application is filed within six months of the conference or meeting, the applicant shall schedule and attend another conference before the city will accept a permit application. The community development director may waive the pre-application requirement if, in the director's opinion, the development has not changed significantly and the applicable municipal code or standards have not been significantly amended. In no case shall a pre-application conference be valid for more than one year.

C. Notwithstanding any representations by city staff at a pre-application conference, staff is not authorized to waive any requirements of this code, and any omission or failure by staff to recite to an applicant all relevant applicable land use requirements shall not constitute a waiver by the city of any standard or requirement.

Finding: Complies as Proposed. The applicant held a pre-application conference on November 14, 2018. The application was submitted within one year of the pre-application conference on November 14, 2019. The application was deemed incomplete on December 11, 2019, and after the submittal of additional information, the application was deemed complete on January 16, 2020.

17.50.055 - Neighborhood association meeting.

Neighborhood Association Meeting. The purpose of the meeting with the recognized neighborhood association is to inform the affected neighborhood association about the proposed development and to receive the preliminary responses and suggestions from the neighborhood association and the member residents.

A. Applicants applying for annexations, zone change, comprehensive plan amendments, conditional use, Planning Commission variances, subdivision, or site plan and design review (excluding minor site plan and design review), general development master plans or detailed development plans applications shall schedule and attend a meeting with the City-recognized neighborhood association in whose territory the application is proposed no earlier than one year prior to the date of application. Although not required for other projects than those identified above, a meeting with the neighborhood association is highly recommended.

B. The applicant shall request via email or regular mail a request to meet with the neighborhood association chair where the proposed development is located. The notice shall describe the proposed project. A copy of this notice shall also be provided to the chair of the Citizen Involvement Committee.

C. A meeting shall be scheduled within thirty days of the date that the notice is sent. A meeting may be scheduled later than thirty days if by mutual agreement of the applicant and the neighborhood association. If the neighborhood association does not want to, or cannot meet within thirty days, the applicant shall host a meeting inviting the neighborhood association, Citizen Involvement Committee, and all property owners within three hundred feet to attend. This meeting shall not begin before six p.m. on a weekday or may be held on a weekend and shall occur within the neighborhood association boundaries or at a City facility.

D. If the neighborhood association is not currently recognized by the City, is inactive, or does not exist, the applicant shall request a meeting with the Citizen Involvement Committee.

E. To show compliance with this section, the applicant shall submit a copy of the email or mail notice to the neighborhood association and CIC chair, a sign-in sheet of meeting attendees, and a summary of issues discussed at the meeting. If the applicant held a separately noticed meeting, the applicant shall submit a copy of the meeting flyer, postcard or other correspondence used, and a summary of issues discussed at the meeting and submittal of these materials shall be required for a complete application.

Finding: Complies as Proposed. Neighborhood association meetings are not required for a minor partition application, but they are required for a Planning Commission variance. This section requires the applicant to submit a copy of the email correspondence with the neighborhood association, meeting sign-in sheet, and a summary of issues discussed. This is a submittal requirement, rather than an approval criterion. The applicant did not attend a neighborhood association meeting, however, Planning staff did not identify this as a missing submittal item during the completeness review period. The purpose of neighborhood association meetings is for the applicant to establish a dialogue with the neighborhood association, and to answer any questions about their development, however, there is no approval criteria tied to the neighborhood association meeting. The application was transmitted to the Park Place neighborhood association during the public notice period and no comments from the neighborhood association were received in response to the development. Though a neighborhood association meeting was not held, all applicable approval criteria have been met or can be met through the Conditions of Approval.

17.50.070 - Completeness review and one hundred twenty-day rule.

C. Once the Community Development Director determines the application is complete enough to process, or the applicant refuses to submit any more information, the City shall declare the application complete. Pursuant to ORS 227.178, the City will reach a final decision on an application within one hundred twenty calendar days from the date that the application is determined to be or deemed complete unless the applicant agrees to suspend the one hundred twenty calendar day time line or unless State law provides otherwise. The one hundred twenty-day period, however, does not apply in the following situations:

1. Any hearing continuance or other process delay requested by the applicant shall be deemed an extension or waiver, as appropriate, of the one hundred twenty-day period.

2. Any delay in the decision-making process necessitated because the applicant provided an incomplete set of mailing labels for the record property owners within three hundred feet of the subject property shall extend the one hundred twenty-day period for the amount of time required to correct the notice defect.

3. The one hundred twenty-day period does not apply to any application for a permit that is not wholly within the City's authority and control.

4. The one hundred twenty-day period does not apply to any application for an amendment to the City's comprehensive plan or land use regulations nor to any application for a permit, the approval of which depends upon a plan amendment.

D. A one-hundred day period applies in place of the one-hundred-twenty day period for affordable housing projects where:

1. The project includes five or more residential units, including assisted living facilities or group homes;

2. At least 50% of the residential units will be sold or rented to households with incomes equal to or less than 60% of the median family income for Clackamas County or for the state, whichever is greater; and

3. Development is subject to a covenant restricting the owner and successive owner from selling or renting any of the affordable units as housing that is not affordable for a period of 60 years from the date of the certificate of occupancy.

E. The one hundred twenty-day period specified in OCMC 17.50.070.C or D may be extended for a specified period of time at the written request of the applicant. The total of all extensions may not exceed two hundred forty-five calendar days.

F. The approval standards that control the City's review and decision on a complete application are those which were in effect on the date the application was first submitted.

Finding: Complies as Proposed. The application was deemed incomplete on December 11, 2019, and after the submittal of additional information, the application was deemed complete on January 16, 2020.

17.50.080 - Complete application—Required information.

Unless stated elsewhere in OCMC 16 or 17, a complete application includes all the materials listed in this subsection. The Community Development Director may waive the submission of any of these materials if not deemed to be applicable to the specific review sought. Likewise, within thirty days of when the application is first submitted, the Community Development Director may require additional information, beyond that listed in this subsection or elsewhere in Titles 12, 14, 15, 16, or 17, such as a traffic study or other report prepared by an appropriate expert. In any event, the applicant is responsible for the completeness and accuracy of the application and all of the supporting documentation, and the City will not deem the application complete until all information required by the Community Development Director is submitted. At a minimum, the applicant shall submit the following:

A. One copy of a completed application form that includes the following information:

1. An accurate address and tax map and location of all properties that are the subject of the application;

2. Name, address, telephone number and authorization signature of all record property owners or contract owners, and the name, address and telephone number of the applicant, if different from the property owner(s);

B. A complete list of the permit approvals sought by the applicant;

C. A complete and detailed narrative description of the proposed development;

D. A discussion of the approval criteria for all permits required for approval of the development proposal that explains how the criteria are or can be met or are not applicable, and any other information indicated by staff at the pre-application conference as being required;

E. One copy of all architectural drawings and site plans shall be submitted for Type II-IV applications.

One paper copy of all application materials shall be submitted for Type I applications;

F. For all Type II – IV applications, the following is required:

- 1. An electronic copy of all materials.*
- 2. Mailing labels or associated fee for notice to all parties entitled under OCMC 17.50.090 to receive mailed notice of the application. The applicant shall use the names and addresses of property owners within the notice area indicated on the most recent property tax rolls;*
- 3. Documentation indicating there are no liens favoring the City on the subject site.*
- 4. A receipt from the county assessor's office indicating that all taxes for the lot or parcels involved are paid in full for the preceding tax year.*
- 5. A current preliminary title report or trio for the subject property(ies);*
- G. All required application fees;*
- H. Annexation agreements, traffic or technical studies (if applicable);*
- I. Additional documentation, as needed and identified by the Community Development Director.*

Finding: Complies as Proposed. The application was deemed incomplete on December 11, 2019, and after the submittal of additional information, the application was deemed complete on January 16, 2020.

17.50.090 - Public notices.

Finding: Complies as Proposed. Staff provided public notice within three hundred feet of the site via mail, the site was posted with multiple land use notice signs, and notice was posted on the Oregon City website. Staff provided email transmittal to affected agencies, the Natural Resource Committee and to all neighborhood associations requesting comment.

17.50.100 - Notice posting requirements.

Finding: Complies as Proposed. The site was posted with a land use notice sign longer than the minimum requirement.

17.50.140 – Financial guarantees.

When conditions of permit approval require a permittee to construct certain public improvements, the City shall require the permittee to provide financial guarantee for construction of the certain public improvements. Financial guarantees shall be governed by this section.

A. Form of Guarantee. Guarantees shall be in a form approved by the City Attorney. Approvable forms of guarantee include irrevocable standby letters of credit to the benefit of the City issued by a recognized lending institution, certified checks, dedicated bank accounts or allocations of construction loans held in reserve by the lending institution for the benefit of the City. The form of guarantee shall be specified by the City Engineer and, prior to execution and acceptance by the City shall be reviewed and approved by the City Attorney. The guarantee shall be filed with the City Engineer.

B. Performance Guarantees. A permittee shall be required to provide a performance guarantee as follows.

1. After Final Approved Design by The City: The City may request the Permittee to submit a Performance Guarantee for construction of certain public improvements. A permittee may request the option of submitting a Performance Guarantee when prepared for temporary/final occupancy. The guarantee shall be one hundred twenty percent of the estimated cost of constructing the public improvements as submitted by the permittee's engineer. The engineer's estimated costs shall be supported by a verified engineering estimate and approved by the City Engineer.

2. Before Complete Design Approval and Established Engineered Cost Estimate: The City may request a permittee to submit a Performance Guarantee for construction of certain public improvements. A permittee may request the option of submitting a performance guarantee before public improvements are designed and completed. The guarantee shall be one hundred fifty percent of the estimated cost of

constructing the public improvements as submitted by the permittee's engineer and approved by the City Engineer. The engineer's estimated costs shall be supported by a verified engineering estimate and approved by the City Engineer.

C. *Release of Guarantee.* The guarantee shall remain in effect until the improvement is actually constructed and accepted by the City. Once the City has inspected and accepted the improvement, the City shall release the guarantee to the permittee. If the improvement is not completed to the City's satisfaction within the time limits specified in the permit approval, the City Engineer may, at their discretion, draw upon the guarantee and use the proceeds to construct or complete construction of the improvement and for any related administrative and legal costs incurred by the City in completing the construction, including any costs incurred in attempting to have the permittee complete the improvement. Once constructed and approved by the City, any remaining funds shall be refunded to the permittee. The City shall not allow a permittee to defer construction of improvements by using a performance guarantee, unless the permittee agrees to construct those improvements upon written notification by the City, or at some other mutually agreed-to time. If the permittee fails to commence construction of the required improvements within six months of being instructed to do so, the City may, without further notice, undertake the construction of the improvements and draw upon the permittee's performance guarantee to pay those costs.

D. *Fee-in-lieu.* When conditions of approval or the City Engineer allows a permittee to provide a fee-in-lieu of actual construction of public improvements, the fee shall be one hundred fifty percent of the estimated cost of constructing the public improvements as submitted by the permittee's engineer and approved by the City Engineer. The percentage required is to ensure adequate funds for the future work involved in design, bid, contracting, and construction management and contract closeout. The engineer's estimated costs shall be supported by a verified engineering estimate and approved by the City Engineer. The fee-in-lieu shall be submitted as cash, certified check, or other negotiable instrument acceptable by the City Attorney.

Finding: Complies with Condition. The applicant shall submit a performance guarantee which is equal to one hundred twenty percent of the estimated cost of constructing the public improvements shown in a city approved construction plan submitted by the applicant's engineer. The estimated costs shall be supported by a verified engineering estimate and approved by the city engineer. The guarantee shall be in a form identified in Code 17.50.140.A of the Oregon City Municipal Code. The guarantee shall remain in effect until the improvement is actually constructed and accepted by the city. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

17.50.141 – Public improvements – Warranty

All public improvements not constructed by the City, shall be maintained and under warranty provided by the property owner or developer constructing the facilities until the City accepts the improvements at the end of the warranty period. The warranty is to be used at the discretion of the City Engineer or designee to correct deficiencies in materials or maintenance of constructed public infrastructure, or to address any failure of engineering design.

- A. *Duration of Warranty.* Responsibility for maintenance of public improvements shall remain with the property owner or developer for a warranty period of two years.
- B. *Financial Guarantee.* Approvable forms of guarantee include irrevocable standby letters of credit to the benefit of the City issued by a recognized lending institution, bond, certified checks, dedicated bank accounts or allocations of construction loans held in reserve by the lending institution for the benefit of the City. The form of guarantee shall be specified by the City Engineer and, prior to execution and acceptance by the City shall be reviewed and approved by the City Attorney. The guarantee shall be filed with the City Engineer.

- C. *Amount of Warranty. The amount of the warranty shall be equal to fifteen percent of the estimated cost of construction of all public improvements (including those improvements that will become owned and maintained by the City at the end of the two year maintenance period), and shall be supported by a verified engineering estimate and approved by the City Engineer. Upon expiration of the warranty period and acceptance by the City as described below, the City shall be responsible for maintenance of those improvements.*
- D. *Transfer of Maintenance. The City will perform an inspection of all public improvements approximately forty-five days before the two-year warranty period expires. The public improvements shall be found to be in a clean, functional condition by the City Engineer before acceptance of maintenance responsibility by the City. Transfer of maintenance of public improvements shall occur when the City accepts the improvements at the end of the two year warranty period.*

Finding: Complies with Condition. The applicant shall provide a Maintenance Guarantee in the amount of fifteen percent of the cost to construct all public improvements as shown in a city approved construction plan submitted by the applicant's engineer. The estimated costs shall be supported by a verified engineering estimate approved by the City Engineer. The guarantee shall be in a form identified in Code 17.50.140.A of the Oregon City Municipal Code. The guarantee shall warrant to the City of Oregon City that construction of public improvements will remain, for a period of twenty-four (24) months from the date of acceptance, free from defects in materials and workmanship. **Staff has determined that it is possible, likely and reasonable that the applicant can meet this standard through the Conditions of Approval.**

CHAPTER 17.60 VARIANCES

17.60.020 - Variances—Procedures.

A. *A request for a variance shall be initiated by a property owner or authorized agent by filing an application with the city recorder. The application shall be accompanied by a site plan, drawn to scale, showing the dimensions and arrangement of the proposed development. When relevant to the request, building plans may also be required. The application shall note the zoning requirement and the extent of the variance requested. Procedures shall thereafter be held under Chapter 17.50. In addition, the procedures set forth in subsection D. of this section shall apply when applicable.*

B. *A nonrefundable filing fee, as listed in OCMC 17.50.080, shall accompany the application for a variance to defray the costs.*

Finding: Complies as Proposed. The applicant submitted a Type III Planning Commission variance request. All required application materials and fees were submitted and the application was deemed complete on January 16, 2020.

C. *Before the planning commission may act on a variance, it shall hold a public hearing thereon following procedures as established in Chapter 17.50. A Variance shall address the criteria identified in OCMC 17.60.030, Variances — Grounds.*

Finding: Complies as Proposed. The applicant has requested a Planning Commission Variance pursuant to the Type III review procedures.

D. *Minor variances, as defined in subsection E. of this section, shall be processed as a Type II decision, shall be reviewed pursuant to the requirements in OCMC 17.50.030B., and shall address the criteria identified in OCMC 17.60.030, Variance — Grounds.*

E. *For the purposes of this section, minor variances shall be defined as follows:*

1. Variances to setback and yard requirements to allow additions to existing buildings so that the additions follow existing building lines;
2. Variances to width, depth and frontage requirements of up to twenty percent;
3. Variances to residential yard/setback requirements of up to twenty-five percent;
4. Variances to nonresidential yard/setback requirements of up to ten percent;
5. Variances to lot area requirements of up to five percent;
6. Variance to lot coverage requirements of up to twenty-five percent;
7. Variances to the minimum required parking stalls of up to five percent; and
8. Variances to the floor area requirements and minimum required building height in the mixed-use districts.
9. Variances to design and/or architectural standards for single family dwellings, duplexes, single-family attached dwellings, internal conversions, accessory dwelling units, and 3-4 plexes in OCMC 17.14, 17.16, 17.20, 17.21, and 17.22.

Finding: Not Applicable. The applicant has requested a variance to lot size that is greater than the 5% variance administrative variance allowed by this section, therefore, a Planning Commission variance subject to the Type III review procedures is required.

17.60.030 - Variance—Grounds.

A variance may be granted only in the event that all of the following conditions exist:

A. That the variance from the requirements is not likely to cause substantial damage to adjacent properties by reducing light, air, safe access or other desirable or necessary qualities otherwise protected by this title;

Finding: Complies as Proposed. The applicant is seeking a variance to minimum lot size, requesting to reduce the proposed lot sizes from the minimum required 10,000 square feet, to approximately 9,000 square feet and 9,100 square feet respectively. Both proposed lots will comply with all other dimensional standards of the R-10 Low Density Residential District, including setbacks, lot coverage, minimum and maximum density, and residential design standards. As the setback will be met and the lot width will be met, the properties will appear similar to others within the R-10 Dwelling District when walking down the street. Further, the adjacent neighbors will not be subject to harm because the setback and lot dimensions will also be the same as other properties within the zoning designation. The lot size reduction is not likely to cause substantial damage to adjacent properties by reducing light, air, safe access, or other desirable or necessary qualities. Mailed notice of the development was provided to property owners within 300 feet of the subject site, and land use notice signs were posted on the property notifying adjacent properties of the proposed development and providing the opportunity to comment on the proposal. No comments from adjacent property owners or neighborhood residents were received identifying concerns that the proposed lot size reduction would negatively impact access to light, air, safe access, or any other desirable or necessary qualities protected by this Title.

B. That the request is the minimum variance that would alleviate the hardship;

Finding: Complies as Proposed. The applicant has requested an approximately 900 square-foot lot size reduction for Lot 1 and an approximately 1,000 square-foot lot size reduction for Lot 2. The reduced lot sizes are proposed due to the required right-of-way dedication. Public Works is requiring a 9-foot right-of-way dedication on Swan Avenue and a 5-foot right-of-way dedication on Ames Street, resulting in a loss of approximately 1,950 square feet of net developable area. The variance request is the minimum required to alleviate the hardship of the required right-of-way dedication, while maintaining compliance with minimum setbacks for the existing home, lot widths, and lot depths.

C. Granting the variance will equal or exceed the purpose of the regulation to be modified.

Finding: Complies as Proposed. The purpose of minimum lot sizes is to ensure general conformity within neighborhoods. The neighborhood includes R-8 and R-10 zoning, which require 8,000 square-foot minimum lot size and 10,000 square-foot minimum lot size respectively. The surrounding area includes several lots which are more than 30,000 square feet in size and are capable of future land divisions, however, lots within recent subdivisions in the area range between 5,200 square feet and 11,000 square feet in size. These subdivisions include Altona Ridge and Sunnybrook Ridge to the east, Ives Estates to the north, and Swan Acre to the South. Most recently, an eight-lot subdivision (Edward's Oak Manor) less than 400 feet south of the subject site was approved under Planning File TP-18-00002. This subdivision includes lots as small as 5,200 square feet because the development utilized tree preservation lot size reduction provisions in Chapter 17.41. Given the range of lot sizes in the surrounding area, the applicant's request for a variance to minimum lot size would be consistent with lots in the neighborhood, would not compromise conformity within the neighborhood, and would meet the intent of minimum lot size requirements.

D. Any impacts resulting from the adjustment are mitigated;

Finding: Complies as Proposed. The applicant has proposed a lot configuration with lots that significantly exceed minimum lot width in order to mitigate for the smaller sized lots. The minimum required lot width in the R-10 District is 65 feet and the applicant has proposed a lot width of 86 feet for Lot 1 and a lot width of 104 feet for Lot 2. An increased lot width creates the appearance of a larger lot for pedestrians walking along the development and mitigates for the slightly undersized lots. Additional impacts requiring mitigation have been identified by staff. Mailed notice of the development was provided to property owners within 300 feet of the subject site, and land use notice signs were posted on the property notifying neighborhood property owners of the proposed development and providing the opportunity to comment on the proposal. No comments from neighborhood residents were received identifying any impacts resulting from the requested adjustment to minimum lot size.

E. No practical alternatives have been identified which would accomplish the same purpose and not require a variance; and

Finding: Complies as Proposed. An alternative to granting a variance would be the applicant requesting a zone change to a zoning district with a smaller minimum lot size, such as R-8 or R-6; or the Oregon City Development Services Division requiring less right-of-way dedication. Planning staff would likely not support a zone change at this property because abutting properties also have R-10 zoning and changing the zoning for one property would be considered spot zoning for a single property which is typically not supported by staff. The Development Services Division has also already granted a modification for a narrower street section than those identified in OCMC 16.12, which requires an 85-foot right-of-way width for a Swan Avenue and a 54-foot right-of-way width for Ames Street. Since a modification to the standard is already being granted under a modification, the Development Services Division would not be willing to accept even less right-of-way dedication for the proposed development. No other practical alternatives which would accomplish the same purpose and not require a variance have been identified.

F. The variance conforms to the comprehensive plan and the intent of the ordinance being varied.

Finding: Finding: Complies as Proposed. The proposed Variance would allow for the development of the subject site in accordance with the following Comprehensive Plan Goals and Policies.

Goal 2.1 Efficient Use of Land

Ensure that property planned for residential, commercial, office and industrial uses is used efficiently and that land is developed following principles of sustainable development.

Policy 2.1.1

Create incentives for new development to use land more efficiently, such as by having minimum floor area ratios and maximums for parking and setbacks.

Goal 2.4 Neighborhood Livability

Provide a sense of place and identity for residents and visitors by protecting and maintaining neighborhoods as the basic unit of community life in Oregon City while implementing the goals and policies of the other sections of the Comprehensive plan.

Goal 10.1 Diverse Housing Opportunities

Provide for the planning, development and preservation of a variety of housing types and lot sizes.

Policy 10.1.1

Maintain the existing residential housing stock in established older neighborhoods by maintaining existing Comprehensive Plan and zoning designations where appropriate.

Policy 10.1.3

Designate residential land for a balanced variety of densities and types of housing, such as single-family attached and detached, and a range of multi-family densities and types, including mixed-use development.

Goal 14.2 Orderly Redevelopment of Existing City Areas

Reduce the need to develop land within the Urban Growth Boundary by encouraging redevelopment of underdeveloped or blighted areas within the existing city limits.

Policy 14.2.2

Encourage redevelopment of city areas currently served by public facilities through regulatory and financial incentives.

One of the primary goals of the 2004 Comprehensive Plan is to provide for increased livability for property owners in Oregon City. Approval would allow the applicant to meet the intent of the zoning code and Comprehensive Plan through effective utilization of this single-family property.

The requested variance would allow the applicant to efficiently utilize the subject property for single-family residential use, provide more housing stock in the City, and maintain neighborhood livability as intended by the City Code and Comprehensive Plan. The requested variance would allow the applicant to provide for development of the site consistent with the Low Density Residential designation and would meet all other R-10 zoning dimensional standards.

CONCLUSION AND RECOMMENDATION:

Based on the analysis and findings as described above, Staff recommends that the proposed Minor Partition and Planning Commission Variance applications for a site located at 15910 Swan Avenue, Oregon City, identified as Clackamas County Map 2-2E-21CD, Tax Lots 2000, meets the requirements as described in the Oregon City Municipal Code. Therefore, the Community Development Director recommends the Planning Commission approve files GLUA-19-00044/MP-19-00004/VAR-19-00014, based upon the findings and exhibits contained in this staff report.

EXHIBITS:

1. Vicinity Map

2. Applicant's Narrative and Plans (On File)
3. Public Comments

GLUA-19-00044/MP-19-00004/VAR-19-00014 Vicinity Map



Legend

Street Names

Taxlots

Taxlots Outside UGB

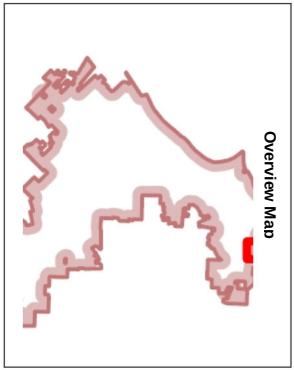
Unimproved ROW

City Limits

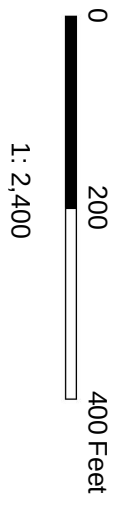
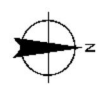
UGB

Basemap

Notes



The City of Oregon City makes no representations, express or implied, as to the accuracy, completeness and timeliness of the information displayed. This map is not suitable for legal, engineering, surveying or navigation purposes. Notification of any errors is appreciated.



Map created 2/14/2020

City of Oregon City
PO Box 3040
625 Center St
Oregon City
OR 97045
(503) 657-0891
www.oregcity.org



OREGON CITY

Community Development - Planning

698 Warner Parrott Road | Oregon City OR 97045
Ph (503) 722-3789 | Fax (503) 722-3880

LAND USE APPLICATION FORM

Type I (OCMC 17.50.030.A)	Type II (OCMC 17.50.030.B)	Type III / IV (OCMC 17.50.030.C)
☐ Compatibility Review	☐ Detailed Development Review	☐ Annexation
☐ Lot Line Adjustment	☐ Geotechnical Hazards	☐ Code Interpretation / Similar Use
☐ Non-Conforming Use Review	☒ Minor Partition (<4 lots)	☐ Concept Development Plan
☐ Natural Resource (NROD) Verification	☐ Minor Site Plan & Design Review	☐ Conditional Use
☐ Site Plan and Design Review	☐ Non-Conforming Use Review	☐ Comprehensive Plan Amendment (Text/Map)
☐ Extension of Approval	☐ Site Plan and Design Review	☐ Detailed Development Plan
	☐ Subdivision (4+ lots)	☐ Historic Review
	☐ Minor Variance	☐ Municipal Code Amendment
	☐ Natural Resource (NROD) Review	☒ Variance
		☐ Zone Change

File Number(s): _____

Proposed Land Use or Activity: Minor Partition, with Type III Variance for Lot size

Project Name: Swan Avenue Partition Number of Lots Proposed (If Applicable): 2

Physical Address of Site: 15910 Swan Avenue

Clackamas County Map and Tax Lot Number(s): T2S R2E 21CD, Lot 02000

Applicant(s):

Applicant(s) Signature: _____

Applicant(s) Name Printed: Chuck Grant

Date: _____

Mailing Address: 1913 Main Street, Suite 151 Oregon City, Oregon 97045

Phone: 503-729-5029

Fax: _____

Email: chuckgrant@gmail.com

Property Owner(s):

Property Owner(s) Signature: _____

Property Owner(s) Name Printed: Ashley Punch

Date: _____

Mailing Address: 15910 Swan Avenue, Oregon City, Oregon 97045

Phone: _____

Fax: _____

Email: _____

Representative(s):

Representative(s) Signature: _____

Representative (s) Name Printed: Ben Altman, Pioneer Design Group

Date: _____

Mailing Address: 9020 SW Washington Sq. Rd. #170, Portland, OR 97223

Phone: 971-708-6258

Fax: _____

Email: baltman@pd-grp.com

All signatures represented must have the full legal capacity and hereby authorize the filing of this application and certify that the information and exhibits herewith are correct and indicate the parties willingness to comply with all code requirements.

www.orcity.org/planning

PLAT MAP

LOT 1
9123 SF

LOT 2
9002 SF

AMES STREET

SWAN AVENUE

PROJECT BENCHMARK
MAG NAIL IN ASPHALT
ELEVATION = 320.73'
(NAVD 88)

5.0' ROW DEDICATION

10.0' PUE

9.0' ROW DEDICATION

10.0' PUE

104'

105'

106'

86'

86'

70'

25'

20.0'

25.0'

50.0'

58°37'00"E 220.41'

N89°37'00"E 220.41'

N89°37'00"W 220.41'

S00°00'55"E 91.00'

N00°00'55"W 91.00'

7.5'

9.5'

17.0'

29.0'

57.5'

TL 400

TL 1900

TL 2100

LOT 8

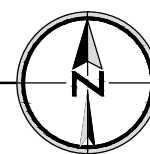
LOT 7

"THURMAN ESTATES"

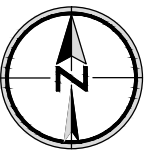
PARTITION PLAT 1995-130

PARTITION PLAT 1993-191

SCALE: 1"=20'



N.T.S.



KELLY RIGHT REAL ESTATE OF PORTLAND, LLC.
1913 MAIN STREET, SUITE 151
OREGON CITY, OREGON 97045
PHONE (503) 729-5029
CONTACT: CHUCK GRANT

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PIONEER DESIGN GROUP, INC.
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CONTACT: MATT SPRAGUE

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TAX MAP: 22E21CD
TAX LOT: 2000
SITE ADDRESS: 15910 SWAN AVENUE
SITE SIZE: 0.46 ACRES
ZONING: R-10

TAX MAP: 22E21CD
TAX LOT: 2000
SITE ADDRESS: 15910 SWAN AVENUE
SITE SIZE: 0.46 ACRES
ZONING: R-10

BENCHMARK: CONTROL POINT NO.1

BENCHMARK: CONTROL POINT NO.1

DESCRIPTION: BASIS OF BEARINGS PER PP 1993-191 ALONG CL
OF NE AMES AVE - PIPE AT EAST END & 103, ELEVATIONS
ESTABLISHED BY GPS.

ELEVATION: 320.73' NAVD 88

FRONT PORCH: 15 FT.
FRONT BUILDING: 20 FT.
FRONT GARAGE: 20 FT.
SIDE YARD: 1 SIDE AT 10 FT. & 1 SIDE AT 8 FT.
STREET SIDE YARD: 15 FT.
REAR BUILDING: 20 FT.

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FRONT BUILDING: 20 FT.
FRONT GARAGE: 20 FT.
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SHEET NUMBER	SHEET DESCRIPTION
P0.0	PRELIMINARY PLAT
P1.0	EXISTING CONDITIONS & DEMOLITION PLAN
P2.0	PRELIMINARY GRADING AND EROSION CONTROL PLAN
P3.0	PRELIMINARY COMPOSITE UTILITY PLAN
P4.0	PRELIMINARY STREETS PLAN & TYPICAL SECTIONS
P5.0	CIRCULATION AND AERIAL PLAN

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PRELIMINARY PLAT

SWAN AVENUE PARTITION
CITY OF OREGON CITY, OREGON

Drawn by	TCC	Date	08/19
Reviewed by	LRL	Date	08/19
Project No.	999-236	REF.	
Horiz. Scale:	N/A		
Vert. Scale:	N/A		
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3

object
SWAN AVE. PARTITION

D.

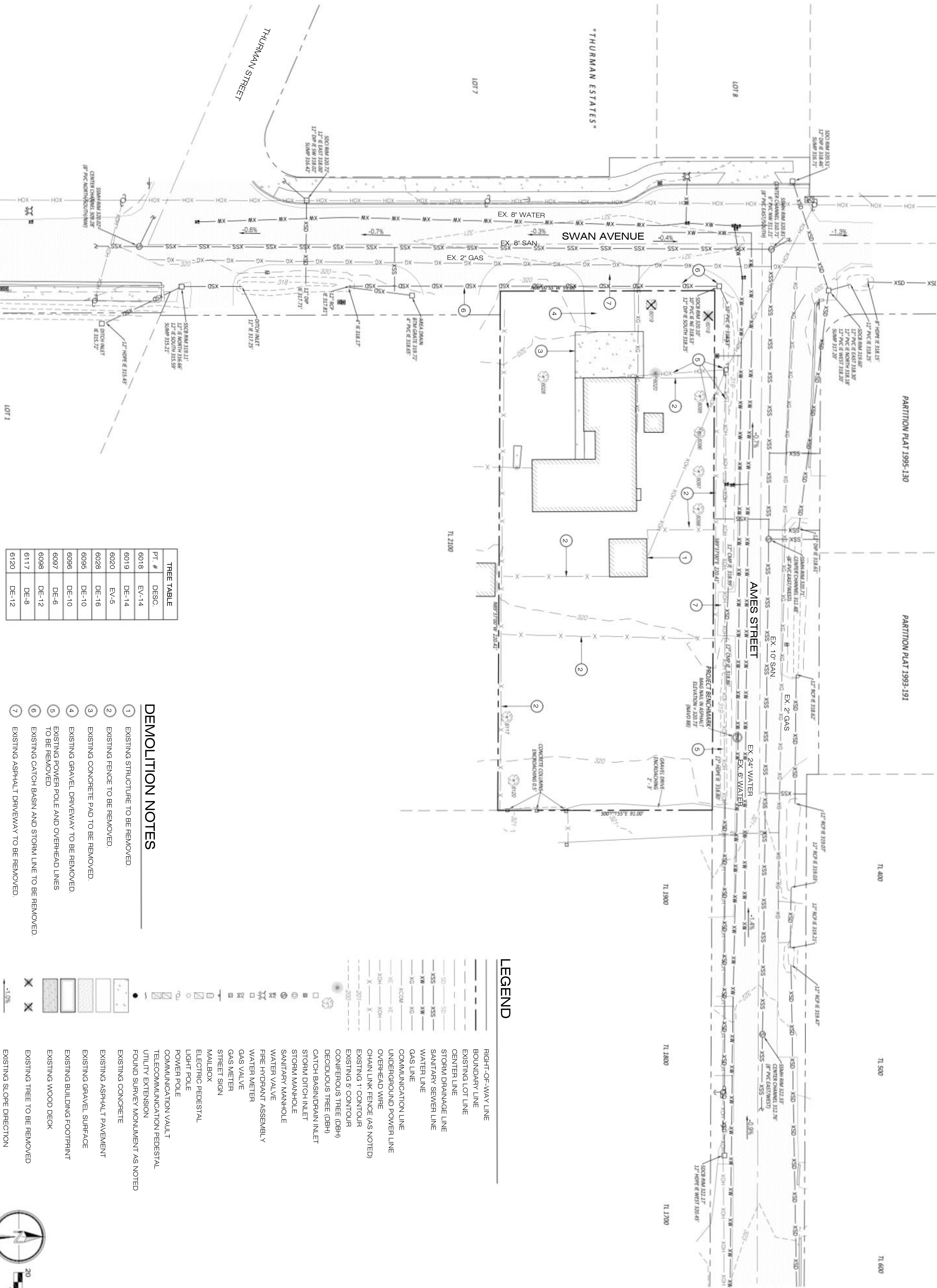
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PLANNING

meet

P0.0



TREE TABLE	
PT. #	DESC.
6018	EV-14
6019	DE-14
6020	EV-5
6028	DE-16
6095	DE-10
6096	DE-10
6097	DE-6
6098	DE-12
6117	DE-8
6120	DE-12

- DEMOLITION NOTES
- 1

EXISTING STRUCTURE TO BE REMOVED.
- 2

EXISTING FENCE TO BE REMOVED.
- 3

EXISTING CONCRETE PAD TO BE REMOVED.
- 4

EXISTING GRAVEL DRIVEWAY TO BE REMOVED
- 5

EXISTING POWER POLE AND OVERHEAD LINES TO BE REMOVED
- 6

EXISTING CATCH BASIN AND STORM LINE TO BE REMOVED.
- 7

EXISTING ASPHALT DRIVEWAY TO BE REMOVED.

LEGEND

RIGHT-OF-WAY LINE

BOUNDARY LINE

EXISTING LOT LINE

CENTER LINE

STORM DRAINAGE LINE

SANITARY SEWER LINE

WATER LINE

GAS LINE

COMMUNICATION LINE

UNDERGROUND POWER LINE

OVERHEAD WIRE

CHAIN LINK FENCE (AS NOTED)

EXISTING 1" CONTOUR

EXISTING 5' CONTOUR

CONIFEROUS TREE (OBH)

DECIDUOUS TREE (OBH)

CATCH BASIN/DRAIN INLET

STORM DITCH INLET

SANITARY MANHOLE

WATER VALVE

FIRE HYDRANT ASSEMBLY

WATER METER

GAS VALVE

GAS METER

STREET SIGN

MALBOX

ELECTRIC PEDESTAL

LIGHT POLE

POWER POLE

COMMUNICATION VAULT

TELECOMMUNICATION PEDESTAL

UTILITY EXTENSION

FOUND SURVEY MONUMENT AS NOTED

EXISTING CONCRETE

EXISTING ASPHALT PAVEMENT

EXISTING GRAVEL SURFACE

EXISTING BUILDING FOOTPRINT

EXISTING WOOD DECK

EXISTING TREE TO BE REMOVED

EXISTING SLOPE DIRECTION

EXISTING CONDITIONS & DEMOLITION PLAN

SWAN AVENUE PARTITION
CITY OF OREGON CITY, OREGON

P D G

PIONEER DESIGN GROUP

CIVIL ENGINEERING • LAND USE PLANNING • LAND SURVEYING • LANDSCAPE ARCHITECTURE

PORTLAND, OREGON | HONOLULU, HAWAII

PH: 503.643.8286 PH: 808.753.2976

WWW.PD-GRP.COM

No. Date Revision By

Designed by TCC Date 08/19

Drawn by TCC Date 08/19

Reviewed by LRL Date 08/19

Project No. 999-236 REF.

Horiz. Scale: N/A

Vert. Scale: N/A

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Project

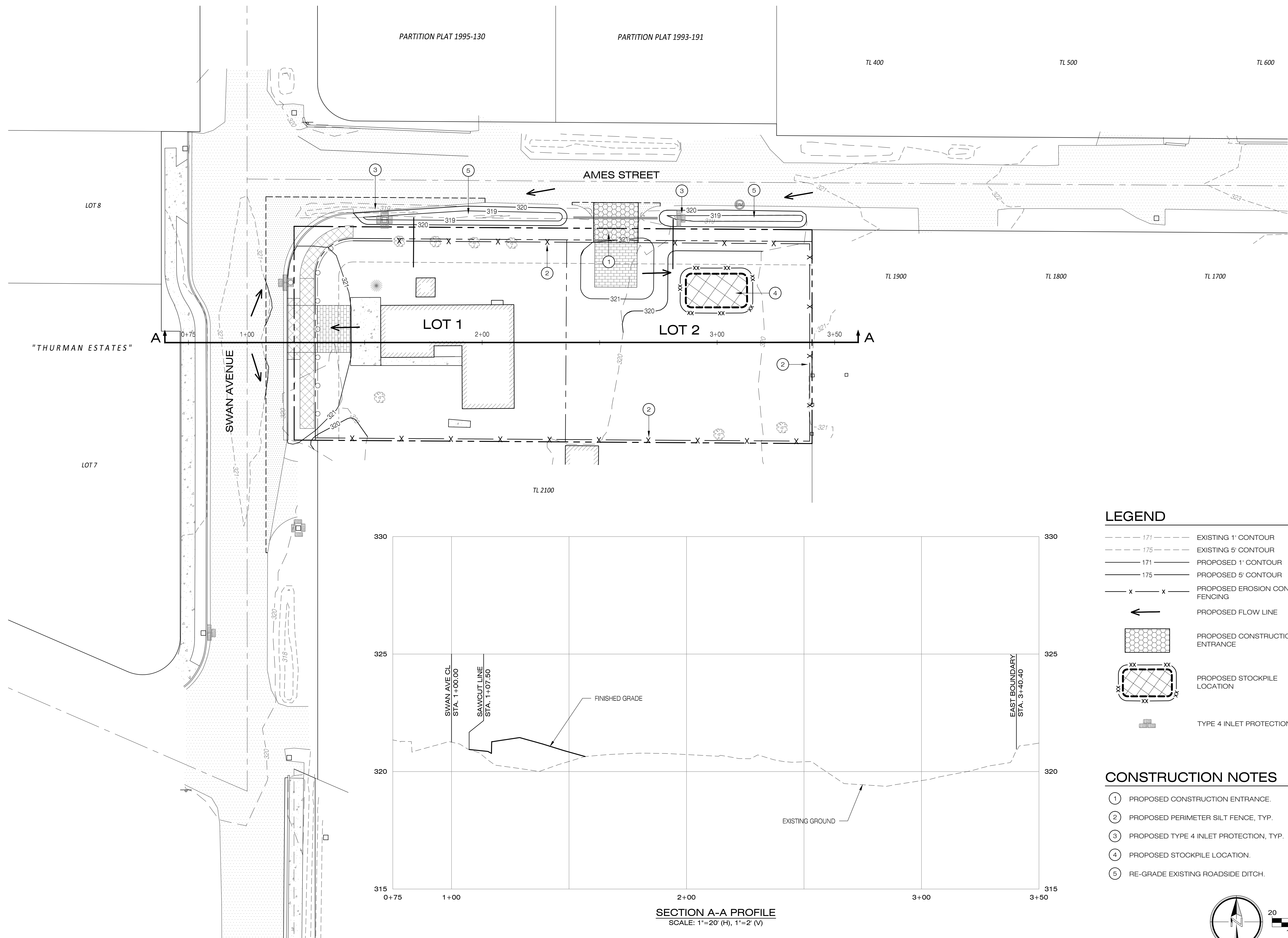
SWAN AVE PARTITION

No. 999-236

Type PLANNING

Sheet

P1.0

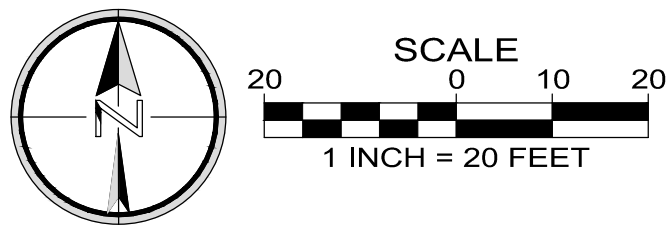


LEGEND

-
- Diagram illustrating the Type 4 Inlet Protection layout, showing various contours and flow lines:
- EXISTING 1' CONTOUR (indicated by a dashed line with '171' label)
 - EXISTING 5' CONTOUR (indicated by a dashed line with '175' label)
 - PROPOSED 1' CONTOUR (indicated by a solid line with '171' label)
 - PROPOSED 5' CONTOUR (indicated by a solid line with '175' label)
 - PROPOSED EROSION CONTROL FENCING (indicated by a line with 'x' markers)
 - PROPOSED FLOW LINE (indicated by a thick black arrow pointing left)
 - PROPOSED CONSTRUCTION ENTRANCE (indicated by a rectangular area with a hexagonal pattern)
 - PROPOSED STOCKPILE LOCATION (indicated by a rectangular area with a dashed border and 'XX' labels)
 - TYPE 4 INLET PROTECTION (indicated by a small structure icon)

CONSTRUCTION NOTES

- ① PROPOSED CONSTRUCTION ENTRANCE.
- ② PROPOSED PERIMETER SILT FENCE, TYP.
- ③ PROPOSED TYPE 4 INLET PROTECTION, TYP.
- ④ PROPOSED STOCKPILE LOCATION.
- ⑤ RE-GRADE EXISTING ROADSIDE DITCH.



Designed by	TCC	Date	08/19
Drawn by	TCC	Date	08/19
Reviewed by	LRL	Date	08/19
Project No.	999-236	REF.	
Horiz. Scale:	N/A		
Vert. Scale:	N/A		

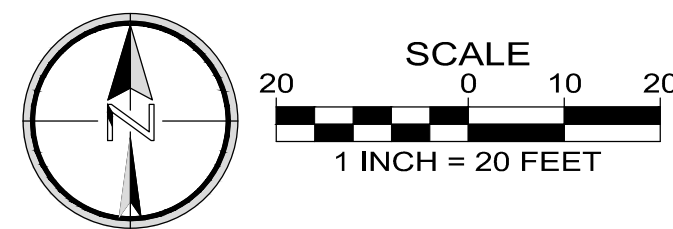
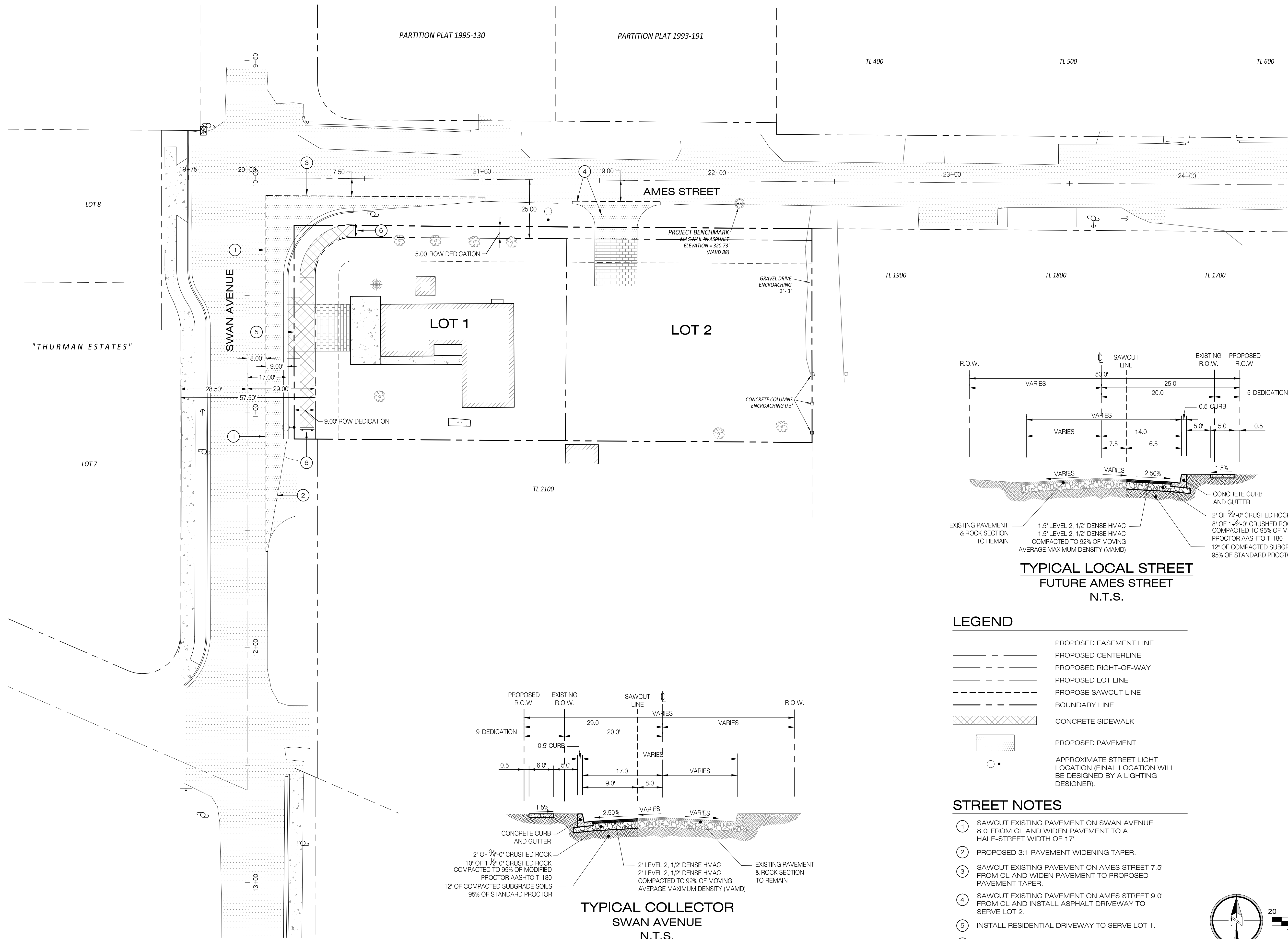
No.	Date	Revision	By
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SWAN AVENUE PARTITION
CITY OF OREGON CITY, OREGON

Designed by	TCC	Date	08/19
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Project No.	999-236	REF.	
Horiz. Scale:	N/A		
Vert. Scale:	N/A		
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No.	Date	Revision	By
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Project
SWAN AVE. PARTITION
No.
999-236
Type
PLANNING
Sheet
P4.0

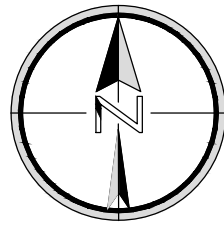


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LEGEND

• • • •	PROPOSED PEDESTRIAN CIRCULATION
○ ○ ○ ○	EXISTING PEDESTRIAN CIRCULATION
➡ ➡ ➡ ➡	PROPOSED VEHICULAR / BICYCLE CIRCULATION
➡ ➡ ➡ ➡	EXISTING VEHICULAR / BICYCLE CIRCULATION
---	PROPOSED SUBDIVISION PROPERTY LINES
---	PROPOSED SUBDIVISION BOUNDARY


SCALE
60 0 30 60
1 INCH = 60 FEET

CIRCULATION AND AERIAL PLAN				PIONEER DESIGN GROUP CIVIL ENGINEERING • LAND USE PLANNING • LAND SURVEYING • LANDSCAPE ARCHITECTURE PORTLAND, OREGON HONOLULU, HAWAII PH: 503.643.8286 WWW.PD-GRP.COM			
SWAN AVENUE PARTITION CITY OF OREGON CITY, OREGON				Designed by	TCC	Date	08/19
				Drawn by	TCC	Date	08/19
				Reviewed by	LRL	Date	08/19
				Project No.	999-236	REF.	
				Horiz. Scale:	N/A		
				Vert. Scale:	N/A		
				999236_P5_Ocric.dwg			
Project SWAN AVE. PARTITION				By			
No.				Revision			
Type PLANNING				Date			
Sheet P5.0				No.			

Tag	Species	DBH	radius	Remarks	Action	RPZ	Location	Mitigation
1	oregon white oak	8	8	viable	preserve	8	n/a	none
2	English hawthorn	10	14	invasive	avoid	0	n/a	none
3	mountain ash	16	16	flagging in top; invasive	avoid	10	n/a	none
4	cherry	10	8	orchard pruned	avoid	8	n/a	none
5	pear	6	8	orchard pruned	avoid	8	n/a	none
6	apple	10	10	orchard pruned	avoid	8	n/a	none
7	apple	10	12	orchard pruned	avoid	8	n/a	none
8	thundercloud plum	13	14	trunk decay; large cavity on trunk and base	remove	0	2	none
9	shore pine	17	14	viable	remove	0	2	2
10	hemlock	3	4	viable; under 6 inches	avoid	6	n/a	none
total	103							2

DBH is diameter at breast height. Radius is crown radius. RPZ is Root Protection Zone, a radius measured in feet from tree trunk.

For Location, "1" designates removal outside construction area and "2" designates removal within construction area.

17.04.230 - Construction area is defined as right-of-way, public utility easements, and within the building footprint of a building site for any mixed-use, commercial or industrial development

Species

apple- <i>Malus</i> sp.	oregon white oak- <i>Quercus garryana</i>
cherry- <i>Prunus</i> sp.	pear- <i>Pyrus</i> sp.
English hawthorn- <i>Crataegus laevigata</i>	shore pine- <i>Pinus contorta</i>
hemlock- <i>Tsuga</i> sp.	thundercloud plum- <i>Prunus cerasifera</i>
mountain ash- <i>Sorbus aucuparia</i>	

Tree Plan for 15910 Swan Ave.

This Tree Plan is required by Chapter 17.41 in conjunction with a land division application. Trees were inventoried and tagged by an ISA Certified Arborist and tree diameter measurements are consistent with City Code. Please see the Tree Table for details. Tree 8 and Tree 9 will be removed during demolition in the right-of-way. Tree 8 is diseased and hazardous and does not require mitigation. The owner will mitigate for the removal of Tree 9 from the construction zone by planting two replacement trees on the site.

Tree 1 will be preserved and will be protected by a Tree Protection Fence (TPF) installed at an eight-foot radius to the trunk, terminating at the eastern property line. Trees 2 through 7 and Tree 10 are either invasive species, fruit trees, or under six inches DBH. These trees will be avoided. No further tree protection measures are needed at this time.

Diseased or hazardous trees, when the condition is verified by a certified arborist to be consistent with the definition in [Section 17.04.1360](#), may be removed from the tree replacement calculation. Regulated healthy trees that are removed outside of the construction area, shall be replanted with the number of trees specified in Column 1 of Table 17.41.060-1. Regulated healthy trees that are removed within the construction area shall be replanted with the number of replacement trees required in Column 2.

Table 17.41.060-1

Tree Replacement Requirements

All replacement trees shall be either:

Two-inch caliper deciduous, or

Six-foot high conifer

Steps for calculating the number of replacement trees:

1. Count all trees measuring six inches DBH (minimum four and one-half feet from the ground) or larger on the entire development site.
2. Designate (in certified arborists report) the condition and size (DBH) of all trees pursuant to accepted industry standards.
3. Document any trees that are currently diseased or hazardous.
4. Subtract the number of diseased or hazardous trees in step 3. from the total number of trees on the development site in step 1. The remaining number is the number of healthy trees on the site. Use this number to determine the number of replacement trees in steps 5. through 8.
5. Define the construction area (as defined in [Chapter 17.04](#)). Defined as right-of-way, public utility easements, and within the building footprint of a building site for any mixed-use, commercial or industrial development.

6. Determine the number and diameter of trees to be removed within the construction area. Based on the size of each tree, use Column 2 to determine the number of replacement trees required.

7. Determine the number and diameter of trees to be removed outside of the construction area. Based on the size of each tree, use Column 1 to determine the number of replacement trees required.

8. Determine the total number of replacement trees from steps 6. and 7.

17.04.230 Construction area.

Defined as right-of-way, public utility easements, and within the building footprint of a building site for any mixed-use, commercial or industrial development, or if a residential development, within the allowable building footprint permitted by the setback requirements of the zone district.

17.04.1335 Tree, critical root zone.

"Tree, critical root zone" means the rooting area of a tree, within the tree's dripline, which if injured or otherwise disturbed is likely to affect a tree's chance for survival.

Size of tree removed (DBH)	Column 1	Column 2
	Number of trees to be planted. (If removed Outside of construction area)	Number of trees to be planted. (If removed Within the construction area)
6 to 12"	3	1
13 to 18"	6	2
19 to 24"	9	3
25 to 30"	12	4
31 and over"	15	5

17.41.130 Regulated tree protection procedures during construction.

A. No permit for any grading or construction of public or private improvements may be released prior to verification by the community development director that regulated trees designated for protection or conservation have been protected according to the following standards. No trees designated for removal shall be removed without prior written approval from the community development director.

B. Tree protection shall be as recommended by a qualified arborist or, as a minimum, to include the following protective measures:

1. Except as otherwise determined by the community development director, all required tree protection measures set forth in this section shall be instituted prior to any development activities, including, but not limited to clearing, grading, excavation or demolition work, and such measures shall be removed only after completion of all construction activity, including necessary landscaping and irrigation installation, and any required plat, tract, conservation easement or restrictive covenant has been recorded.

2. Approved construction fencing, a minimum of four feet tall with steel posts placed no farther than ten feet apart, shall be installed at the edge of the tree protection zone or dripline, whichever is greater. An alternative may be used with the approval of the community development director.

3. Approved signs shall be attached to the fencing stating that inside the fencing is a tree protection zone, not to be disturbed unless prior approval has been obtained from the community development director.

4. No construction activity shall occur within the tree protection zone, including, but not limited to; dumping or storage of materials such as building supplies, soil, waste items; nor passage or parking of vehicles or equipment.

5. The tree protection zone shall remain free of chemically injurious materials and liquids such as paints, thinners, cleaning solutions, petroleum products, and concrete or dry wall excess, construction debris, or run-off.

6. No excavation, trenching, grading, root pruning or other activity shall occur within the tree protection zone unless directed by an arborist present on site and approved by the community development director.

7. No machinery repair or cleaning shall be performed within ten feet of the dripline of any trees identified for protection.

8. Digging a trench for placement of public or private utilities or other structure within the critical root zone of a tree to be protected is prohibited. Boring under or through the tree protection zone may be permitted if approved by the community development director and pursuant to the approved written recommendations and on-site guidance and supervision of a certified arborist.
9. The city may require that a certified arborist be present during any construction or grading activities that may affect the dripline of trees to be protected.
10. The community development director may impose conditions to avoid disturbance to tree roots from grading activities and to protect trees and other significant vegetation identified for retention from harm. Such conditions may include, if necessary, the advisory expertise of a qualified consulting arborist or horticulturist both during and after site preparation, and a special maintenance/management program to provide protection to the resource as recommended by the arborist or horticulturist.

Portland Tree Consulting PO Box 19042
503.421.3883 info@pdxtreeconsulting.com

Portland, OR 97280
CCB 154349

1. Client warrants any legal description provided to the Consultant is correct and titles and ownerships to property are good and marketable. Consultant shall not be responsible for incorrect information provided by Client.
2. Consultant can neither guarantee nor be responsible for the accuracy of information provided by others.
3. The Consultant shall not be required to give testimony or attend court or hearings unless subsequent contractual arrangements are made, including additional fees.
4. The report and any values expressed therein represent the opinion of the Consultant, and the Consultant's fee is in no way contingent upon the reporting of a specified value, a stipulated result, the occurrence of a subsequent event, nor upon any finding to be reported.
5. Sketches, drawings and photographs in the report are intended as visual aids and may not be to scale. The reproduction of information generated by others will be for coordination and ease of reference. Inclusion of such information does not warrant the sufficiency or accuracy of the information by the Consultant.
6. Unless expressed otherwise, information in the report covers only items that were examined and reflects the condition at the time of inspection. The inspection is limited to visual examination of accessible items without laboratory analysis, dissection, excavation, probing, or coring, unless otherwise stated.
7. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the plants or property in question may not arise in the future.
8. The report is the completed work product. Any additional work, including production of a site plan, addenda and revisions, construction of tree protection measures, tree work, or inspection of tree protection measures, for example, must be contracted separately. Loss or alteration of any part of the report invalidates the entire report.
9. Any action or proceeding seeking to enforce any provision of this Agreement shall be brought against any of the parties in Multnomah County Circuit Court of the State of Oregon, or, when applicable, in the United States District Court for the District of Oregon. Each party consents to the jurisdiction of such courts (and of the appropriate appellate courts) and waives any objection to such venue.



Ryan Neumann

ISA Certified Arborist PN-5539A TRAQ Qualified

**Land Use Review Application
City of Oregon City**

**2-Lot Partition
15910 Swan Avenue**

November 14, 2019

APPLICANT:

**Chuck Grant
1913 Main Street, Suite 151
Oregon City, OR 97045
PH: 503-729-5029
chuckgrant@gmail.com**

PROPERTY OWNER:

**Ashley Punch
15910 Swan Avenue
Oregon City, OR 97045**

APPLICANT'S REPRESENTATIVES:

**Pioneer Design Group
9020 SW Washington Square Rd., Ste 170
Portland, OR 97223
Contact: Ben Altman
Dir. 971-708-6258
baltman@pd-grp.com**



9020 SW Washington Square Rd
Suite 170
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www.pd-grp.com

FACT SHEET:

Project Name: Swan Avenue Partition

Type of Application: 2-Lot Partition; and Type III Variance

Site Location: 15910 Swan Avenue

Tax Lots: T2S R2E, Map 21CD, Tax Lot 02000

Land Area: 0.47 Acres, 20,562 square feet

Comp. Plan/Zoning: R10 Single Family

Chuck Grant

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Oregon City, OR 97045
PH: 503-729-5029
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PROPERTY OWNER:

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INTRODUCTION

The subject is property located at 15910 Swan Avenue, located on the southeast corner of the intersection with Ames Street. This property is also identified as Tax Lot 2000, T2S R2E 21CD. The property is zoned R10 Single Family. Tax Lot 2000 contains 0.47 Acres or 20,562 square feet. There is an existing house on the property, fronting on Swan Avenue.

Surrounding Neighborhood

The surrounding neighborhood is in transition from large lot rural to urban residential, with a wide variety of lot sizes. All surrounding properties are zoned R10.

Topography

The property relatively flat, with an average elevation across the site at 320 feet.

Utilities

All urban services are available within the vicinity of the site and capable of serving development of the property.

Water: There is a 6" water line in Ames Street, which abuts the north property line. The existing house is connected to the water system. Per Pre-application Conference Notes, there is an existing fire hydrant across the Swan Avenue.

Sanitary Sewer Sanitary: There is sanitary sewer service available in both Ames Street and Swan Avenue. The existing house is connected to the 10" line in Ames Street.

Storm Drainage: Storm drainage along Swan Avenue is a 12" piped system. The storm system along the Ames Street frontage is a ditch.

Fire Service: The closest fire station is the Clackamas Fire District station at 300 S. Longview Way. This station is within 0.8 mile from the property.

Transportation

Streets: The property has frontage on Swan Avenue and Ames Street.

Street Classifications:

- Swan Avenue is classified as a Collector Street.
- Ames Street is classified as a Local Street.

Transit: Transit Service is provided by Tri-Met, with the closest routes including:

- #154 Willamette/Clackamas Heights, which runs on Abernathy, Holcomb and Longview to Oregon City Transit Center;
- # 79 Clackamas/Oregon City, which runs on 82nd Drive and I-205 to Oregon City Transit Center; and
- #34 Linwood/River Road, which runs on River Road, Abernathy, and Arlington to Oregon City Transit Center.

The closest stop to the property is #2682 at Holcomb Blvd. and Swan Avenue, which is approximately 2260 feet.

Project Description

The applicant is proposing a 2-Lot Partition as described herein, and as reflected in Table 1. The existing house will be retained on the newly configured Parcel 1.

Table 1
Proposed Partition
(square feet)

Parcel	Lot Area	Dedication Right-of-way	Net Lot Area
1 - Existing House	11,105	1,984	9,121
2 - New Lot	9,457	455	9,002
Total	20,562	2,439	18,123

The gross area of the existing property is large enough to create two 10,000 square foot lots, as reflected in the second column of Table 1. However, with required dedication of rights-of-way for Swan Avenue and Ames Street, the two proposed parcels fall below 10,000 square feet.

Therefore, the applicant is requesting variances for lot size. As reflected in Table 1, the variance for lot size is necessary due to required dedication of right-of-way. The dedications reduce the Parcel sizes below 10,000 square feet. After the dedication Parcel 1 will be 9,121 square feet, and Parcel 2 will be 9,002 square feet.

The applicant is also requesting two modifications from applicable public improvements standards:

1. Modification for existing driveway, which is less than 100 feet from the Ames Street intersection; and
2. Modification from frontage improvements requirements for Ames Street.

II. CODE COMPLIANCE

The following responses address compliance with the applicable Code provisions. The Code sections are addressed in numerical order, as presented in the Code.

Chapter 12.04 STREET, SIDEWALKS, and PUBLIC PLACES

12.04.005 - Jurisdiction and management of the public rights-of-way.

A. The City has jurisdiction and exercises regulatory management over all public rights-of-way within the City under authority of the City Charter and state law by issuing separate public works right-of-way permits or permits as part of issued public infrastructure construction plans. No work in the public right-of-way shall be done without the proper permit. Some public rights-of-way within the city are regulated by the State of Oregon Department of Transportation (ODOT) or Clackamas County and as such, any work in these streets shall conform to their respective permitting requirements.

B. Public rights-of-way include, but are not limited to, streets, roads, highways, bridges, alleys, sidewalks, trails, paths, public easements and all other public ways or areas, including the subsurface under and air space over these areas.

C. The City has jurisdiction and exercises regulatory management over each public right-of-way whether the City has a fee, easement, or other legal interest in the right-of-way. The City has jurisdiction and regulatory management of each right-of-way whether the legal interest in the right-of-way was obtained by grant, dedication, prescription, reservation, condemnation, annexation, foreclosure or other means.

D. No person may occupy or encroach on a public right-of-way without the permission of the City. The City grants permission to use rights-of-way by franchises, licenses and permits.

E. The exercise of jurisdiction and regulatory management of a public right-of-way by the City is not official acceptance of the right-of-way, and does not obligate the City to maintain or repair any part of the right-of-way.

RESPONSE: The applicant understands these provisions and the City's jurisdiction of public rights-of-way.

12.04.025 - Driveways.

Driveways shall be reviewed in accordance with OCMC 16.12.035. Driveway requirements may be modified through the procedures in OCMC 16.12.013.

RESPONSE: Compliance with the driveway requirements is addressed herein under Section 16.12.035.

Chapter 12.08 - PUBLIC AND STREET TREES

12.08.010 - Purpose. The purpose of this chapter is to:

- A. Develop tree-lined streets to protect the living quality and beautify the city;*
- B. Establish physical separation between pedestrians and vehicular traffic;*
- C. Create opportunities for solar shading;*
- D. Improve air and water quality; and*
- E. Increase the community tree canopy and resource.*

12.08.015 - Street tree planting and maintenance requirements.

All new construction or major redevelopment shall provide street trees adjacent to all street frontages. Species of trees shall be selected based upon vision clearance requirements, but shall in all cases be selected from the Oregon City Street Tree List or be approved by a certified arborist. If a setback sidewalk has already been constructed or the Development Services determines that the forthcoming street design shall include a setback sidewalk, then all street trees shall be installed with a planting strip. If existing street design includes a curb-tight sidewalk, then all street trees shall be placed within the front yard setback, exclusive of any utility easement.

A. One street tree shall be planted for every thirty-five feet of property frontage. The tree spacing shall be evenly distributed throughout the total development frontage. The community development director may approve an alternative street tree plan if site or other constraints prevent meeting the placement of one street tree per thirty-five feet of property frontage.

B. The following clearance distances shall be maintained when planting trees:

- 1. Fifteen feet from streetlights;*
- 2. Five feet from fire hydrants;*
- 3. Twenty feet from intersections;*
- 4. A minimum of five feet (at mature height) below power lines.*

C. All trees shall be a minimum of two inches in caliper at six inches above the root crown and installed to city specifications.

D. All established trees shall be pruned tight to the trunk to a height that provides adequate clearance for street cleaning equipment and ensures ADA complaint clearance for pedestrians.

E. All trees planted within the right-of-way shall be planted with root barriers at least eighteen inches in depth adjacent to the sidewalk and curb to ensure proper root growth and reduce potential damage to sidewalks, curbs and gutters.

F. All trees planted beneath powerlines shall be selected based on what is appropriate for the location. In addition, the tree species shall be approved by the associated franchise powerline utility company.

G. Tree species, spacing and selection for stormwater facilities in the public right-of-way and in storm water facilities shall conform to requirements of OCMC 13.12 and the adopted Stormwater and Grading Design Standards and be approved by the City Engineer.

H. Any public or street trees planted within the Natural Resource Overlay District shall conform to the applicable requirements of OCMC 17.49 - Natural Resources Overlay District (NROD).

RESPONSE: A street tree plan has been provided in compliance with these criteria. Street trees are provided in conjunction with the frontage improvements for Swan Avenue.

However, the applicant is not proposing frontage improvements for Ames Street. Therefore, street trees will either be addressed as fee-in-lieu of planting, or planted within the side yard of Parcel 1 and the front yard of Parcel 2.

12.08.025 - General tree maintenance.

Abutting property owners shall be responsible for the maintenance of street trees and planting strips. Topping of trees is permitted only under recommendation of a certified arborist, or other qualified professional, if required by city staff. Trees shall be trimmed appropriately.

Maintenance shall include trimming to remove dead branches, dangerous limbs and to maintain a minimum seven-foot clearance above all sidewalks and ten-foot clearance above the street.

Planter strips shall be kept clear of weeds, obstructing vegetation and trash.

RESPONSE: The applicant understands that tree maintenance resides with the land owner for each parcel.

Chapter 13.12 - STORMWATER MANAGEMENT

13.12.010 - Purpose.

The purpose of this chapter is to define policies, minimum requirements, minimum standards and design procedures and permits for the construction and maintenance of stormwater conveyance and quantity and quality control facilities in order to:

- A. Minimize increased stormwater runoff rates from any development so as to minimize the impact upon any downstream natural channel that may exist between the subject area and the Willamette or Clackamas Rivers;*
- B. Prevent water runoff generated by development from exceeding the capacity of downstream stormwater facilities;*
- C. Reduce stormwater runoff rates and volumes, soil erosion and pollution, wherever possible, from developed and developing lands;*
- D. Prevent the uncontrolled or irresponsible discharge of stormwater from new development onto adjoining public or private property;*
- E. Maintain the integrity of stream channels for their biological functions, as well as for drainage and other purposes;*
- F. Have stormwater conveyance facilities of adequate design to manage all volumes of water generated in the contributing drainage area, for both the existing condition and the anticipated future condition;*
- G. Have all stormwater facilities:*
 - 1. Designed to mimic natural hydrologic conditions, to the maximum extent practicable;*
 - 2. Designed in a manner to allow economical future maintenance;*
 - 3. If city owned or maintained, designed for maintenance with city owned equipment;*
 - 4. Designed using materials that will ensure a minimum practical design life of seventy-five years; and*
 - 5. Designed to have sufficient structural strength to resist erosion and all external loads (construction, traffic, seismic) which may be imposed;*
- H. Establish maintenance easements with the owners of privately owned/maintained stormwater facilities to ensure an appropriate level of maintenance and to help minimize public safety hazards;*
- I. Have all new stormwater facilities comply with applicable National Pollutant Discharge Elimination System (NPDES) requirements;*
- J. Minimize the deterioration of existing watercourses, culverts, bridges, dams and other structures;*
- K. Minimize increases in stormwater pollution;*
- L. Allow for periodic inspections of both private and public stormwater quantity control and quality control facilities to verify that they are functioning in substantial conformance with the approved design intent; and*
- M. Allow issuance of engineering permits for stormwater work in the right-of-way or public easements either as a separate Public Works permit or as part of overall issued public infrastructure construction plans. The various fees for these permits are approved and modified from time to time by the city commission. Failure to meet the conditions of the issued permit shall constitute a violation of the Municipal Code.*

13.12.030 - Superseding Oregon City Drainage Master Plan Appendix A.

The policies and standards of this chapter are intended to be consistent with the applicable sections of the most current version of the Oregon City Drainage Master Plan, and applicable basin master plans, for land drainage and flood control within the Oregon City urban growth area, as adopted by the City. Appendix A of the most current version of the Oregon City Drainage Master Plan is superseded by the Public Works Stormwater and Grading Design Standards adopted by resolution and as periodically amended.

13.12.050 - Applicability and exemptions. This chapter establishes performance standards for stormwater conveyance, quantity and quality. Additional performance standards for erosion prevention and sediment control are established in OCMC 17.47.

A. Stormwater Conveyance. The stormwater conveyance requirements of this chapter shall apply to all stormwater systems constructed with any development activity, except as follows:

- 1. The conveyance facilities are located entirely on one privately owned parcel;*
- 2. The conveyance facilities are privately maintained; and*
- 3. The conveyance facilities receive no stormwater runoff from outside the parcel's property limits. Those facilities exempted from the stormwater conveyance requirements by the above subsection will remain subject to the requirements of the Oregon Uniform Plumbing Code. Those exempted facilities shall be reviewed by the Building Official.*

RESPONSE: These provisions are applicable to this partition. The applicant has provided a Storm Drainage Report and Preliminary Storm Drainage Plan, designed consistent with City criteria.

B. Water Quality and Flow Control. The water quality and flow control requirements of this chapter shall apply to the following proposed uses or developments, unless exempted under subsection C:

- 1. Activities located wholly or partially within water quality resource areas pursuant to OCMC 17.49 that will result in the creation of more than five hundred square feet of impervious surface within the NROD or will disturb more than one thousand square feet of existing impervious surface within the NROD as part of a commercial or industrial redevelopment project. These square footage measurements will be considered cumulative for any given five-year period; or*
- 2. Activities that create or replace more than five thousand square feet of impervious surface, cumulated over any given five-year period.*

RESPONSE: There are no water quality resource areas associated with this partition. Therefore, these criteria are not applicable.

C. Exemptions. The following exemptions to subsection B of this section apply:

RESPONSE: This partition does not qualify for any of the listed exemptions.

13.12.080 - Submittal requirements.

A. Applications subject to stormwater conveyance, water quality, and/or flow control requirements of this chapter shall prepare engineered drainage plans, drainage reports, and design flow calculation reports in compliance with the submittal requirements of the Public Works Stormwater and Grading Design Standards.

B. Each project site, which may be composed of one or more contiguous parcels of land, shall have a separate valid city approved plan and report before proceeding with construction.

RESPONSE: A Storm Drainage Report has been prepared by the Project Engineer. Based on the report the Engineer has provided preliminary storm drainage design as reflected in the Preliminary Plan set attached hereto.

13.12.090 - Approval criteria for engineered drainage plans and drainage report.

An engineered drainage plan and/or drainage report shall be approved only upon making the following findings:

- A. The plan and report demonstrate how the proposed development and stormwater facilities will accomplish the purpose statements of this chapter.*
- B. The plan and report meet the requirements of the Public Works Stormwater and Grading Design Standards adopted by resolution under Section 13.12.020.*
- C. The storm drainage design within the proposed development includes provisions to adequately control runoff from all public and private streets and roof, footing, and area drains and ensures future extension of the current drainage system.*
- D. Streambank erosion protection is provided where stormwater, directly or indirectly, discharges to open channels or streams.*
- E. Specific operation and maintenance measures are proposed that ensure that the proposed stormwater quantity control facilities will be properly operated and maintained.*

RESPONSE: A Storm Drainage Report has been prepared by the Project Engineer. The preliminary storm drainage design provides for adequate runoff control together with appropriate erosion control and water quality treatment. Therefore, these criteria are met.

13.12.100 - Alternative materials, alternative design and methods of construction.

The provisions of this chapter are not intended to prevent the use of any material, alternate design or method of construction not specifically prescribed by this chapter or the Public Works Stormwater and Grading Design Standards, provided any alternate has been approved and its use authorized by the city engineer. The city engineer may approve any such alternate, provided that the city engineer finds that the proposed design is satisfactory and complies with the intent of this chapter and that the material, method, or work offered is, for the purpose intended, at least the equivalent of that prescribed by this chapter in effectiveness, suitability, strength, durability and safety. The city engineer shall require that sufficient evidence or proof be submitted to substantiate any claims that may be made regarding its use. The details of any action granting approval of an alternate shall be recorded and entered in the city files.

RESPONSE: The applicant is not proposing any alternative method of storm design. A storm drainage report is attached with this application.

Title 16 - LAND DIVISIONS

Chapter 16.04 - GENERAL PROVISIONS AND ADMINISTRATION OF LAND DIVISIONS

16.08.010 - Purpose and general provisions.

- A. Applicability. This chapter controls the process and approval standards applicable to land divisions including:*
 - 1. Partitions, defined as a single division of land into two or three lots, and/or*
 - 2. Subdivisions, defined as a single division of land into four or more lots and/or*
 - 3. Master plans and planned unit developments and/or*
 - 4. Expedited land divisions.*

B. Approval of a land division shall be granted only upon determination by the City that all applicable requirements of this title, ORS Chapter 92, the applicable zoning designation, applicable overlay districts, and OCMC 12.08, 13.12, 15.48, 16.12, 17.41, and 17.50 of the Oregon City Municipal Code are met or can be met with conditions of approval.

RESPONSE: Compliance with the applicable code provisions for the proposed land partition are addressed herein.

C. Minor partitions and subdivisions shall generally follow a Type II process and master plans/planned unit developments shall be processed as a Type III process pursuant to OCMC 17.50. However, if an applicant opts to process a subdivision as an expedited land division, the City shall follow the decision-making process provided by state law and apply the applicable approval standards set forth in this code and elsewhere.

D. Purpose. The purpose of this chapter is to provide a speedy review and decision-making process with relatively clear and objective criteria indicating little discretion, with little opportunity to deviate from the City's dimensional standards. If an applicant wishes greater flexibility in lot pattern or layout, phasing of development, or relief from dimensional or public improvement standards, the appropriate procedure would be a Master Plan / Planned Unit Development pursuant to OCMC 17.65 or an additional application for a variance(s) pursuant to OCMC 17.60.

RESPONSE: This application will be reviewed as a Type II process.

The subject property is located in a transitional urban neighborhood. This Partition application represents in-fill development consistent with the intent of this section.

16.08.025 - Preliminary plat—Required information. The preliminary plat shall specifically and clearly show the following features and information on the maps, drawings, application form or attachments. The preliminary plat layout may be prepared by a civil engineer, architect, land use planner or similarly qualified professional. All maps and site drawings shall be at a minimum scale of one inch to fifty feet.

A. Site Plan. A detailed site development plan drawn to scale by a licensed professional based on an existing conditions plan drawn by a licensed surveyor. The site plan shall include the location and dimensions of lots, streets, existing and proposed street names, pedestrian ways, transit stops, common areas, building envelopes and setbacks, all existing and proposed utilities and improvements including sanitary sewer, stormwater and water facilities, total impervious surface created (including streets, sidewalks, etc.), all areas designated as being within an overlay district and an indication of existing and proposed land uses for the site. If required by staff at the pre-application conference, a connectivity analysis shall be prepared by a transportation engineer licensed by the State of Oregon that describes the existing and future vehicular, bicycle and pedestrian connections between the proposed subdivision and existing or planned land uses on adjacent properties. The connectivity analysis shall include shadow plats of adjacent properties demonstrating how lot and street patterns within the proposed land division will extend to and/or from such adjacent properties and can be developed meeting the existing OCMC design standards and adopted Transportation System Plan, street design standards, and adopted concept plans, corridor and access management studies, engineering standards and infrastructure analyses.

RESPONSE: The applicant has provided a set of scaled Plans including: Existing Conditions; Preliminary Plat; Preliminary Grading and Erosion Control; Preliminary

Street & Utilities; and Neighborhood Circulation Aerial Photo, consistent with the requirements of Sub-A.

B. Traffic/Transportation Plan. The applicant's traffic/transportation information shall include two elements:

- (1) A detailed site circulation plan showing proposed vehicular, bicycle, transit and pedestrian access points and connections to the existing system, circulation patterns and connectivity to existing rights-of-way or adjacent tracts, parking and loading areas and any other transportation facilities in relation to the features illustrated on the site plan; and*
- (2) a traffic impact study prepared by a qualified professional transportation engineer, licensed in the State of Oregon, that assesses the traffic impacts of the proposed development on the existing transportation system and analyzes the adequacy of the proposed internal transportation network to handle the anticipated traffic and the adequacy of the existing system to accommodate the traffic from the proposed development. In the preparation of the Traffic/Transportation Plan, the applicant shall reference the adopted Transportation System Plan. The Community Development Director may waive any of the foregoing requirements if determined that the requirement is unnecessary in the particular case.*

RESPONSE: The attached Plan Set includes the required Preliminary Street & Utilities; and Neighborhood Circulation Aerial Photo. Per the pre-application conference notes, a traffic study is not required for this application, due to the limited additional traffic impacts of one additional home.

C. Natural Features Plan and Topography, Preliminary Grading and Drainage Plan. The applicant shall submit a map illustrating all of the natural features and hazards on the subject property and, where practicable, within 250 feet of the property's boundary. The map shall also illustrate the approximate grade of the site before and after development. Illustrated features shall include all proposed streets and cul-de-sacs, the location and estimated volume of all cuts and fills, and all stormwater management features. This plan shall identify the location of drainage patterns and courses on the site and within 250 feet of the property boundaries where practicable. Features that shall be illustrated shall include the following:

- 1. Proposed and existing street rights-of-way and all other transportation facilities;*
- 2. All proposed lots and tracts;*
- 3. All trees proposed to be removed prior to final plat with a diameter six inches or greater diameter at breast height (d.b.h);*
- 4. All natural resource areas pursuant to OCMC 17.49, 17.48, 17.44, and 17.42;*
- 5. The location of any known state or federal threatened or endangered species or wildlife habitat or other natural features listed on any of the City's official inventories;*
- 6. All historic areas or cultural features acknowledged as such on any federal, state or city inventory;*

RESPONSE: The requirements of this sub-section are provided on the Existing Conditions Plan attached hereto. There are no unique natural features associated with this property. There are also no designated natural resource areas associated with this property. There is no identified endangered species habitat associated with this property.

A Tree Inventory has been prepared by the Project Arborist. All existing and proposed trees are addressed, consistent with code standards.

D. Archeological Monitoring Recommendation. For all projects that will involve ground disturbance, the applicant shall provide,

- 1. A letter or email from the Oregon State Historic Preservation Office Archaeological Division indicating the level of recommended archeological monitoring on-site, or demonstrate that the applicant had notified the Oregon State Historic Preservation Office and that the Oregon State Historic Preservation Office had not commented within forty five days of notification by the applicant; and*
- 2. A letter or email from the applicable tribal cultural resource representative of the Confederated Tribes of the Grand Ronde, Confederated Tribes of the Siletz, Confederated Tribes of the Umatilla, Confederated Tribes of the Warm Springs and the Confederated Tribes of the Yakama Nation indicating the level of recommended archeological monitoring on-site, or other written demonstration that the applicant notified the applicable tribal cultural resource representative and that the applicable tribal cultural resource representative had not commented within forty-five days of notification by the applicant.*

If, after forty-five days notice from the applicant, the Oregon State Historic Preservation Office or the applicable tribal cultural resource representative fails to provide comment, the City will not require any responsive letter or email as part of the completeness review. For the purpose of this section, ground disturbance is defined as the movement of native soils. The Community Development Director may waive any of the foregoing requirements if the Community Development Director determines that the requirement is unnecessary in the particular case and that the intent of this chapter has been met.

RESPONSE: The applicant emailed a notice to the Oregon State Historic Preservation Office (OSHP) on July 1, 2019. A follow-up letter was mailed July 16, 2019.

OSHP has provided a letter, dated August 12, 2019 noting that no specific data is available for this site. However, caution should be taken during construction, as this general area has a high probability for possessing archaeological remains.

Therefore, these criteria are met.

16.08.030 - Preliminary plat—Narrative statement. In addition to the plans required in the previous section, the applicant shall also prepare and submit a narrative statement that addresses the following issues:

- A. Description. A detailed description of the proposed development, including a description of proposed uses, number and type of residential units, allocation and ownership of all lots, tracts, streets, and public improvements, the structure of any homeowner's association, and each instance where the proposed subdivision will vary from some dimensional or other requirement of the underlying zoning district.*

RESPONSE: The applicant has provided this Code Compliance Narrative, which provides a detailed description of the proposed land partition, and addresses all applicable Code provisions as addressed herein.

B. Timely Provision of Public Services and Facilities. The applicant shall explain in detail how and when each of the following public services or facilities is, or will be, adequate to serve the proposed development by the time construction begins:

- 1. Water,*
- 2. Sanitary sewer,*
- 3. Storm sewer and stormwater drainage,*
- 4 Parks, trails and recreation facilities, if determined to be necessary pursuant to the Oregon City adopted Trail Master Plan and / or Parks and Recreation Master Plan*
- 5. Traffic and transportation, and*
- 6. Fire and police services Where adequate capacity for any of these public facilities and services is not demonstrated to be currently available, the applicant shall describe how adequate capacity in these services and facilities will be financed and constructed before recording of the plat;*

RESPONSE: This Code Compliance Narrative, together with Preliminary Site Development Plans and other supporting documents demonstrate that all necessary public services and facilities are available and adequate to support this land partition.

Water, sanitary sewer and storm drainage systems are all available within the adjacent rights-of-way, and adequate to serve the proposed development.

The applicant has provided a Geotechnical analysis of the pavement quality for Swan Avenue fronting the property. While the development will provide frontage improvements along Swan Avenue, the Geotechnical analysis determined that resurfacing of the street is not necessary. The pavement is in good condition and capable of handling neighborhood traffic over the next 20-year design life.

Police and Fire services are available and adequate to support the development of one additional home.

C. Drafts of the proposed covenants, conditions and restrictions (CC&Rs), maintenance agreements, homeowner association agreements, dedications, deeds easements, or reservations of public open spaces not dedicated to the City, and related documents for the land division;

D. Overall density of the land division and the density by dwelling type for each.

RESPONSE: This application is for a simple 2-Lot Land Partition. The applicant does not intend to establish and CC&Rs or a homeowner association.

The applicable density for this development is addressed below herein under Section 16.08.063.

16.08.045 - Frontage width requirement.

Each lot shall abut upon a street other than an alley for a width of at least twenty feet unless flag lots are provided pursuant to OCMC 16.08.050, except for Cluster Housing development pursuant to OCMC 17.20.020.

RESPONSE: The parent property (Tax Lot 2000) is a corner lot with frontage on Swan Avenue and Ames Street. With the Partition, the existing house (Parcel 1) remain a corner lot. Parcel 2 will have frontage on Ames Street.

16.08.050 - Flag lots.

A. Flag lots shall not be permitted except where the applicant can show that the existing parcel configuration, topographic constraints or the location of a pre-existing dwelling unit precludes a land division that meets the minimum density, dimensional standards of the underlying zone, and except where street connectivity is not practicable as determined by the City Engineer...

RESPONSE: The proposed partition does not create any flag lots. Therefore, this criterion is not applicable.

16.08.053 Tracts

Tracts which cannot be developed with a home or office, commercial, residential, institutional, industrial, parking or other uses as determined by the City Engineer or Community Development Director are not subject to compliance with the dimensional standards of the zoning designation, frontage requirements, or flag lot standards.

RESPONSE: No tracts are created with this partition. Therefore, this criterion is not applicable.

16.08.060 - Building sites.

A. The size, width, shape and orientation of building sites shall be rectangular or square to the maximum extent practicable.

B. Sites abutting an alley shall gain vehicular access from the alley unless deemed impracticable by the decision maker.

C. Adequate access for emergency services (fire and police) shall be provided.

RESPONSE: The proposed lots (Lot 2) will be rectangular in shape. Neither parcel will abut an alley. Both lots have frontage on and will take access from a public street. Adequate access for emergency services (fire and police) is provided by the existing street system.

16.08.063 - Minimum density. All layouts shall achieve at least the minimum density of the base zone for the net developable area as defined in OCMC 17.04. Alternatively, a site may be partitioned into two lots, though one of the lots shall not contain sufficient lot area to allow further division.

RESPONSE: This property is zoned R-10, which sets the minimum lot size at 10,000 square feet. The existing Tax Lot contains 20,562 square feet, which is sufficient for 2 10,000 square foot lots. Neither proposed parcel will contain sufficient lot area to allow for further division.

16.08.065 – Lot size reduction.

A subdivision in the R-10, R-8, R-6, R-5, or R-3.5 dwelling district may utilize lot size reduction for up to twenty-five percent of the lots proposed for single-family detached residential use. The reduced-size lots may be up to ten percent less than the required minimum lot area of the applicable zoning designation provided the average lot size of all proposed single-family detached residential lots meet the minimum requirement of the underlying zone. Any area within a powerline easement on a lot shall not count towards the lot area for that lot. Lot size reduction is only permitted through a subdivision or, master plan and planned unit developments processes and may not be used for minor partitions or any other residential uses.

The average lot area is determined by first calculating the total net developable area devoted to single-family detached dwelling units, subtracting the powerline easement areas, open space, tracts, stormwater facilities, roads, right-of-way, or accessways and dividing that figure by the proposed number of single-family detached dwelling lots. A lot that was created pursuant to this section may not be further divided unless the average lot size requirements are still met for the entire subdivision.

When a lot abuts a public alley, an area equal to the length of the alley frontage along the lot times the width of the alley right-of-way measured from the alley centerline may be added to the area of the abutting lot in order to satisfy the lot area requirement for the abutting lot. It may also be used in calculating the average lot area.

RESPONSE: The proposed lots will be 9,121 and 9,002 square feet, which are 10% less than the minimum 10,000 square foot standard for the R-10 Zone.

The applicant is not proposing a subdivision, master plan or planned unit development, so this partition does not qualify for the lot reduction provisions of this section. Therefore, a Variance is required, see Variance provisions (17.60) herein.

Neither parcel will abut an alley. Both lots have frontage on and will take access from a public street.

16.08.070 - Through lots. Through lots and parcels shall be avoided except where they are essential to provide separation of residential development from major arterials or to overcome specific disadvantages of topography of existing development patterns. A reserve strip may be required. A planting screen restrictive covenant may be required to separate residential development from major arterial streets, adjacent nonresidential development, or other incompatible use, where practicable. Where practicable, alleys or shared driveways shall be used for access for lots that have frontage on a collector or minor arterial street, eliminating through lots.

RESPONSE: No through lots are proposed. This criterion is not applicable.

16.08.075 - Building site—Lot and parcel side lines.

The lines of lots and parcels, as far as is practicable, shall run at right angles to the street upon which they face, except that on curved streets they shall be radial to the curve. Lot and parcel side lines for cluster housing projects proposed consistent with the standards in OCMC 17.20.020 are not subject to this standard.

RESPONSE: The proposed lot lines run at right angles to the public streets which they face.

16.08.080 - Setbacks and building location. This standard ensures that lots are configured in a way that development can be oriented toward streets to provide a safe, convenient and aesthetically pleasing environment for pedestrians and bicyclists. Houses oriented in this manner assure a sense of openness by avoiding the “bowling alley” effect caused by uninterrupted, continuous privacy fences along higher volume streets. The objective is for lots located on a neighborhood collector, collector or minor arterial street to locate the front yard setback on and design the most architecturally significant elevation of the primary structure to face the neighborhood collector, collector or minor arterial street,

A. The front setback of all lots located on a neighborhood collector, collector or minor arterial shall be orientated toward the neighborhood collector, collector or minor arterial street.

B. The most architecturally significant elevation of the house shall face the neighborhood collector, collector or minor arterial street.

C. On corner lots located on the corner of two local streets, the main façade of the dwelling may be oriented towards either street.

D. The decision maker may approve an alternative design, consistent with the intent of this section, where the applicant can show that existing development patterns preclude the ability to practically meet this standard.

RESPONSE: The subject property fronts on Swan Avenue, which is a designated collector street. There is an existing house on this property, which is a corner lot. The garage and front door both face Swan Avenue. This house will remain on Parcel 1.

The new home on Parcel 2 will face Ames Street, which is a designated local street.

16.08.085 - Division of large lots. Where land is to be divided into lots or parcels capable of redivision in accordance with this chapter, the Community Development Director shall require an arrangement of lots, parcels, buildings on lots, utilities and streets which facilitates future redivision. In such a case, development limitations including building locations and setback lines may be required and made a matter of record in order to preserve future right-of-way or building sites.

RESPONSE: Neither of the proposed two lots contain enough land to allow further division. Therefore, this criterion is not applicable.

16.08.095 - Prohibition on Additional Private Restrictions on Housing Types. Private restrictions on the provision of accessory dwelling units, corner duplexes, or internal conversions executed after July 1, 2019 shall be prohibited. Conditions, Covenants, and Restrictions (CC&Rs) or similar legal instrument submitted with residential plats submitted for final plat approval after July 1, 2019 shall not prohibit or impose additional restrictions on accessory dwelling units, corner duplexes, and/or internal conversions to the extent permitted in the OCMC in place at the time of final plat submittal, and shall not impose additional restrictions on Accessory Dwelling Units and internal conversions through any future amendment.

RESPONSE: The applicant understands this criterion and does not intent to impose any restrictions on accessory dwellings for either parcel.

16.08.100 - Final plat—Application requirements and approval standards. A. The final plat shall contain, or be accompanied by, the following information:

RESPONSE: Following preliminary plat approval, the applicant will proceed with preparation of the final plat in a timely manner, consistent with this section.

Chapter 16.12 MINIMUM PUBLIC IMPROVEMENTS and DESIGN STANDARDS for DEVELOPMENT

16.12.010 - Purpose and general provisions. All development shall be in conformance with the policies and design standards established by this chapter and with applicable standards in the City's public facility master plans and City design standards and specifications. In reviewing applications for development, the City Engineer shall take into consideration any approved development and the remaining development potential of adjacent properties. All street, water, sanitary sewer, storm drainage and utility plans associated with any development shall be reviewed and approved by the City Engineer prior to construction. All streets, driveways or storm drainage connections to another jurisdiction's facility or right-of-way shall be reviewed by the

appropriate jurisdiction as a condition of the preliminary plat and when required by law or intergovernmental agreement shall be approved by the appropriate jurisdiction.

16.12.011 - Applicability.

A. Compliance with this chapter is required for all development including land divisions, site plan and design review, master plan, detailed development plan and conditional use applications and all public improvements. Minor Site Plan and Design Review applications shall not be subject to this chapter unless improvements are proposed within the right-of-way.

RESPONSE: The applicant is proposing a 2-Lot partition. Therefore, this Chapter is applicable.

B. Compliance with this chapter is also required for new construction or additions which exceed fifty percent of the existing square footage of all single and two-family dwellings living space. Garages, carports, sheds, and porches may not be included in the calculation if these spaces are not living spaces. Accessory dwelling units are not subject to compliance with this chapter. All applicable single and two -family dwellings shall provide any necessary dedications, easements or agreements as identified in the transportation system plan and this chapter, subject to constitutional limitations. In addition, the street frontage shall be improved to include the following priorities for improvements:

- 1. Improve street pavement, construct curbs, gutters, sidewalks and planter strips; and*
- 2. Plant street trees.*

The cost of compliance with the standards identified in 16.12.011.B.1 and 16.12.011.B.2 is calculated based on the square footage valuation from the State of Oregon Building Codes Division and limited to ten percent of the total construction costs. The value of the alterations and improvements is based on the total construction costs for a complete project rather than costs of various project component parts subject to individual building permits. The entire proposed construction project cost includes engineering and consulting fees and construction costs. It does not include permit fees, recording fees, or any work associated with drafting or recording dedications or easements.

RESPONSE: There is an existing house on the subject property, which will remain on Parcel 1.

The plat will dedicate 9 feet of additional right-of-way along the Swan Avenue frontage. Per the Pre-application Conference notes, frontage improvements along the Swan Avenue frontage will include: 11-foot travel lane, 6-foot bike lane, 0.5-foot curb/gutter, 5-foot planter 6-foot sidewalk and 0.5-foot public access strip will be provided to meet collector street standards.

Following recordation of this partition, a new home will be built on Parcel 2. The plat will dedicate 5 feet of additional right-of-way along the Ames Street frontage. However, the applicant is not proposing frontage improvements along Ames Street.

Therefore, the applicant is requesting a modification of the improvement requirements related to Ames Street.

16.12.013 - Modifications.

The applicant may request and the review body may consider modification of the standards in this chapter resulting from constitutional limitations restricting the City's ability to require the dedication of property or for any other reason, based upon the criteria listed below and other criteria identified in the standard to be modified. All modifications shall be processed through a Type II Land Use application and may require additional evidence from a transportation engineer or others to verify compliance. Compliance with the following criteria is required:

A. *The modification meets the intent of the standard;*

RESPONSE: The applicant is requesting two modifications from applicable standards:

1. Modification for the existing driveway, which is less than 100 feet from the Ames Street intersection.
2. Modification from frontage improvements requirements for Ames Street.

Driveway Modification

The City's standard for driveways on collector streets requires a 100-foot spacing from intersections. However, the driveway for the existing home is less than 100 feet from the Ames Street intersection. Therefore, the applicant is requesting a modification from this standard.

The existing driveway is 34 feet south of the Ames Street intersection. However, following dedication of 5 feet for Ames Street, the distance will be reduced to 29 feet.

The driveway is aligned with the garage, so relocation of the driveway would clearly impact the home's functionality. As such the owner does not want to relocate the driveway. Further, following the dedication, the lot depth along the Swan Avenue frontage will only be 86 feet. Therefore, it is not possible to space the driveway 100 feet from the intersection. The driveway meets the standard to the degree practicable.

Frontage Improvements Modification

The applicant is requesting a modification such that frontage improvements will not be required along Ames Street. The proposed partition only creates one parcel for one additional home to be built on. The existing house (Parcel 1) fronts on and takes access from Swan Avenue.

Ames Street, which is a local street, currently has a 45-foot right-of-way, with approximately 20 feet on the subject property's side of centerline. This street has a current paved width of 31 feet at the intersection with Swan Avenue.

The proposed frontage improvements along Swan Avenue will carry the curb around the intersection to Ames Street. From the end of this curb-return, the property has 195 feet of frontage on Ames Street, 91 feet of which will be Parcel 1. Parcel 1 will have no access from Ames Street. This improvement will widen the pavement on Ames through the intersection and taper the pavement from the end of the curb-return to the existing width, with about 55 feet of taper.

From approximately the end of the pavement taper, the paved width on Ames Street narrows to approximately 19 feet, with 11 feet on the subject property's (Parcel 2) side of centerline. Parcel 2 will have 104 feet of frontage on Ames Street.

The applicant is proposing to dedicate 5 feet of additional right-of-way along the Ames Street frontage. However, no frontage improvements are proposed.

Per the pre-application conference notes, standard frontage improvements for a local street would require 14-feet of pavement, 0.5-foot curb & gutter, 5-foot planter strip, 5-foot sidewalk, and 0.5-foot public access strip.

The applicant argues that the anticipated impact on the adjacent streets from the addition of one new home will only be an average of 9.44 average daily trips (ADT), per ITE Trip Generation Manual. This increase in traffic which will be added to Swan Avenue and Ames Street will be de minimus for an existing street serving at least 38 existing homes, at only 2.6% of existing ADT. Consequently, frontage improvements on both streets is not warranted.

- 1. The modification provides safe and efficient movement of pedestrians, motor vehicles, bicyclists and freight;*

RESPONSE: The requested modifications maintain or enhance vehicle and pedestrian safety as follows:

Driveway Modification

This modification involves an existing driveway. This driveway has functioned safely for many years, as the house was built in 1972.

Proposed frontage improvements along the Swan Avenue frontage will enhance the Ames Street intersection, with curb, gutter, sidewalk, street trees and 7 feet of additional travel lane width. Safety will be enhanced with these improvements over existing conditions.

Frontage Improvements Modification

The applicant will be dedicating 5 feet of additional right-of-way along the Ames Street frontage, consistent with the local street standard.

The applicant argues that the existing paved width on Ames Street provides sufficient width so as to provide safe and efficient movement of pedestrians, motor vehicles, bicyclists and freight. This is a local residential street with a speed limit of 25 mph.

Ames street extends from Swan Avenue east to Pasture Way, which then provides a connection to Holcomb Road, which is an arterial. The subject property is located at the intersection of Ames Street and Swan Avenue. Therefore, the majority of the trips generated from this property (Parcel 2) would be expected to use Swan Avenue, with potential a small percentage of trips to the east, to Holcomb Elementary School.

Being located at the Swan Avenue intersection means that the majority of traffic on Ames Street is and will be generated by homes to the east of the subject site. Consequently, any need for additional street capacity (widening) is not reasonably linked to the addition of one home on Parcel 2.

There are currently 38 other homes with access on or to Ames Street. This means that traffic from the subject property (Parcel 2) will only result in a 2.6% increase over existing traffic on this street. This proportional share of traffic will only diminish as more homes are built.

The majority of the trips from the new home will be expected to use the Ames/Swan intersection, thereby minimizing impacts to the east on Ames Street. Further the project will provide frontage improvements along Swan Avenue, including the curb return onto Ames Street. This will enhance safety at this intersection. The additional traffic from the new home will be an even lower percentage of the total trips on Swan Avenue, which is a collector street.

Finally, as a corner lot, the Site contains approximately 310 feet of public street frontage. Improvements to all 310 feet would clearly exceed the rough proportionality of impacts to the existing infrastructure. As such, improvements to the 91 feet of frontage to Swan Avenue is the appropriate requirement.

2. *The modification is consistent with an adopted transportation or utility plan; and*

RESPONSE: The requested modifications are consistent with adopted transportation and utilities plans as follows:

Driveway Modification

This modification involves an existing driveway, initially constructed in 1972. While the driveway does not meet current intersection spacing, the applicant will be providing frontage improvements along Swan Avenue to collector street standards, which is consistent with the TSP.

Storm drainage improvements will be included with the Swan Avenue frontage improvements, together with undergrounding existing overhead utilities.

Therefore, the driveway meets the standard to the degree practicable.

Frontage Improvements Modification

The applicant will be dedicating 5 feet of additional right-of-way along the Ames Street frontage, consistent with the local street standard. The dedication of right-of-way allows for future widening of the street as may be needed.

All utilities are currently available within or adjacent to the Ames Street right-of-way. No new utilities are required to support the proposed future home on Parcel 2.

3. *The modification is complementary with a surrounding street design; or, in the alternative;*

RESPONSE: The modification is complementary with a surrounding street design as follows:

Driveway Modification

While the driveway does not meet current intersection spacing, the applicant will be providing frontage improvements along Swan Avenue to collector street standards, which is consistent with the TSP. Therefore, the driveway meets the standard to the degree practicable.

Frontage Improvements Modification

The majority of new development along Ames Street has been subdivisions, which were required to provide standard frontage improvements. However, other single home development along this street have not provided frontage improvements, such as the 6 homes to the east of the subject property.

4. *If a modification is requested for constitutional reasons, the applicant shall demonstrate the constitutional provision or provisions to be avoided by the modification and propose a modification that complies with the state or federal constitution. The City shall be under no obligation to grant a modification in excess of that which is necessary to meet its constitutional obligations.*

RESPONSE: The modifications are requested for constitutional reasons as follows:

Driveway Modification

The driveway modification relates to maintaining existing conditions where the driveway aligns with the garage. Further as noted, it is not possible to relocate the driveway 100 feet from the Ames Street intersection due to the existing house location. Therefore, this request is not based on constitutional grounds, but rather on practical difficulty in meeting the current intersection spacing standard.

Frontage Improvements Modification

The applicant argues that requiring frontage improvements along both Swan Avenue and Ames Street violates the proportional nexus and proportional cost tests of Nolan/Dolan case law.

The applicant is not seeking to avoid all street improvements. Frontage improvements for Swan Avenue are proposed, but not for Ames Street.

The limited impact of about 10 trips per day does not warrant frontage improvements for both streets. The cost of such improvements would not be roughly proportional to the limited traffic impact of the one additional single-family home.

Therefore, the applicant is proposing to provide frontage improvements along Swan Avenue only, because it is a collector street and has a higher priority and need for improvement. The improvement will also enhance the intersection at Ames Street.

The applicant has provided preliminary cost estimates reflected in Table 2 in support of the argument for dis-proportionate costs, see Engineer's estimate at Index Tabs in the Application Notebook. These improvement costs are associated with the pending construction of one single-family home. As noted herein, the applicant believes the impacts of this single home are de minimis, at only 2.6% increase in traffic on Ames Street.

Table 2
Frontage Improvements Cost Estimates

Improvement Component	Swan Avenue Cost	Swan Avenue & Ames St.
Grading & Street Construction	\$85,136	\$150,766
Sanitary Sewer	\$1,390	\$1,627
Storm Drainage	\$33,677	\$88,097
Water System	\$1,100	\$2,200
Sub-Total	\$121,303	\$242,690
Undergrounding Overhead power – Ames Street		\$61,300
Total	\$121,303	\$303,990

Put in the context of cost per trip added, the combined improvements would be \$24,269 per average daily trip add on Ames Street, as compared to \$12,134/trip for just the Swan Avenue improvements. The cost for undergrounding power is included in the Swan Avenue estimate.

However, the cost for Ames Street is listed separately, because there are additional issues involved, such as removing and adding poles, trenching or boring under the street, and Utility fees, which could be as high as \$30,000. Consequently, this further increases the disproportionate cost for the one additional lot.

Construction costs for the new home on Lot 2 have also been provided, see Index Tab in Application Notebook. The cost of the house is estimated at \$317,358.

In either case, the applicant believes that requiring frontage improvements on both streets is excessive compared to the de minimis impacts of one single-family home. The improvement costs for both street frontage is almost equal (95.8%) to the cost of the new house.

While we have provided a basis for our argument, we emphasize that under the Nolan/Dolan case law, the burden of proof for proportionality of proposed exactions lies with the City, not the applicant.

Chapter 17.08 - R-10 SINGLE-FAMILY DWELLING DISTRICT

17.08.010 - Designated.

The R-10, R-8 and R-6 residential districts are designed for low density residential development.

17.08.020 - Permitted uses. Permitted uses in the R-10, R-8 and R-6 districts are:

- A. Single-family detached residential units;
- B. Accessory uses, buildings and dwellings;
- C. Internal conversions;
- D. Corner duplexes;
- E. Cluster housing;
- F. Residential homes;
- G. Parks, playgrounds, playfields and community or neighborhood centers;
- H. Home occupations;
- I. Family day care providers;
- J. Farms, commercial or truck gardening and horticultural nurseries on a lot not less than twenty thousand square feet in area (retail sales of materials grown on-site is permitted);
- K. Temporary real estate offices in model homes located on and limited to sales of real estate on a single piece of platted property upon which new residential buildings are being constructed;
- L. Transportation facilities.

RESPONSE: There is an existing single-family home on this property, which is a permitted use in the R10 zone. The applicant is proposing to partition one additional parcel, for another single-family home. Thereby maintaining compliance.

17.08.030 - Master plans.

The following are permitted in the R-10, R-8 and R-6 districts when authorized by and in accordance with the standards contained in OCMC 17.65.

- A. Single-family attached residential units.

RESPONSE: The applicant is not proposing any attached unit. Therefore, this criterion is not applicable.

17.08.040 - Dimensional standards.

Dimensional standards in the R-10, R-8 and R-6 districts are as follows: Table 17.08.040

RESPONSE: The proposed partition conforms to the standards in Table 17.08.040 as reflected in Table 3.

**Table 3
Compliance with R10 Lot Standards
Parcel 2**

Yard Setback	Code Standard	Parcel 1	Parcel 2
Front	20 ft.	28 ft.	20 ft.
Front Porch	15 ft.	63 ft.	15 ft.
Side (interior)	10 ft.	14 ft.	8 & 10 ft.
Street Side	15 ft.	15 ft.	-
Rear	20 ft.	20 ft.	20 ft.
Garage Entrance	20 ft.	28 ft.	20 ft.

The subject property contains 20,562 square feet. The applicant is proposing a 2-Lot Partition as described herein, and as reflected in Table 1, above. The existing house will be retained on the newly configured Parcel 1.

The base property at 20,562 square feet contains enough land to create two 10,000 square foot lots.

However, as reflected in Table 1, above, due to required dedication of rights-of-way, the two parcels will be reduced to below 10,000 square feet. Following dedication Parcel 1 will be 9,121 square feet, and Parcel 2 will be 9,002 square feet after dedication.

Because this application is for a partition and not a subdivision or PUD it does not qualify for lot reductions under Section 12.08.065. Therefore, the applicant is also requesting a Major Variance for reduced lot sizes, see responses under Section 17.60 herein.

The parent property has a lot width of 91 feet along the Swan Avenue frontage. As proposed the frontage for Parcel 1 will be 86 feet after dedication of right-of-way for Ames Street.

Parcel 2 will have a lot width of 104 feet along the Ames Street frontage.

Parcel 1 has a current lot depth of 220. The partition will reduce this depth to 106 feet accounting for the 9-foot dedication along Swan Avenue.

Parcel 2 will have a lot depth of 86 feet from Ames Street frontage south following the 5-foot dedication for Ames Street.

There is an existing house on the property. The house currently meets or exceeds all setback and height standards. This house will be retained on Parcel 1, the detached shed will be removed, and as reflected in Table 3 compliance with setbacks is maintained.

For Parcel 2 the new home will comply with the 35-foot height standards. Compliance with the R10 setback standards will be met as reflected in Table 3.

Compliance with Parcel 2 setbacks will be confirmed at the time of building permit review.

Therefore, these lot standards are met.

***Chapter 17.21 SINGLE-FAMILY RESIDENTIAL DESIGN STANDARDS – PARK PLACE
CONCEPT PLAN AREA***

17.21.010 - Purpose. The intent of this chapter is to ensure new development implements the goals and policies of the Park Place Concept Plan area and the historic architectural styles of Oregon City. Appropriate architectural styles include: Western Farmhouse/Vernacular, Bungalow, Queen

Anne Vernacular and Foursquare. The 2006 Historic Review Board's Design Guidelines for New Construction include additional architectural descriptions of historic single-family structures in Oregon City.

17.21.020 - Applicability. This chapter applies to all new detached single-family and two-family homes, accessory dwelling units, and cluster housing located within the Park Place Concept Plan areas. Additions to homes existing prior to the adoption of this chapter in a Concept Plan area or new single-family homes outside of a Concept Plan area may choose review under this section or OCMC 17.14. House plans that conform to the following standards may be approved as a Type I Decision. House plans that require approval of an exemption shall be processed as a Type II Land Use decision at time of land division or building permit application.

RESPONSE: These are new standards recently adopted. This application is limited to a land partition, and does not include any proposed house design for Parcel 2. However, these design criteria will be applicable and subject to confirmation of compliance through building permit review.

Title 12 - STREETS, SIDEWALKS AND PUBLIC PLACES
Chapter 12.04 - STREETS, SIDEWALKS AND PUBLIC PLACES

12.04.003 - Applicability.

A. Compliance with this chapter is required for all land divisions, site plan and design review, master plan, detailed development plan and conditional use applications and all public improvements.

B. Compliance with this chapter is also required for new construction or additions which exceed fifty percent of the existing square footage, of all single and two-family dwellings. All applicable single and two-family dwellings shall provide any necessary dedications, easements or agreements as identified in the transportation system plan and this chapter. In addition, the frontage of the site shall comply with the following prioritized standards identified in this chapter:

- 1. Improve street pavement, construct curbs, gutters, sidewalks and planter strips; and*
- 2. Plant street trees.*

The cost of compliance with the standards identified in 12.04.003.B.1 and 12.04.003.B.2 is limited to ten percent of the total construction costs. The value of the alterations and improvements as determined by the community development director is based on the entire project and not individual building permits. It is the responsibility of the applicant to submit to the community development director the value of the required improvements. Additional costs may be required to comply with other applicable requirements associated with the proposal such as access or landscaping requirements.

RESPONSE: The applicant is proposing a lot partition to create one additional new parcel for a single-family home. Therefore, compliance with Title 12 is required, as addressed below.

12.04.010 - Construction specifications—Improved streets.

All sidewalks hereafter constructed in the city on improved streets shall be constructed to city standards and widths required in the Oregon City Transportation System Plan. The curb shall be constructed at the same time as the construction of the sidewalk and shall be located as provided in the ordinance authorizing the improvement of said street next proceeding unless otherwise ordered by the city commission. Both sidewalks and curbs are to be constructed according to plans and specifications provided by the city engineer.

12.04.020 - Construction specifications—Unimproved streets.

Sidewalks constructed on unimproved streets shall be constructed of concrete according to lines and grades established by the city engineer and approved by the city commission. On unimproved streets curbs do not have to be constructed at the same time as the sidewalk.

RESPONSE: Per the Pre-application Conference notes, the applicant will be required to provide dedication of right-of-way along both street frontages.

For Swan Avenue a dedication of 9 feet of additional right-of-way will be provided. Per the Pre-application Conference notes, frontage improvements consisting of 11-foot travel lane, 6-foot bike lane, .5-foot curb/gutter, 5-foot planter 6-foot sidewalk and .5-foot public access strip will be provided to meet collector street standards.

For Ames Street a dedication of 5 feet of additional right-of-way will be provided. The notes from the Pre-application Conference suggest that frontage improvements consisting of 14-foot travel lane, .5-foot curb/gutter, 5-foot planter, 5-foot sidewalk and .5-foot public access strip may also be required.

However, the applicant is not proposing any frontage improvements along Ames Street. The applicant believes requiring such improvements will exceed the rough proportionality costs (Nolan/Dolan) relative to the actual traffic impacts of adding one single family home, as addressed under 16.12.013 herein

The proposed Preliminary Plan Sheets reflect the rights-of-way dedications and frontage improvements along Swan Avenue, thereby providing compliance with these criteria.

Chapter 17.41 - TREE PROTECTION STANDARDS

17.41.010 - Protection of trees—Intent.

The intent of this chapter is to ensure that new development is designed in a manner that preserves trees to the maximum extent practicable. As a requirement of any Type II land use application, the siting of structures, roadways and utility easements, shall provide for the protection of tree resources to the maximum extent practicable. This chapter applies to all subdivision, partition and site plan and design review applications.

17.41.020 - Tree protection—Applicability.

1. Applications for development subject to OCMC 16.08 (Land Divisions) or OCMC 17.62 (Site Plan and Design Review) shall demonstrate compliance with these standards as part of the review proceedings for those developments. Compliance with this chapter is required from the date a land use application is filed until a land division is recorded or other development approval is final.
2. For public capital improvement projects, the City Engineer shall demonstrate compliance with these standards pursuant to a Type I process.
3. Tree canopy removal greater than twenty-five percent on areas with greater than twenty-five percent slope, unless exempted under OCMC 17.41.040, shall be subject to these standards.
4. A heritage tree or grove which has been designated pursuant to the procedures of OCMC 12.32 shall be subject to the standards of this section.
5. A tree that has been planted pursuant to this section shall remain or shall be replaced with a new tree if removed.

17.41.030 - Tree protection—Conflicting code provisions.

Except as otherwise specified in this section, where these standards conflict with adopted city development codes or policies, the provision which provides the greater protection for regulated trees or groves, as defined in OCMC 17.04, shall govern.

RESPONSE: Existing trees on this property are identified on the Existing Conditions Plan, and evaluated by the Project Arborist, who's report is attached hereto.

17.41.050 - Compliance options. Applicants for review shall comply with these requirements through one or a combination of the following procedures:

- A. Option 1—Mitigation. Retention and removal of trees, with subsequent mitigation by replanting pursuant to OCMC 17.41.060.*
- B. Option 2—Dedicated Tract. Protection of trees or groves by placement in a tract within a new subdivision or partition plat pursuant to OCMC 17.41.080; or C. Option 3—Restrictive Covenant. Protection of trees or groves by recordation of a permanent restrictive covenant pursuant to OCMC 17.41.110; or*
- D. Option 4—Cash-in-lieu of planting pursuant to OCMC 17.41.120.*

RESPONSE: There are existing trees along the Swan Avenue frontage. Two of these trees will be removed to accommodate street frontage improvements. The trees removed will be mitigated by planting of street trees, consistent with Code requirements. No trees will be removed along the north side of Parcel 1 or on Parcel 2.

17.41.060 - Tree removal and replanting—Mitigation (Option 1).

A. Applicants for development who select this option shall ensure that all healthy trees shall be preserved outside the construction area as defined in OCMC 17.04 to the extent practicable. Preserved trees are subject to Option 3 of this Chapter. Compliance with these standards shall be demonstrated in a tree mitigation plan report prepared by a certified arborist, horticulturalist or forester or other environmental professional with experience and academic credentials in forestry or arboriculture. Tree inventories for the purposes of mitigation calculations may be prepared by a licensed surveyor. At the applicant's expense, the City may require the report to be reviewed by a consulting arborist. The number of replacement trees required on a development site shall be calculated separately from, and in addition to, any public or street trees in the public right-of-way required under OCMC 12.08— Public and Street Trees, any required tree planting in parking lots, and any trees planted in pedestrian and bicycle accessways.

B. The applicant shall determine the number of trees to be mitigated on the site by counting all of the trees six-inch DBH (minimum four and one-half feet from the ground) or larger on the entire site and either:

- 1. Trees that are removed outside of the construction area shall be replanted with the number of trees specified in Column 1 of Table 17.41.060-1. Trees that are removed within the construction area shall be replanted with the number of replacement trees required in Column 2; or*
- 2. Dying, diseased or hazardous trees, when the condition is verified by a certified arborist to be consistent with the definitions in OCMC 17.04, may be removed from the tree replacement calculation. Dead trees may also be removed from the calculation, with the condition of the tree verified either by the Community Development Director or by a certified arborist at the applicant's expense, when the Community Development Director cannot make a determination. To the extent that the Community Development Director determines that the dead, dying, hazardous or diseased condition of the tree is the result of intentional action, the removal of that tree shall require mitigation pursuant to Column 2 of Table 17.41.060-1.*

RESPONSE: The Arborist's Report, attached hereto, identifies 10 existing trees on the property. All but two of these trees will be retained. Trees #s 8 & 9 will be removed in conjunction with frontage improvements on Swan Avenue.

Tree #8 is diseased and hazardous, so no mitigation is required. The proposed tree removal mitigation will provide 2 replacement trees.

Chapter 17.47 - EROSION AND SEDIMENT CONTROL

17.47.010 - Purpose.

A. The purpose of this chapter is to require erosion prevention measures and sediment control practices for all development during construction to prevent and restrict the discharge of sediments, and to require final permanent erosion prevention measures, which may include landscaping, after development is completed. Erosion prevention techniques shall be designed to protect soil particles from the force of water and wind and other mechanical means so that they will not be transported from the site. Sediment control measures shall be designed to capture soil particles after they have become dislodged by erosion and attempt to retain the soil particles on-site.

B. The objective of these measures is to control, at the source, waterborne and airborne erosion and the air and water pollution that results from such erosion mechanisms. This chapter recognizes that all non-point discharges eventually end up in surface water bodies. This chapter is intended to control water quality degradation from construction and development activities and it applies in addition to any other applicable provision of this Code, state or federal law. This chapter is not intended to serve as a guideline for stormwater management control measures for already constructed developments.

17.47.030 - Applicability.

A. This chapter, which may also be referred to as "erosion control" in this Code, applies to development that may cause visible or measurable erosion on any property within the city limits of Oregon City.

B. This chapter does not apply to work necessary to protect, repair, maintain or replace existing structures, utility facilities, roadways, driveways, accessory uses and exterior improvements in response to emergencies, provided that after the emergency has passed, adverse impacts are mitigated in accordance with applicable standards.

RESPONSE: These erosion control provisions are applicable to this application.

17.47.060 - Permit required.

The applicant must obtain an erosion and sediment control permit prior to, or contemporaneous with, the approval of an application for any building, land use or other city-issued permit that may cause visible or measurable erosion.

RESPONSE: The applicant will obtain the required erosion control permit prior to any site or street construction.

17.47.070 - Erosion and sediment control plans.

A. An application for an erosion and sediment control permit shall include an erosion and sediment control plan, which contains methods and interim measures to be used during and following construction to prevent or control erosion prepared in compliance with City of Oregon City public works standards for erosion and sediment control. These standards are incorporated herein and made a part of this title and are on file in the office of the city recorder.

B. Approval Standards. An erosion and sediment control plan shall be approved only upon making the following findings:

- 1. The erosion and sediment control plan meets the requirements of the City of Oregon City public works standards for erosion and sediment control incorporated by reference as part of this chapter;*
- 2. The erosion and sediment control plan indicates that erosion and sediment control measures will be managed and maintained during and following development. The erosion and sediment control plan indicates that erosion and sediment control measures will remain in place until disturbed soil areas are permanently stabilized by landscaping, grass, approved mulch or other permanent soil stabilizing measures.*

C. The erosion and sediment control plan shall be reviewed in conjunction with the requested development approval. If the development does not require additional review, the manager may approve or deny the permit with notice of the decision to the applicant.

D. The city may inspect the development site to determine compliance with the erosion and sediment control plan and permit.

E. Erosion that occurs on a development site that does not have an erosion and sediment control permit, or that results from a failure to comply with the terms of such a permit, constitutes a violation of this chapter.

F. If the manager finds that the facilities and techniques approved in an erosion and sediment control plan and permit are not sufficient to prevent erosion, the manager shall notify the owner or his/her designated representative. Upon receiving notice, the owner or his/her designated representative shall immediately install interim erosion and sediment control measures as specified in the City of Oregon City public works standards for erosion and sediment control. Within three days from the date of notice, the owner or his/her designated representative shall submit a revised erosion and sediment control plan to the city. Upon approval of the revised plan and issuance of an amended permit, the owner or his/her designated representative shall immediately implement the revised plan.

G. Approval of an erosion and sediment control plan does not constitute an approval of permanent road or drainage design (e.g., size and location of roads, pipes, restrictors, channels, retention facilities, utilities, etc.).

RESPONSE: The preliminary erosion and sediment control plan meets the requirements of the City of Oregon City public works standards for erosion and sediment control incorporated by reference as part of this chapter.

17.47.080 - Plan implementation.

An approved erosion control and sediment control plan shall be implemented and maintained as follows:

A. Plan approval, where required, shall be obtained prior to clearing or grading. No grading, clearing or excavation of land requiring a plan shall be undertaken prior to approval of the plan.

B. The erosion and sediment control facilities shall be constructed prior to any clearing and grading activities, and maintained in such a manner as to ensure that sediment laden water does not enter the drainage system or violate applicable water standards.

C. The implementation of an erosion and sediment control plan and the construction, maintenance, replacement, and upgrading of erosion and sediment control facilities is the responsibility of the owner or his/her designated representative until all construction is completed and approved, and vegetation, landscaping or approved finished surfaces is established.

D. The erosion and sediment control facilities herein are the minimum requirements for anticipated site conditions. During the construction period, these erosion and sediment control facilities shall be upgraded as needed for unexpected storm events and to ensure that sediment-laden water does not leave the site.

E. Any observation of visible or measurable erosion, or an observation of more than a ten-percent increase in downstream channel turbidities, will result in an enforcement action by the city.

F. The owner or his/her designated representative shall implement the measures and construct facilities as provided for and according to the implementation schedule in the approved plan. The manager shall be allowed reasonable access to the development site for inspection purposes.

17.47.090 - Plan performance guarantee and security.

After the plan is approved by the manager and prior to construction or grading, the owner shall provide a financial guarantee. Erosion and sediment control shall be included in the cost estimate for the primary project, such as land division or site plan, and included in that project's performance guarantee.

RESPONSE: Compliance with .47.080 and 47.90 will be addressed as part of Construction Plan review and approval.

Chapter 17.50 - ADMINISTRATION AND PROCEDURES

17.50.010 - Purpose.

This chapter provides the procedures by which Oregon City reviews and decides upon applications for all permits relating to the use of land authorized by ORS Chapters 92, 197 and 227. These permits include all form of land divisions, land use, limited land use and expedited land division and legislative enactments and amendments to the Oregon City comprehensive plan and Titles 16 and 17 of this code. Pursuant to ORS 227.175, any applicant may elect to consolidate applications for two or more related permits needed for a single development project. Any grading activity associated with development shall be subject to preliminary review as part of the review process for the underlying development. It is the express policy of the city that development review not be segmented into discrete parts in a manner that precludes a comprehensive review of the entire development and its cumulative impacts.

17.50.030 - Summary of the City's decision-making processes.

RESPONSE: The preliminary partition plat will be reviewed by Type II procedures. However, the applicant is requesting a Variance for reduced lot areas.

The Variance for both parcels is greater than 5%, therefore the reduced lot areas will be reviewed as a single Major variance. The reduction in lot size for Parcel 1 is 9%, while Parcel 2 is 10%.

Therefore, the requested Variance will be reviewed by the Planning Commission with Type III procedure.

Chapter 17.60 - VARIANCES

17.60.010 - Authority.

According to procedures set forth in Section 17.60.030, the planning commission or the community development director may authorize variances from the requirements of this title. In granting a variance, the planning commission or community development director may attach conditions to protect the best interests of the surrounding property or neighborhood and otherwise achieve the purposes of this title. No variances shall be granted to allow the use of property for a purpose not authorized within the zone in which the proposed use would be located.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009)

RESPONSE: The applicant is requesting a Major Variances for reduced lot sizes less than 10,000 square feet. The proposed partition is to allow construction of one additional single-family home, which is a permitted use in the R-10 zone.

The variance for reduced lot sizes is necessary due to required dedication of right-of-way. The parent property (Tax Lot 2000) contains 20,562 square feet, which is sufficient for 2 10,000 square foot lots. However, the required dedication of rights-of-way for both Swan Avenue and Ames Street reduces the proposed Parcel sizes below 10,000 square feet.

After the dedication Parcel 1 will be 9,121 square feet, and Parcel 2 will be 9,002 square feet.

17.60.020 - Variances—Procedures.

A. A request for a variance shall be initiated by a property owner or authorized agent by filing an application with the city recorder. The application shall be accompanied by a site plan, drawn to scale, showing the dimensions and arrangement of the proposed development. When relevant to the request, building plans may also be required. The application shall note the zoning requirement and the extent of the variance requested. Procedures shall thereafter be held under Chapter 17.50. In addition, the procedures set forth in subsection D. of this section shall apply when applicable.

B. A nonrefundable filing fee, as listed in Section 17.50.[0]80, shall accompany the application for a variance to defray the costs.

C. Before the planning commission may act on a variance, it shall hold a public hearing thereon following procedures as established in Chapter 17.50. A Variance shall address the criteria identified in Section 17.60.030, Variances — Grounds.

RESPONSE: The requested Variance is being initiated by the applicant, and authorized by the property owner. The applicant has paid the applicable land use review fee.

The City will provide the appropriate notice and schedule the hearing before the Planning Commission.

D. Minor variances, as defined in subsection E. of this section, shall be processed as a Type II decision, shall be reviewed pursuant to the requirements in Section 17.50.030B., and shall address the criteria identified in Section 17.60.030, Variance — Grounds.

E. For the purposes of this section, minor variances shall be defined as follows:

1. Variances to setback and yard requirements to allow additions to existing buildings so that the additions follow existing building lines;
2. Variances to width, depth and frontage requirements of up to twenty percent;
3. Variances to residential yard/setback requirements of up to twenty-five percent;
4. Variances to nonresidential yard/setback requirements of up to ten percent;
5. Variances to lot area requirements of up to five;
6. Variance to lot coverage requirements of up to twenty-five percent;
7. Variances to the minimum required parking stalls of up to five percent; and
8. Variances to the floor area requirements and minimum required building height in the mixed-use districts.
9. Variances to design and/or architectural standards for single family dwellings, duplexes, single-family attached dwellings, internal conversions, accessory dwelling units, and 3-4 plexes in OCMC 17.14, 17.16, 17.20, 17.21, and 17.22.

RESPONSE: The Variance exceeds 5% of the required lot size. Therefore, it does not qualify as Minor Variance. Consequently, this request requires a Type III Planning Commission review.

7.60.030 - Variance—Grounds.

A variance may be granted only in the event that all of the following conditions exist:

A. That the variance from the requirements is not likely to cause substantial damage to adjacent properties by reducing light, air, safe access or other desirable or necessary qualities otherwise protected by this title;

RESPONSE: The variance from the minimum 10,000 square foot lot size requirements is not likely to cause substantial damage to adjacent properties as a result of reducing light, air, safe access or other desirable or necessary qualities otherwise protected by this title.

The two parcels will be 9,121 square feet for the existing house and 9,002 square feet for the new lot, after the required dedication of rights-of-way.

The lot size for Parcel 1 accommodates the existing house while maintaining compliance with all R-10 setbacks. Parcel 2 is sufficiently sized to provide ample space for a home and plenty of usable yard area, while accommodating standard R10 setbacks, as reflected in Table 3 above.

B. That the request is the minimum variance that would alleviate the hardship;

RESPONSE: The areas of the two parcels is only reduced below the minimum 10,000 square feet, by the amount of square footage required for dedication of rights-

of-way. No additional area reduction is proposed, thereby meeting the minimum variance criterion to alleviate the hardship.

C. Granting the variance will equal or exceed the purpose of the regulation to be modified.

RESPONSE: The applicant believes that the City's purpose for the regulations being modified is to accommodate housing on reasonably sized lots, while providing for adequate usable outdoor yard area for family use and enjoyment. The combination of lot size and setbacks is assumed to meet these purposes.

The applicant further believes that the requested variance meets these purposes to the degree practicable. The only reason the variance is necessary is the required dedication of rights-of-way along two street frontages. The dedications are a normal and necessary public need to provide public streets consistent with the Transportation System Plan.

D. Any impacts resulting from the adjustment are mitigated;

RESPONSE: The applicant believes that the impact of the reduced lot areas will be mitigated by the provision of additional rights-of-way for the abutting public streets. The dedications equal a significant public benefit in maintaining an adequate street system in exchange for slightly smaller lots.

The net result of the reduced lot areas will not have any significant cumulative impact on the two properties or the surrounding neighborhood. The minor difference in lot sizes will not be appreciably noticeable from the abutting streets. The two parcels will have ample yard area surrounding the two homes and the available yards will provide ample outdoors living space for the residents of the two homes. The reduced lot area will not be visually recognizable to the average passerby.

E. No practical alternatives have been identified which would accomplish the same purpose and not require a variance; and

RESPONSE: In this case, the need for the lot size variance is the result of required dedication of rights-of-way for Swan Avenue and Ames Street. There are only two possible alternatives to avoid a variance, which are:

1. To not divide the property, which conflicts with the City's general intent to provide for in-fill housing on reasonably sized lots; or
2. To not dedicate right-of-way for the abutting public streets, which conflicts with the City general intent to provide an adequate public street system, in compliance with the Transportation System Plan (TSP).

F. The variance conforms to the comprehensive plan and the intent of the ordinance being varied.

RESPONSE: In this case, the need for the two variances generally conform to the comprehensive plan relative to providing for in-fill housing on reasonably sized lots and to provide an adequate public street system, in compliance with the Transportation System Plan (TSP).

Strict application of these two R-10 standards would eliminate the ability to divide the subject property. Such strict application of standards would diminish the City's ability to add additional housing and minimize its ability to provide public streets in compliance with the TSP.

III. FINAL CONCLUSION

Based on the findings provided herein, the application complies with all of the applicable approval criteria for R10 Zoning (17.08); Land Division and other Code sections as addressed herein.

The applicant has also requested a variance to the minimum lot area, and has demonstrated compliance with the Variance Section 17.60.

The applicant has requested a modification of required street improvements for the Ames Street frontage, and has demonstrated compliance with Section 16.12.013.

Therefore, the applicant respectfully requests approval.



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December 23, 2019

Pete Walter, Senior Planner
City of Oregon City
698 Warner Parrott Rd.
Oregon City, Oregon, 97045

RE: Response to Incomplete Application – PR-000147-2019/GLUA-19-00044
Pioneer Project No.: 999-236

Dear Pete:

This letter provides responses to your notification of Incomplete Application, date December 11, 2019.

DETERMINATION OF APPLICATION INCOMPLETENESS

Your project has been evaluated and found to be incomplete for processing.

XX GLUA-19-00044 is Incomplete

The Minor Partition and Variance application you submitted has been deemed incomplete for processing. The following is needed for a complete application:

Code Response Needed

OCMC 17.60.030 – Variance-Grounds F. The variance conforms to the comprehensive plan and the intent of the ordinance being varied.

*The code response provided does not cite the **relevant Comprehensive Plan Goals and Policies** pertinent to the application, nor does it state the specific intent of the code to be varied. A template copy of the relevant Comprehensive Plan Goals and Policies is provided for your use.*

RESPONSE: The following responses are provided to demonstrate compliance with the applicable Comprehensive Plan Goals and Policies.

16.04.010 - Purpose.

This title is enacted in compliance with ORS 92.010 through 92.160 to establish procedures and standards for partitioning and subdividing land within the City. These regulations, along with requirements of the City's underlying zoning, provide the dimensional requirements for building lots, street locations, street

design, rights-of-way, location requirements for houses on residential lots, the provision of adequate open space for recreation and community facilities, and the basic requirements for the installation of public utilities, all with the aim of achieving:

A sufficient supply of needed housing with satisfactory living conditions in new subdivisions that comply with Statewide Planning Goal 10 and implementing administrative rules, guidelines and statutes;

RESPONSE: The subject property has been designated for residential use in the City's Comprehensive Plan, based on the Buildable Lands Inventory and the existing residential use. Consistent with the Plan designation, the property is zoned R-10.

The proposed Partition, with Variance for lot size, because due to street dedication the lots fall below the 10,00 square foot R-10 minimum standard, as addressed in the original Compliance Narrative.

A. The protection, conservation and proper use of the land;

RESPONSE: The Comprehensive Plan does not identify or designate any of the subject property for protection of conservation.

C. The timely and efficient extension of public facilities and services without excessive expenditure of public funds in accordance with Statewide Planning Goals 11 and 14 and their implementing administrative rules and guidelines;

RESPONSE: A full range of public facilities are available and adequately sized to serve the proposed Partition. The existing house is currently served by these facilities, and appropriate line extensions will be provided to serve the proposed new lot.

B. The simplification and greater accuracy of land descriptions;

RESPONSE: The applicant has no idea what is meant by "*simplification and greater accuracy of land descriptions*" but will attempt to respond as follows:

The property is clearly and accurately designated for residential use in the Comprehensive Plan and is appropriately zoned R-10 consistent with the Plan designation. The property is further clearly identified by the address of the existing house, 15910 Swan Avenue, and by the County Tax Lot reference. T2S R2E, Map 21CD, Tax Lot 02000. And the Title Report submitted with the applicant provides the legal description of the property.

The proposed 2-Lot Partition clearly identifies the property in the form of the Proposed Preliminary Plat.

C. The protection of property owners from excessive assessment for future utility installations and to provide a means of ensuring that property owners pay only their fair share of the cost of providing public facilities and services;

RESPONSE: This provision is not within the control of the applicant, as it is the responsibility of the City to ensure utilities fees and SDCs are fair and proportional to the impacts of any proposed development.

The applicant will pay for all required utility connections, line extensions, etc. consistent with the rates and requirements established by the City.

F. The protection of the health, safety and general welfare of the public;

RESPONSE: Again, this is the primary obligation of the City, in establishing Goals, Policies and regulations.

The proposed 2-Lot Partition is designed consistent with the applicable zoning and land division requirements. The requested Variance for reduced lot size, will not negatively affect the health, safety and general welfare of the public.

G. Increased consumer protection by assuring that only those lots which have met city requirements and have been lawfully created through subdivision or partition approval are allowed to be advertised for sale;

RESPONSE: Compliance with this provision will be confirmed, if the City approves the application. State law further prohibits sale of a parcel that is not legally created by Plat, or other means, consistent with local land use regulations.

H. Increased urban density and a livable design that achieves Metro-mandated requirements, while providing an enjoyable living and working environment; and

RESPONSE: The proposed 2-Lot Partition, if approved, will appropriately increase urban density, consistent with the R-10 regulations. In this context, the proposed partition will result in one additional home, which will provide for enjoyable living compatible with the neighborhood character.

I. Safe, direct and convenient pedestrian and bicycle access, where reasonably possible within, from and between residential, commercial, industrial and institutional developments and neighborhood activity centers in accordance with Statewide Planning Goal 12 and the implementing administrative rule.

RESPONSE: If approved, the Partition will provide frontage improvements along Swan Avenue consistent with City (Goal 12) standards. These improvements will include a

sidewalk. The existing road network provides bicycle access to and from the neighborhood.

17.08.010 - Designated.

The R-10, R-8 and R-6 residential districts are designed for low density residential development.

16.08.010 - Purpose and general provisions.

D. Purpose. The purpose of this chapter is to provide a speedy review and decision-making process with relatively clear and objective criteria indicating little discretion, with little opportunity to deviate from the City's dimensional standards. If an applicant wishes greater flexibility in lot pattern or layout, phasing of development, or relief from dimensional or public improvement standards, the appropriate procedure would be a Master Plan / Planned Unit Development pursuant to OCMC 17.65 or an additional application for a variance(s) pursuant to OCMC 17.60.

RESPONSE: The subject property is zoned R-10. The applicant is proposing a 2-Lot Partition consistent with the R-10 requirements, with consideration for the requested Variance for reduced lot size, per OCMC 17.60.

As addressed in the original Compliance Narrative, the basis for the variance stems from the requirement to dedicate additional right-of-way for two street frontages. These dedications reduce the lot sizes just below the 10,000 square foot R-10 standard, to 9,121 & 9,002 square feet.

Comprehensive Plan Goals and Policies pertinent to a Variance for Residential Land Use

The following goals and policies are selected to assist applicants in responding to OCMC 17.60.030 – Variance-Grounds (F.) The variance conforms to the comprehensive plan and the intent of the ordinance being varied.

Goal 2.1 Efficient Use of Land

Ensure that property planned for residential, commercial, office, and industrial uses is used efficiently and that land is developed following principles of sustainable development.

RESPONSE: The proposed 2-Lot Partition is an efficient use of this over-sized residential lot. With the requested Variance for reduced lot size the Partition will substantially comply with the R-10 standards.

The additional lot being created will be adequately supported by existing public facilities and services. The development will provide for dedication of additional rights-of way for both Swan Avenue and Ames Street, consistent with TSP standards. All improvements will be consistent with City standards, which are presumed to be sustainable.

Policy 2.1.1

Create incentives for new development to use land more efficiently, such as by having minimum floor area ratios and maximums for parking and setbacks.

RESPONSE: In this case, the incentive the City provides is the option to request a Variance from the minimum lot area standard. This Variance option allows the applicant to reduce the lot areas, below the minimum 10,000 square feet, in order to compensate for the dedication of additional rights-of-way.

Goal 2.4 Neighborhood Livability

Provide a sense of place and identity for residents and visitors by protecting and maintaining neighborhoods as the basic unit of community life in Oregon City while implementing the goals and policies of the other sections of the Comprehensive Plan.

RESPONSE: The requested Partition maintains the character of the surrounding neighborhood, which is predominantly single family residential.

Policy 2.6.5

Ensure that land-use patterns create opportunities for citizens to live closer to their workplace.

RESPONSE: The land use pattern is set by the City's Comprehensive Plan. The applicant has no influence over the land use designations, as to proximity to work places.

The applicant is simply seeking to implement the applicable Plan provisions to create an In-Fill lot in an R-10 residential neighborhood.

Goal 2.7 Oregon City Comprehensive Plan Land-Use Map

Maintain the Oregon City Comprehensive Plan Land-Use Map as the official long-range planning guide for land-use development of the city by type, density and location.

RESPONSE: This Goal is fully the responsibility of the City, not the applicant.

Goal 10.1 Diverse Housing Opportunities

Provide for the planning, development and preservation of a variety of housing types and lot sizes.

RESPONSE: The City has set the stage for a variety of housing types by the Comprehensive Plan land use and zoning designations.

The applicant is seeking to implement a small element of the Plan by creating one additional lot for a single-family home in an R-10 neighborhood. If approved, this partition will reinforce the existing single-family character of the neighborhood.

Policy 10.1.1

Maintain the existing residential housing stock in established older neighborhoods by maintaining existing Comprehensive Plan and zoning designations where appropriate.

RESPONSE: Again, the City has set the stage for a variety of housing types by the Comprehensive Plan land use and zoning designations. The City has established R-10 zoning for this particular neighborhood, which maintains existing housing stock, while allowing for appropriate In-fill development.

The applicant is seeking to implement a small element of the Plan by creating one additional lot for a single-family home in an R-10 neighborhood. If approved, this partition will reinforce the existing single-family character of the neighborhood.

Goal 11.1 Provision of Public Facilities

Serve the health, safety, education, welfare, and recreational needs of all Oregon City residents through the planning and provision of adequate public facilities.

RESPONSE: The City has adequately established master plans for public facilities.

The proposed Partition will be adequately supported by existing public facilities, with lateral line connections provided for the new lot. The existing house is currently connected to City facilities.

Policy 11.1.3

Confine urban public facilities and services to the city limits except where allowed for safety and health reasons in accordance with state land-use planning goals and regulations. Facilities that serve the public will be centrally located and accessible, preferably by multiple modes of transportation.

RESPONSE: The subject site is located within the existing city limits, and all urban services are immediately available and adequate to support the proposed Partition. The existing street network provides for multimodal access to and from the neighborhood.

Policy 11.1.4

Support development on underdeveloped or vacant buildable land within the city where public facilities and services are available or can be provided and where land-use compatibility can be found relative to the environment, zoning, and Comprehensive Plan goals.

RESPONSE: All urban services are immediately available and adequate to support the proposed Partition. The existing street network provides for multimodal access to and from the neighborhood.

There are no protected environmentally sensitive areas associated with this property. The proposed Partition is compatible with the established single-family character of this neighborhood.

Policy 11.1.6

Enhance efficient use of existing public facilities and services by encouraging development at maximum levels permitted in the Comprehensive Plan, implementing minimum residential densities, and adopting an Accessory Dwelling Unit Ordinance to infill vacant land.

RESPONSE: This proposed 2-Lot Partition is consistent with the allowed R-10 density, as established by the Comprehensive Plan and Zoning Code and Map. This application represents an appropriate infill of under-utilized residential land.

Goal 11.6 Transportation Infrastructure

Optimize the City's investment in transportation infrastructure.

RESPONSE: This development is supported by the City existing transportation infrastructure, and the development will provide appropriate dedication of additional rights-of-way consistent with the TSP. Appropriate frontage improvements will also be provided along Swan Avenue, further enhancing the City's investment.

Policy 12.1.4

Provide walkable neighborhoods. They are desirable places to live, work, learn and play, and therefore a key component of smart growth.

RESPONSE: The development will provide frontage improvements along Swan Avenue, including sidewalk, consistent with City standards.

Goal 12.5 Safety

Develop and maintain a transportation system that is safe.

Policy 12.5.1

Identify improvements that are needed to increase the safety of the transportation system for all users.

RESPONSE: The frontage improvements to be provided by this development will further enhance the safety of the existing streets fronting the property. These improvements were identified in the Pre-Application Conference for this development.

Goal 14.2 Orderly Redevelopment of Existing City Areas

Reduce the need to develop land within the Urban Growth Boundary by encouraging redevelopment of underdeveloped or blighted areas within the existing city limits.

RESPONSE: The proposed Partition is an In-fill development, of under-developed residential land.

Policy 14.2.1

Maximize public investment in existing public facilities and services by encouraging redevelopment as appropriate.

RESPONSE: The proposed Partition is Infill, rather than redevelopment, but the effect is similar relative to maximizing efficient use of the City's public infrastructure investments.

Policy 14.2.2

Encourage redevelopment of city areas currently served by public facilities through regulatory and financial incentives.

RESPONSE: The subject property is located in an existing neighborhood that is currently served by existing public facilities.

With these supplemental findings, we believe the application will be complete.

Sincerely,

Pioneer Design Group, Inc.



Ben Altman

Senior Planner/Project Manager



OREGON CITY

Pre-Application Conference Notes

PA 18-38, October 16, 2018

Proposed Project: Two-Lot Minor Partition

General Information

- Location: 15910 Swan Avenue, Oregon City, OR 97045
Clackamas County Map 2-2E-21CD, Tax Lot 2000
- Zoning: "R-10" Single-Family Dwelling District
- Overlay Districts: High Water Table

Review Process

This application is a **Type II** decision process involving a Minor Partition. The applicant has **180 days** from the date of submittal to have a complete application.

Upon a complete application submittal, the applicant is entitled to a decision from the city for a decision of approval, approval with conditions or denial within **120 days** of deeming the application complete, by state law. Type II decisions are rendered by the Community Development Director, with appeal on the record to the City Commission, and then onto LUBA.

Type II decisions are based on the code approval criteria and require limited discretion by the Community Development staff in order to be approved. Staff is not authorized to waive any requirements of the code except for modifications through Chapter 12.04.

A Planning Commission Variance, if required, is reviewed through a Type III process. Type III decisions require a minimum of one public hearing before the Planning Commission and involve the greatest amount of discretion and evaluation of subjective approval standards, yet are not required to be heard by the City Commission except upon appeal.

Minor Partition

- The lines of new parcels shall run at right angles to the street upon which they face as far as practicable.
- New homes must comply with residential design standards in OCMC 17.20.
- New parcels shall have a minimum of twenty feet of frontage on a street.
- Existing and proposed lots and structures must comply with all dimensional standards of the "R-10" Single-Family Dwelling District.
- Additional driveways on Swan Avenue are not permitted.
- "R-10" Single-Family District dimensional standards:
 - Minimum lot area: 10,000 square feet
 - Minimum lot width: 65 feet
 - Minimum lot depth: 80 feet
- "R-10" Single-Family District minimum required setbacks for all existing and proposed structures:
 - Front yard: 20 feet
 - Front porch: 15 feet

- Attached and detached garage: 20 feet from the public right-of-way where access is taken
 - Interior side yard: 10 feet for at least one side yard, 8 feet for the other side yard
 - Corner side yard: 15 feet
 - Rear yard: 20 feet
 - Rear porch: 15 feet
- The existing shed must be removed or relocated to meet setbacks. If the shed is proposed to be removed, a demolition permit from the Building Division is required.
- Required setbacks for a 256 SF shed are:
 - 3 feet to rear and side property lines measured from any eaves or overhangs
 - The shed may not be located in front of the front building façade of the home
- Proposed lots must demonstrate compliance with lot coverage standards of the R-10 zoning district.
 - Structures with a footprint of over 200 square feet cannot cover more than 40% of the lot area (decks and porches do not count towards lot coverage).

Variance:

- A variance to lot size and to the required rear yard setback may be required.
- Per OCMC 17.60.020.E.5, variances to lot size up to a 5% lot size reduction may be processed as a Type II Administrative Variance application. A Planning Commission Variance is required if more than a 5% reduction to lot size is being requested.
- Per OCMC 17.60.020.E.3, variances to yard/setback requirements of up to 25% may be processed as a Type II Administrative Variance application. A Planning Commission Variance is required if more than a 25% reduction to setbacks is being requested.
- Letters of support from the abutting property owners are helpful.
- A variance may be granted only in the event that *all* of the following conditions exist:
 - That the variance from the requirements is not likely to cause substantial damage to adjacent properties by reducing light, air, safe access, or other desirable or necessary qualities otherwise protected by this title;
 - That the request is the minimum variance that would alleviate the hardship;
 - Granting the variance will equal or exceed the purpose of the regulation to be modified;
 - Any impacts resulting from the adjustment are mitigated;
 - No practical alternatives have been identified which would accomplish the same purpose and not require a variance; and
 - The variance conforms to the comprehensive plan and the intent of the ordinance being varied. The following are examples of relevant comprehensive plan goals that should be responded to:
 - Goal 2.4 – Neighborhood Livability
 - Goal 5.3 – Historic Resources
 - Goal 10.1 – Diverse Housing Opportunities

Tree Protection/Mitigation and Street Trees

Tree removal outside of the delineated NROD boundary during the land development process is subject to compliance with tree protection and mitigation standards.

- Street trees are subject to OCMC Chapter 12.08
- A street tree plan demonstrating compliance with OCMC Chapter 12.08 is required
- Tree removal is subject to OCMC Chapter 17.41
- Tree protection standards are subject to 17.41.130
- A mitigation plan prepared by a qualified professional is required in accordance with OCMC Chapter 17.41.

Transportation Impacts:

The City's traffic engineering consultant has determined that transportation analysis is not required as part of this Site Plan and Design Review application.

The applicant's traffic engineer is welcome to contact the city's traffic engineering consultant, John Replinger, at Replinger-Associates@comcast.net or at 503-719-3383.

Upcoming Code Changes

The City is proposing Housing and Development Code Amendments which may affect your proposal, however, no changes to the dimensional standards of the "R-10" Single-Family Dwelling District are currently being proposed. The code amendments are anticipated to come into effect around the beginning of 2019. The application is subject to compliance with the code that is in place on the date that the land use application is submitted. Depending on the date of submittal, the applicant may contact staff for an updated code criteria template.

For details on the proposed code amendments, please visit the following site:

<https://www.orcity.org/planning/housing-and-other-development-and-zoning-code-amendments>

Other notes:

- A neighborhood association meeting is not required, but is recommended for a Minor Partition application. You are in the Park Place Neighborhood Association. Please contact the Park Place Neighborhood Association to schedule a meeting, if desired.

Neighborhood Association:	Park Place NA
Chair:	Greg Stone, gpstone72@yahoo.com
Vice Chair:	Steve Van Haverbeke, steve@vanhaverbeke.org
Treasurer:	Ray Renken, rbrenken@comcast.net
Secretary:	Lisa Novak, novak0929@gmail.com
CIC Primary Representative:	Steve Van Haverbeke, steve@vanhaverbeke.org
CIC Alternate Representative:	Greg Stone, gpstone72@yahoo.com
Upcoming Meetings:	General meetings TBD 2019 Steering Committee Meeting: November 19, 2018
Meeting Location:	Oregon City View Manor, Community Center, 200 S Longview Way, Oregon City, OR 97045
Meeting Time:	6:30 PM

- Please include the Citizen Involvement Committee Chair, Amy Willhite, in any Neighborhood Association meeting requests, notifications or correspondence. Amy can be reached at awillhit@yahoo.com
- OCMC 17.50.055 requires submittal of the meeting sign-in sheet, a summary of issues discussed, and a letter from the neighborhood association indicating that a meeting was held.
- Your application was transmitted to the State Historic Preservation Office (SHPO) and affected tribes for review. Comments received have been provided.

Planning Review and Application Fees:

The 2018 Planning applications and fees include-

- Minor Partition: \$4,124
- Planning Commission Variance: \$2,602
- Administrative Variance: \$1,401 (per variance application)
- Planning Commission Variance: \$2,602 (per variance application)
- Mailing Labels: \$16 – or provided by applicant

- 2018 Planning Fee Schedule

Applications, Checklists and Links:

- Type II Review Process
- Type III Review Process
- Land Use Application
- Minor Partition Checklist
- Oregon City Municipal Code

Oregon City Municipal Code Criteria:

The following chapters of the Oregon City Municipal Code (OCMC) may be applicable to this proposal:

OCMC 12.04 – Streets, Sidewalks and Public Places

OCMC 12.08 – Public and Street Trees

OCMC 13.12 – Stormwater Management

OCMC 15.48 – Grading, Filling, and Excavating

OCMC 16.12 – Minimum Improvements and design Standards for Land Divisions

OCMC 17.08 – “R-10” Single-Family Dwelling District

OCMC 17.20 – Residential Design and Landscaping Standards

OCMC 17.41 – Tree Protection Standards

OCMC 17.47 – Erosion and Sediment Control

OCMC 17.50 – Administrative Processes

OCMC 17.60 – Variances

Planning Division

Diliana Vassileva, Assistant Planner with the Oregon City Planning Division reviewed your pre-application. You may contact Diliana Vassileva at 503.974.5501 or dvassileva@oregoncity.org.

Development Services Division

Mario de la Rosa, Senior Development Project Engineer with the Oregon City Development Services Division reviewed your pre-application. You may contact Mario de la Rosa at 503.974.5518 or mdelarosa@orc.org.

Building Division

Your application was transmitted to Building Official, Mike Roberts. You may contact Mike Roberts, Building Official, at 503.496.1517 or mroberts@orc.org if you have any building related questions.

Clackamas County Fire

Your application was transmitted to Mike Boumann, Lieutenant Deputy Fire Marshal of Clackamas County Fire District #1. No comments were returned regarding your application. You may contact Mr. Boumann at 503.742.2660 or at michaelbou@ccfd1.com.

Pre-application conferences are required by Section 17.50.050 of the City Code, as follows:

A. Preapplication Conference. Prior to submitting an application for any form of permit, the applicant shall schedule and attend a preapplication conference with City staff to discuss the proposal. To schedule a preapplication conference, the applicant shall contact the Planning Division, submit the required materials, and pay the appropriate conference fee. At a minimum, an applicant should submit a short narrative describing the proposal and a proposed site plan, drawn to a scale acceptable to the City, which identifies the proposed land uses, traffic circulation, and public rights-of-way and all other required plans. The purpose of the preapplication conference is to provide an opportunity for staff to provide the applicant with information on the likely impacts, limitations, requirements, approval standards, fees and other information that may affect the proposal. The Planning Division shall provide the applicant(s) with the identity and contact persons

for all affected neighborhood associations as well as a written summary of the preapplication conference. Notwithstanding any representations by City staff at a preapplication conference, staff is not authorized to waive any requirements of this code, and any omission or failure by staff to recite to an applicant all relevant applicable land use requirements shall not constitute a waiver by the City of any standard or requirement.

B. A preapplication conference shall be valid for a period of six months from the date it is held. If no application is filed within six months of the conference or meeting, the applicant must schedule and attend another conference before the City will accept a permit application. The community development director may waive the preapplication requirement if, in the Director's opinion, the development does not warrant this step. In no case shall a preapplication conference be valid for more than one year.

NOTICE TO APPLICANT: A property owner may apply for any permit they wish for their property. HOWEVER, THERE ARE NO GUARANTEES THAT ANY APPLICATION WILL BE APPROVED. No decisions are made until all reports and testimony have been submitted. This form will be kept by the Community Development Department. A copy will be given to the applicant. IF the applicant does not submit an application within six (6) months from the Pre-application Conference meeting date, a NEW Pre-Application Conference will be required.



**DEVELOPMENT SERVICES
PRE-APPLICATION MEETING NOTES**

Planning Project Number: PA 18-38
Address: 15910 Swan Avenue, Oregon City, OR 97045
Map Number(s): 2-2E-21CD
Tax Lot(s): 02000
Project Name: Ashley Punch Minor Partition
Meeting Date: October 16, 2018
Reviewer(s): Mario de la Rosa

General Comments

1. A complete land use application will typically include a preliminary stormwater report and preliminary construction plans showing all public improvements, including sewer, water, grading and erosion control, and stormwater facilities. The application should also include a narrative responding to all sections of the Oregon City Municipal Code (OCMC) applicable to the proposed development.
2. All applicable conditions of approval included as part of a land use approval must be addressed within the construction plans, which will be reviewed and approved prior to issuance of building permits.
3. All applicable System Development Charges (SDC) shall be due and payable upon building permit issuance. The applicant will need to complete a SDC request form for new house, found on the City's website.
4. The applicant may be required to sign a Non-Remonstrance Agreement for the purpose of making sanitary sewer, storm sewer, water or street improvements in the future that benefit the Property and assessing the cost to benefited properties.
5. All public improvements must be bonded with a 120% performance bond prior to the beginning of construction. Public improvements are defined as public utility extensions and roadway improvements within existing right-of-way. Public improvements may also be on private property in certain circumstances. This bond is released at the end of the construction period assuming everything is constructed as agreed upon.
6. All newly constructed public improvements shall be maintained for a 2-year period following their acceptance of construction with a 15% maintenance bond. Newly constructed public improvements consist of those improvements within existing right of way and those that were constructed on private land that will be owned by the City following approval of a plat. This bond is released at the end of the 2 –year maintenance period.

7. An erosion control application and review must be completed prior to issuance of construction permit : <https://www.orcity.org/publicworks/erosion-control-0>

Streets – The proposed development has frontage on (2) streets.

1. Swan Avenue is classified as a “Collector” street. Swan Avenue has an approximately 57-foot to 40-foot-wide right-of-way (ROW) along the property’s frontage, with approximately 20 feet on the subject property side of the centerline. The frontage along Swan Avenue has approximately 11 feet of pavement from centerline and no curb on the subject property side of the centerline.

Based on the development pattern of Swan Avenue, the development will be required to provide approximately 9-feet of ROW dedication for a total half-street ROW width of 29-feet. The development will be required to provide street improvements on the subject side of centerline consisting of the following: (1) 11-foot-wide lane, (1) 6-foot-wide bike lane, 0.5-foot-curb and gutter, 5-foot-wide planter strip, 6-foot-wide sidewalk and a 0.5-foot-wide public access strip. The development will be required to provide approximately 9- feet of ROW dedication along Swan Avenue and provide improvements on the subject property side of the centerline.

Potentially less than 17-feet of asphalt pavement would be required depending on condition of existing asphalt pavement.

2. Ames Street is classified as a “Local” street. Ames Street has an approximate 45-foot-wide right-of-way (ROW) along the property’s frontage, with approximately 20 feet on the subject property side of the centerline. The frontage along Ames Street has approximately 11 feet of pavement from centerline and no curb on the subject property side of the centerline.

Based on the development pattern of Ames Street, the development will be required to provide approximately 5-feet of ROW dedication for a total half-street ROW width of 25-feet. The following street improvements on the subject side of centerline may be required: 14-feet of asphalt pavement, 0.5-foot-curb and gutter, 5-foot-wide planter strip, 5-foot-wide sidewalk and a 0.5-foot-wide public access strip.

Potentially less than 14-feet of asphalt pavement may be required depending on condition of existing asphalt pavement.

3. The development will be required to provide a 10-foot-wide Public Utility Easement (PUE) along Swan Avenue and Ames Street frontage for all lots.
4. Overhead utilities are required to be relocated underground unless deemed infeasible by utility providers (coordination with overhead utility provider(s) is required).

5. Street lighting along the frontage of the development will be required. For street lighting, coordinate with the following PGE Outdoor Lighting Services Department Design Project Managers.

Lisa Guarnero (Primary)
(503) 742-8299
Lisa.guarnero@pgn.com

Jeff Steigleder (Back-Up)
(503) 672-5462
Jeffery.Steigleder@pgn.com

6. The applicant will need to have a consultant design the street lights. PGE no longer designs street lighting required for private developments. The street lights need to be designed per requirements in Oregon City Municipal Code Table 1-17.62.065. When the design is complete, PGE and City will provide approval.
7. Reduction to the standard improvements, ROW dedication and other deviations from the City's street design standards may be requested through the modification process outlined in section 12.04.007 of the Oregon City Municipal Code. Proposed modifications may require additional evidence and analysis for review.

Stormwater

1. The following are General Thresholds from the Stormwater and Grading Design Standard (Section 1.2.1), which can be found online at:
https://www.orcity.org/sites/default/files/fileattachments/public_works/page/4224/final_manual_0.pdf
 - A. Development activities that result in 5,000 square feet of new or replaced impervious surface, cumulative over a 5-year period.
2. The project, as described in the Pre-Application submittal, appears to be within the above General Thresholds. However, General Thresholds for Stormwater and Grading Design Standard may not apply due to subsequent design changes at submittal of the application.
3. The project, as described in the Pre-Application submittal, appears to trigger Part A of the above General Thresholds. Projects within the General Thresholds are subject to the requirements of the City's Stormwater and Grading Design Standards.
4. Where compliance with the Stormwater and Grading Design Standards is required, applicants must submit a completed Site Assessment and Planning Checklist (and other items as described in Section 9.1.1 of the Stormwater and Grading Design Standards) as part of the land use application review process. At a minimum the applicant should submit a preliminary stormwater report addressing the following items from Section 9.1.1 of the City's Stormwater and Grading Design Standards.
 - A. Stormwater management strategy
 - B. A site plan showing an adequately sized stormwater facility based on Stormwater Best Management Practices (BMP) Sizing Tool or sized using the Engineered Method (as defined by City's Stormwater and Grading Design Standards).

- C. A geotechnical report or a Natural Resource Conservation Service (NRCS) soils report documenting onsite infiltration and soil conditions in support of a proposed stormwater management strategy.
 - D. Downstream analysis which extends to the distance where the project site contributes less than 15 percent of the cumulative tributary drainage area or 1,500 feet downstream of the approved point of discharge, whichever is greater, as required by Chapter 5 of the Stormwater and Grading Design Standards.
5. The nearest downstream public stormwater facility is an inlet located northwest corner of the proposed development, in Swan Avenue. This structure directs flows south through a 12-inch pipe and into a network of city pipes.
 6. The development may be required to extend a 12" stormwater line along the frontage of Ames Street to the nearest public stormwater system instead of the existing ditch that is present today.

Water

1. There is an existing City owned 8-inch ductile iron water main that runs within Swan Avenue.
2. There is an existing City owned 6-inch ductile iron water main that runs within Ames Street that ties into a small section of 6-inch cast iron water main prior to connecting to the 8-inch water main located within Swan Avenue. Water service can be obtained off of one of these two water mains.
3. A 24-inch ductile iron transmission water main runs along both Ames Street and Swan Avenue which cannot be tapped to serve the development and is strictly for transmission.
4. There is an existing water service line which is located at the northwest corner of the property off of Ames Street which serves the existing house.
5. The development will be required to provide the new lot with a new water service line and meter.
6. There is an existing fire hydrant located across the street on Swan Avenue.

Sanitary Sewer

1. There is an existing 8-inch PVC sanitary sewer main within Swan Avenue, with a manhole located at the intersection of Swan Avenue and Ames Street.
2. There is an existing 10-inch PVC sanitary sewer main within Ames Street, with a manhole located half-way down Ames Street along project frontage.
3. There is an existing sanitary sewer service line which is located off of the sanitary main located in Ames Street.
4. The development will be required to provide a sanitary service lateral and two-way cleanout for the new lot.

Other

1. The proposed development does not reside within the Natural Resource Overlay District (NROD); therefore, no additional requirements are needed from Development Services.
2. The proposed development does not reside within a Geologic Hazard area.
3. The proposed development resides within a High Water Table area. If the high water table part of a larger groundwater system rather than perched water, there may be additional requirements for the design of infiltration stormwater facilities.
4. The proposed development does not reside within a floodplain or floodway.

Supplemental Information

Prior to Initial Construction Plan Review

1. The City will issue a Staff Report in response to the contents of the application package provided by the applicant. Once a Staff Report is issued, staff strongly encourages a pre-design meeting. The Pre-Design meeting is at no cost to the applicant and is held with the project engineer to discuss plan requirements, conditions of approval, and process.
2. Documentation required before any construction plan review can begin by Public Works (which is after a land use decision has been made):
 - a. Complete Engineering Plans (Public Improvements, all stormwater facilities, site grading and erosion control)
 - b. Preliminary Cost Estimate for construction of Public Improvements, all stormwater facilities, site grading and erosion control. Estimate needs to be signed and stamped by Professional Engineer.
 - c. Plan Review Fee – Fee is based on 2.5% of Preliminary Cost Estimate for Public Improvements.
 - d. Complete Storm Water Report and Site Assessment and Planning Checklist

Prior to Final Construction Plan Approval

1. Documentation required before any construction plan can be deemed approved by Public Works (to be able to start construction or obtain a building permit):
 - a. Final Cost Estimate for construction of Public Improvements, all stormwater facilities, site grading and erosion control. Estimate needs to be signed and stamped by Professional Engineer.
 - b. Construction Inspection Fee - Fee is based on 2.5% of Final Cost Estimate for Public Improvements.
 - c. Approved Engineering Plan stamped and signed by an Oregon Professional Engineer
 - d. Approved Storm Water Report stamped and signed by an Oregon Professional Engineer
 - e. 120% Performance Bond
 - f. Developer/Engineer Agreement
 - g. Non-Remonstrance Agreement
 - h. R.O.W. Dedication

- i. Approved PGE Street Light Plan- If deemed necessary

Prior to Beginning Construction

1. The Contractor for the project and Engineer of Record are required to attend a pre-construction meeting prior to the start of construction.

November 8, 2019

Charles D. Grant
1913 Main St Suite 151
Oregon City, OR 97045

**Subject: Offsite Pavement Design
Swan Avenue Partition - Oregon City
GCN Project No.: 1462**

This letter presents the results of our asphalt pavement design for the southbound lane of Swan Avenue adjacent to 15910 Swan Avenue in Oregon City. This letter provides a summary of our site exploration, subgrade characterization, traffic loading calculations, and flexible pavement design analysis and thickness recommendations.

SITE CONDITIONS

The project site is located on a nearly flat section of an upland terrace lying above the Clackamas River. The site relative to surrounding features is shown in Figure 1.

SITE EXPLORATIONS

We explored subsurface conditions at the site by drilling two shallow borings (B-1 & B-2) to depths up to 3-1/2 feet below the existing ground surface (bgs) on October 11, 2019. The borings included recovery of the pavement cores, base rock, and one near surface soil sample obtained from a split spoon sampler. The approximate locations of the borings are shown in Figure 2.

EXISTING PAVEMENT SECTION

We recovered two 4-3/4-inch diameter cores of the existing asphalt pavement that were both 3-1/2 inches thick. Base rock beneath the asphalt pavement was gray to brown sandy subrounded gravel up to about 3/4-inch minus size.

We spoke to a neighbor from a nearby home who told us a new sewer was placed in Swan Avenue about 15 years ago. The neighbor was a retired earthwork equipment operator who had occupied his home since the 1970s. Summary of the pavement section and subgrade are provided in Table 1 below. Photographs of the cores are provided in Figure 3 and Figure 4 for Borings B-1 to B-2 respectively.

SUBGRADE SOIL

Near surface native soil encountered at the ground surface was not the same in the two borings. In B-1 we encountered loose to medium stiff silt fill. The fill included some fine to coarse subrounded sand and occasional subrounded fine gravel. In B-2 we encountered medium dense subrounded gravel with some silt and with trace clay. We classified the subgrade soil in B-2 as native soil and conclude it is likely the predominant near surface soil in the site vicinity. The blow counts of Standard Penetration Tests (SPT) taken in boring B-1 and B-2 were 4 and 22 respectively. We assigned an equivalent California Bearing Ratio of 6 to the near surface subgrade soil based on the conditions encountered.

TABLE 1: EXISTING PAVEMENT SECTION

BORING	B-1	B-3
TOTAL AC THICKNESS	3-1/2 IN	3-1/2 IN
BASE ROCK	14 IN	22 IN

The existing asphalt pavement overlay in Swan Avenue displays no longitudinal cracking. A photograph of the roadway surface obtained from Google Earth is provided in Figure 5.

DESIGN ANALYSIS

We used American Association of State Highway Transportation Officials (AASHTO) design methods using inputs recommended by in the ODOT Pavement Design Guide (2019). Inputs to the design include statistical parameters related to pavement performance, Resilient Modulus (M_R) of the subgrade soil, and traffic loading over the design life of the pavement.

Statistical parameters used in the design are provided in Table 2. We chose a California Bearing Ratio (CBR) value of 6 as a measure of roadway subgrade stiffness. We correlated the CBR by the relationship $M_R = 2555 \times (CBR)^{0.64}$.

TABLE 2: PAVEMENT ANALYSIS DESIGN PARAMETERS

AASHTO DESIGN PARAMETER	COEFFICIENT
Resilient Modulus (M_R) / (CBR)	8043 (6)
Reliability (R)	85%
Initial Serviceability (P_0)	4.2
Terminal Serviceability (P_t)	2.5
Pavement, Structural Layer Coefficient (a_1)	.42
Crushed Rock Base Structural Layer Coefficient (a_2)	.10
Compacted Subgrade Structural Layer Coefficient (a_3)	.02
Base Drainage Coefficient (m_1)	1.0
Pavement Design Life	20 yr
Required Structural Number S_n	4.28

There is no traffic count station on Swan Avenue. We chose data from Oregon City Station #72 located on Front Avenue north of South Holcomb Boulevard. We note that Front Avenue is much longer than Swan Avenue, serving many more homes, and that traffic includes an Elementary School. Front Avenue traffic data shows a reduction in traffic volume over the three data point of 2011, 2014, and 2017. We chose a nominal traffic growth rate of 1.5 percent.

Traffic count data provided by Oregon City (FHWA Class 1 through 13) Front Avenue and design ESAL calculation results shown below in Table 2.

TABLE 2: TRAFFIC ANALYSIS WORKSHEET – FRONT AVENUE N OF HOLCOMB

FWHA CLASS	2021 SB DAILY COUNT	GROWTH FACTOR (4.8% - 20 YR)	2041 SB COUNT (B * C)	AVERAGE COUNT (B * D / 2)	ANNUAL AXLE EQUIVALENT	DESIGN AXLE COUNT
A	B	C	D	E	F	G
1	4	1.35	5	5	0.00	0
2	382	1.35	516	449	0.035	16
3	74	1.35	100	87	1.78	155
4	7	1.35	9	8	246	2,023
5	23	1.35	31	27	104	2,811
6	3	1.35	4	4	284	1,001
7	0	1.35	0	0	757	0
8	0	1.35	0	0	253	0
9	0	1.35	0	0	466	0
10	1	1.35	1	1	561	659
11	0	1.35	0	0	603	0
12	0	1.35	0	0	546	0
13	0	1.35	0	0	1,037	0
TMB	0	1.35	0	0	723	0

Total Average Annual 18-kip EAL	6,665
18-kip EAL per day	18
20 Year 18-kip EAL	133,294
Traffic Coefficient	7.1

MINIMUM ASPHALT THICKNESS

The AASHTO method provides a minimum asphalt section thickness based on an analysis run setting the Resilient Modulus to 20,000 psi. The minimum asphalt section based on estimated traffic in Swan Avenue is 4 inches.

ANALYSIS RESULTS

Based on our analysis, expected traffic on Swan Avenue over the 20-year design period is in the range of 133 thousand ESALS. The required pavement section based on traffic loading is 4 inches AC over 7 inches crushed rock base.

The calculated 20-year traffic loading is less than the traffic demand inherent in the Oregon City Minimum section thickness. We recommend using the minimum section which is 5 inches of asphalt concrete over 16 inches of crushed rock base.

The AC pavement should conform to Section 00744 of the Standard Specification for Highway Construction, Oregon Highway Specifications. Oregon City requires half inch dense graded Hot Mix Asphalt Concrete for Design Level 3 using Performance Grade Asphalt PG-64-22.

The aggregate base should conform to Section 02630 of the specifications. Aggregate base should be placed in one lift and compacted to not less than 95 percent of the maximum dry density as determined by ASTM D 698.

.. ..

We appreciate the opportunity to be of continued service to you. Please call if you have questions concerning this report or if we can provide additional services.

Sincerely,
GEO Consultants Northwest, Inc.

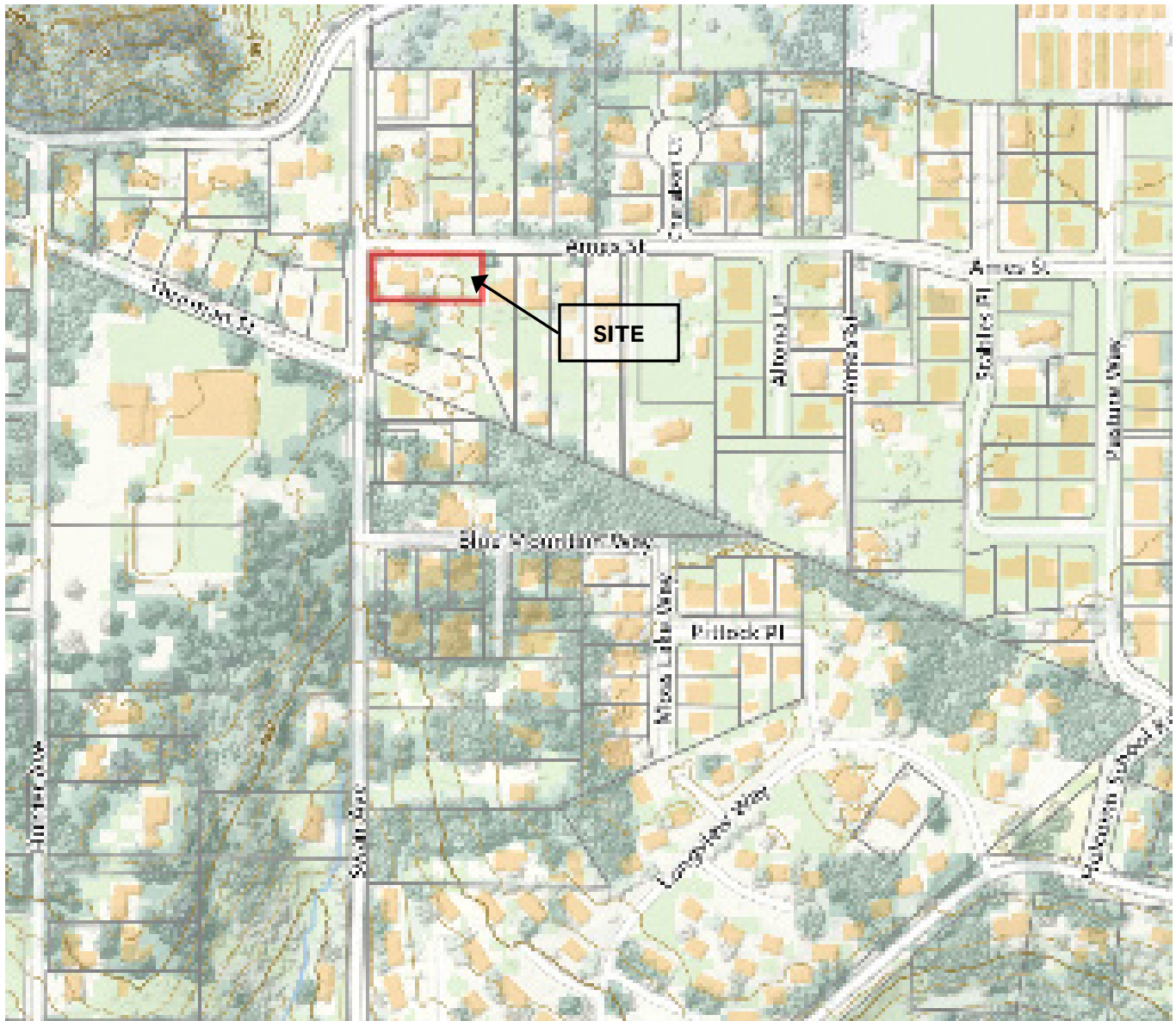


Expires 06/2021

Britton W. Gentry PE, GE
Principal Engineer

Figures: Figure 1 – Site Vicinity
 Figure 2 – Exploration Locations
 Figure 3 - B-1 Core Photograph
 Figure 4 - B-2 Core Photograph
 Figure 5 - Pavement Surface Condition Photograph

Attachments: Pavement Section Thickness Calculations
 Traffic Analysis
 Traffic Growth Calculation



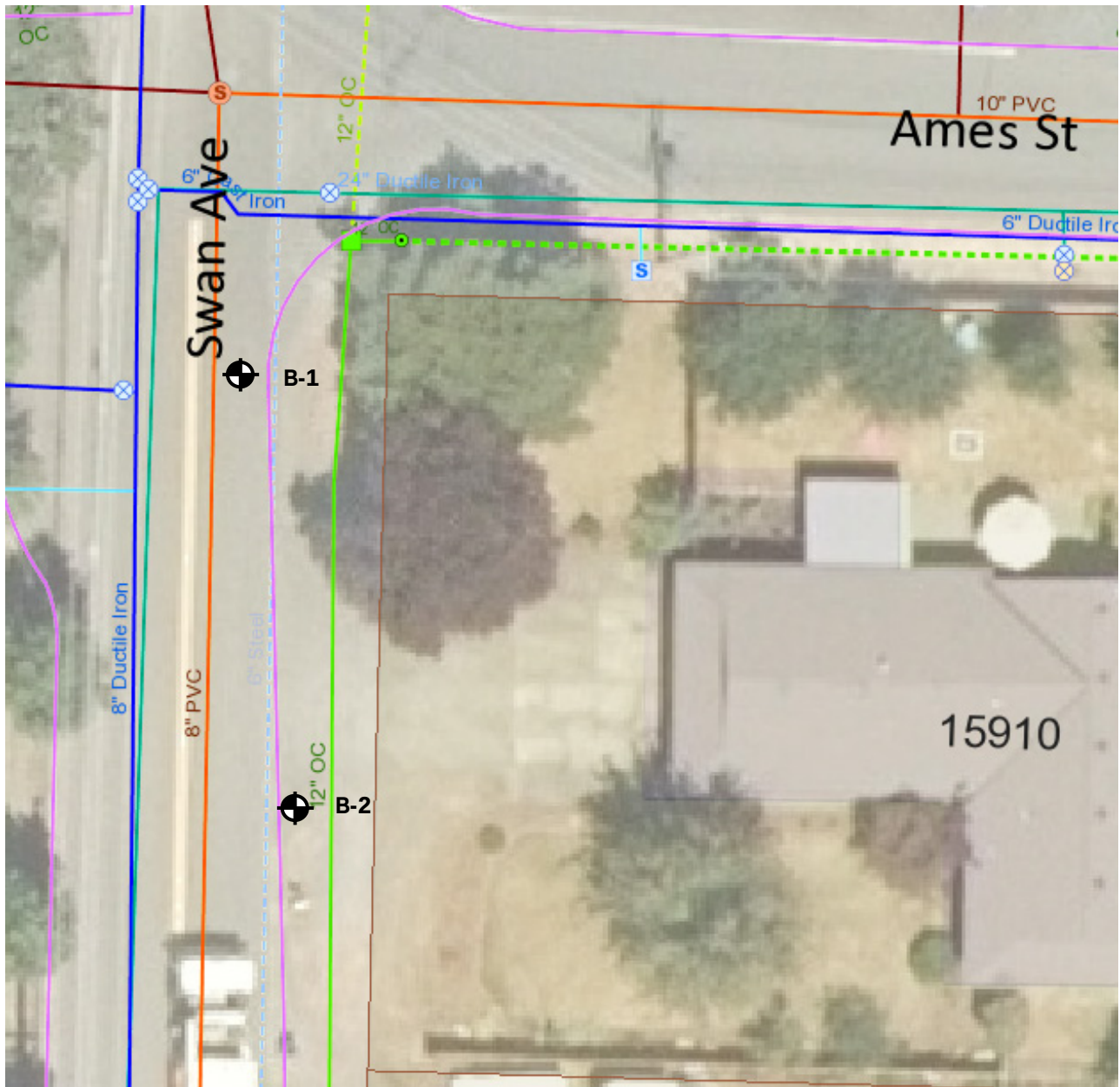
PROVIDED BY METRO, OREGON METROMAP.GOV

LAT 45.376 N, LON 122.572 W; TOWNSHIP 2S RANGE 2E SECTION 21

SCALE: 1 INCH = 100 FEET



GEO CONSULTANTS NORTHWEST	PROJECT 1462	GRANT 15910 SWAN AVENUE	
2839 SE Milwaukie Avenue Portland, OR 97202	NOV 2019	SITE VICINITY	FIGURE 1
	Drawn By: TAC		



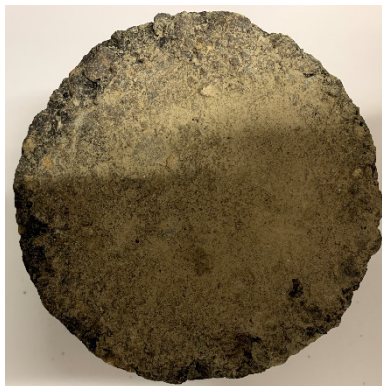
B-1  BORINGS DRILLED OCTOBER 11, 2019 - LOCATIONS APPROXIMATE
 BASE DRAWING "UTILITY MAP" PREPARED BY CITY OF OREGON CITY, DATE
 CREATED UNKNOWN



GEO CONSULTANTS NORTHWEST	PROJECT 1462	GRANT 15910 SWAN AVENUE	
2839 SE Milwaukie Avenue Portland, OR 97202	NOV 2019	SITE LAYOUT & EXPLORATIONS	FIGURE 2
	Drawn By: TAC		



GEO CONSULTANTS NORTHWEST	PROJECT 1462	GRANT 15910 SWAN AVENUE	
2839 SE Milwaukie Avenue Portland, OR 97202	NOV 2019	BORING B-1 ASPHALT PAVEMENT CORE	FIGURE 3
	Drawn By: blh		



GEO CONSULTANTS NORTHWEST	PROJECT 1462	GRANT 15910 SWAN AVENUE	
2839 SE Milwaukie Avenue Portland, OR 97202	NOV 2019	BORING B-2 ASPHALT PAVEMENT CORE	FIGURE 4
	Drawn By: blh		



PHOTO FROM GOOGLE EARTH PRO® – IMAGE SEPTEMBER 2012

GEO CONSULTANTS NORTHWEST	PROJECT 1462	GRANT 15910 SWAN AVENUE	
2839 SE Milwaukie Avenue Portland, OR 97202	NOV 2019	PAVEMENT CONDITION	FIGURE 5
	Drawn By: blh		

AASHTO 93 FLEXIBLE PAVEMENT DESIGN

Project: **Swan Avenue**
 Job #: **1462**
 date: **1/6/2019**
 by: **BLH**

DESIGN INPUTS

Design Life in Years = **20**

variable	value	ref
S _o =	0.49	I-62, ODOT 2019 Design Guide Table 15
R =	85%	II-9 Table 2.2, ODOT 2019 Design Guide Table 11
Z _r =	-1.037	I-62 - Table 4.1
Mr =	8043	I-14
Po =	4.2	II-12
Pt =	2.5	II-12
PSI =	1.7	II-12

CBR = **6** M_R = 2555*(CBR)^{0.64}

growth = **1.5** % Growth Calculated in Traffic Tab

REQUIRED STRUCTURAL NUMBER CALCULATION

ESAL 133,294

SN estim. **2.359**

ESAL from SN 133,294

REQUIRED SN = **2.36**

Minimum AC Thickness	
1.65	S _N with M _r set to 20,000 psi
4.0	MIN AC

SPREADSHEET SOLVES

$$\log_{10} W_{18} = Z_R * S_o + 9.36 * \log_{10} (SN+1) - 0.20 + \frac{\log_{10} \left[\frac{\Delta PSI}{4.2 - 1.5} \right]}{0.40 + \frac{1094}{(SN+1)^{5.19}}} + 2.32 * \log_{10} M_R - 8.07$$

STRUCTURAL COEFFICIENTS			THICKNESS CALCULATIONS											
variable	value	ref	DESIGN SECTION			ALTERNATE SECTION			ALTERNATE SECTION			ALTERNATE SECTION		
			THICKNESS	SN	CUMULATIVE SN	THICKNESS	SN	CUMULATIVE SN	THICKNESS	SN	CUMULATIVE SN	THICKNESS	SN	CUMULATIVE SN
m _{Base}	1	II-26												
m _{Subbase}	1	II-26												
a _{AC}	0.42	II-19	4.0	1.68	1.68	0.0	1.68	1.68	0.0	0.00	0.00	0.0	0.00	0.00
a _{EXISTING AC}	0.35	III-105 Table 5.2	0.0	0.00	1.68	0.0	0.00	1.68	0.0	0.00	0.00	0.0	0.00	0.00
a _{Base}	0.10	II-20	7.0	0.70	2.38	0.0	0.00	1.68	0.0	0.00	0.00	0.0	0.00	0.00
1 Compacted Subbase	0.02	II-20	0.0	0.00	2.38	0.0	0.00	1.68	0.0	0.00	0.00	0.0	0.00	0.00
a ₂ Amended Subbase	0.10	II-20	0.0	0.00	2.38	0.0	0.00	1.68	0.0	0.00	0.00	0.0	0.00	0.00
Total Section Thickness			11.0			0.0			0.0			0.0		
Total Excavation Thickness			11.0			0.0			0.0			0.0		

MIN BASE OVER AMENDED SUBBASE - 6 IN

OREGON CITY LOCATION No. 72 (2017) Front North of Holcomb
 ONE WAY TRAFFIC BIN COUNTS
 OCT 26 2017
 SW 175th Ave - ADT FROM TRAFFIC REPORT
 2011, 2014, & 2017 COUNTS USED TO CHECK GROWTH

2017 to 2021 TRAFFIC
 EXPANSION

FACTOR (1.015)⁴ = 1.206

BIN	2017	2021
1	3	4
2	316	382
3	61	74
4	5	7
5	19	23
6	2	3
7	0	0
8	0	0
9	0	0
10	1	2
12	0	0
11	0	0
13	0	0
TMB	0	0
**	9	
	416	

** No Bin Identified

FWHA Class	2021Daily Count	GROWTH FACTOR	2041 COUNT (B*C)	AVERAGE COUNT (B+D)/2	Annual Equivalent	E*F
A	B	C	D	E	F	G
1	4	1.35	5	5	0.00	0
2	382	1.35	516	449	0.035	16
3	74	1.35	100	87	1.78	155
4	7	1.35	9	8	246	2,023
5	23	1.35	31	27	104	2,811
6	3	1.35	4	4	284	1,001
7	0	1.35	0	0	757	0
8	0	1.35	0	0	253	0
9	0	1.35	0	0	466	0
10	1	1.35	1	1	561	659
11	0	1.35	0	0	603	0
12	0	1.35	0	0	546	0
13	0	1.35	0	0	1,037	0
TMB	0	1.35	0	0	723	0

Total Average Annual 18 kip EAL
 18 kip EAL per day
 20 Year 18 kip EAL
 Traffic Coefficient

6,665
 18
 133,294
 7.1

TRAFFIC GROWTH CALCULATION

Front Ave at Holcomb (count location # changes)

Total 2 Way Count

YEAR	NB	SB	TOTAL TRAFFIC	ANNUAL INCR	PERCENT INCR
2011	563	419	982		
2014	463	483	946	-36	-4
Base Year 2017	416	454	870	-76	-8
					-5.8

**Preliminary Construction Cost Estimate
Swan Avenue Partition
(Complete Improvements)
PDG Project No.: 999-236**

SCHEDULE A - GRADING & STREET CONSTRUCTION	<u>\$150,766.00</u>
SCHEDULE B - SANITARY SEWER	<u>\$1,627.50</u>
SCHEDULE C - STORM DRAINAGE	<u>\$88,097.00</u>
SCHEDULE D - WATER SYSTEM	<u>\$2,200.00</u>
SUBTOTAL	<u>\$242,690.50</u>
CONSTRUCTION CONTINGENCY @ 20%	\$48,538.10
TOTAL	\$291,228.60
	\$145,614.30

Estimate Prepared By: T.C. Campbell, PE

Date: 08/21/2019 - Revised 08-29-2019 S. Oaks

Revised Date / Int'l:

Assumptions and Exclusions:

1. Excludes permit and franchise fees
2. Excludes water meter fees
3. Excludes geotechnical and special inspections
4. Excludes construction staking
5. Assumes dry weather construction



SCHEDULE OF PRICES - GRADING AND STREET CONSTRUCTION

Swan Avenue Partition

PDG Project No.: 999-236

Bid Item	Description of Work	Quantity	Unit	Unit Price	Total Amount
SCHEDULE A - GRADING AND STREET CONSTRUCTION					
	* The following is furnish and install complete				
A1	Mobilization & overhead	1.00	LS	\$ 8,000.00	\$8,000.00
A2	Construction Entrance	1.00	EA	\$ 3,000.00	\$3,000.00
A3	Sediment Fence - installation and maintenance	469.00	LF	\$ 3.00	\$1,407.00
A4	Orange Construction Fencing	93.00	LF	\$ 3.00	\$279.00
A5	Straw Mulch exposed soil	0.25	ACRE	\$ 3,000.00	\$750.00
A6	Inlet Protection	5.00	EA	\$ 80.00	\$400.00
A7	Erosion Control Maintenance - Incl sweeper truck, water truck, etc...	1.00	MNTH	\$ 1,200.00	\$1,200.00
A8	Clear, Grub, and Demo of existing Structures and obstructions	1.00	LS	\$ 12,000.00	\$12,000.00
A9	Stripping Site - 6" to 9" and stockpile	333.00	CY	\$ 6.00	\$1,998.00
A10	Offhaul Strippings (50% to stay on lots after grading)	167.00	TCY	\$ 23.00	\$3,841.00
A11	Embankment	240.00	CY	\$ 6.00	\$1,440.00
A12	Excavation	243.00	CY	\$ 10.00	\$2,430.00
A13	Sawcut asphalt - 3" thick	1,550.00	LF	\$ 3.50	\$5,425.00
A14	Public streets - 3" AC (type C) 2 lifts	261.00	SY	\$ 19.00	\$4,959.00
A15	Public streets - 4" AC (type C) 2 lifts	217.00	SY	\$ 24.00	\$5,208.00
A16	Public Leveling Course - 2" of 3/4"-0 Incl fine grade	478.00	SY	\$ 8.00	\$3,824.00
A17	Public Base Course - 8" of 1 1/2"-0 Base Rock - Incl fine grade	261.00	SY	\$ 20.00	\$5,220.00
A18	Public Base Course - 12" of 1 1/2"-0 Base Rock - Incl fine grade	217.00	SY	\$ 26.00	\$5,642.00
A19	Public Curb and Gutter	311.00	LF	\$ 25.00	\$7,775.00
A20	Construct 5' wide sidewalks and ramps	195.00	LF	\$ 31.00	\$6,045.00
A21	Construct 6' wide sidewalk and ramps	99.00	LF	\$ 37.00	\$3,663.00
A22	ADA Ramp complete	1	EA	\$ 1,100.00	\$1,100.00
A23	Residential Driveway	260	SF	\$ 8.60	\$2,236.00
A24	Street Signs & Striping	1	LS	\$ 1,000.00	\$1,000.00
A25	Street Trees at time of Site Development	4.00	EA	\$ 300.00	\$1,200.00
A26	Install Street Light Pole for above - Complete with conduit	3	EA	\$ 4,500.00	\$13,500.00
A27	Sidewalk Barricades	2	EA	\$ 650.00	\$1,300.00
A28	Franchise Allowance Per lot, incl trenching, conduits & vaults	2.00	LOT	\$ 5,500.00	\$11,000.00
A29	Street Frontage Undergrounding allowance	265.00	LF	\$ 50.00	\$13,250.00
A30	Grind and inlay - 2" thick x 10' wide	1,093.00	SF	\$ 18.00	\$19,674.00
A31	Traffic Control	2.00	DAYS	\$ 1,000.00	\$2,000.00
Subtotal for Schedule A - Grading and Street Construction					\$150,766.00



SCHEDULE OF PRICES - SANITARY SEWER

Swan Avenue Partition

PDG Project No.: 999-236

Bid Item	Description of Work	Quantity	Unit	Unit Price	Total Amount
SCHEDULE B - SANITARY SEWER					
	* The following is furnish and install complete				
B1	Install 4" PVC D-3034 with Native Backfill, complete in place	12.50	LF	\$ 26.00	\$325.00
B2	Install 4" PVC D-3034 with Rock Backfill, complete in place	27.50	LF	\$ 45.00	\$1,237.50
B3	Install 8"x4" Tee	1.00	EA	\$ 65.00	\$65.00
Subtotal for Schedule B - Sanitary Sewer					\$1,627.50



SCHEDULE OF PRICES - SITE DRAINAGE

Swan Avenue Partition

PDG Project No.: 999-236

Bid Item	Description of Work	Quantity	Unit	Unit Price	Total Amount
SCHEDULE C - SITE DRAINAGE					
	*The following is furnish and install complete				
C1	Install 4" D-3034 PVC pipe with Fittings - Native	25.00	LF	\$ 24.00	\$600.00
C2	Install 4" D-3034 PVC pipe with Fittings -Granular	46.00	LF	\$ 40.00	\$1,840.00
C3	Install 10" C-900 pipe withGranular Backfill	14.00	LF	\$ 53.00	\$742.00
C4	Install 12" C-900 pipe with Granular Backfill	540.00	LF	\$ 55.00	\$29,700.00
C5	Construct 48" Flat top Manhole, complete in place	4.00	EA	\$ 4,000.00	\$16,000.00
C6	Connect to Existing Catch Basin	1.00	LS	\$ 900.00	\$900.00
C7	Construct CG-30, complete in place	2.00	EA	\$ 2,900.00	\$5,800.00
C8	Install Ditch Inlet, complete in place	1.00	EA	\$ 1,435.00	\$1,435.00
C9	LIDA Facility -prep, curb wall, medium, etc - 6' wide 9 (excludes ditch inlet)	518.00	SF	\$ 52.00	\$26,936.00
C10	LIDA Facility - Landscaping	518.00	SF	\$ 8.00	\$4,144.00
Subtotal for Schedule C - Site Drainage					\$88,097.00



SCHEDULE OF PRICES - WATER SYSTEM

Swan Avenue Partition

PDG Project No.: 999-236

Bid Item	Description of Work	Quantity	Unit	Unit Price	Total Amount
SCHEDULE D - WATER SYSTEM					
	* The following is Furnish & Install complete				
D1	Install Single Water Service, complete	2.00	EA	\$ 1,100.00	\$2,200.00
Subtotal for Schedule D - Water System					\$2,200.00

**Preliminary Construction Cost Estimate
Swan Avenue Partition
(Reduced Improvements)
PDG Project No.: 999-236**

SCHEDULE A - GRADING & STREET CONSTRUCTION	<u>\$85,136.50</u>
SCHEDULE B - SANITARY SEWER	<u>\$1,390.00</u>
SCHEDULE C - STORM DRAINAGE	<u>\$33,677.00</u>
SCHEDULE D - WATER SYSTEM	<u>\$1,100.00</u>
SUBTOTAL	<u>\$121,303.50</u>
CONSTRUCTION CONTINGENCY @ 20%	\$24,260.70
TOTAL	\$145,564.20
	\$72,782.10

Estimate Prepared By: T.C. Campbell, PE

Date: 08/21/2019 -- Revised 08-29-2019 S. Oaks

Revised Date / Int'l:

Assumptions and Exclusions:

1. Excludes permit and franchise fees
2. Excludes water meter fees
3. Excludes geotechnical and special inspections
4. Excludes construction staking
5. Assumes dry weather construction



SCHEDULE OF PRICES - GRADING AND STREET CONSTRUCTION

Swan Avenue Partition

PDG Project No.: 999-236

Bid Item	Description of Work	Quantity	Unit	Unit Price	Total Amount
SCHEDULE A - GRADING AND STREET CONSTRUCTION					
	* The following is furnish and install complete				
A1	Mobilization & overhead	1.00	LS	\$ 8,000.00	\$8,000.00
A2	Construction Entrance	1.00	EA	\$ 3,000.00	\$3,000.00
A3	Sediment Fence - installation and maintenance	469.00	LF	\$ 3.00	\$1,407.00
A4	Orange Construction Fencing	93.00	LF	\$ 3.00	\$279.00
A5	Straw Mulch exposed soil	0.25	ACRE	\$ 3,000.00	\$750.00
A6	Inlet Protection	5.00	EA	\$ 80.00	\$400.00
A7	Erosion Control Maintenance - Incl sweeper truck, water truck, etc...	1.00	MNTH	\$ 1,200.00	\$1,200.00
A8	Clear, Grub, and Demo of existing Structures and obstructions	1.00	LS	\$ 12,000.00	\$12,000.00
A9	Stripping Site - 6" to 9" and stockpile	333.00	CY	\$ 6.00	\$1,998.00
A10	Offhaul Strippings (50% to stay on lots after grading)	167.00	CY	\$ 23.00	\$3,841.00
A11	Excavation	112.00	CY	\$ 10.00	\$1,120.00
A12	Embankment	240.00	CY	\$ 4.00	\$960.00
A13	Sawcut asphalt - 3" thick	285.00	LF	\$ 3.50	\$997.50
A14	Public streets - 3" AC (type C) 2 lifts	97.00	SY	\$ 19.00	\$1,843.00
A15	Public streets - 4" AC (type C) 2 lifts	118.00	SY	\$ 24.00	\$2,832.00
A16	Public Leveling Course - 2" of 3/4"-0 Incl fine grade	215.00	SY	\$ 8.00	\$1,720.00
A17	Public Base Course - 8" of 1 1/2"-0 Base Rock - Incl fine grade	97.00	SY	\$ 20.00	\$1,940.00
A18	Public Base Course - 12" of 1 1/2"-0 Base Rock - Incl fine grade	118.00	SY	\$ 26.00	\$3,068.00
A19	Public Curb and Gutter	116.00	LF	\$ 25.00	\$2,900.00
A20	Construct 6' wide sidewalk and ramps	99.00	LF	\$ 37.00	\$3,663.00
A21	ADA Ramp complete	1	EA	\$ 1,100.00	\$1,100.00
A22	Residential Driveway	130	SF	\$ 8.60	\$1,118.00
A23	Street Signs & Striping	1	LS	\$ 1,000.00	\$1,000.00
A24	Street Trees at time of Site Development	4.00	EA	\$ 300.00	\$1,200.00
A25	Install Street Light Pole for above - Complete with conduit	3	EA	\$ 4,500.00	\$13,500.00
A26	Sidewalk Barricades	2	EA	\$ 650.00	\$1,300.00
A27	Franchise Allowance Per lot, incl trenching, conduits & vaults	2.00	LOT	\$ 5,500.00	\$11,000.00
A28	Traffic Control	1.00	DAYS	\$ 1,000.00	\$1,000.00
Subtotal for Schedule A - Grading and Street Construction					\$85,136.50



SCHEDULE OF PRICES - SANITARY SEWER

Swan Avenue Partition

PDG Project No.: 999-236

Bid Item	Description of Work	Quantity	Unit	Unit Price	Total Amount
SCHEDULE B - SANITARY SEWER					
	* The following is furnish and install complete				
B1	Install 4" PVC D-3034 with Native Backfill, complete in place	25.00	LF	\$ 26.00	\$650.00
B2	Install 4" PVC D-3034 with Rock Backfill, complete in place	15.00	LF	\$ 45.00	\$675.00
B3	Install 8"x4" Tee	1.00	EA	\$ 65.00	\$65.00
Subtotal for Schedule B - Sanitary Sewer					\$1,390.00



SCHEDULE OF PRICES - SITE DRAINAGE

Swan Avenue Partition

PDG Project No.: 999-236

Bid Item	Description of Work	Quantity	Unit	Unit Price	Total Amount
SCHEDULE C - SITE DRAINAGE					
	*The following is furnish and install complete				
C1	Install 4" D-3034 PVC pipe with Fittings - Native	42.00	LF	\$ 24.00	\$1,008.00
C2	Install 10" C-900 pipe with Granular Backfill	48.00	LF	\$ 53.00	\$2,544.00
C3	Construct CG-30 over existing line, complete in place	1.00	EA	\$ 2,900.00	\$2,900.00
C4	Install Ditch Inlet, complete in place	1.00	EA	\$ 1,435.00	\$1,435.00
C5	Install Porous Pavers	670.00	SF	\$ 35.00	\$23,450.00
C6	Install 12" RCP Culvert	36.00	LF	\$ 65.00	\$2,340.00
Subtotal for Schedule C - Site Drainage					\$33,677.00



SCHEDULE OF PRICES - WATER SYSTEM

Swan Avenue Partition

PDG Project No.: 999-236

Bid Item	Description of Work	Quantity	Unit	Unit Price	Total Amount
SCHEDULE D - WATER SYSTEM					
	* The following is Furnish & Install complete				
D20	Install Single Water Service, complete	1.00	EA	\$ 1,100.00	\$1,100.00
Subtotal for Schedule D - Water System					\$1,100.00

TECHNICAL MEMORANDUM

To: Mr. Jeremy Tamargo, PE
City of Oregon City
Public Works Department

From: T.C. Campbell, PE
Pioneer Design Group, Inc.

Project: **Swan Avenue Partition**
PDG No. 999-236

Date: September 27, 2019

RE: **Stormwater Management and Design**

This technical memorandum represents the preliminary stormwater analysis for the Swan Avenue Partition in Oregon City, Oregon. The development project is a proposed 2-lot partition located at 15910 Sawn Avenue, on the southeast corner of the intersection with Ames Street. This property is identified as Tax Lot 2000, T2S R2E 21CD and is zoned R10 Single Family. The subject site is approximately 0.46 acres or 20,057 square feet. There is an existing house on the property fronting Swan Avenue that will be retained with the development.

With a proportionality argument for reduced improvements, the applicant is proposing to construct half-street improvements along the frontage of Swan Avenue, which is identified as a collector in the City of Oregon City's Transportation plan. These improvements will include 2,225 square feet of impervious area for the new pavement and 681 square feet for the new sidewalk and curb return. This will add 2,906 square feet of new impervious area to the basin. No improvements are proposed along Ames Street.

Per the Oregon City Public Works Stormwater and Grading Design Standards Section 1.2.1 General Thresholds, subsection A.,

“Development activities that result in 5,000 square feet of new or replaced impervious surface, cumulative over a 5-year period, are subject to the requirements of these standards.”

However, the development proposes to add or replace less than 5,000 square feet of impervious surfaces as part of the project and therefore avoids triggering the City's stormwater quality and quantity standards.

Porous pavers or pavement will be installed for all new driveway improvements on lots 1 and 2. As such, the new driveway areas will not count towards the added impervious area of the development. In addition, per the City's stormwater standards, the impervious area from the existing house does not count toward the 5,000 sq. ft threshold. Therefore, the new house on lot 2 has an allowable maximum impervious area of 2,094 sq. ft. to remain under the stormwater threshold. (see attached *Impervious Area Calculations* for more information).

As part of the proposed improvements, the existing area drain at the intersection of Swan Avenue and Ames Street will be removed. We will be constructing a new CG-30 curb inlet over the existing pipe in Swan Avenue to collect the stormwater from the frontage improvements. A new ditch inlet will be installed along Ames Street to collect the runoff from the existing ditch and will connect to the CG-30 (see attached *Preliminary Composite Utility Plan*). Runoff from the development will continue to flow in the same drainage patterns as the predeveloped condition. Roof drain from lots 1 and 2 will connect to new storm laterals outfalling into the existing ditch along Ames Street.

In summary, the proposed development will create or change less than 5,000 square feet of impervious area (4,906 sq. ft.) with the partition, and thus remain below the stormwater management threshold requirements for the City of Oregon City. The project will not change the existing drainage patterns within the basin, and the proposed conveyance system will adequately collect and convey the stormwater from the upstream basin. Therefore, it is the opinion of Pioneer Design Group that the proposed development will not have any adverse effects on the downstream drainage system or adjacent properties.



IMPERVIOUS AREA CALCULATIONS

JOB NUMBER: 999-236

PROJECT: Swan Avenue Partition

FILE: 999236_Prelim Hydro

NEW IMPERVIOUS AREA

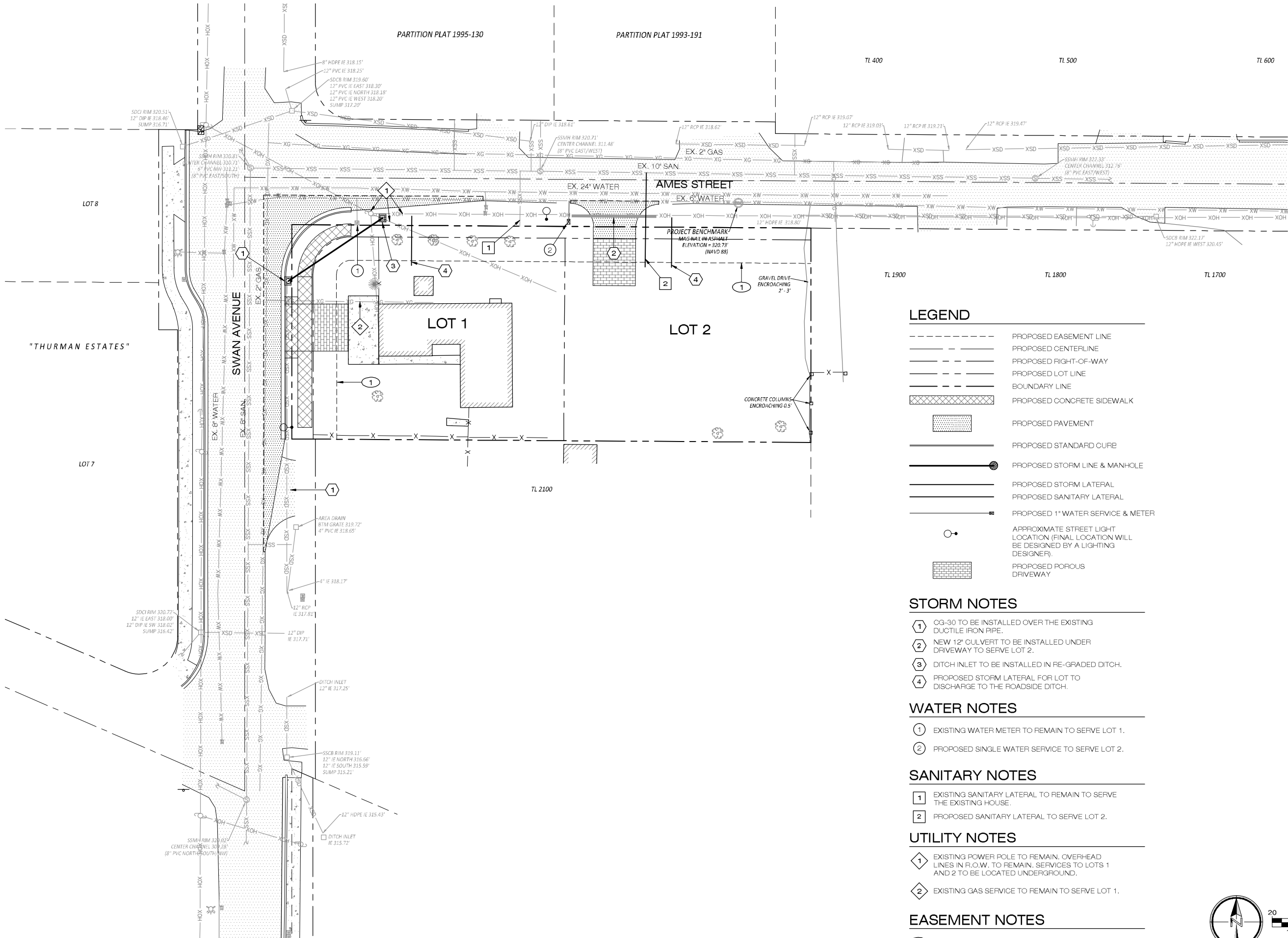
1 NEW HOUSE (APPROX)	2,000.00 ft ²	
NEW DRIVEWAYS (POROUS PAVERS/PAVEMENT)	0.00 ft ²	
SIDEWALKS	681.00 ft ²	
STREET PAVEMENT	2,225.00 ft ²	
	4,906.00 ft²	0.11 ac

EXISTING IMPERVIOUS AREA

BUILDINGS	2,010.00 ft ²	
CONCRETE PAD	718.00 ft ²	
GRAVEL AT 60% IMPERVIOUS	365.00 ft ²	
STREET PAVEMENT	0.00 ft ²	
	3,093.00 ft²	0.07 ac

Total Shed Area	20,057.00 ft²	0.46 ac
Existing Impervious Area	3,093.00 ft²	0.07 ac
% Impervious		15.4 %
Proposed Impervious Area	4,906.00 ft²	0.11 ac
% Impervious		24.5 %

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LEGEND

- PROPOSED EASEMENT LINE
- PROPOSED CENTERLINE
- PROPOSED RIGHT-OF-WAY
- PROPOSED LOT LINE
- BOUNDARY LINE
- PROPOSED CONCRETE SIDEWALK
- PROPOSED PAVEMENT
- PROPOSED STANDARD CURB
- PROPOSED STORM LINE & MANHOLE
- PROPOSED STORM LATERAL
- PROPOSED SANITARY LATERAL
- PROPOSED 1" WATER SERVICE & METER
- APPROXIMATE STREET LIGHT LOCATION (FINAL LOCATION WILL BE DESIGNED BY A LIGHTING DESIGNER).
- PROPOSED POROUS DRIVEWAY

- STORM NOTES**
- 1 CG-30 TO BE INSTALLED OVER THE EXISTING DUCTILE IRON PIPE.
 - 2 NEW 12" CULVERT TO BE INSTALLED UNDER DRIVEWAY TO SERVE LOT 2.
 - 3 DITCH INLET TO BE INSTALLED IN RE-GRADED DITCH.
 - 4 PROPOSED STORM LATERAL FOR LOT TO DISCHARGE TO THE ROADSIDE DITCH.

- WATER NOTES**
- 1 EXISTING WATER METER TO REMAIN TO SERVE LOT 1.
 - 2 PROPOSED SINGLE WATER SERVICE TO SERVE LOT 2.

- SANITARY NOTES**
- 1 EXISTING SANITARY LATERAL TO REMAIN TO SERVE THE EXISTING HOUSE.
 - 2 PROPOSED SANITARY LATERAL TO SERVE LOT 2.

- UTILITY NOTES**
- 1 EXISTING POWER POLE TO REMAIN. OVERHEAD LINES IN R.O.W. TO REMAIN. SERVICES TO LOTS 1 AND 2 TO BE LOCATED UNDERGROUND.
 - 2 EXISTING GAS SERVICE TO REMAIN TO SERVE LOT 1.

- EASEMENT NOTES**
- 1 10.0' WIDE PUE.



PRELIMINARY COMPOSITE UTILITY PLAN

SWAN AVENUE PARTITION
CITY OF OREGON CITY, OREGON

Designed by	Date	Drawn by	Date	Reviewed by	Date	Project No.	Horiz. Scale	Vert. Scale	REF.
TCC	08/19	TCC	08/19	LRL	08/19	999-236	N/A	N/A	

By	Revision	Date	No.

Project
SWAN AVE. PARTITION
No.
999-236
Type
PLANNING
Sheet
P3.0

WES BMP Sizing Report

Project Information

Project Name	Swan Avenue Partition
Project Type	Partition
Location	15910 Swan Avenue
Stormwater Management Area	20057
Project Applicant	Chuck Grant
Jurisdiction	OutofDistrict

Drainage Management Area

Name	Area (sq-ft)	Pre-Project Cover	Post-Project Cover	DMA Soil Type	BMP
Swan Ave Pavement	2,378	Grass	ConventionalConcrete	D	ON-STREET PLANTER
Swan Avenue Sidewalk	552	Grass	ConventionalConcrete	D	ON-STREET PLANTER
LOT 1 IMPERVIOUS	2,750	Grass	Roofs	D	LOT 1 RAIN GARDEN
LOT 2 IMPERVIOUS	2,750	Grass	Roofs	D	LOT 2 RAIN GARDEN
OPEN SPACE LOT 1	5,598	Grass	Grass	D	LOT 1 RAIN GARDEN
OPEN SPACE LOT 2	5,569	Grass	Grass	D	LOT 2 RAIN GARDEN

LID Facility Sizing Details

LID ID	Design Criteria	BMP Type	Facility Soil Type	Minimum Area (sq-ft)	Planned Areas (sq-ft)	Orifice Diameter (in)
LOT 1 RAIN GARDEN	FlowControlAndTreatment	Rain Garden - Filtration	D1	174.9	185.0	0.9
LOT 2 RAIN GARDEN	FlowControlAndTreatment	Rain Garden - Filtration	D1	174.6	185.0	0.9
ON-STREET PLANTER	FlowControlAndTreatment	Stormwater Planter - Filtration	D1	87.9	90.0	0.6

Pond Sizing Details

1. FCWQT = Flow control and water quality treatment, WQT = Water quality treatment only

2. Depth is measured from the bottom of the facility and includes the three feet of media (drain rock, separation layer and growing media).
3. Maximum volume of the facility. Includes the volume occupied by the media at the bottom of the facility.
4. Maximum water storage volume of the facility. Includes water storage in the three feet of soil media assuming a 40 percent porosity.



STORMWATER CONVEYANCE CALCULATIONS

JOB NUMBER: 999-236
 PROJECT: Swan Avenue Partition
 FILE: 999236_Prelim Hydro
 Design Storm: 25 YR
 Storm Duration: 24 HRS
 Precipitation: 4.0 IN
 Manning's "n" 0.013

LINE	INC. AREA (AC)	AREA TOTAL (AC)	% IMP.	AREA PERV. (AC)	CN PER.	AREA IMP. (AC)	CN IMP.	TIME (MIN)	Q (CFS)	PIPE SIZE (IN)	SLOPE (FT/FT)	Qf (CFS)	Q/Qf (%)	Vf (FPS)	V/Vf (%)	ACTUAL V (FPS)
ENTIRE SHED	0.46	0.46	39.54	0.28	81.5	0.18	98	5.00	0.35	12	0.0050	2.53	14%	3.22	0.63	2.04



DEVELOPED TIME OF CONCENTRATION

JOB NUMBER: 999-236
PROJECT: Swan Avenue Partition
FILE: 999236_Prelim Hydro

Catchment Time	5 min.
Longest Run of Pipe	0 ft
Velocity of Flow	3 ft/s
Time in Pipe = (0 ft)/(3.00 ft/s) =	0 s

TOTAL DEVELOPED T_c = **5 min.**







IMPERVIOUS AREA CALCULATIONS

JOB NUMBER: 999-236

PROJECT: Swan Avenue Partition

FILE: 999236_Prelim Hydro

NEW IMPERVIOUS AREA

1 NEW HOUSE (APPROX)	2,000.00 ft ²	
NEW DRIVEWAYS (POROUS PAVERS/PAVEMENT)	0.00 ft ²	
SIDEWALKS	681.00 ft ²	
STREET PAVEMENT	2,225.00 ft ²	
	4,906.00 ft²	0.11 ac

EXISTING IMPERVIOUS AREA

BUILDINGS	2,010.00 ft ²	
CONCRETE PAD	718.00 ft ²	
GRAVEL AT 60% IMPERVIOUS	365.00 ft ²	
STREET PAVEMENT	0.00 ft ²	
	3,093.00 ft²	0.07 ac

Total Shed Area	20,057.00 ft²	0.46 ac
Existing Impervious Area	3,093.00 ft²	0.07 ac
% Impervious		15.4 %
Proposed Impervious Area	4,906.00 ft²	0.11 ac
% Impervious		24.5 %

MANNING'S "n" VALUES

SHEET FLOW EQUATION MANNING'S VALUES		n_s
Smooth Surfaces (concrete, asphalt, gravel, or bare hand packed soil)		0.011
Fallow Fields or loose soil surface (no residue)		0.05
Cultivated soil with residue cover ($\leq 20\%$)		0.06
Cultivated soil with residue cover ($> 20\%$)		0.17
Short prairie grass and lawns		0.15
Dense grasses		0.24
Bermuda grasses		0.41
Range (natural)		0.13
Woods or forrest with light underbrush		0.40
Woods or forrest with dense underbrush		0.80
SHALLOW CONCENTRATED FLOW (after initial 300 ft of sheet flow, R = 0.1)		k_s
Forrest with heavy ground litter and meadows (n = 0.010)		3
Brushy ground with some trees (n = 0.060)		5
Fallow or minimum tillage cultivation (n = 0.040)		8
High grass (n = 0.035)		9
Short grass, pasture and lawns (n = 0.030)		11
Nearly bare ground (n = 0.25)		13
Paved and gravel areas (n = 0.012)		27
CHANNEL FLOW (Intermittent) (At the beginning of all visible channels, R = 0.2)		k_c
Forested swale with heavy ground cover (n = 0.10)		5
Forested drainage course/ravine with defined channel bed (n = 0.050)		10
Rock-lined waterway (n = 0.035)		15
Grassed waterway (n = 0.030)		17
Earth-lined waterway (n = 0.025)		20
CMP pipe (n = 0.024)		21
Concrete pipe (n = 0.012)		42
Other waterways and pipe	0.508/n	
CHANNEL FLOW (continuous stream, R = 0.4)		k_c
Meandering stream (n = 0.040)		20
Rock-lined stream (n = 0.035)		23
Grass-lined stream (n = 0.030)		27
Other streams, man-made channels and pipe (n = 0.807/n)		



MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Clackamas County Area, Oregon
Survey Area Data: Version 14, Sep 18, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 26, 2014—Sep 5, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
17	Clackamas silt loam	C/D	0.5	100.0%
Totals for Area of Interest			0.5	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher



PREDEVELOPED TIME OF CONCENTRATION

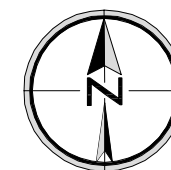
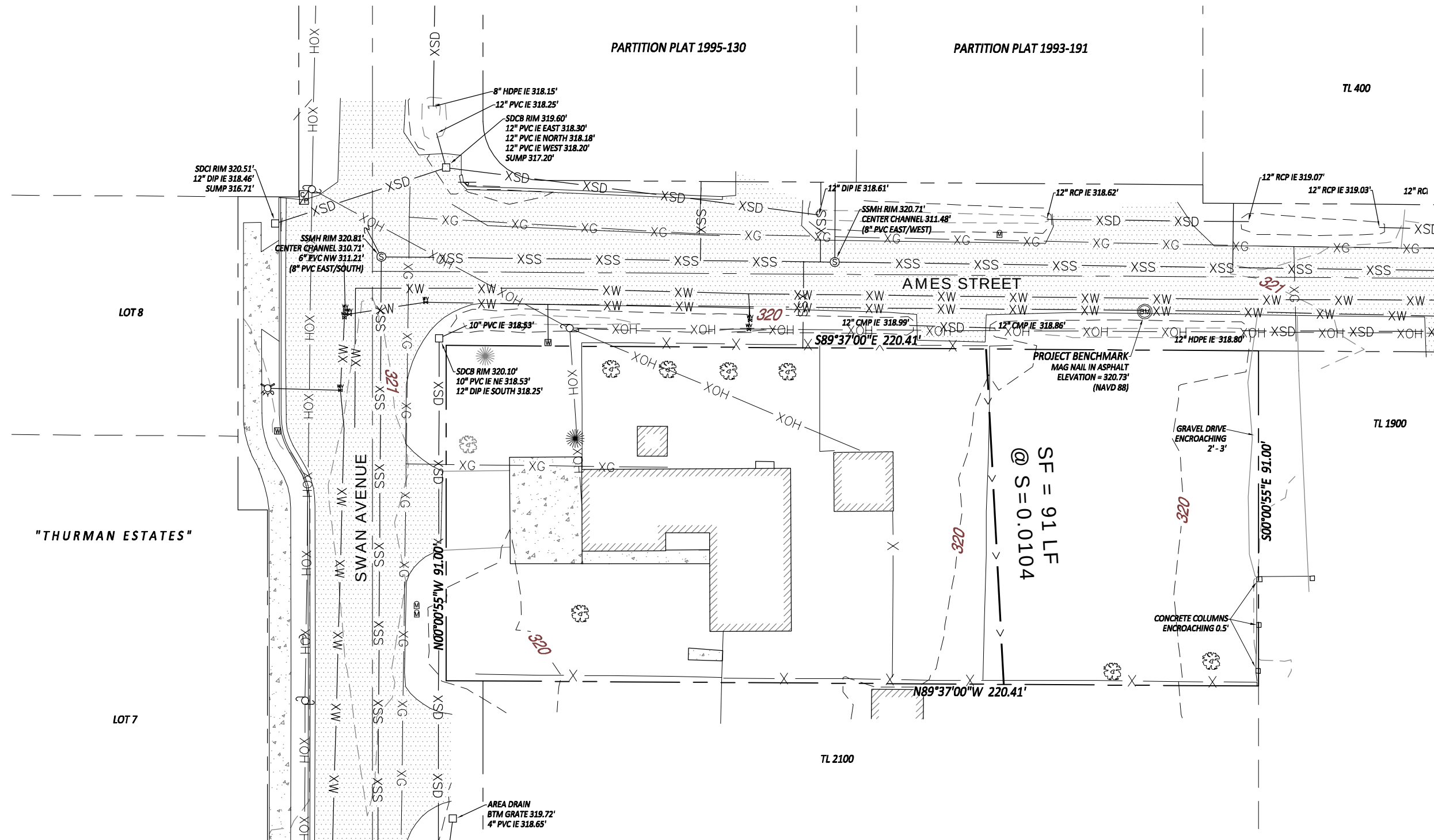
JOB NUMBER: 999-236
 PROJECT: Swan Avenue Partition
 FILE: 999236_Prelim Hydro

	Accum. Tc
LAG ONE: SHEET FLOW (FIRST 91 FEET)	
Tt = Travel time	
Manning's "n" = 0.15	
Flow Length, L = 91 ft (300 ft. max.)	
P = 2-year, 24hr storm = 2.8 in	
Slope, S ₀ = 0.0104 ft/ft	
$T_T = \frac{(0.42)(n * L)^{0.8}}{(P)^{0.5} (S_0)^{0.4}}$	
12.62 min.	12.62 min.

TOTAL PREDEVELOPED TIME OF CONCENTRATION (Tc) =	12.62 min.
--	-------------------

PRE-DEVELOPED TIME OF CONCENTRATION

SWAN AVENUE PARTITION



SCALE

30 0 15 30

1 INCH = 30 FEET

Designed by	TCC	Date	08/19
Drawn by	TCC	Date	08/19
Reviewed by	LRL	Date	08/19
Project No.	999-236	REF.	
Horiz. Scale:			
Vert. Scale:			

PRE TOC EXHIBIT

Project
SWAN AVE PARTITION

No.
999-236

Type
ENGINEERING

Sheet

1 of 1

PIONEER DESIGN GROUP

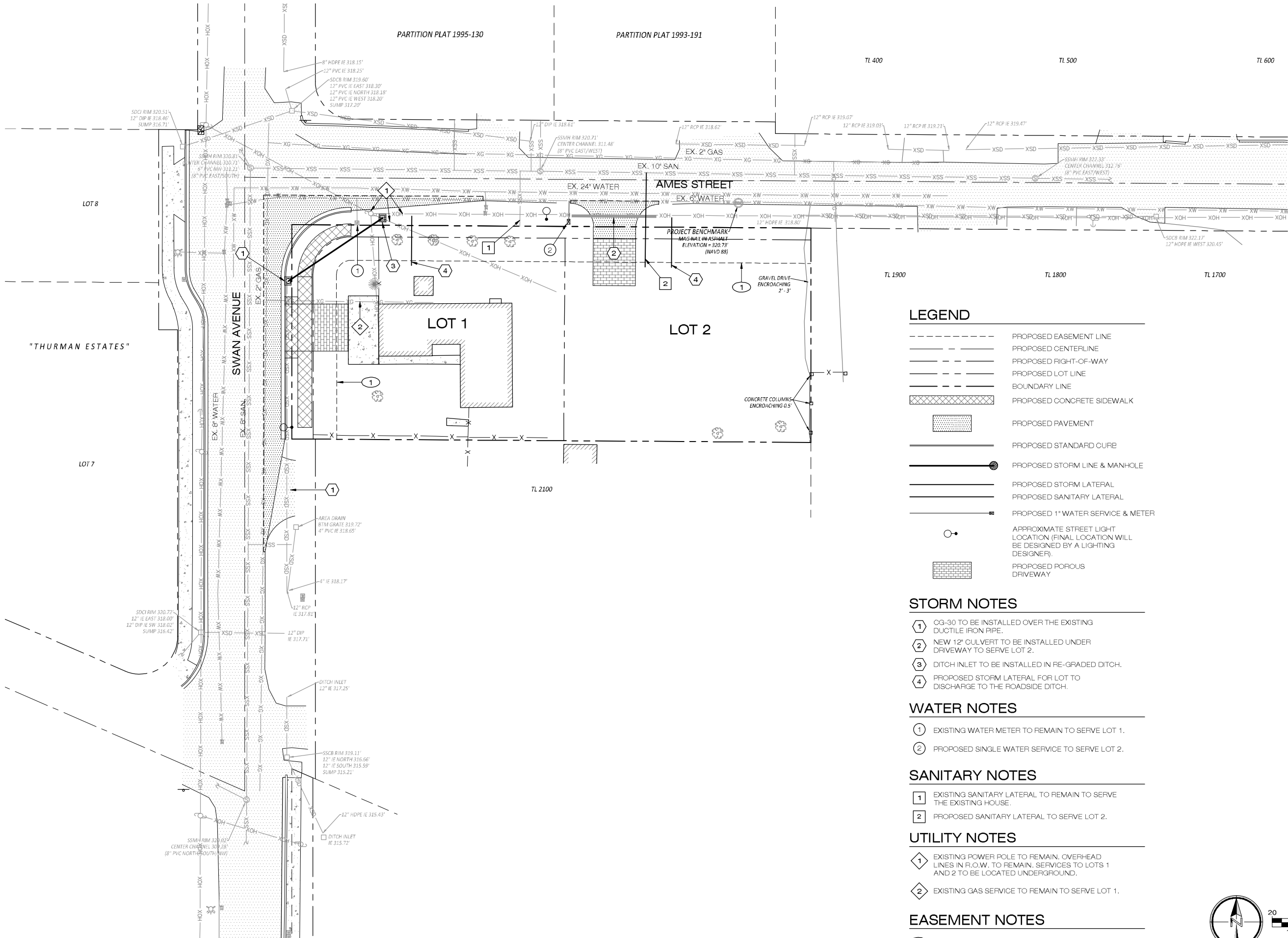
CIVIL ENGINEERING • LAND USE PLANNING • LAND SURVEYING • LANDSCAPE ARCHITECTURE

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LEGEND

- PROPOSED EASEMENT LINE
- PROPOSED CENTERLINE
- PROPOSED RIGHT-OF-WAY
- PROPOSED LOT LINE
- BOUNDARY LINE
- PROPOSED CONCRETE SIDEWALK
- PROPOSED PAVEMENT
- PROPOSED STANDARD CURB
- PROPOSED STORM LINE & MANHOLE
- PROPOSED STORM LATERAL
- PROPOSED SANITARY LATERAL
- PROPOSED 1" WATER SERVICE & METER
- APPROXIMATE STREET LIGHT LOCATION (FINAL LOCATION WILL BE DESIGNED BY A LIGHTING DESIGNER).
- PROPOSED POROUS DRIVEWAY

STORM NOTES

- 1 CG-30 TO BE INSTALLED OVER THE EXISTING DUCTILE IRON PIPE.
- 2 NEW 12" CULVERT TO BE INSTALLED UNDER DRIVEWAY TO SERVE LOT 2.
- 3 DITCH INLET TO BE INSTALLED IN RE-GRADED DITCH.
- 4 PROPOSED STORM LATERAL FOR LOT TO DISCHARGE TO THE ROADSIDE DITCH.

WATER NOTES

- 1 EXISTING WATER METER TO REMAIN TO SERVE LOT 1.
- 2 PROPOSED SINGLE WATER SERVICE TO SERVE LOT 2.

SANITARY NOTES

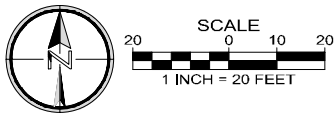
- 1 EXISTING SANITARY LATERAL TO REMAIN TO SERVE THE EXISTING HOUSE.
- 2 PROPOSED SANITARY LATERAL TO SERVE LOT 2.

UTILITY NOTES

- 1 EXISTING POWER POLE TO REMAIN. OVERHEAD LINES IN R.O.W. TO REMAIN. SERVICES TO LOTS 1 AND 2 TO BE LOCATED UNDERGROUND.
- 2 EXISTING GAS SERVICE TO REMAIN TO SERVE LOT 1.

EASEMENT NOTES

- 1 10.0' WIDE PUE.



PRELIMINARY COMPOSITE UTILITY PLAN

SWAN AVENUE PARTITION
CITY OF OREGON CITY, OREGON

Designed by	Date	Reviewed by	Date	Project No.	Horiz. Scale	Vert. Scale	REF.
TCC	08/19	TCC	08/19	999-236	N/A	N/A	

By	Revision	Date	No.

Project
SWAN AVE. PARTITION
No.
999-236
Type
PLANNING
Sheet
P3.0

RUNOFF CURVE NUMBERS (TR55)

Table 2-2a: Runoff curve numbers for urban areas¹

Cover description		CN for hydrologic soil group			
Cover type and hydrologic condition	Average percent impervious area ²	A	B	C	D
<i>Fully developed urban areas (vegetation established)</i>					
Open space (lawns, parks, golf courses, cemeteries, etc.) ³ :					
Poor condition (grass cover <50%)		68	79	86	89
Fair condition (grass cover 50% to 75%)		49	69	79	84
Good condition (grass cover >75%)		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98
Paved; open ditches (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	89
Western desert urban areas:					
Natural desert landscaping (pervious areas only) ⁴		63	77	85	88
Artificial desert landscaping (impervious weed barrier, desert shrub with 1- to 2-inch sand or gravel mulch and basin borders)		96	96	96	96
Urban districts:					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town houses)	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82
<i>Developing urban areas</i>					
Newly graded areas (pervious areas only, no vegetation) ⁵	77	86	91	94	
Idle lands (CNs are determined using cover types similar to those in table 2-2c)					

1: Average runoff condition, and $I_a = 0.2S$.

2: The average percent impervious area shown was used to develop the composite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition. CN's for other combinations of conditions may be computed using figure 2-3 or 2-4.

3: CN's shown are equivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.

4: Composite CN's for natural desert landscaping should be computed using figures 2-3 or 2-4 based on the impervious area percentage (CN = 98) and the pervious area CN. The pervious area CN's are assumed equivalent to desert shrub in poor hydrologic condition.

5: Composite CN's to use for the design of temporary measures during grading and construction should be computed using figure 2-3 or 2-4 based on the degree of development (impervious area percentage) and the CN's for the newly graded pervious areas.



SANTA BARBARA URBAN HYDROGRAPHS

JOB NUMBER: 999-236
 PROJECT: Swan Avenue Partition
 FILE: 999236_Prelim Hydro

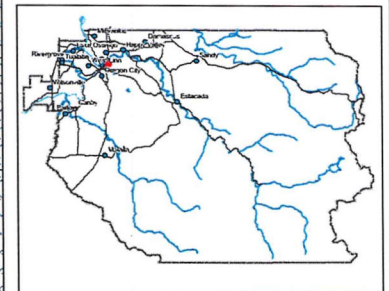
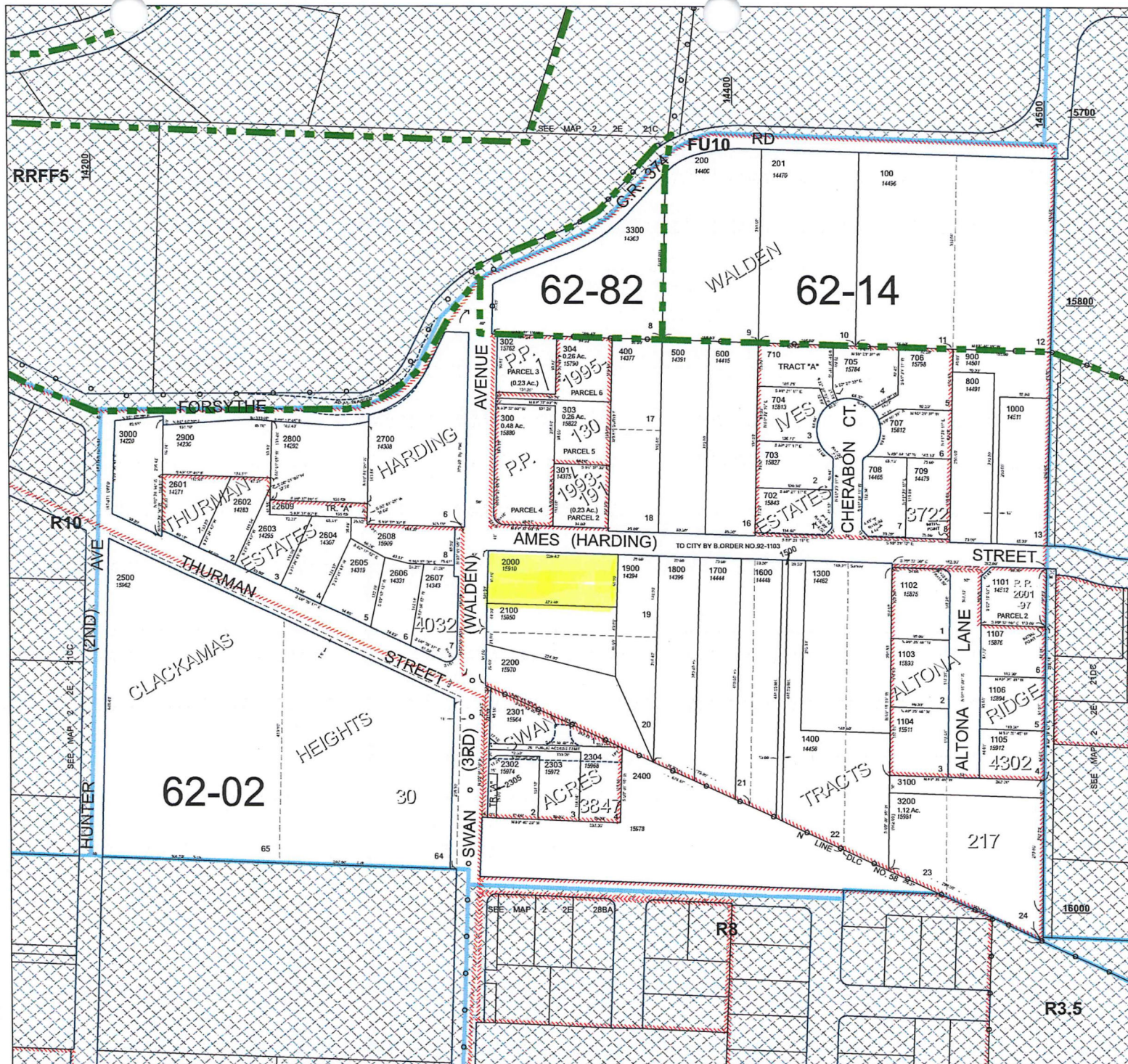
DESCRIPTION	DESIGN STORM (YR)	DURATION (HR)	PRECIP (IN)	AREA TOTAL (AC)	% IMP	AREA PERV. (AC)	CN PER.	AREA IMP. (AC)	CN IMP.	TIME (MIN)	Q (CFS)
PREDEVELOPED 2-YEAR PEAK DISCHARGE	2	24	2.8	0.46	15.42	0.39	81.5	0.07	98	12.62	0.14
DEVELOPED 2-YEAR PEAK DISCHARGE	2	24	2.8	0.46	39.54	0.28	81.5	0.18	98	5.00	0.21
PREDEVELOPED 10-YEAR PEAK DISCHARGE	10	24	3.5	0.46	15.42	0.39	81.5	0.07	98	12.62	0.21
DEVELOPED 10-YEAR PEAK DISCHARGE	10	24	3.5	0.46	39.54	0.28	81.5	0.18	98	5.00	0.29
PREDEVELOPED 25-YEAR PEAK DISCHARGE	25	24	4.0	0.46	15.42	0.39	81.5	0.07	98	12.62	0.26
DEVELOPED 25-YEAR PEAK DISCHARGE	25	24	4.0	0.46	39.54	0.28	81.5	0.18	98	5.00	0.35
PREDEVELOPED 100-YEAR PEAK DISCHARGE	100	24	4.5	0.46	15.42	0.39	81.5	0.07	98	12.62	0.31
DEVELOPED 100-YEAR PEAK DISCHARGE	100	24	4.5	0.46	39.54	0.28	81.5	0.18	98	5.00	0.41

S.E.1/4 S.W.1/4 SEC.21 T.2S. R.2E. W.M.
CLACKAMAS COUNTY
1" = 100'

D. L. C.
GEORGE ABERNETHY NO. 58

Cancelled Taxlots

700
701
1200
2300
2600
2701
2801
2901
290



THIS MAP IS FOR ASSESSMENT
PURPOSES ONLY



First American

First American Title Insurance Company

121 SW Morrison Street, Suite 300
Portland, OR 97204
Phn - (503)222-3651 (800)929-3651
Fax - (877)242-3513

**PUBLIC RECORD REPORT
FOR NEW SUBDIVISION OR LAND PARTITION**

2nd Supplemental

THIS REPORT IS ISSUED BY THE ABOVE-NAMED COMPANY ("THE COMPANY") FOR THE EXCLUSIVE USE OF:

Chuck Grant
1913 Main St, Suite 151
Oregon City, OR 97045
Phone: 503.729.5029
Fax:

Date Prepared : October 22, 2019
Effective Date : 8:00 A.M on October 17, 2019
Order No. : 7019-3294960
Subdivision :

The information contained in this report is furnished by First American Title Insurance Company (the "Company") as an information service based on the records and indices maintained by the Company for the county identified below. This report is not title insurance, is not a preliminary title report for title insurance, and is not a commitment for title insurance. No examination has been made of the Company's records, other than as specifically set forth in this report. Liability for any loss arising from errors and/or omissions is limited to the lesser of the fee paid or the actual loss to the Customer, and the Company will have no greater liability by reason of this report. This report is subject to the Definitions, Conditions and Stipulations contained in it.

REPORT

- A. The Land referred to in this report is located in the County of Clackamas, State of Oregon, and is described as follows:

As fully set forth on Exhibit "A" attached hereto and by this reference made a part hereof.

- B. As of the Effective Date, the tax account and map references pertinent to the Land are as follows:

As fully set forth on Exhibit "A" attached hereto and by this reference made a part hereof.

- C. As of the Effective Date and according to the Public Records, we find title to the land apparently vested in:

As fully set forth on Exhibit "B" attached hereto and by this reference made a part hereof

- D. As of the Effective Date and according to the Public Records, the Land is subject to the following liens and encumbrances, which are not necessarily shown in the order of priority:

As fully set forth on Exhibit "C" attached hereto and by this reference made a part hereof.

EXHIBIT "A"
(Land Description Map Tax and Account)

PART OF LOT 19, HARDING-WALDEN TRACTS, IN THE CITY OF OREGON CITY, COUNTY OF CLACKAMAS AND STATE OF OREGON, DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHWEST CORNER OF LOT 19; THENCE EAST ALONG THE NORTH LINE OF SAID LOT, 220.40 FEET; THENCE SOUTH PARALLEL WITH THE WEST LINE OF SAID LOT, 91.0 FEET; THENCE WEST PARALLEL WITH THE NORTH LINE OF SAID LOT 19, A DISTANCE OF 220.40 FEET TO THE WEST LINE OF SAID LOT; THENCE NORTH ALONG SAID WEST LINE 91.0 FEET TO THE POINT OF BEGINNING.

NOTE: THIS LEGAL DESCRIPTION WAS CREATED PRIOR TO JANUARY 01, 2008.

Map No.: 22E21CD02000
Tax Account No.: 00546074

EXHIBIT "B"
(Vesting)

Ashley A. Punch and Charles D. Grant not as tenants in common, but with rights of survivorship, as to an undivided 50% interest and David M. Hendricks, as to an undivided 50% interest

EXHIBIT "C"
(Liens and Encumbrances)

1. Taxes for the year 2019-2020
Tax Amount \$ 3,180.57
Unpaid Balance: \$ 3,180.57, plus interest and penalties, if any
Code No.: 062-002
Map & Tax Lot No.: 22E21CD02000
Property ID No.: 00546074
2. City liens, if any, of the City of Oregon City.
3. Deed of Trust and the terms and conditions thereof.
Grantor/Trustor: Ashley A Punch
Grantee/Beneficiary: Mortgage Electronic Registration Systems, Inc., MERS solely as a
nominee for Caliber Home Loans, Inc., its successors and assigns
Trustee: First American Title Company of Oregon
Amount: \$397,664.00
Recorded: April 30, 2018
Recording Information: Fee No. 2018 026284
4. Deed of Trust and the terms and conditions thereof.
Grantor/Trustor: Charles D Grant, & David M Hendricks
Grantee/Beneficiary: Ashley A Punch
Trustee: First American Title Company of Oregon
Amount: \$239,992.00
Recorded: July 31, 2019
Recording Information: Fee No. 2019 045015

DEFINITIONS, CONDITIONS AND STIPULATIONS

1. **Definitions.** The following terms have the stated meaning when used in this report:
 - (a) "Customer": The person or persons named or shown as the addressee of this report.
 - (b) "Effective Date": The effective date stated in this report.
 - (c) "Land": The land specifically described in this report and improvements affixed thereto which by law constitute real property.
 - (d) "Public Records": Those records which by the laws of the state of Oregon impart constructive notice of matters relating to the Land.
2. **Liability of the Company.**
 - (a) THIS REPORT IS NOT AN INSURED PRODUCT OR SERVICE OR A REPRESENTATION OF THE CONDITION OF TITLE TO REAL PROPERTY. IT IS NOT AN ABSTRACT, LEGAL OPINION, OPINION OF TITLE, TITLE INSURANCE COMMITMENT OR PRELIMINARY REPORT, OR ANY FORM OF TITLE INSURANCE OR GUARANTY. THIS REPORT IS ISSUED EXCLUSIVELY FOR THE BENEFIT OF THE APPLICANT THEREFOR, AND MAY NOT BE USED OR RELIED UPON BY ANY OTHER PERSON. THIS REPORT MAY NOT BE REPRODUCED IN ANY MANNER WITHOUT FIRST AMERICAN'S PRIOR WRITTEN CONSENT. FIRST AMERICAN DOES NOT REPRESENT OR WARRANT THAT THE INFORMATION HEREIN IS COMPLETE OR FREE FROM ERROR, AND THE INFORMATION HEREIN IS PROVIDED WITHOUT ANY WARRANTIES OF ANY KIND, AS-IS, AND WITH ALL FAULTS. AS A MATERIAL PART OF THE CONSIDERATION GIVEN IN EXCHANGE FOR THE ISSUANCE OF THIS REPORT, RECIPIENT AGREES THAT FIRST AMERICAN'S SOLE LIABILITY FOR ANY LOSS OR DAMAGE CAUSED BY AN ERROR OR OMISSION DUE TO INACCURATE INFORMATION OR NEGLIGENCE IN PREPARING THIS REPORT SHALL BE LIMITED TO THE FEE CHARGED FOR THE REPORT. RECIPIENT ACCEPTS THIS REPORT WITH THIS LIMITATION AND AGREES THAT FIRST AMERICAN WOULD NOT HAVE ISSUED THIS REPORT BUT FOR THE LIMITATION OF LIABILITY DESCRIBED ABOVE. FIRST AMERICAN MAKES NO REPRESENTATION OR WARRANTY AS TO THE LEGALITY OR PROPRIETY OF RECIPIENT'S USE OF THE INFORMATION HEREIN.
 - (b) No costs (including, without limitation attorney fees and other expenses) of defense, or prosecution of any action, is afforded to the Customer.
 - (c) In any event, the Company assumes no liability for loss or damage by reason of the following:
 - (1) Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records.
 - (2) Any facts, rights, interests or claims which are not shown by the Public Records but which could be ascertained by an inspection of the land or by making inquiry of persons in possession thereof.
 - (3) Easements, liens or encumbrances, or claims thereof, which are not shown by the Public Records.
 - (4) Discrepancies, encroachments, shortage in area, conflicts in boundary lines or any other facts which a survey would disclose.
 - (5) (i) Unpatented mining claims; (ii) reservations or exceptions in patents or in Acts authorizing the issuance thereof, (iii) water rights or claims or title to water.
 - (6) Any right, title, interest, estate or easement in land beyond the lines of the area specifically described or referred to in this report, or in abutting streets, roads, avenues, alleys, lanes, ways or waterways.
 - (7) Any law, ordinance or governmental regulation (including but not limited to building and zoning laws, ordinances or regulations) restricting, regulating, prohibiting or relating to (i) the occupancy, use or enjoyment on the land; (ii) the character, dimensions or location of any improvement now or hereafter erected on the land; (iii) a separation in ownership or a change in the dimensions or area of the land or any parcel of which the land is or was a part; or (iv) environmental protection, or the effect of any violation of these laws, ordinances or governmental regulations, except to the extent that a notice of the enforcement thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the Public Records at the effective date hereof.
 - (8) Any governmental police power not excluded by 2(d)(7) above, except to the extent that notice of the exercise thereof or a notice of a defect, lien or encumbrance resulting from a violation or alleged violation affecting the land has been recorded in the Public Records at the effective date hereof.
 - (9) Defects, liens, encumbrances, adverse claims or other matters created, suffered, assumed, agreed to or actually known by the Customer.
3. **Charge.** The charge for this report does not include supplemental reports, updates or other additional services of the Company.



OREGON CITY

Community Development – Planning

698 Warner Parrott Road | Oregon City OR 97045

Ph (503) 722-3789 | Fax (503) 722-3880

LAND USE APPLICATION TRANSMITTAL

Date: 1/21/2020

DISTRIBUTION OF APPLICATION

☒	Building Official	☒	Clackamas County Transportation
☒	Development Services	☒	Clackamas County Planning
☒	Public Works Operations	☒	Clackamas Fire District #1
☒	City Engineer	☐	ODOT – Division Review
☒	Public Works Director	☒	Oregon City School District
☒	Parks Manager	☐	Tri-Met
☒	Community Services Director	☐	Metro
☒	Police	☐	PGE
☒	Economic Development Manager	☒	South Fork Water Board
☒	Traffic Engineer	☒	Hamlet of Beavercreek
☐	City Manager's Office	☒	Holcomb Outlook CPO
☐	Oregon City Neighborhood Associations	☒	Central Point / Leland Road / New Era CPO
☒	N.A Chair Park Place	☐	Other – See Email List
☒	N.A. Land Use Chair	☒	Natural Resource Committee
☒	Notice of the application mailed to all properties within 300 feet	☐	Other:

COMMENTS DUE BY:	February 14, 2020 to be included in staff report		
DECISION BODY:	Type III Planning Commission		
HEARING DATE(s):	February 24, 2020		
DECISION TYPE:	Type III		
FILE #S:	GLUA-19-00044/MP-19-00004/VAR-19-00014		
PLANNER:	Diliana Vassileva	Phone (503) 974-5501	Email dvassileva@orcitey.org
APPLICANT:	Chuck Grant		
OWNER:	Ashley Punch		
REPRESENTATIVE:	Ben Altman, Pioneer Design Group		
REQUEST:	Approval of a 2-Lot Minor Partition application with a variance to minimum lot size.		
ROJECT WEBPAGE:	https://www.orcity.org/planning/project/glua-19-00044mp-19-00004var-19-00014		
ZONING:	R-10 Single Family Dwelling		
ADDRESS(ES):	15910 Swan Avenue, Oregon City, OR 97045		
TAX LOTS:	Map 2-2E-21CD, Tax Lot 2000		

This application material is referred to you for your information, study and official comments. If extra copies are required, please contact the Planning Department. Your recommendations and suggestions will be used to guide the Planning staff when reviewing this proposal. If you wish to have your comments considered and incorporated into the staff report, please return the attached copy of this form to facilitate the processing of this application and will insure prompt consideration of your recommendations.

Please check the appropriate spaces below.

☒	The proposal does not conflict with our interests.
☐	The proposal conflicts with our interests for the reasons attached.
☐	The proposal would not conflict our interests if the changes noted below are included.

Signature _____

CONTACT THE PLANNING DIVISION IF YOU HAVE ANY QUESTIONS ABOUT THIS APPLICATION

Diliana Vassileva

From: ODOT_R1_DevRev <ODOT_R1_DevRev@odot.state.or.us>
Sent: Thursday, January 23, 2020 8:46 AM
To: Diliana Vassileva
Subject: RE: Land Use Application GLUA-19-00044/MP-19-00004/VAR-19-00014

Hi Diliana,

ODOT has no concerns with this proposal.

Thank you,

Kate (Wihtol) Hawkins

Associate Planner, Development Review
ODOT Region 1
kate.w.hawkins@odot.state.or.us
(503) 731 – 3049
She/Her

From: Diliana Vassileva <dvassileva@orccity.org>
Sent: Tuesday, January 21, 2020 3:03 PM
Subject: Land Use Application GLUA-19-00044/MP-19-00004/VAR-19-00014

Good afternoon,

The Planning Division has received an application for a 2-Lot Minor Partition with a Variance to minimum lot size requirements. Please review the proposal posted [here](#) and provide your comments by February 14, 2020 to be included in the staff report. Comments received after this date will be provided to the Planning Commission at the hearing.

COMMENTS DUE BY:	February 14, 2020 to be included in staff report
HEARING DATE:	February 24, 2020
HEARING BODY:	___ Staff Review; <u>x</u> PC; ___ HRB; ___ CC
FILE # & TYPE:	GLUA-19-00044 (General Land Use Application), MP-19-00004 (Minor
Partition), VAR-19-00014 (Variance)	
PLANNER:	Diliana Vassileva, Assistant Planner, 503.974.5501, dvassileva@orccity.org
APPLICANT:	Chuck Grant
OWNERS:	Ashley Punch
REPRESENTATIVE:	Ben Altman, Pioneer Design Group
REQUEST:	The applicant is seeking approval of a two-lot Minor Partition application with a variance to minimum lot size.
LOCATION:	15910 Swan Avenue, Oregon City, OR 97045 Clackamas County Map 2-2E-21CD, Tax Lot 2000

Thank you.



Diliana Vassileva
Assistant Planner
Planning Division
City of Oregon City
PO Box 3040
698 Warner Parrott Road,
Oregon City, Oregon 97045
Direct - 503.974.5501
Planning Division - 503.722.3789
Fax 503.722.3880

Website: www.orcity.org | webmaps.orcity.org | Follow us on: [Facebook!](#) | [Twitter](#)
Think **GREEN** before you print.

Please visit us at 698 Warner Parrott Road, Oregon City between the hours of 8:30am-3:30pm Monday through Friday.

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City of Oregon City

625 Center Street
Oregon City, OR 97045
503-657-0891

Staff Report

File Number: PC 20-029

Agenda Date: 2/24/2020

Status: Agenda Ready

To: Planning Commission

Agenda #:

From: Sr. Planner Christina Robertson-Gardiner

File Type: Planning Item

SUBJECT:

LEG 19-00003 - Beavercreek Road Concept Plan- Code and Zoning Amendments- Formal Planning Commission Recommendation

RECOMMENDED ACTION (Motion):

- 1.Recommend Approval of LEG 19-00003 - Beavercreek Road Concept Plan- Code and Zoning Amendments to the City Commission.
2. Continue LEG 19-00003 - Beavercreek Road Concept Plan- Code and Zoning Amendments to the March 9, 2020 Planning Commission Hearing.

BACKGROUND:

The Beavercreek Road Concept Plan (BRCP) was initially adopted in 2008 and re-adopted in 2016. While approximately half of the district has been annexed to the City, mapping and zoning regulations need to be developed and applied for the annexed areas and the remainder of the district to fully implement the BRCP.

Public outreach in the spring of 2019, nine Planning Commission Hearings and two City Commission work sessions provided guidance on the recommended implementation items. This file proposes amendments to the Comprehensive Plan Map, Zoning Map, Title 16 and 17 of the Oregon City Municipal Code, Beavercreek Road Concept Plan, Parks Master Plan, Trails Master Plan and the Transportation System Plan to Implement the Goals and Policies of the Beavercreek Road Concept Plan.

Staff has prepared a staff report that analyzes the proposal to amend the Comprehensive Plan Map, Zoning Map, Title 16 and 17 of the Oregon City Municipal Code, Beavercreek Road Concept Plan, Parks Master Plan, Trails Master Plan and the Transportation System Plan to implement the Goals and Policies of the Beavercreek Road Concept Plan and found that it is consistent with the Oregon City Comprehensive Plan and State Land Use Goals. Staff recommends approval of Planning file LEG 19-00003.

BUDGET IMPACT:

Amount:

FY(s):

Funding Source:

To: Planning Commission

From: Nancy Broshot, Ph.D. Natural Resources Committee Chair

RE: Beaver Creek Road Concept Plan Implementation Upland Habitat – Draft Planning Commission Recommendations

Date: February 12, 2020

In November 2019, the Natural Resources Committee (NRC) recommended additional protection for upland habitat in the Beaver Creek Road Concept Plan. In particular, Areas 3 and 4 were of concern to the NRC because they are part of and contiguous with a much larger forested area.

I was somewhat dismayed by the Planning Commission's recommendation that no additional land be protected during the development of this property. Allowing development and tree removal in these two areas will contribute to forest fragmentation. I am submitting these comments personally and not on behalf of the Natural Resources Committee.

Forest fragmentation is one of the major documented negative impacts of urbanization and is an insidious threat to natural areas. Large intact areas of forest contribute to species diversity (both plant and animal), help remove pollutants from the air, mitigate climate change, and protect water quality. Development chips away at forests edges, reducing interior habitat until the land no longer functions ecologically as forest habitat. The increased edge, while attractive to many species, is not suitable habitat to many important species such as woodpeckers, owls and other raptors, and many migratory songbirds. As edge habitat increases, the remaining forest has a different climate, increased invasive species, and increased predators and nest parasites, all of which leads to a decline in abundance of forest interior species of plants and animals. Large intact forested areas serve as a refuges for specialized species; the loss of large forests due to fragmentation leads to localized extinction of species.

I recognize the importance of additional housing in our area, but I feel we need to balance development with protection of important natural resources, that once gone cannot be replaced. Areas 3 and 4 are important natural resources. Houses adjacent to forested areas have higher property values. Setting aside Areas 3 and 4 would have tremendous economic value to the future property owners. An idea that would allow these areas to be preserved while development occurs would be to have the houses adjacent to these areas have yards with conservation easements that would protect the intact forest. This type of development has occurred in many areas of Portland adjacent to Forest Park; those parcels have exceptionally high values now as many people want to live in the forest. I realize that this would require the need for general density transfers so the development could produce the level of housing required. I believe the ecologically valuable intact forest habitat in Areas 3 and 4 are well worth preserving for future Oregon City residents.

I appreciate your returning to this topic and implore you to protect the valuable large intact forested area in Areas 3 and 4 that is now rare in Oregon City.



REPORT DATE: February 14, 2020

FILE NO.: Legislative File: LEG-19-00003

APPLICANT: City of Oregon City – Planning Division
698 Warner Parrott Rd, Oregon City, Oregon 97045

CONSULTANTS: 3J Consulting
Steve Faust, Principal

JET Planning
Elizabeth Decker, Principal

REVIEWERS: Christina Robertson-Gardiner, AICP Senior Planner
Laura Terway, AICP, Community Development Director
Carrie Richter, Asst. City Attorney

REQUEST: Amend the Comprehensive Plan Map, Zoning Map, Title 16 and 17 of the Oregon City Municipal Code, Beaver Creek Road Concept Plan, Parks Master Plan, Trails Master Plan and the Transportation System Plan to Implement the Goals and Policies of the Beaver Creek Road Concept Plan.

LOCATION: Beaver Creek Road Concept Plan

RECOMMENDATION: **Adoption of the proposed amendments.** See last page for full recommendation.

17.50.170 - Legislative hearing process.

A. Purpose. Legislative actions involve the adoption or amendment of the city's land-use regulations, comprehensive plan, maps, inventories and other policy documents that affect the entire city or large portions of it. Legislative actions which affect land use must begin with a public hearing before the planning commission.

B. Planning Commission Review.

1. Hearing Required. The planning commission shall hold at least one public hearing before recommending action on a legislative proposal. Any interested person may appear and provide written or oral testimony on the proposal at or prior to the hearing. The community development director shall

notify the Oregon Department of Land Conservation and Development (DLCD) as required by the post-acknowledgment procedures of ORS 197.610 to 197.625, as applicable.

2. The community development director's Report. Once the planning commission hearing has been scheduled and noticed in accordance with Section 17.50.090(C) and any other applicable laws, the community development director shall prepare and make available a report on the legislative proposal at least seven days prior to the hearing.

3. Planning Commission Recommendation. At the conclusion of the hearing, the planning commission shall adopt a recommendation on the proposal to the city commission. The planning commission shall make a report and recommendation to the city commission on all legislative proposals. If the planning commission recommends adoption of some form of the proposal, the planning commission shall prepare and forward to the city commission a report and recommendation to that effect.

C. City Commission Review.

1. City Commission Action. Upon a recommendation from the planning commission on a legislative action, the city commission shall hold at least one public hearing on the proposal. Any interested person may provide written or oral testimony on the proposal at or prior to the hearing. At the conclusion of the hearing, the city commission may adopt, modify or reject the legislative proposal, or it may remand the matter to the planning commission for further consideration. If the decision is to adopt at least some form of the proposal, and thereby amend the city's land-use regulations, comprehensive plan, official zoning maps or some component of any of these documents, the city commission decision shall be enacted as an ordinance.

2. Notice of Final Decision. Not later than five days following the city commission final decision, the community development director shall mail notice of the decision to DLCD in accordance with ORS 197.615(2).

IF YOU HAVE ANY QUESTIONS ABOUT THIS APPLICATION, PLEASE CONTACT THE PLANNING DIVISION OFFICE AT (503) 722-3789.

EXECUTIVE SUMMARY:

The Beavercreek Road Concept Plan (BRCP) was initially adopted in 2008 and re-adopted in 2016. While approximately half of the district has been annexed to the City, mapping and zoning regulations need to be developed and applied for the annexed areas and the remainder of the district to fully implement the BRCP.

Public outreach in the spring of 2019, nine Planning Commission Hearings and two City Commission work sessions provided guidance on the recommended implementation items. This file proposes amendments to the Comprehensive Plan Map, Zoning Map, Title 16 and 17 of the Oregon City Municipal Code, Beavercreek Road Concept Plan, Parks Master Plan, Trails Master Plan and the Transportation System Plan to Implement the Goals and Policies of the Beavercreek Road Concept Plan.

I. INTRODUCTION

PROPOSAL

The Beavercreek Road Concept Plan (BRCP) establishes the goal of creating a complete and sustainable community in southeast Oregon City within a 453-acre district along Beavercreek Road. The district is intended to provide for a mix of uses including an employment campus north of Loder Road, mixed-use districts along Beavercreek Road, and two mixed-use neighborhoods woven together by open space, trails, a network of green streets, and sustainable development practices. District development is anticipated to provide 1,100 housing options and to realize the City's economic development goals, including creation of up to 5,000 family-wage jobs. The five subdistricts that support these development goals include:

- **North Employment Campus:** The largest subdistrict, located north of Loder Road and is intended for tech flex and campus industrial uses.
- **Mixed Employment Village:** Located along Beavercreek Road between Meyers Road and Glen Oak Road, and intended for mixed-use, 3-5 story building scale, active street life.
- **Main Street:** A node located Beavercreek Road and Glen Oak Road, intended for mixed-use, local shops and services.
- **West Mixed-Use Neighborhood:** Located along Beavercreek Road south of Glen Oak Road and the Main Street subdistrict and intended for medium to high-density housing and limited community uses.
- **East Mixed-Use Neighborhood:** Located in the southeast end of concept plan area and is intended for low-density residential and green space throughout.
- **Parks, Open Spaces and Resource Areas:** Includes a connected system of parks, open spaces and natural areas that link together and link to the environmentally sensitive areas throughout the district, including the undevelopable portion of the powerline overlay.

The Beavercreek Road Concept Plan was initially adopted in 2008 and re-adopted in 2016, following legal and legislative findings that affirmed the plan's consistency with Metro regional employment goals. (See File No. LE-15-0003.) While approximately half of the district has been annexed to the City, mapping and zoning regulations need to be developed and applied for the annexed areas and the remainder of the district to fully implement the BRCP.

Note: the Beavercreek Road Concept Plan will be renamed Thimble Creek Concept Plan as part of the Zoning and Code Amendments process. The previously adopted name was geographically confusing, given the length of Beavercreek Road and the nearby location of the Hamlet of Beavercreek. Thimble Creek is located to the east of the Concept Plan area and flows north before it empties into Abernethy Creek. City documents that refer to the Beavercreek Road Concept Plan should now refer to the revised name: Thimble Creek Concept Plan when opportunities arise to update each document. For the sake of consistency, for the remainder of the staff report, the subject area will be referenced by the current adopted name: Beavercreek Road Concept Plan. Once the code amendments are approved, the Concept Plan will be referenced by with its new name: Thimble Creek Concept Plan.

I.b. IMPLEMENTATION PROJECT SUMMARY

Oregon City aims to further implementation of the Beavercreek Road Concept Plan (BRCP) through comprehensive plan designation and zone mapping, and development code amendments. The specific tasks for this project will be to develop comprehensive plan map and zoning map designations to implement the Beavercreek Road Concept Plan map and supporting development code regulations for each implementing zone. The existing Concept Plan map was the guide for mapping implementation. Existing city zoning, bolstered by recent Equitable Housing code amendments, generally lines up with the desired land use concepts within the plan and will facilitate implementation with minor amendments. Additional plan goals beyond land-use implementation are outside the scope of this project, including infrastructure, transportation and economic development measures that have already been completed or planned for the concept plan area. Additional items will be pursued separately from this land-use implementation project.

The implementation project includes map and text amendments consistent with BRCP including:

1. *Comprehensive plan map amendments:* Proposed amendments to the comprehensive plan map implement the five subdistricts identified in the BRCP consistent with the concept plan maps throughout the concept plan area.
2. *Zoning map amendments:* Proposed amendments to the zoning map implement the five subdistricts consistent with the concept plan and comprehensive plan designations for properties within the concept plan area that have been annexed into the city limits. Zoning for remaining properties will be applied at the time of annexation, consistent with the adopted comprehensive plan map.
3. *Zoning text amendments:* Code amendments to the Oregon City Municipal Code include geographically specific provisions to supplement the base zoning district provisions to fully implement the concept plan goals for each subdistrict. Limited amendments to subdivision and site plan review standards are also proposed to ensure concept plan standards are implemented at the time of development.
4. *Ancillary documents to the Comprehensive Plan:* Ancillary documents that need to be amended to implement the vision of the adopted Concept Plan based on direction from the Planning and City Commissions.

Beavercreek Road Concept Plan

- Amend text to no longer require implementation through the Master Plan process
- Place a note on the front page of the concept plan to refer to its new name: Thimble Creek Concept Plan
- General support for speed reduction efforts on non-arterial streets in the plan area
- Revise Beavercreek Road cross-section per City Commission direction
- Allow wider/safer bike lanes on Collector Streets
- Evaluate specific Collector Street segments at time of development review to verify if development will create sufficient traffic volumes for the designation and design, especially when abutting single-family residential development.

Parks Master Plan

- Include the South-Central Open Space and East Ridge- Thimble Creek Conservation Areas

Trails Master Plan

- Include all trails and shared-use paths identified in concept plan and Transportation System Plan

Transportation System Plan

- Revise Beaver Creek Road cross-section and budget, as needed
- Revise any future street names not meeting current street naming policy

The BRCP subdistricts are proposed to be implemented with existing city comprehensive plan designations and zoning districts for proposed maps, with proposed code amendments building on existing district standards.

<i>Subdistrict</i>	<i>Comprehensive plan designation</i>	<i>Zone</i>
North Employment Campus	Industrial (I)	Campus Industrial (CI)
Mixed Employment Village	Mixed-Use Corridor (MUC)	Mixed-Use Corridor (MUC-2)
Main Street	Mixed-Use Corridor (MUC)	Neighborhood Commercial (NC)
West Mixed-Use Neighborhood	High-Density Residential (HDR)	High-Density Residential (R-2)
East Mixed-Use Neighborhood	Medium-Density Residential (MDR)	Medium-Density Residential (R-5)
Environmentally Sensitive Restoration Area		Natural Resources Overlay District (NROD) Geological Hazard Overlay District (GHOD)

II.b. SUMMARY OF ZONING TEXT AMENDMENTS

The proposed code amendments specific to each subdistrict are described below, and supplement rather than supplant the base zone standards. The proposed redline code can be found as an exhibit to this staff report.

OCMC 16.08, Land Divisions – Process and Standards

- Proposed code amendments include additional public park requirements or fee-in-lieu option to ensure land for the South-Central Open Space Network and East Ridge Thimble Creek Conservation Area are reserved and dedicated to the city at the time of residential subdivisions. This is expected to largely apply to development in the R-5 district.

OCMC 17.04, Definitions

- Cross-reference definition for Beaver Creek Road Concept Plan and Thimble Creek Concept Plan

OCMC 17.10, R-5 Medium Density Residential District (East Mixed-Use Neighborhood subdistrict)

- No changes are proposed to the mix of uses or dimensional standards in the zone beyond those proposed in the Equitable Housing code amendments.
- Standards for the Low-Impact Conservation Area implement the plan goals for the area upslope of Thimble Creek, on the eastern edge of the Beaver Creek Road district. The proposed standards limit development to two units per acre, require open space preservation and restoration, and require view corridors to preserve views.
- A 40-foot perimeter buffer is proposed along the southern edge of the district including landscaping, setbacks and fencing, to manage the transition to lower-density residential development outside City limits along Old Acres Lane to the south.

OCMC 17.12, R-2 High-Density Residential District (West Mixed-Use Neighborhood subdistrict)

- Allows additional uses consistent with the Concept Plan include live/work dwellings and limited commercial/mixed-use spaces.
- Provides up to a 20% density bonus for development incorporating sustainability features.
- Additional changes in 17.62 add requirement for additional public park dedication or fee-in-lieu, consistent with requirement for new subdivisions.

OCMC 17.24, NC Neighborhood Commercial District (Main Street subdistrict)

- Limits uses to a 10,000 SF building footprint to encourage pedestrian-scale, main street businesses. Limits residential uses to 50% of the project floor area and prohibits ground-floor residential uses within 150 feet of Glen Oak Road (which will be the “main street.”) Adds a new use category for artisan and specialty goods production to allow limited manufacturing type uses.
- Increase dimensional standards to match scale proposed in the Concept Plan, including a five-story height limit and 0.5 FAR minimum.
- Improves building presence and interaction along the street by requiring parking to be located behind building facades.

OCMC 17.29, MUC Mixed-Use Corridor District (Mixed Employment Village subdistrict)

- Light industrial uses are permitted to implement the employment aspect of the vision for this subdistrict. Retail and service uses, including food service, are limited to 20% of a site to maintain the focus on employment uses generating family-wage jobs. Residential uses are limited to upper stories only.
- One parcel with an in-progress residential development is permitted outright, to avoid creating a nonconforming use.
- An additional dimensional standard implements a minimum 0.35 FAR for new development to ensure efficient use of land.

OCMC 17.31, CI Campus Industrial District (North Employment Campus subdistrict)

- Retail and professional service uses are limited consistent with Metro Title 4 requirements to preserve land for industrial uses. Offices are permitted consistent with uses outlined in the

Concept Plan, whereas distribution and warehouse uses are prohibited because they create relatively few jobs per acre inconsistent with the plan goals.

- Several parcels with existing single-family residential development are permitted outright, to avoid creating nonconforming uses. (These parcels are outside of Title 4 lands, so there is no conflict with employment requirements.)
- Additional standards require landscaping, berms and fences within the required 25-foot transition area between industrial and residential uses.
- Outdoor storage is limited to a maximum of 25% of the developable area to avoid inefficient use of land that does not support employment plan goals.
- A minimum 30-foot open space and trail corridor is required along the powerline corridor. Additional parks, trails, urban agriculture and community garden uses are permitted consistent with the plan goals for uses within the powerline easement.
- Sustainable development features are required for all development to implement the plan's sustainability goals.

OCMC 17.44, US – Geologic Hazards and OCMC 17.49 – Natural Resources Overlay District

- No changes are proposed to the geologic hazard or NROD standards for this district; resource areas within the concept plan area will be protected consistent with existing standards.

OCMC 17.54.120 -Home Occupations/Cottage Industry- Thimble Creek Concept Plan Area

- Home occupations and Cottage Industries within the Concept Plan Area are encouraged and allowed an expanded level of uses to support job creation in Oregon City.

OCMC 17.62, Site Plan and Design Review

Proposed code amendments include additional public park requirements or fee-in-lieu option to ensure land for the South-Central Open Space Network and East Ridge Thimble Creek Conservation Area is reserved and dedicated to the city at the time of residential subdivisions. This is intended to apply to any residential development in the R-2, employment or the mixed-use districts that does not get developed through subdivision.

Planning Commission Hearings

The Planning Commission reviewed the zoning and code amendments for the Beaver Creek Road Concept Plan (BRCP) over multiple meetings during fall and winter of 2019/2020. Each meeting was broken into 2-3 topics to allow the Planning Commission, staff, and the public time to focus their energies. Planning Commission comments and direction, as well as public comments, were tracked throughout the hearings, and topics were added to future meetings if new items were identified or had not been resolved.

Project Schedule

Hearings

August 12, 2019 PC Meeting Background on Project, Open Record

August 26, 2019 PC Meeting: Introduce Tracking Matrices, An Overview Of 8.13.19 City Commission Work Session, Identify Future Topics /Calendar

September 9, 2019 PC Meeting: Beaver Creek Zones & Maps, Home Occupation

September 23, 2019 PC Meeting: Master Planning Requirement, Upland Habitat, Geologic Hazards

October 14, 2019 PC Meeting: Parks, Renaming Concept Plan, Home Occupation/Cottage Industry

November 18, 2019 PC Meeting: Parks Home Occupation/Cottage Industry

November 25, 2019 PC Meeting: Transportation Roadway Width, Roundabout, Holly Lane, Local Street Speed)

January 13, 2020 PC Meeting: Tentative Planning Commission Recommendation (Parks, Upland Habitat, Home Occupation/Cottage Industry)

February 10, 2020 PC Meeting: Collector Street Width

Other Meetings

August 29, 2019 Parks and Recreation Advisory Committee (PRAC): Initial Presentation

October 9, 2019 Natural Resource Committee: Upland Habitat

November 12, 2019 City Commission Beaver Creek Road Design Work Session

November 13, 2019 Natural Resource Committee: Upland Habitat

January 21, 2020- Transportation Advisory Committee (TAC): Protected and Buffered Bike Lanes

January 23, 2020 Parks and Recreation Advisory Committee (PRAC): Recommendation to The Planning Commission

Public Surveys (Project Eblast, City Social Media)

October 2019 Enhanced Home Occupation: Cottage Industry Standards

October 2019 Additional Public Outreach on Transportation Questions

February 2020 Collector Street Width

Summary of Planning Commission Direction on Items Discussed During the Hearings Process.

Bike Lanes on Collector Streets

February 10, 2020 Planning Commission Hearing

At the January 13, 2020 Planning Commission meeting, the Planning Commission directed staff to review the adopted street sections in the Beaver Creek Road Concept Plan to see if the proposed bike infrastructure meets the goals of a green bikeable neighborhood.

The three main ways that people will travel through the neighborhood on bikes are:

1. Local Streets: Typical neighborhood streets where bikes share the travel lanes with cars. In the concept plan area, the recommendation is to reduce the speed limit to 20 mph.
2. Shared Use Path: A wide path, separated from traffic, is proposed along the linear park on the east side of Center Parkway. The path would be wide to allow comfortable bike travel.
3. Collector Streets: There are a few higher traffic volume streets in the concept plan boundary which include bike lanes.

The adopted bike lane width for collector streets in the Concept Plan (below) area appears to include a 5-foot wide bike lane. This was a standard dimension in 2006 when the plan was designed, but best practices today recommend a wider bike lane for more comfortable and safer experience. This would

require the need for additional land to be devoted to the street or a reduction in something else planned within the street (like landscaping or sidewalk) to maintain the adopted street width.

The adopted collector street in the concept plan includes:

- 5-foot sidewalk (both sides of the street)
- 7.5-foot wide planter strip (both sides of the street)
- On-street parking (both sides of the street)
- 5-foot wide bike lane (both sides of the street)
- vehicle travel lane (one in each direction)
- 10-foot-wide landscaped center median

The center medium and the planter strip between the sidewalk and the street are the areas which could potentially be reduced in order to allow for more space to be dedicated to safer bike travel. Best practices call for protected or buffered bike lanes. Protected Bike Lanes are defined as a bike lane with vertical elements that separate the bicyclist from the vehicular travel lane (this could be a planter, a curb or parked car). Buffered Bikes Lanes provide more of a painted buffer between the bike lane and the travel lane/parked cars.

Either option has maintenance and construction considerations, and both can be installed over time in the concept plan area. Protected bike lanes generally need a minimum of 8 feet (5-foot travel lane and 3-foot buffer/vertical element) and buffered bike lanes need 9.5 feet (5-foot bike lane and a 3 foot and 1.5-foot buffer area to account for open doors of parked cars).The exact design does not need to be decided now, both approaches can move forward as bike lane options. What does need to be decided now is if the street needs to be wider or if we should fit the solution within the previously adopted street width.

Wider roads can be more expensive to build and maintain, can be more challenging to cross, and can reduce the neighborhood feel of a place. Conversely, tree canopy both in wider planter strips and planted mediums provides shade and cools the streets for stormwater that flow into streams. Bigger trees over time also improve property values and help create a sense of community. A survey was sent out to eblast contact list and shared on Oregon city's social media. The survey closes Monday, February 10, 2020 and the final results were shared with the Planning Commission Hearing that evening.

Planning Commission: The need for increased bike safety, green infrastructure and neighborhood identity should be a balanced approach in the final street design of the area. Therefore, in lieu of adding additional Right of Way to collector streets to account for the need for wider protected or buffered bike lanes and potentially impact the neighborhood feel of the area, other elements should be reduced or removed to accommodate wider bike lanes within the adopted ROW.

Home Occupation/Cottage Manufacturing

September 9th, September 23rd, November 18th Planning Commission Hearings

As part of the 2016 re-adoption of the plan, the City Commission recommended that as during the process to create implementing code and zoning for the BRCP, staff should further analyze the issue of allowing expanded home occupation uses, also known as cottage manufacturing/industry within the mixed-use and residential areas. This item was discussed during the two open houses at Oregon City High School and through an online survey in the fall of 2019. The Planning Commission provided staff

clear direction that they supported expanded opportunities for home-based businesses within the concept plan area. Staff worked with the Planning Commission on options creating new opportunities for home-based business in Oregon City. At the November 18, 2019 Meeting, staff received direction on commercial vehicles and hours of operation for employees and sales and type of sales onsite at the November 18, 2019 Planning Commission Meeting. Those changes are reflected in the revised code attached to the January 13, 2020 agenda packet.

Planning Commission: Planning Commission directed staff to create specific cottage industry home occupation business license criteria to implement the Beavercreek Road Concept Plan vision to encourage job creation in the concept plan area.

Upland Habitat regulation under OCMC 17.49 Natural Resource Overlay District (NROD).

September 23, 2019 Planning Commission Hearing

Staff has reviewed the 2008 Beavercreek Road Site Inventory Map and has identified some small areas that are not currently regulated under OCMC 17.49- Natural Resources Overlay District or OCMC 17.44 Geologic Hazards. Staff has determined that a sufficient amount of land identified as habitat is being protected through the city's existing code to show substantial compliance with the goals and policies of the Beavercreek Road Concept Plan. Additional regulation could be adopted to address these areas but, staff believes, would not be required.

Staff presented this analysis to the Natural Resource Committee on October 9, 2019 and November 13, 2019. The Natural Resource Committee submitted a letter with a keyed map into the record requesting the Planning Commission create code to regulate and protect upland habitat areas 3 and 4 as they are of specific interest to the committee and are contiguous to large habitat areas. They support additional protection in Area 2 in locations that abut the identified and protected stream. Area 1 merits additional protection if analysis can show enough tree area located outside of the Natural Resource Overlay District exists. Staff looked for further direction from the Planning Commission on this issue. If the Planning Commission supported additional regulation, staff recommended adding code to either OCMC Chapter 17.49 Natural Resource Overlay District or OCMC 17.41 Tree Protection, Preservation, Removal and Replanting Standards and return at a future meeting with proposed code.

Planning Commission recommendation: Planning Commission did not recommend any revisions to the proposed code amendments at the September 23, 2019 Planning Commission Meeting and discussed the NRC's recommendation at the January 13, 2019 Planning Commission Meeting. After further deliberation, the Planning Commission retained their initial direction to staff to not pursue additional code amendments for Upland Habitat.

Parks Acquisition Code Amendments

October 14, 2019, November 18, 2019, January 13, 2020 Planning Commission Hearings

The BRCP prioritizes an open space network that preserves identified environmental resource areas, parks, trails, and viewpoints, including the South-Central Open Space Network and the Low Impact Conservation Area upslope areas of Thimble Creek on the eastern edge of the district. The proposed code amendments will create the South-Central Open Space Network and Low Impact Conservation Area through required parkland dedication at the time of development and protect trail corridors throughout the district's open space system by also requiring the dedication of easements at the time of development. This code is not for the construction of these elements, only for the dedication of land and potentially some interim surface preparation and use. System Developments Fees would be used for the substantial construction of parkland acquired by this code.

Staff met with the Parks and Rec Advisory Committee (PRAC) on August 29, 2019 and September 26, 2019 to discuss the two park concepts. PRAC was supportive of the approach and requested that staff return at a later date with draft park details for the committee to review and make their formal recommendation to the Planning Commission. Staff is working with Don Robertson, Interim Community Services Manager, to get on the next PRAC agenda. In the interim period, staff worked with previous Community Services Manager Phil Lewis on creating minimum and maximum park dimensions, which will be available for Planning Commission review at the January 213, 2020 Planning Commission Meeting.

Planning staff also reviewed the South-Central Open Space-Neighborhood Park dedication formula for residential development created this summer and found that the formula was not correctly or proportionately allocating dedication based on the number of dwelling units. The original formula was $2.6 \text{ persons per dwelling units} \times (\text{total number of dwelling units proposed in the development}) \times (8 \text{ acres}) / (1,000 \text{ persons})$. This would require a 10.4-acre dedication for a 400 lot/dwelling unit development application. If the goal is a formula that requires all development to contribute proportionally to the proposed impacts of their development, the original calculation would not be considered proportional.

The Beavercreek Road Concept Plan anticipates 1100 new dwelling units. This means that the first large development application would be required to site and dedicate the full South-Central Open Space-Neighborhood Park. Based on the proposed minimum park size of 10 acres and the projected residential zoning for 1100 dwelling units, staff recommends a more proportional formula of $2.6 \text{ persons per dwelling units} \times (\text{total number of dwelling units proposed in the development}) \times (4 \text{ acres}) / (1,000 \text{ persons})$. This would require the same 400 dwelling unit development proposal to dedicate 4.2 acres.

Finally, staff heard from the Planning Commission that nonresidential development should also contribute to the acquisition and interim development of parks spaces above and beyond the required Parks SDCs. Staff recommends that this fee should be set for 1,000 dollars per each new 5,000 square feet of non-residential development. A new 50,000 square foot Industrial building would be required to pay \$10,000.

Planning staff presented these proposed changes to the Parks and Rec Advisory Committee on January 23, 2020. PRAC supported the amendments with three suggested minor revisions 1. Remove the minimum number of park pearls. 2. Require the first platted park pearl to be a minimum of 3 acres 3. Ensure at least one of the viewpoints of the conservation area to be viewable from a vehicle. These changes have been incorporated into the final revised code attached to the February 10, 2020 agenda. **Planning Commission recommendation:** Approve proposed revised parks acquisition language and recommends that both parks be added to the Parks Master Plan and the proposed Trail System be added to the Transportation System Plan (TSP) and Trails Master Plan as needed. Planning Commission supported the proposed code approved the PRAC.

Setbacks Differentiation Between the Northern Concept Plan Boundary and the Southern Concept Plan Boundary.

September 9, 2019 Planning Commission Hearing

The northern boundary is zoned CI and has buffering requirements for residential properties. The purpose of the zoning language is to provide a visual buffer for residential uses while maximizing the

development area for campus industrial properties. The additional buffer requirements found in the Beaver Creek CI zone allow for a smaller setback than the residential buffer to the south. The exchange for quality of the buffer over quantity is often applied in non-residential zones as the landscaping installation and maintenance are easier to enforce than with a single-family residence. Moreover, the Campus Industrial Zone is envisioned to attract businesses that contain their uses inside buildings. The off-hour impact would also be substantially less compared to a single-family residence. The southern concept plan boundary along Old Acres Lane is will be zoned R-5 and has the following proposed code language. The purpose of the increased setback of 40 feet is to protect the existing grove of trees at the southern property line. Staff identified two additional revisions for clarification purposes.

Planning Commission Recommendation: Revise 17.37.040 -Dimensional standards to account for the following items in the southern buffering requirements.

- Timbersky/Beaver Creek intersection. There may be a connection to Beaver Creek Road at the Timbersky intersection that could be a right in/right out approach; therefore, a road may need to be allowed within the 20 feet of the southern boundary
- The addition of the clarification for the 40-foot setback at the southern boundary to primary structures indicates that accessory structures would be allowed in the 40-foot setback.

The Planning Commission did not provide any additional code amendment for the northern buffering requirements.

Definition of Warehousing

September 9, 2019 Planning Commission Hearing

Distribution/warehousing is prohibited in the Beaver Creek Road Concept Plan CI zone. There was some concern that ancillary warehousing and distribution would not be allowed. Oregon City views the storage and distribution of materials that are constructed or assembled onsite to be part of the permitted use. No changes to the code are recommended.

Planning Commission recommendation: Planning Commission did not recommend any revisions to the proposed code amendments.

Map Change Request

September 9, 2019 Planning Commission Hearing

At the August 12, 2019 Planning Commission Hearing, Paul Edgar requested that the Planning Commission work with Metro to revise the Title 4 Industrial maps to remove a CI zoned parcel owned by Terry Emmert (identified by a red star on the map below) to allow construction of housing for homeless veterans onsite. Portions of the CI area in the BRCP are identified as Title 4 Industrial areas. Any change to the title 4 Map must be adopted by Metro and would need to be completed before the Code amendments are adopted by the City to remain consistent with Title 4.

Planning Commission Recommendation: Planning Commission did not recommend any revisions to the proposed zoning map.

Geologic Hazards

September 23, 2019 Planning Commission Hearing

At the request of the Planning Commission, Josh Wheeler, Assistant City Engineer, provided a presentation on the Geologic Hazards Overlay District. Northwest Clackamas County is more susceptible to landslides than many other locations in the Portland-Metro area. Slides are commonly triggered by heavy rain, rapid snowmelt, earthquakes, grading/removing material from the bottom of the slope or

adding loads to the top of the slope, or concentrating water onto a slope (for example, from landscape irrigation, roof downspouts, or broken water/sewer lines). Slides generally occur on moderate to steep slopes, especially in weak soil.

The City of Oregon City has a digital mapping program; once there, you can access the City's GIS mapping program, OCWebMaps, which includes Oregon City and outlying areas. Oregon City regulates and limits tree removal, grading, and development in areas with steep slopes or historic landslides; more information can be found in Chapter 17.44 of the Oregon City Municipal Code.

Planning Commission recommendation: Planning Commission did not recommend any revisions to the proposed code amendments.

Master Planning Requirement- Clear and Objective Standards for Housing

September 23, 2019 Planning Commission Hearing

Senate Bill 1051, passed in 2017, requires jurisdictions to provide clear and objective standards for housing. Clear and objective standards are metric based and rely on analysis using measurable standards such as height, setback, material selection, window transparency, and other architectural features that can be measured. The 2008 Beavercreek Concept Plan looked at implementation through a more subjective Master Plan process that requires applicants to show how their proposed development is consistent with the adopted plan. This would occur through a Type III Master Plan application reviewed by the Planning Commission at a public hearing. The proposed Beavercreek Road Concept Plan code amendment package was written to be clear and objective to show consistency and compliance with SB 1051. The other way to address compliance with SB 1051 will be to amend the Beavercreek Road Concept Plan and remove the master planning requirement from the text

Planning Commission recommendation: Planning Commission recommends amending the Beavercreek Road Concept Plan text to no longer require implementation through the Master Plan process.

Concept Plan Renaming

October 14, 2019 Planning Commission Hearing

One issue that came up over and over again in public outreach conversations and public comments in 2019 was a concern that the name of the concept plan area was geographically confusing and was being confused with the Hamlet of Beavercreek. One way to lessen this concern is to potentially begin referring to the area with a new name as part of the code amendment project. Ideally, the new name should not be geographically confusing. Additional names provided during the public outreach during the spring of 2019 were: Thimble Creek, East Caufield, Loder Road, SE Industrial (Oregon City), Two Creeks, and Thayer Greens. Most of the property is on the Andrew Hood Donation Land Claim. Until the golf course was built, the area was mainly farm fields for people who lived at Maple Lane or lived in the city and kept farms nearby. When the golf course was established, the newspaper reported it going in at "Maple Lane." A survey map for "Skypark" which was the airfield was identified west of the golf course. Google maps show it today as Fairways Airfield. None of the references above create a unique geographic name. As Thimble Creek runs through the site, is not very long and empties into Abernethy Creek soon after it leaves the site, staff found it to be the best alternative name option.

Planning Commission Recommendation: The Planning Commission felt that a renaming of the plan name was warranted and directed staff to ensure that the needed text revisions to rename the plan as the Thimble Creek concept Plan are included in the final Legislative package adopted by the City Commission.

Beavercreek Road Concept Plan- Transportation Analysis

November 25, 2019 Planning Commission Hearing

The Beavercreek Road Zone and Code Amendments project will also rezone properties located within the city limits and Concept Plan boundary. An approval criterion for rezoning property is a facilities analysis. For the transportation system, this is usually done by completing a Transportation Analysis (TA). It was reviewed by John Replinger, the city's contract Transportation Engineer. Once properties are rezoned, additional project-specific analysis will occur during any future development review onsite and specific and proportional conditions of approval for transportation system upgrades, such as abutting street improvements or signal installations will be required as part of a development's approval.

The focus of the analysis was to demonstrate that the requirements of Oregon Administrative Rule (OAR) 660-012-0060, the Transportation Planning Rule (TPR), are met for the Beavercreek Road Concept Plan. Mr. Replinger found that the proposal provides an adequate basis upon which the impacts of the development can be assessed. The TA provides documentation that the key intersections will meet adopted mobility standards and that the proposed changes comply with the TPR. He also concurs with DKS's findings that all study area intersections meet operational standards regardless of whether Holly Lane was included or excluded in the system and that Beavercreek Road would meet mobility standards with the 3-lane configuration specified in the TSP. Additionally, the mobility standards would also be met if Beavercreek Road were to be widened to five lanes in sections where three lanes had been specified.

Planning Commission Recommendation: The Planning Commission did not request any additional information on the transportation analysis and concurred with staff's transportation analysis findings.

Speed Zones within the Concept Plan

November 25, 2019 Planning Commission Hearing

At the request of the Planning Commission, staff presented information on new legislation that allows the city to set lower speed limits on local roads. Senate Bill 558-Allows all cities and counties the authority to establish, by ordinance, a designated speed for a right of ways under their jurisdiction. The measure specifies that the designated speed must be five miles per hour slower than the statutory speed, the road is located in a residential district and not an arterial street, and that the city provides appropriate signage of the designated speed. Senate Bill 558 passed the Legislature and was signed by the Governor on June 27, 2019. It goes into effect on January 1, 2020. If the Planning Commission wishes to pursue 20 miles per hour signage on local residential streets in the Beavercreek Road Concept Plan boundary and the Glen Oak Commercial Main Street, they should include it in the formal recommendation to the City Commission. Implementation would occur at the time of road construction. The City Commission could adopt the support for reduced speeds in the implementing Ordinance or adopt a separate resolution at the time of code adoption.

Planning Commission Recommendation: The Planning Commission found that the Concept Plan envisions strong pedestrian and bike connections to adjacent jobs centers and Clackamas Community College/Oregon City High School; and as the area will be built as a brand new neighborhood, this area would benefit as a test case for reduced vehicular speeds limits on local streets.

Beavercreek Road Design

November 25, 2019 Planning Commission Hearing

At the November 12, 2019 City Commission Work session, staff presented additional information on potential design options for Beavercreek Road and looked for broad direction from the City Commission. Staff also shared the results of the Public Survey. The purpose for holding the City Commission work session during the Planning Commission Hearings process is to provide the City Commission the ability to provide their initial direction on the design of Beavercreek Road, which allows the Planning Commission an opportunity to review the recommendation and provide comments to the City Commission on this topic as the full code amendment package moves forward to City Commission Hearings. If the Planning Commission has a different recommendation than the City Commission on the following questions, its c be included in the formal recommendation to the City Commission. The City Commission provided direction on the following questions:

How many lanes should Beavercreek Road be within the Concept Plan corridor? A transitional section extending the existing 5-lane section near Maple Lane and transitioning to a 3-lane section after the Meyers Road intersection.

What type of intersections should Beavercreek Road have within the Concept Plan corridor? Traffic signals

Should the City renegotiate with ODOT to revise the Alternate Mobility Standard by removing Holly Lane connection projects from the Transportation System Plan (TSP)? No

Should Beavercreek Road along the Concept Plan corridor be constructed by developers incrementally as development is built or pursued as a capital improvement project all at once? The city should investigate if a city-lead capital improvement project is feasible. Staff should return to a future meeting to review funding opportunities.

Planning Commission Recommendation: The Planning Commission concurred with City Commission's direction on the design for Beavercreek Road.

II.E. SUMMARY OF PUBLIC OUTREACH

The BRCP implementation project engaged a range of stakeholders in multiple venues and formats over eight months prior to the commencement of Planning Commission Hearing, with each successive round of engagement used to inform project refinements in subsequent phases.

An introductory letter was sent in December 2018 to all property owners located in or within 300 feet of the Concept Plan boundary.

The first round of engagement consisted of four stakeholder interviews with property owners, economic development representatives, and local educational institutions to understand current conditions and priorities for the implementation project. This initial round also included three presentations to the following community groups to update them on the status of the BRCP concept plan and hear their priorities for the implementation process:

- Caulfield Neighborhood Association- January 22, 2019
- The Hamlet of Beavercreek- January 23, 2019
- Beavercreek Blue Ribbon Committee- January 17, 2019

Three public meetings were held at the Oregon City High School, near the concept plan area, and at City Hall during the project to provide information and discussion opportunities on the evolving maps and code amendments:

- Tuesday, January 29, 2019- Oregon City High School Library- 7:00-8:30 PM
- Tuesday, April 9, 2019- Oregon City High School Library- 7:00-8:30 PM
- Monday, June 10, 2019- City Hall Commission Chambers - 5:00-7:00 PM

For all meetings, materials were also available online including comment forms to allow community members to participate virtually if they were not able to attend the meetings in person.

Additional presentations were held at the following City meetings to detail the implementation project elements:

- Citizen Involvement Committee- January 7, 2019
- Transportation Advisory Committee- March 19, 2019
- Parks and Recreation Advisory Committee- April 25, 2019
- Beavercreek Blue Ribbon Committee- July 17, 2019

The proposed map and code amendments were discussed at the two work sessions this spring:

- Planning Commission Work Session- May 13, 2019
- City Commission Work Session- June 11, 2019

Throughout the project, ongoing methods used to engage citizens in the process have included:

- Project website with regular updates (<https://www.orcity.org/Beavercreekconceptplan>)
- Email updates announcing upcoming meetings and events
- Email List (more than 180 contacts)
- Public comment tracker, compiling feedback from all engagements with responses from staff, updated throughout the project-
- Online comment forms
- Naming survey for renaming the concept plan area
- Notice board posted within the concept plan area

The Legislative fill (LEG 19-0003) was formally noticed to all property owners located in or within 300 feet of the Concept Plan boundary in July 2019 and the project was added to the Development Projects page of the city website. <https://www.orcity.org/planning/project/leg-19-0003>

A new Public Comment Tracker Matrix was utilized for the public hearings portion of the project and will track comments/ issues, staff recommendation and Planning/City Commission direction. It is attached as an exhibit to the staff report.

III. DECISION-MAKING CRITERIA:

The remainder of this report details compliance of the proposed code amendments with the applicable state, regional and local requirements.

Oregon City Comprehensive Plan

Comprehensive Plan

Beavercreek Road Concept Plan- Ancillary Document to Comprehensive Plan – Adopted 2008/2016

Parks Master Plan

Trail Master Plan

Transportation System Plan

Considerations

Section 2 – Land Use of the 2004 Oregon City Comprehensive Plan indicates that the regular review and updated of the Comprehensive Plan should consider the following:

- 1. Plan implementation process.*
- 2. Adequacy of the Plan to guide land use actions, including an examination of trends.*
- 3. Whether the Plan still reflects community needs, desires, attitudes and conditions. This shall include changing demographic patterns and economics.*
- 4. Addition of updated factual information including that made available to the City by regional, state and federal governmental agencies.*

Most of the 453-acre site along Beavercreek Road was added to the regional urban growth boundary by Metro in 2002 and 2004, and the city adopted the Beavercreek Road Concept Plan in 2008. The City's approval was appealed to the Land Use Board of Appeals (LUBA), which remanded the decision back to the City to address an issue associated with industrial land designations which included a separate process by Metro. After resolution, the City Commission voted unanimously to re-adopt the Concept Plan in March 2016. The readoption decision was again appealed to LUBA and subsequently to the Court of Appeals whom both upheld the City's approval of the Beavercreek Road Concept Plan. As of March 2017, the city was able to move forward with plan implementation.

While the plan was formally adopted, it does not include all the tools necessary to implement the vision of the plan such as the assignment of Comprehensive Plan map or zoning designations to properties or changes to uses or design standards in the Oregon City Municipal Code (OCMC) to implement the requirements of the plan.

The purpose of this project is to update the Comprehensive Plan and Oregon City Municipal Code (OCMC) to allow planned housing and mixed-use development to occur, including applying mapping and

zoning designations for properties within the Concept Plan Area. Additional plan goals beyond land-use implementation are outside the scope of this project, including infrastructure, transportation and economic development measures that have already been completed or planned for the concept plan area. Additional items will be pursued separately from this land-use implementation project.

III.A DECISION-MAKING CRITERIA - CONTINUED:

CHAPTER 17.68 ZONING CHANGES AND AMENDMENTS

17.68.010 Initiation of the amendment.

A text amendment to this title or the comprehensive plan, or an amendment to the zoning map or the comprehensive plan map, may be initiated by:

A. A resolution by the commission;

B. An official proposal by the planning commission;

C. An application to the planning division presented on forms and accompanied by information prescribed by the planning commission.

All requests for amendment or change in this title shall be referred to the planning commission.

Response: This request is for amendments to the zoning map, amendments to the comprehensive plan map, and text amendments to the Oregon City Municipal Code and was initiated by the Planning Division.

17.68.020 Criteria.

The criteria for a zone change are set forth as follows:

A. The proposal shall be consistent with the goals and policies of the comprehensive plan.

Response: Consistency with the Oregon City Comprehensive Plan (OCCP) Goals and Policies follow starting on page 11.

B. That public facilities and services (water, sewer, storm drainage, transportation, schools, police and fire protection) are presently capable of supporting the uses allowed by the zone or can be made available prior to issuing a certificate of occupancy. Service shall be sufficient to support the range of uses and development allowed by the zone.

Response: The capacity of the respective public facilities and services to support the proposal is addressed below.

Water and Sewer Capacity

Please refer to the attached memorandum from 3J Consulting. The memorandum provides an assessment of the water and sanitary sewer system implications of the map and code amendments proposed with the BRCP implementation project. Wastewater treatment is provided by the Tri-City Sewer District, which has provided separate comments.

The 3J memorandum concludes that development of 1,105 dwelling units and 5,734 jobs within the BRCP area have been adequately planned for in infrastructure master plans and sufficient capacity will

be available to serve development. The Sanitary Sewer (2014) and Water Distribution (2012) Master Plans were all created subsequent to initial adoption of the Beavercreek Road Concept Plan (2008). Each master plan incorporated the BRCP area into future capital improvement projections and will ensure adequate water and sewer capacity is developed.

South Fork Water Board (SFWB), Oregon City's water provider, has indicated that SFWB will be able to provide water service to the planned development within the BRCP area.

Schools

The proposal was sent to the Oregon City School District (OCSD) for comment. OCSD responded that.

Police and Fire Protection

Oregon City Police Department and Clackamas Fire District capacity would not be affected by the proposal, since the proposal does not change existing service areas.

Wastewater Treatment

Tri-City Sewer District indicates that the proposal does not conflict with their interests.

Storm Drainage

This proposal does not change the city's adopted policies and technical documents related to stormwater management and erosion control. The Draft 2019 Oregon City Stormwater Master Plan includes the BRCP area, which is part of the Newell Creek Basin, but does not identify any capital improvement projects specifically needed to serve the BRCP district. The Plan states that the eventual layout of the stormwater conveyance systems and management facilities will be crafted through the preliminary and final design process for development projects within the BRCP district.

Transportation

Impacts to the transportation system are addressed under (C) below.

Economic, Social, Environmental and Energy (ESEE) Analysis

As part of a Zone Change analysis, the city requires substantial evidence that the possibility of land use development activities allowed under the new zoning (MUC, NC, CI, R-5 and R-2) will not result in a greater impact on the Goal 5 resources mapped on the site over the existing Future Urban (FU-10) land use development activities.

The ESEE analysis involves evaluating the potential tradeoffs associated with different levels of natural resource protection that could be established by the City. As required by the Goal 5 rule (OAR 660-015-0000(5)), the evaluation process involves identifying the consequences of allowing, limiting or prohibiting conflicting uses in areas containing significant natural resources. The rule requires that this analysis be completed before actions are taken to protect or not protect natural resources that are identified in inventory and determined to be significant. Specifically, the rule requires the following steps:

1. Identify conflicting uses – A conflicting use is a land use or activity that may negatively impact natural resources.

2. Determine impact area – The impact area represents the extent to which land uses or activities in areas adjacent to natural resources could negatively impact those resources. The impact area identifies the geographic limits within which to conduct the ESEE analysis.
3. Analyze the ESEE consequences – The ESEE analysis considers the consequences of a decision to either fully protect natural resources; fully allow conflicting uses; or limit the conflicting uses. The analysis looks at the consequences of these options for both development and natural resources.
4. Develop a program – The results of the ESEE analysis are used to generate recommendations or an “ESEE decision.” The ESEE decision sets the direction for how and under what circumstances the local program will protect significant natural resources.

Based on information provided in the Economic, Social, Environmental and Energy (ESEE) Phase 1 Analysis of Metro’s April 2005 UGB Growth Management Functional Plan ordinance, the section below describes the potential conflicting uses associated with the proposed zone designations could have the greater potential to have an adverse effect on the functions and values of the Goal 5 resource mapped on properties located within the Beavercreek Road Concept Plan area which include Thimble Creek and an unnamed tributary to Thimble Creek. Note the zoning themselves are not conflicting uses.

It is the development activities and other disturbances permitted under the zoning that potentially conflicts with the functions and values associated with the Goal 5 resource. The City of Oregon City developed their Chapter 17.49 Title 13 regulations based on Metro’s UGB Management Function Plan. Therefore, the ESEE analysis provided below is consistent with Oregon City’s Goal 5 ordinance.

Economic Consequences

FU-10 – May provide increased adjacent property value. Large Lots associated with FU 10 zoning will retain more vegetation and tree cover than the new zones associated with the Beavercreek Road Concept Plan activities; however, does not provide an overall economic value to the community.

R-5 & R-2- These medium densities and high-density zones can provide a response to the known regional problem of limited housing supply and skyrocketing housing prices affecting the Portland Metro Area and Oregon City. There is a mismatch between supply and demand of housing that is leading to limited availability and affordability challenges for many households. Looking at the latest census data, in Oregon City, 71% of residential units are single-family detached homes, dominating the housing market. All other housing types make up 29% of the housing options, combined, ranging from manufactured homes and floating homes to 20-unit apartment complexes.

Housing prices are increasingly unaffordable, which is typically defined as spending more than 35% of household income on housing. Almost 24% of homeowners with a mortgage have unaffordable costs, and over 40% of renters can’t afford housing costs. Overall, one in four households are struggling to pay for housing. Single-family detached homes, a traditional free-standing house with a yard and space for 3.2 children, dominate the supply but comes at a high cost that is increasingly out of reach, leading to homelessness in some cases. With smaller households more and more common, the city’s needs don’t match the homes available. Additional housing choices that include duplexes, tri-plexes, townhomes, apartments and cluster housing can provide alternatives to the predominate single family housing model found in Oregon City.

MUC, NC and CI – Enhances the potential for local economic development. The zone change supports Metro’s Growth Concept Plan underlying goals to provide employment, income, and related tax benefits to local community.

Summary: While FU-10 may result in less vegetation removal, the MUC, ND, CI, R-2 and R-5 land uses provides a greater economic benefit to the community through increased housing options, employment and educational opportunities and reduced transportation facilities and utilities. These zones promote more efficient use of land, minimizing urban sprawl.

Therefore, the conflicting uses associated with MUC, NC, CI, R-5 and R-2 development activities provides a greater economic benefit, outweighing the FU-10 conflicting uses.

Social Consequences

FU-10 —Goal 5 resource provides natural stress relief to employment occupants. The R-2, R-5, ND, CI and MUC-2 land uses may also provide potential public educational and recreational benefit through passive open space viewing and the ability to dedicate future park space as development occurs within the Beavercreek Concept Plan Area.; however, there is a potential to reduce the scenic value.

Summary- Change in conflicting use zoning from FU-10 may provide an increased social benefit to Oregon City.

Environmental Consequences

FU-10—Impacts to Goal 5 resources and associated Impact Area (buffer) for FU-10 development may require: removal of native vegetation; non-native landscaping; pesticide and fertilizer use; and pets which tend to degrade habitat and water quality.

MUC, NC, CI, R-5 and R-2 can create larger building footprints than FU-10 which may result in increased vegetation removal; however, MUC, NC and CI offers decreased VMT (vehicle miles traveled) which reduces overall water quality impacts in the local watershed. Minimal light and glare into Goal 5 resource and buffer. Provides overall moderate to high imperviousness, low infrastructure requirements, and low to moderate overall natural landcover.

Summary: Due to smaller development footprints, disturbance activities associated with FU-10 conflicting uses may provide a lesser degree of impact to the Goal 5 resource and associated buffer than MUC, NC, CI, R-5 and R-2 conflicting use development activities. However, MUC, NC, CI, R-5 and R-2 stricter water quality standards, providing potential for overall lesser amounts of impact to the local watershed.

Energy Consequences

FU-10- Tends to retain more trees than other zoning, reducing air quality and temperature impacts. However, tends to create more infrastructure (utilities and roads) and greater travel distances which can have a negative energy consequence.

MUC, NC, CI, R-5 and R-2 - Energy efficient zoning because it decreases VMT (vehicle miles traveled) and overall infrastructure requirements. Potential to reduces the amount of overall development through

shared parking. Shared parking areas have vegetated islands reducing imperviousness and negative energy consequences associated with temperature regulation.

Summary: MUC, NC, CI, R-5 and R-2 conflicting use development activities for energy consequences may result in lesser impact on the Goal 5 resource and associated buffer over FU-10 development activities.

Overall Summary Conclusion

In summary, the ESEE consequences that can occur within the proposed MUC, NC, CI, R-5 and R-2 zoning will not result in a greater conflict to the Goal 5 resource mapped on the site over the current FU-10 zoning. The change in zoning from FU-10 to MUC, NC, CI, R-5 and R-2 may result in lesser amounts of environmental and energy consequences; however, MUC, NC, CI, R-5 and R-2 has opportunity to provide increased economic and social benefits. Mixed use centers allow City residents to live near their work, which tends to reduce vehicle use, which minimizes potential air, water and energy quality impacts.

The Goal 5 resources mapped on the site is protected under Chapter 17.49 Natural Resource Overlay District of the City's code of ordinances, regardless of site zoning. Chapter 17.49 of Oregon City code is compliant with Metro's Title 3 and 13 lands and the Statewide Planning Goal 5. Therefore, the potential for increased levels of impervious surfaces and vegetation loss associated with MUC, NC, CI, R-5 and R-2 development activities will be protected and if necessary mitigated through local permitting compliant with Chapter 17.49.

Based on the various analyses provided, public facilities and services are presently capable of supporting the uses allowed by the proposal or can be made available prior to issuing a certificate of occupancy.

This criterion is met.

C. The land uses authorized by the proposal are consistent with the existing or planned function, capacity and level of service of the transportation system serving the proposed zoning district.

Response: The impacts of the proposal on the transportation system were reviewed by a transportation consultant, DKS. Please refer to the DLS analysis and memorandum which is attached to this narrative. The memorandum provides an assessment of the transportation implications of the project proposal. The memorandum assesses whether the proposed amendments trigger a finding of significant effect that would require further analysis to determine transportation impacts under OAR 660-12-0060 (Transportation Planning Rule or "TPR").

The memo concludes that the proposed map and code amendments do not result in a significant change in the number of trips resulting from the dwelling units and jobs anticipated within the BRCP district compared to the traffic anticipated and planned for in Oregon City's Transportation System Plan (TSP) adopted in 2013.

In his November 18, 2019 Letter, John Replinger, the City's consulting Transportation Engineer, reviewed the Transportation Analysis (TA) submitted in support of the Beavercreek Concept Plan and proposed legislative amendments. The TA, dated June 21, 2019, was prepared under the direction of Kevin Chewuk and Amanda Deering of DKS Associates.

He found the Transportation Analysis addresses the city's requirements and provides an adequate basis to demonstrate compliance with the TPR.

He concurs with the authors' conclusion that the proposal is consistent with the TPR. The proposed plan designation changes and rezoning do not change the functional classification of any existing or planned transportation facility; do not degrade the performance of existing or planned facilities such that mobility standards are not met; and do not cause a significant effect as defined under the Transportation Planning Rule.

Therefore, the proposed amendments do not have a significant effect on the transportation system and that the city may adopt findings to that effect when adopting the proposed amendments. **This criterion is met.**

D. Statewide planning goals shall be addressed if the comprehensive plan does not contain specific policies or provisions which control the amendment.

Response: The acknowledged Oregon City Comprehensive Plan (OCCP) addresses all the applicable Statewide Planning goals unless the Statewide Goal is inapplicable. The relevant sections of the OCCP implemented by this proposal, and the applicable Statewide Goals, is indicated below.

Statewide Planning Goal	OCCP Section / Goal(s) Implemented by this Proposal
1: Citizen Involvement	1. Citizen Involvement / Goals 1.2, 1.4
2: Land Use Planning	2. Land Use Planning / Goals 2.1, 2.3, 2.4, 2.5, 2.6, 2.7
3: Agricultural Lands	3. Not applicable within UGB
4: Forest Lands	4. Not applicable within UGB
5: Natural Resources, Scenic and Historic Areas, and Open Spaces	5. Open Spaces, Scenic and Historic Areas, and Natural Resources / Goals 5.1, 5.4
6: Air, Water and Land Resources Quality	6. Quality of Air, Water, and Land Resources / Goals 6.1, 6.2
7: Areas Subject to Natural Hazards	7. Natural Hazards
8: Recreation Needs	8. Parks and Recreation / Goal 8.1,
9: Economic Development	9. Economic Development / Goals 9.1, 9.3, 9.5, 9.7, 9.8
10: Housing	10. Housing / Goals 10.1, 10.2
11: Public Facilities and Services.	11. Public Facilities and Services Goals 10.1
12: Transportation	12: Transportation Goal 12.1
13: Energy Conservation	12 Energy Conservation Goals 12.01, 12.02, 12.03, 12.04
14: Urbanization	14. Urbanization / Goal 14.3
15: Willamette River Greenway	Not affected by this proposal.
16: Estuarine Resources	Not applicable.
17: Coastal Shorelands	Not applicable.
18: Beaches and Dunes	Not applicable.
19: Ocean Resources	Not applicable.

Detailed responses to the OCCP goals and policies are provided in Section III.b below.

III.b. OREGON CITY COMPREHENSIVE PLAN GOALS AND POLICIES

Goal 1.2 Community and Comprehensive Planning

Ensure that citizens, neighborhood groups, and affected property owners are involved in all phases of the comprehensive planning program.

Policy 1.2.1

Encourage citizens to participate in appropriate government functions and land-use planning.

Goal 1.4 Community Involvement

Provide complete information for individuals, groups, and communities to participate in public policy planning and implementation of policies.

Policy 1.4.1

Notify citizens about community involvement opportunities when they occur.

Response: The proposal is consistent with these Goals and Policies. The project provided numerous opportunities for citizen involvement, including engagement with the Citizen Involvement Committee, the East Caufield Neighborhood Association, property owners, and other stakeholders through multiple avenues throughout the eight-month project planning process with multiple notification and participation options provided. See Section I.c for full summary of citizen involvement efforts.

2.1 Efficient Use of Land

Ensure that property planned for residential, commercial, office, and industrial uses is used efficiently, and that land is developed following principles of sustainable development.

Response: The proposal maps and supplements existing zoning district standards for the R-5, R-2, NC, MUC-II, and CI zones that have been found to support efficient and sustainable development. The BRCP envisions the area developed with vibrant, walkable, amenity-rich neighborhoods with active community centers, as mapped and implemented by this proposal. The proposed code amendments further support efficient land use by providing residential density bonuses, FAR minimums for mixed-use development, and requiring sustainable design features for industrial development. **The proposal is consistent with this Goal.**

Policy 2.1.1

Create incentives for new development to use land more efficiently, such as by having minimum floor area ratios and maximums for parking and setbacks.

Response: The proposed code amendments create additional incentives for efficient land use in the BRCP district beyond the existing code standards, including higher minimum FARs for development in the two mixed-use zones and reduced setbacks and landscaping area for the NC zone applied to the

Main Street subdistrict. The OCMC already includes parking maximums in OCMC 17.52.020. **The proposal is consistent with this Policy.**

Policy 2.1.2

Encourage the vertical and horizontal mixing of different land-use types in selected areas of the city where compatible uses can be designed to reduce the overall need for parking, create vibrant urban areas, reduce reliance on private automobiles, create more business opportunities and achieve better places to live.

Response: The proposed map amendments apply two existing mixed-use zones with the BRCP area, the MUC-II and NC zones. In addition to the mix of office, commercial and residential uses allowed in the base zones, the proposed code amendments expand the mix of uses including allowing light manufacturing uses in the MUC-II zone. The proposed code amendments limit the scale and percentages of different categories of uses, including limiting residential uses to upper stories or ground-floor uses set back a minimum distance from the main roadways, to provide for a greater mix of uses. The proposed code amendments also introduce opportunities for small-scale commercial uses in the R-2 zone for additional opportunities for mixed-use development. **The proposal is consistent with this Policy.**

Goal 2.3 Corridors

Focus transit-oriented, higher intensity, mixed-use development along selected transit corridors.

Response: The proposed map amendments apply two existing mixed-use zones with the BRCP area, the MUC-II and NC zones, along Beaver Creek Road, which has potential to be a future transit corridor as development increases potential ridership numbers. The higher-intensity residential development zoned R-2 is also located along Beaver Creek Road, compared to medium-density residential areas zoned R-5 located further east away from major roads. **The proposal is consistent with this Goal.**

Policy 2.4.2

Strive to establish facilities and land uses in every neighborhood that help give vibrancy, a sense of place, and a feeling of uniqueness; such as activity centers and points of interest.

Response: The essence of the BRCP is to establish a district with interconnected, vibrant neighborhoods. The proposed map amendments support a mix of uses throughout the district, included a district focal point in the Main Street subdistrict zoned NC that will serve as the hub for the district's neighborhoods. The proposed code amendments also support development of smaller-scale activity centers throughout the district, such as permitting small-scale commercial uses with the East Mixed-Use Neighborhood Zoned R-2 and supporting creation of the South-Central Open Space Network through required parkland dedications. **The proposal is consistent with this Policy.**

Policy 2.4.3

Promote connectivity between neighborhoods and neighborhood commercial centers through a variety of transportation modes.

Response: The BRCP plans for multimodal transportation networks throughout the district, as supported by the proposed map and code amendments. The proposed code amendments support creation of the

South-Central Open Space Network through required parkland dedications, which will form a linear park and multimodal trail connecting multiple subdistricts. **The proposal is consistent with this Policy.**

Goal 2.5 Retail and Neighborhood Commercial

Encourage the provision of appropriately scaled services to neighborhoods.

Response: The map amendments, consistent with the BRCP map, provide for a Main Street subdistrict zoned NC near the residential East and West Mixed-Use Neighborhoods. In addition, the proposed code amendments add opportunities to integrate small-scale commercial uses in the West Mixed-Use Neighborhood Zoned R-2. **The proposal is consistent with this Goal.**

Policy 2.5.4

Encourage the development of successful commercial areas organized as centers surrounded by higher-density housing and office uses, rather than as commercial strips adjacent to low-density housing.

Response: The map amendments, consistent with the BRCP map, provide for a Main Street subdistrict zoned NC near the higher-density West Mixed-Use Neighborhood Zoned R-2 and the Mixed Employment Village subdistrict zoned MUC-II that will support office uses. There are no commercial strips proposed adjacent to lower-density housing in the East Mixed-Use Neighborhood Zoned R-5. **The proposal is consistent with this Policy.**

Policy 2.5.5

Encourage commercial and industrial development that enhances livability of neighborhoods through the design of attractive LEEDTM-certified buildings and environmentally responsible landscaping that uses native vegetation wherever possible, and by ensuring that development is screened and buffered from adjoining residential neighborhoods and access is provided by a variety of transportation modes.

Response: The proposed code amendments include requirements for sustainable design features for industrial development within the North Employment Campus zoned CI; the menu of features includes LEEDTM-certified buildings and use of native vegetation. The proposed code amendments also provide for an enhanced landscaping buffer incorporating berms and fencing between the industrial subdistrict and adjacent residential development in the East Mixed-Use Neighborhood. The BRCP includes plans for a multimodal transportation network that will be built out as development occurs. **The proposal is consistent with this Policy.**

Goal 2.6 Industrial Land Development

Ensure an adequate supply of land for major industrial employers with family-wage jobs.

Response: The map amendments designate 153.9 gross acres, estimated at 135.1 net acres for Industrial designation and Campus Industrial zoning; the North Employment Campus is the largest of all the BRCP subdistricts. All Metro Title 4 land protected for employment use has been designated and zoned CI. The existing CI zone allows a range of uses that support family-wage jobs, such as light manufacturing; the proposed code amendments further protect job generation potential by limiting the amount of site area that can be used for outdoor storage areas and prohibiting distribution and warehouse uses, which typically do not generate significant job opportunities. **The proposal is consistent with this Goal.**

Policy 2.6.2

Ensure that land zoned or planned for industrial use is used for industrial purposes, and that exceptions are allowed only where some other use supports industrial development. New non-industrial uses should especially be restricted in already developed, active industrial sites.

Response: The map amendments ensure that land planned for industrial use is protected for industrial purposes by zoning it CI. The CI zoning code standards limit non-industrial uses, and the proposed code amendments further limit the size of any supporting retail or office to 5,000 SF per establishment or 20,000 per development. Existing residential uses on a handful parcels within the North Employment Campus are permitted outright, rather than rendered nonconforming uses, but no new residential uses are permitted. **The proposal is consistent with this Policy.**

Policy 2.6.3

Protect the city's supply of undeveloped and underdeveloped land zoned for industrial uses by limiting non-industrial community uses, such as schools, parks, and churches on such properties and by limiting larger commercial uses within those areas.

Response: The CI zoning code standards already prohibit schools and churches; parks, trails and urban agriculture uses are proposed as permitted uses in the code amendments for the North Employment Campus subdistrict, intended to apply within the powerline easement areas that would otherwise be undevelopable for industrial use. The proposed code amendments limit the size of any supporting commercial use to 5,000 SF per establishment or 20,000 per development. **The proposal is consistent with this Policy.**

Policy 2.6.4

Protect existing and planned undeveloped and underdeveloped industrial lands from incompatible land uses and minimize deterrents to desired industrial development.

Response: Much of the North Employment Campus industrial lands are currently undeveloped. The map amendments applying the CI zone will protect these lands from incompatible development through existing CI use standards. The CI zoning code standards limit non-industrial uses, and the proposed code amendments further limit the size of any supporting retail or office to 5,000 SF per establishment or 20,000 per development. Existing residential uses on a handful parcels within the North Employment Campus are permitted outright, rather than rendered nonconforming uses, but no new residential uses are permitted. The CI zoning code standards also prohibit schools and churches; parks, trails and urban agriculture uses are proposed as permitted uses in the code amendments for the North Employment Campus subdistrict, intended to apply within the powerline easement areas that would otherwise be undevelopable for industrial use. **The proposal is consistent with this Policy.**

Policy 2.6.5

Ensure that land-use patterns create opportunities for citizens to live closer to their workplace.

Response: A central feature of the BRCP is the integration of residential and employment opportunities to create possibilities to live, work and play in the district. The proposed map amendments will create residential and employment districts in proximity, including two mixed-use districts with both residential and employment opportunities. **The proposal is consistent with this Policy.**

Policy 2.6.6

Identify industrial uses that could partner with Clackamas Community College as training centers and future employers of students graduating from CCC.

Response: CCC was identified as a stakeholder in the implementation project and was engaged in the map and code development. The proximity of the North Employment Campus and the CCC campus create an exciting opportunity for future industrial developments in the BRCP area that partner with CCC as training centers and future employers. The existing CI use standards permit a wide range of industrial uses, including light manufacturing and research and development, that could accommodate future industrial uses within the BRCP district. **The proposal is consistent with this Policy.**

Policy 2.6.7

Establish priorities to ensure that adequate public facilities are available to support the desired industrial development.

Response: Public facility master planning has been completed for the district, and planned water, sewer, stormwater, and transportation facilities have been shown to support the full 5,734 jobs projected with this implementation project. See response to approval criteria 17.68.020.B and C in Section III.a. All proposed industrial development will be reviewed through the Site Plan and Design Review process in OCMC 17.62 that includes a criterion for approval for any new development that public facilities are adequate to support the proposal. **The proposal is consistent with this Policy.**

Policy 2.6.8

Require lands east of Clackamas Community College that are designated as Future Urban Holding to be the subject of concept plans, which if approved as an amendment to the Comprehensive Plan, would guide zoning designations. The majority of these lands should be designated in a manner that encourages family-wage jobs in order to generate new jobs and move towards meeting the city's employment goals.

Response: The lands east of CCC have been incorporated into the BRCP and envisioned for industrial development that encourages family-wage jobs. The proposed map amendments, guided by the approved concept plan, designate this area for Industrial designation and Campus Industrial zoning. The existing CI zone allows a range of uses that support family-wage jobs, such as light manufacturing; the proposed code amendments further protect job generation potential by limiting the amount of site area that can be used for outdoor storage areas and prohibiting distribution and warehouse uses, which typically do not generate significant job opportunities. **The proposal is consistent with this Policy.**

Goal 2.7 Oregon City Comprehensive Plan Land-Use Map

Maintain the Oregon City Comprehensive Plan Land-Use Map as the official long-range planning guide for land-use development of the city by type, density and location.

Response: The proposal includes amendments to the official Comprehensive Plan Land-Use Map as part of on-going maintenance to update designations for the BRCP area. **The proposal is consistent with this Goal.**

Policy 2.7.2

Use the following 11 land-use classifications on the Oregon City Comprehensive Plan Land-Use Map to determine the zoning classifications that may be applied to parcels:

- *Low-Density Residential (LR)*
- *Medium Density Residential (MR)*
- *High-Density Residential (HR)*
- *Commercial (C)*
- *Mixed-Use Corridor (MUC)*
- *Mixed-Use Employment (MUE)*
- *Mixed-Use Downtown (MUD)*
- *Industrial (I)*
- *Public and Quasi-Public (QP)*
- *Parks (P)*
- *Future Urban Holding (FUH)*

Response: The proposed comprehensive plan map amendments apply the Medium Density Residential, High-Density Residential, Mixed-Use Corridor, and Industrial designations to the BRCP area, with zoning classifications that are consistent with these designations. **The proposal is consistent with this Policy.**

Goal 5.1 Open Space

Establish an open space system that conserves fish and wildlife habitat and provides recreational opportunities, scenic vistas, access to nature and other community benefits.

Response: The BRCP prioritizes an open space network that preserves identified environmental resource areas, parks, trails, and viewpoints, including the South-Central Open Space Network and the Low Impact Conservation Area upslope of Thimble Creek on the eastern edge of the district. The map amendments will include mapping and applying the Natural Resources Overlay District (NROD)—OCMC 17.49 and Geologic Hazards—OCMC 17.44 to habitat areas. The proposed code amendments will create the South-Central Open Space Network through required parkland dedication at the time of development, protect trail corridors throughout the district's open space system by requiring dedication of easements at the time of development, and protect the Low Impact Conservation Area by limiting development to two units per acre and protecting view corridors. **The proposal is consistent with this Goal.**

Policy 5.1.1

Conserve open space along creeks, urban drainage ways, steep hillsides, and throughout Newell Creek Canyon.

Response: The existing Natural Resources Overlay District (NROD) will be applied to all riparian corridors and the Geologic Hazards standards will be applied to all steep hillsides to conserve those areas. **The proposal is consistent with this Policy.**

Policy 5.1.2

Manage open space areas for their value in linking citizens and visitors with the natural environment, providing solace, exercise, scenic views and outdoor education. Built features in open space sites should harmonize with natural surroundings.

Response: Open space areas will be managed consistent with the City's adopted Parks Master Plan; land acquisition supported by the proposed code amendments will ensure that areas with significant views are preserved and trail corridors acquired for future exercise opportunities. Any built features within the NROD or Geologic Hazards will be reviewed consistent with standards for those overlays that limit development scale and visual impacts for harmony with natural surroundings. **The proposal is consistent with this Policy.**

Goal 5.4 Natural Resources

Identify and seek strategies to conserve and restore Oregon City's natural resources, including air, surface and subsurface water, geologic features, soils, vegetation, and fish and wildlife, in order to sustain quality of life for current and future citizens and visitors, and the long-term viability of the ecological systems.

Response: The proposed amendments do not include any changes to OCMC 17.44, Natural Resources Overlay District, or to OCMC 17.49 – Geologic Hazards. These acknowledged codes are intended to conserve, protect and restore inventoried natural resources within the City's Urban Growth Boundary. **The proposal is consistent with this policy.**

Policy 5.4.16

Protect surface water quality by:

- *providing a vegetated corridor to separate protected water features from development*
- *maintaining or reducing stream temperatures with vegetative shading*
- *minimizing erosion and nutrient and pollutant loading into water*
- *providing infiltration and natural water purification by percolation through soil and vegetation*

Response: The proposed amendments do not include any changes to OCMC 17.44, Natural Resources Overlay District, which provides for a vegetated corridor and shading along street corridors, or to the City's recently adopted stormwater and erosion control standards, design manuals or review processes. **The proposal is consistent with this policy.**

Goal 6.1 Air Quality

Promote the conservation, protection and improvement of the quality of the air in Oregon City.

Response: The proposed amendments will not affect any codes or policies that implement Goal 6. The City's overlay districts, such as the Natural Resource Overlay District, Flood Management Overlay, and Geologic Hazards Overlay will apply regardless of the proposed changes. All engineering standards and building code standards for storm drainage, grading, erosion control, water quality facilities will continue to apply to development. Oregon Dept. of Environmental Quality (DEQ) air and water quality permits are required separately for new development. **The proposal is consistent with this Goal.**

Policy 6.1.2

Ensure that development practices comply with or exceed regional, state, and federal standards for air quality.

Response: Oregon Dept. of Environmental Quality (DEQ) air and water quality permits are required separately for new development. Oregon City planning and engineering staff are included in the coordination of these permits prior to issuance by DEQ. **The proposal is consistent with this Policy.**

Goal 6.2 Water Quality

Control erosion and sedimentation associated with construction and development activities to protect water quality.

Response: Oregon Dept. of Environmental Quality (DEQ) air and water quality permits are required separately for new development. Oregon City planning and engineering staff are included in the coordination of these permits prior to issuance by DEQ. **The proposal is consistent with this Policy.**

Policy 6.2.1

Prevent erosion and restrict the discharge of sediments into surface- and groundwater by requiring erosion prevention measures and sediment control practices.

Response: All engineering standards and building code standards for storm drainage, grading, erosion control, and water quality facilities will continue to apply to development. **The proposal is consistent with this Policy.**

Policy 6.2.2

Where feasible, use open, naturally vegetated drainage ways to reduce stormwater and improve water quality.

Response: All engineering standards and building code standards for storm drainage, grading, erosion control, and water quality facilities will continue to apply to development. **The proposal is consistent with this policy.**

Goal 7.1 Natural Hazards

Protect life and reduce property loss from the destruction associated with natural hazards.

Response: Development located within the Geologic Hazards Overlay District will be reviewed for compliance with OCMC 17.44 Geologic Hazards, which can restrict or condition the location and size of development in or near identified geologic hazard areas. **The proposal is consistent with this Policy.**

Policy 7.1.1

Limit loss of life and damage to property from natural hazards by regulating or prohibiting development in areas of known or potential hazards.

Response: Development located within the Geologic Hazards Overlay District will be reviewed for compliance with OCMC 17.44 Geologic Hazards, which can restrict or condition the location and size of development in or near identified geologic hazard areas. **The proposal is consistent with this Policy.**

Policy 7.1.8

Provide standards in City Codes for planning, reviewing, and approving development in areas of potential landslides that will prevent or minimize potential landslides while allowing appropriate development.

Response: Development located within the Geologic Hazards Overlay District will be reviewed for compliance with OCMC 17.44 Geologic Hazards, which can restrict or condition the location and size of development in or near identified geologic hazard areas. **The proposal is consistent with this Policy.**

8.1 Developing Oregon City's Park and Recreation System

Maintain and enhance the existing park and recreation system while planning for future expansion to meet residential growth.

Response: The BRCP prioritizes a network of parks, trails, and open spaces, including the South-Central Open Space Network and the East ridge Conservation Open Space. The proposed code amendments will support creation of the South-Central Open Space Network through required parkland dedication at the time of development and protect trail corridors throughout the district's open space system by requiring dedication of easements at the time of development. **The proposal is consistent with this Goal.**

Policy 8.1.1

Provide an active neighborhood park-type facility and community park-type facility within a reasonable distance from residences, as defined by the Oregon City Park and Recreation Master Plan, to residents of Oregon City.

Response: The South-Central Open Space Network will create park facilities within proposed neighborhoods; all residences will be within approximately 1/4 mile of the network, which will include multiple elements including features similar to a neighborhood park-type facility and a multipurpose trail. The proposed code amendments will create the South-Central Open Space Network through required parkland dedication at the time of development. **The proposal is consistent with this Policy.**

Policy 8.1.2

When property adjacent to an existing neighborhood or community park becomes available, consider adding property to the park and developing it to meet the current needs of existing neighborhoods.

Response: There are no existing parks in the BRCP area, however, future park facilities in the South-Central Open Space Network and the East Ridge-Thimble Creek Conservation Area will be expanded over time as the properties in the district are developed. The proposed code amendments will create parks through required parkland dedication at the time of development and include provisions for dedication of land within the mapped South-Central Open Space Network to allow the facility to expand over time and maintain connectivity throughout the district. **The proposal is consistent with this Policy.**

Policy 8.1.5

Identify and construct a network of off-street trails throughout the city for walking and jogging.

Response: The BRCP identifies a network of off-street trails including regional trails throughout the district. The proposed code amendments will protect identified trail corridors by requiring dedication of easements at the time of development. **The proposal is consistent with this Goal.**

Policy 8.1.9

Emphasize retaining natural conditions and the natural environment in proposed passive recreation areas.

Response: Passive recreation areas will include open space areas and environmental resource areas. The Natural Resources Overlay District (NROD)—OCMC 17.49 and Geologic Hazards—OCMC 17.44 will be applied to habitat areas which promote retention of natural conditions. In addition, the proposed code amendments include provisions for acquiring portions of the East Ridge-Thimble Creek Conservation Area that require environmental restoration as a condition of any adjacent development. **The proposal is consistent with this Policy.**

Policy 8.1.12

Identify and protect land for parks and recreation within the Urban Growth Boundary.

Response: The BRCP identifies and prioritizes a network of parks, trails, and open spaces, including the South-Central Open Space Network. The proposed code amendments will support creation of the South-Central Open Space Network and the East Ridge-Thimble Creek Conservation Area through required parkland dedication at the time of development and protect trail corridors throughout the district's open space system by requiring dedication of easements at the time of development. **The proposal is consistent with this Policy.**

Policy 8.1.14

Require or encourage developers to dedicate park sites as part of the subdivision review process. When possible, require or encourage developers to build parks to City standards and give them to the City to operate and maintain.

Response: The proposed code amendments will require parkland dedication to create the South-Central Open Space Network and the East Ridge-Thimble Creek Conservation Area as part of subdivision review process. **The proposal is consistent with this Policy.**

Goal 9.1 Improve Oregon City's Economic Health

Provide a vital, diversified, innovative economy including an adequate supply of goods and services and employment opportunities to work toward an economically reasonable, ecologically sound and socially equitable economy.

Response: A core aspect of the BRCP is to create economic opportunities, and the proposed map and code amendments implement three distinct subdistricts focused on employment opportunities. The North Employment Campus, proposed for CI zoning, will provide family-wage employment opportunities. The two mixed-use subdistricts in the Mixed Employment Village and Main Street will provide goods and services, and additional jobs in those sectors. In total, the proposal is estimated to support up to 5,734 jobs, exceeding the BRCP goal of 5,000 jobs. The proposed code amendments include provisions such as sustainable design elements for industrial development and the inherent

efficiencies of mixing uses within the district and individual subdistricts to reduce distances traveled to live, work, shop and eat, which will support ecologically sound economic growth. **The proposal is consistent with this Goal.**

Policy 9.1.1

Attract high-quality commercial and industrial development that provides stable, high-paying jobs in safe and healthy work environments, that contributes to a broad and sufficient tax base, and that does not compromise the quality of the environment.

Response: Three of the BRCP subdistricts, proposed to be implemented through map and code amendments, will support commercial and industrial development. The North Employment Campus, proposed for CI zoning, will support primarily industrial development with family-wage employment opportunities. The Mixed Employment Village subdistrict will provide support high-quality commercial and office employment, with similar opportunities in the Main Street subdistrict. In total, the proposal is estimated to support up to 5,734 jobs, exceeding the BRCP goal of 5,000 jobs. The proposed code amendments include provisions such as sustainable design elements for industrial development and the inherent efficiencies of mixing uses within the district and individual subdistricts to reduce distances traveled to live, work, shop and eat, which will support ecologically sound economic growth. Natural resources will be protected through the Natural Resources Overlay District (NROD)—OCMC 17.49 and Geologic Hazards—OCMC 17.44 to habitat areas to ensure development does not compromise the quality of the environment. As discussed in response to Goals 6.1 and 6.2 above, compliance with existing state and local air and water standards will ensure protection of those resources at the time of future development. **The proposal is consistent with this Policy.**

Policy 9.1.2

Contribute to the health of the regional and state economy by supporting efforts to attract “traded sector industries” such as high technology and production of metals, machinery, and transportation equipment. (Traded sector industries compete in multi-state, national, and international markets and bolster the state’s economy by bringing money in from sales of goods and services outside of the state.)

Response: The BRCP prioritizes recruitment of sustainable industries, which could include traded sector industries. The proposed map and code amendments support this goal by creating development opportunities for such industries within the proposed North Employment Campus and Mixed Employment Village subdistrict. Additional recruitment efforts will be led by the City’s Economic Development Department. **The proposal is consistent with this Policy.**

Goal 9.3 Retention of Existing Employers

Retain existing employers, both public and private, and encourage them to expand their operations within the City.

Response: The proposed map and code amendments will create significant new acreage for industrial and employment growth, which could be acquired and developed by existing employers looking to expand their operations. **The proposal is consistent with this Policy.**

Policy 9.3.1

Protect existing industries from encroachment by incompatible land uses and ensure that expansion options are available to them wherever possible.

Response: The proposed map amendments will not create any incompatible land uses near existing industries. The proposed map and code amendments will create significant new acreage for industrial and employment growth, which could be acquired and developed by existing employers looking to expand their operations. **The proposal is consistent with this Policy.**

Goal 9.5 Retail Service

Allow a variety of retail outlets and shopping areas to meet the needs of the community and nearby rural areas.

Response: The proposed map and code amendments will support the creation of the Main Street subdistrict along Glen Oak Road providing retail and shopping opportunities for the immediate BRCP district and nearby areas. The code amendments specifically support retail development by limiting residential uses to upper stories and the rear portion of sites, to ensure commercial development remains the priority. Limited retail outlets are also permitted under the proposed code amendments for the Mixed Employment Village to support those who work and live in the subdistrict. **The proposal is consistent with this Goal.**

Policy 9.5.1

Develop local neighborhood or specific plans, when appropriate, to blend infill development along linear commercial areas into existing neighborhoods.

Response: The BRCP district is undeveloped and as such, does not have existing commercial or existing neighborhoods; the plan as implemented by the proposed map and code amendments proactively creates opportunities to blend commercial development within neighborhoods. The proposed map and code amendments create opportunities for retail and commercial development primarily within the Main Street subdistrict, which is located along Glen Oak Road interior to the district, rather than strung out as a linear commercial development along Beavercreek Road. The proposed code amendments also allow small-scale retail and commercial development within the West Mixed-Use Neighborhood to the south of the Main Street subdistrict. **The proposal is consistent with this Policy.**

Policy 9.5.2

Develop plans to provide necessary public services to surrounding rural industrial lands for future development.

Response: No changes are proposed to adopted infrastructure master plans for water, sewer and stormwater and the Transportation System Plan (TSP) which will ensure provision of necessary services to industrial lands within and outside of the BRCP district. **The proposal is consistent with this Policy.**

Goal 9.7 Home-Based Businesses

Provide a supportive climate for home-based businesses.

Response: As part of the 2016 re-adoption of the plan, the City Commission recommended that as during the process to create implementing code and zoning for the BRCP, staff should further analyze the issue of allowing expanded home occupation uses, also known as cottage manufacturing/industry within the mixed-use and residential areas. This item was discussed during the two open houses at Oregon City High School and through an online survey in the fall of 2019. The Planning Commission provided staff clear direction that they supported expanded opportunities for home-based businesses

within the concept plan area such as allowing employees and limited retail onsite. Staff worked with the Planning Commission on options creating new opportunities for home-based business in Oregon City. Amendments to the home occupation license code in OCMC 17.54 have been created for additional option with this concept plan area. **The proposal is consistent with this Goal.**

Policy 9.7.1

Encourage home-based businesses that are low impact and do not disrupt the residential character of the neighborhoods in which they are located.

Response: As part of the 2016 re-adoption of the plan, the City Commission recommended that as during the process to create implementing code and zoning for the BRCP, staff should further analyze the issue of allowing expanded home occupation uses, also known as cottage manufacturing/industry within the mixed-use and residential areas. This item was discussed during the two open houses at Oregon City High School and through an online survey in the fall of 2019. The Planning Commission provided staff clear direction that they supported expanded opportunities for home-based businesses within the concept plan area such as allowing employees and limited retail onsite. Staff worked with the Planning Commission on options creating new opportunities for home-based business in Oregon City. Amendments to the home occupation license code in OCMC 17.54 have been created for additional option with this concept plan area. **The proposal is consistent with this Goal.**

Policy 9.7.2

Encourage the support services that home-based businesses need.

Response: As part of the 2016 re-adoption of the plan, the City Commission recommended that as during the process to create implementing code and zoning for the BRCP, staff should further analyze the issue of allowing expanded home occupation uses, also known as cottage manufacturing/industry within the mixed-use and residential areas. This item was discussed during the two open houses at Oregon City High School and through an online survey in the fall of 2019. The Planning Commission provided staff clear direction that they supported expanded opportunities for home-based businesses within the concept plan area such as allowing employees and limited retail onsite. Staff worked with the Planning Commission on options creating new opportunities for home-based business in Oregon City. Amendments to the home occupation license code in OCMC 17.54 have been created for additional option with this concept plan area. **The proposal is consistent with this Goal.**

Goal 9.8 Transportation System

Recognize the importance of the land use-transportation link and encourage businesses to locate in areas already served by the type of transportation system they need.

Response: The adopted BRCP transportation strategy includes elements such as planning a mixed-use community that will increase options for internal trip making, developing a framework of collector streets, improving Beaver Creek Road itself to accommodate trips within and through the district, and developing off-site transportation connections guided by the Transportation System Plan; the transportation strategy was developed to serve the intended industrial and commercial development in each subdistrict. The proposed map and code amendments provide for the intended types of

development in each subdistrict, that will be served by existing and planned transportation elements.
The proposal is consistent with this Goal.

Policy 9.8.1

Through coordination with TriMet and local employers, encourage and promote the use of mass transit to travel between residential areas and employment areas.

Response: The adopted BRCP sets the stage for future transit by providing transit-attractive destinations, such as high-density employment and residential nodes, and a logical network of roadways that would support future transit routes. The proposed map and code amendments support future transit improvements by implementing the plan subdistricts that concentrate job and housing densities near Beaver Creek Road. **The proposal is consistent with this Policy.**

Policy 9.8.4

Promote “shared parking” and transportation demand management techniques such as transit vouchers, car or vanpooling, and flexible schedules and telecommuting options to reduce peak hour trips.

Response: The adopted parking standards permit shared parking facilities per OCMC 17.52.020.B.2 and will apply to development within the BRCP area. Additional transportation demand management techniques are more appropriate for individual businesses to develop and can be implemented at the time of development. **The proposal is consistent with this Policy.**

Policy 9.8.6

Encourage the provision of multi-modal transportation to support major existing employers.

Response: There are no existing employers within the BRCP area that will be affected by the proposed map and code amendments. However, the amendments will support development of a multimodal transportation system throughout the BRCP area consistent with adopted transportation strategies, including transit, sidewalks, bike routes, and off-street trail network that will serve future employers in the North Employment Campus and throughout the district. **The proposal is consistent with this Policy.**

Policy 9.8.7

Assess methods to integrate the pedestrian, bicycle and elevator transportation modes into the mass transit system.

Response: The adopted transportation strategies in the BRCP include development of on and off-street pedestrian and bicycle facilities throughout the district; an elevator mode is not proposed because it is not suitable for the district’s topography. The proposed map and code amendments support future development of these facilities by requiring facilities to be constructed at the time of site development. **The proposal is consistent with this Policy.**

Goal 10.1 Diverse Housing Opportunities

Provide for the planning, development and preservation of a variety of housing types and lot sizes.

Response: The BRCP prioritizes a variety of housing types for a range of income levels across the different subdistricts. The proposed map and code amendments support these goals by implementing

the West and East Mixed-Use Neighborhoods, with additional residential opportunities in the mixed-use Main Street and Mixed Employment Village subdistricts. The proposed zoning districts for the West and East Mixed-Use Neighborhoods are R-2 and R-5, respectively; these districts were significantly revised as part of the Equitable Housing Code Amendments earlier in 2019 to better meet this goal. The recent housing code amendments allow for a broad range of housing options collectively referred to as “missing middle housing,” defined as a range of multi-unit or clustered housing types compatible in scale with single-family homes that help meet the growing demand for housing choices at a variety of scales across a variety of neighborhoods, encouraging a more diverse housing stock in residential zones that are currently dominated by single-family residential homes. The proposed map and code changes with this proposal implement these zones and will guide planning and development of a variety of housing types and lot sizes. **The proposal is consistent with this Goal.**

Policy 10.1.1

Maintain the existing residential housing stock in established older neighborhoods by maintaining existing Comprehensive Plan and zoning designations where appropriate.

Response: There are no established older neighborhoods in the BRCP area, however, there are a handful of existing residences. The proposed code amendments will permit existing homes with proposed CI zoning to remain permitted uses rather than making them nonconforming uses. **The proposal is consistent with this Policy.**

Policy 10.1.2

Ensure active enforcement of the City of Oregon City Municipal Code regulations to ensure maintenance of housing stock in good condition and to protect neighborhood character and livability.

Response: No changes are proposed to the code enforcement standards or policies with this proposal. As neighborhoods are developed in the BRCP area, code enforcement will ensure housing and neighborhoods are maintained in good condition. **The proposal is consistent with this Policy.**

Policy 10.1.3

Designate residential land for a balanced variety of densities and types of housing, such as single-family attached and detached, and a range of multi-family densities and types, including mixed-use development.

Response: The proposed map amendments designate land for a variety of densities and types of housing as follows: 13.3 gross acres of High-Density Residential with R-2 zoning, 86.5 gross acres of Medium Density Residential with R-5 zoning, and 7.2 gross acres of Mixed-Use Corridor with NC zoning for mixed-use residential development. The existing zoning standards for these districts permit a range of densities for different housing types ranging from a minimum of 7.0 units per net acre for single-family detached homes in the R-5 zone to a maximum of 21.8 units per net acre for townhouse and multifamily development in the R-2 zone, or up to 26.2 units per net acre for projects that incorporate sustainability features in the proposed code amendments. **The proposal is consistent with this Policy.**

Policy 10.1.4

Aim to reduce the isolation of income groups within communities by encouraging diversity in housing types within neighborhoods consistent with the Clackamas County Consolidated Plan, while ensuring that needed affordable housing is provided.

Response: The proposed map and code amendments apply the revised R-5 and R-2 zoning district standards that were developed as part of the Equitable Housing Project specifically to provide greater variety of affordable housing options, both regulated, income-restricted housing options and market-rate housing options that are lower priced and thus affordable to housing with lower household incomes. The variety of housing types allowed in both zones will provide opportunities to integrate affordable housing into the BRCP neighborhoods as they are developed. **The proposal is consistent with this Policy.**

Policy 10.1.5

Allow Accessory Dwelling Units under specified conditions in single-family residential designations with the purpose of adding affordable units to the housing inventory and providing flexibility for homeowners to supplement income and obtain companionship and security.

Response: Accessory Dwelling Units (ADUs) are permitted in both the R-5 and R-2 zoning districts proposed for the BRCP neighborhoods with this proposal; no further changes to the ADU regulations are included with this proposal. Code revisions adopted with the recent Equitable Housing Code Amendments included a provision in OCMC 16.08.095 that restricts new subdivisions from applying code, covenants, and restrictions (CC&Rs) that prohibit ADUs, which will ensure that new developments within the BRCP are not restricted by public zoning code or private CC&Rs from developing ADUs. **The proposal is consistent with this Policy.**

Policy 10.1.6

Allow site-built manufactured housing on individual lots in single-family residential zones to meet the requirements of state and federal law. (Pursuant to state law, this policy does not apply to land within designated historic districts or residential land immediately adjacent to a historic landmark.)

Response: The Oregon City Municipal Code does not differentiate between manufactured housing and other housing types on individual lots and the proposed code amendments do not propose to change this; an individual manufactured house is permitted on any lot where a single-family detached, site-built house would be permitted in the BRCP neighborhoods under the proposed R-5 and R-2 zoning. **The proposal is consistent with this Policy.**

Policy 10.1.7

Use a combination of incentives and development standards to promote and encourage well-designed single-family subdivisions and multi-family developments that result in neighborhood livability and stability.

Response: The proposed map amendments apply the R-2 and R-5 zoning districts within the BRCP, which already incorporate numerous incentives and development standards to support livability and stability. The proposed code amendments further support livable neighborhoods by requiring parkland dedication or fee-in-lieu for all new subdivisions and multifamily developments, to create the South-Central Open Space Network and East ridge Thimble Creek Conservation Area with park and trail facilities serving the BRCP neighborhoods. The proposed amendments also include a density bonus option as an incentive for multifamily development to incorporate sustainability features. **The proposal is consistent with this Policy.**

Goal 10.2 Supply of Affordable Housing

Provide and maintain an adequate supply of affordable housing.

Response: The proposed map amendments add significant buildable residential land to the City's inventory, including 12.1 net acres of buildable land zoned R-2 in the West Mixed Use Neighborhood and 64.5 net acres of buildable land plus 15.9 acres of constrained land zoned R-5 in the East Mixed Use Neighborhood and additional opportunities in the two mixed-use subdistricts with a combined estimated potential for 1,105 new housing units. Maintaining an adequate supply of buildable land will help keep housing prices affordable by reducing land scarcity. These areas will be developed under the R-5 and R-2 zoning district standards recently amended with the recent Equitable Housing Code Amendments project that expand the range of housing types permitted, decrease minimum lot sizes for many types, and increase density for some missing middle housing types. Together, these standards create opportunities to build market-rate housing that is more affordable than traditional single-family detached, large-lot subdivisions. **The proposal is consistent with this Policy.**

Policy 10.2.1

Retain affordable housing potential by evaluating and restricting the loss of land reserved or committed to residential use. When considering amendments to the Comprehensive Plan Land-Use Map, ensure that potential loss of affordable housing is replaced.

Response: The proposed map amendments commit a total of 99.8 gross acres of land for residential use, consistent with the BRCP map; no existing residential land or affordable housing will be lost with this proposal. **The proposal is consistent with this Policy.**

Policy 10.2.2

Allow increases in residential density (density bonuses) for housing development that would be affordable to Oregon City residents earning less than 50 percent of the median income for Oregon City.

Response: The proposed map amendments apply the R-2 zone to the West Mixed-Use Neighborhood, and existing R-2 code standards provide up to a 20% density bonus for affordable units at 80% AMI for a minimum term of 30 years for apartment projects. No further changes to the affordable housing density bonus are proposed with this project. **The proposal is therefore consistent with this policy.**

Policy 10.2.3

Support the provision of Metro's Title 7 Voluntary Affordable Housing Production Goals.

Response: (From Comprehensive Plan, P. 77):

In 2001, Metro adopted amendments to Title 7 of the Urban Growth Management Functional Plan to implement the Regional Affordable Housing Strategy (2000), which identifies measures to provide adequate affordable housing in the Metro region. The amendments require local jurisdictions to consider adopting a number of tools and strategies for promoting the creation and retention of affordable housing. Metro defines an affordable housing unit as one that requires no more than 30 percent of household income for people earning 50 percent of the median household income in their jurisdiction. By that definition, an affordable housing unit in Oregon City in 2000 would cost \$570 per month or less. The 2002 housing inventory and analysis showed that the number of lower-cost units in Oregon City was inadequate to meet both the

current (2002) and projected housing needs of the city's lower-income residents. Title 7 tools and strategies have been adopted as Goal 10.2 and Policies 10.2.1 through 10.2.4.

The proposed map and code amendments support affordable housing creation consistent with Title 7 through compliance with Goal 10.2 and Policies 10.2.1 through 10.2.4, as demonstrated in this section.

The proposal is consistent with this Policy.

Policy 10.2.4

Provide incentives that encourage the location of affordable housing developments near public transportation routes. Incentives could include reduction of development-related fees and/or increases in residential density (density bonuses).

Response: As mentioned in Policy 10.1.4, the West Mixed-Use Neighborhood will be zoned R-2 under the proposed map amendments and the R-2 standards include a 20% density bonus for affordable units at 80% AMI for a minimum term of 30 years. The West Mixed-Use Neighborhood is located along Beaver Creek Road and the future Center Parkway which have been identified as potential future public transportation routes. **The proposal is consistent with this Policy.**

Goal 11.1 Provision of Public Facilities

Serve the health, safety, education, welfare, and recreational needs of all Oregon City residents through the planning and provision of adequate public facilities.

Policy 11.1.1

Ensure adequate public funding for the following public facilities and services, if feasible:

- *Transportation infrastructure*
- *Wastewater collection*
- *Stormwater management*
- *Water distribution*

Response: The proposed uses and density planned for in the concept plan area are consistent with the protected loads identified in the city's various utilities master plans. Moreover, the expanded capacity achieved through the redesign of Beaver Creek Road from a 3-lane section to a partial 5-lane section exceeds the requirements of the Transportation System Plan. **The proposal is consistent with this Policy.**

Goal 11.6

Transportation Infrastructure

Optimize the City's investment in transportation infrastructure. Policy 11.6.1 Make investments to accommodate multi-modal traffic as much as possible to include bike lanes, bus turnouts and shelters, sidewalks, etc., especially on major and minor arterial roads, and in regional and employment centers.

Response: Build out for the concept plan area will provide the community with increased options for bike lanes, sidewalks and a concentration of residential and employment near each other, which increases the likelihood of better transit services in the area. **The proposal is consistent with this Policy.**

Goal 12.1 Land Use-Transportation Connection

Ensure that the mutually supportive nature of land use and transportation is recognized in planning for the future of Oregon City.

Response: The adopted BRCP includes interconnected land use and transportation elements that ensure appropriately scaled multimodal facilities will serve future development. The plan establishes a variety of interconnected subdistricts with a mix of uses that increase opportunities for local trips while decreasing total trips utilizing the broader transportation network. The proposed map and code amendments implement this vision to balance land use and transportation goals; the proposal is supported by a transportation memo prepared by DKS that concludes that development associated with the proposal can be served by the planned City-wide transportation system. Moreover, the expanded capacity achieved through the redesign of Beaver Creek Road from a 3-lane section to a partial 5-lane section Beaver Creek Road exceeds the requirements of the Transportation System Plan. **The proposal is consistent with this Goal.**

Policy 12.1.1

Maintain and enhance citywide transportation functionality by emphasizing multi-modal travel options for all types of land uses.

Response: The adopted BRCP includes multimodal transportation provisions. As development occurs, on-street and off-street pedestrian and bicycle facilities will be required to be constructed as outlined in the plan. The proposed map and code amendments are consistent with the BRCP and will support expanded multimodal facilities throughout the district serving all the different land uses from industrial to residential. **The proposal is consistent with this Policy.**

Policy 12.1.3

Support mixed uses with higher residential densities in transportation corridors and include a consideration of financial and regulatory incentives to upgrade existing buildings and transportation systems.

Response: The proposed map and code amendments create mixed-use subdistricts including the NC-zoned Main Street and MUC-II-zoned Mixed Employment Village that permit high-density residential development, as well as a mix of uses within the district across the five subdistricts. The map and code amendments will facilitate a mix of uses at higher residential densities along Beaver Creek Road, including the two aforementioned mixed-use districts and the R-2-zoned West Mixed-Use Neighborhood. There are no significant existing buildings within the BRCP area affected by this policy. **The proposal is consistent with this Policy.**

Policy 12.1.4

Provide walkable neighborhoods. They are desirable places to live, work, learn and play, and therefore a key component of smart growth.

Response: Walkability is a central goal of all the BRCP neighborhoods and is supported by the proposed map and code amendments. Neighborhoods will be built around blocks with a maximum block length of 530 feet, except for the industrial areas in the North Employment Campus, consistent with zoning standards in OCMC 16.12.030 for implementing districts that create easily walkable neighborhoods that minimize out-of-direction travel by pedestrians. On-street pedestrian facilities will be required

consistent with green street cross-sections which create a desirable walking environment, in addition to an off-street trail network. The proposed code amendments support a compelling, walkable Main Street subdistrict along Glen Oak road by requiring building presence along a minimum percentage of the site and limiting parking areas to the rear of the site. **The proposal is consistent with this Policy.**

Goal 13.1 Energy Sources

Conserve energy in all forms through efficient land-use patterns, public transportation, building siting and construction standards, and city programs, facilities, and activities.

Response: The Beavercreek Road Concept Plan (BRCP) establishes the goal of creating a complete and sustainable community in southeast Oregon City within a 453-acre district along Beavercreek Road. The district is intended to provide for a mix of uses including an employment campus north of Loder Road, mixed-use districts along Beavercreek Road, and two mixed-use neighborhoods woven together by open space, trails, a network of green streets, and sustainable development practices. District development will help to provide a minimum of 1,100 housing options and to realize the City's economic development goals, including creation of up to 5,000 family-wage jobs. This efficient land use pattern provides residential density of more than 10 units per net developable acre adjacent to employment areas which aims to reduce single-occupancy vehicle trips and encourage transit, biker and walking. **The proposal is consistent with this Policy.**

Policy 13.1.2

Encourage siting and construction of new development to take advantage of solar energy, minimize energy usage, and maximize opportunities for public transit.

Response: The block layouts for the Beavercreek Road Concept Plan do affect the rood pitch and orientation of individual houses to better orientate for passive and active solar uses. Additionally, the colocation of employment and housing provides the best opportunity for the extension of transit access.

Policy 13.1.3

Enable development to use alternative energy sources such as solar through appropriate design standards and incentives

Response: As part of the proposed code amendments, industrial development in the NEC subdistrict will be required to incorporate sustainable design features; one option is to propose a LEED-certified building. (See proposed OCMC 17.37.060.G.8.) Similarly, WMU development may elect to build to LEED standards as one option to qualify for a density bonus. (See proposed OCMC 17.12.060.D.12.) The existing site development standards in OCMC 17.62 that apply to all new development except low-density residential already include green building standards and guidelines that supports sustainability. For example, 15% site landscaping is required along with conservation of natural resource areas which, along with adopted LID stormwater standards, minimizes impervious surface and treats stormwater runoff. Mandatory green building standards for all development, beyond the sustainable features for industrial and high-density residential, are not recommended. Requiring compliance with a third-party set of standards, such as LEED, is inherently problematic because it outsources City decision-making to a third party, with standards that are updated more frequently than City code is updated. **The proposal is consistent with this Policy.**

Goal 13.2 Energy Conservation

Plan public and private development to conserve energy.

Policy 13.2.1 Promote mixed-use development, increased densities near activity centers, and home-based occupations (where appropriate).

Response: The greatest strength of the BRCP, as implemented by the proposed map and code changes, is the mix of uses that will support a vibrant, interconnected district. The proposed code amendments include site-specific sustainable design features required in the NEC subdistrict through the implementing CI standards and incentivized in the WMU subdistrict through the implementing R-2 standards in the form of a density bonus. Future implementation efforts will continue building partnerships with private and institutional stakeholders to further support sustainable development and economic development. **The proposal is consistent with this Policy.**

Policy 13.2.2

Create commercial nodes in neighborhoods that are underserved to reduce vehicle miles traveled.

Response: The MC subdistrict will be implemented with the Mixed-Use Corridor comprehensive plan designation and the Neighborhood Commercial (NC) zoning district. The permitted uses in OCMC 17.24.020, with refinements in proposed OCMC 17.24.050.C, include a range of retail, service and residential uses, capped at 10,000 square feet per establishment to create a small-scale character for the subdistrict. Proposed dimensional standards include a minimum height of two stories, maximum five-foot front setbacks to ensure that development engages with the street, minimum FAR of 0.5 to create more intensive development, requirement for parking areas to be located behind buildings, standards for planter boxes and urban plazas as part of required landscaping, and prohibition on ground floor residential uses to support active ground floor uses. (See existing OCMC 17.24 and proposed 17.24.050.) Additional building and site development standards in OCMC 17.62.050 will apply at the time of development. **The proposal is consistent with this Policy.**

Policy 13.2.3

Plan for complementary mixed uses when considering annexation of new, under- or undeveloped areas so that new urban residential areas have closer access to jobs and services.

Response: The greatest strength of the BRCP, as implemented by the proposed map and code changes, is the mix of uses that will support a vibrant, interconnected district. The proposed code amendments include site-specific sustainable design features required in the NEC subdistrict through the implementing CI standards and incentivized in the WMU subdistrict through the implementing R-2 standards in the form of a density bonus. Future implementation efforts will continue building partnerships with private and institutional stakeholders to further support sustainable development and economic development. **The proposal is consistent with this Policy.**

Policy 13.2.4

Encourage use of carpools and transit in cooperation with TriMet and other state and regional transportation agencies.

Response: The adopted BRCP sets the stage for future transit by providing transit-attractive destinations, such as high-density employment and residential nodes, and a logical network of roadways that would support future transit routes. The proposed map and code amendments support future transit improvements by implementing the plan subdistricts that concentrate job and housing densities near Beaver Creek Road. **The proposal is consistent with this Policy.**

Policy 13.2.5

Construct bikeways and sidewalks and require connectivity of these facilities to reduce the use of petroleum-fueled transportation.

Response: All new development will be required to construct or improve all identified streets abutting the development proposal, which include sidewalks and bike lanes, where identified in the plan. **The proposal is consistent with this Policy.**

Policy 13.2.6

Support the concept of sustainability over the long term by:

- encouraging education efforts such as developing and/or distributing educational materials to the public about energy efficiency and sustainability encouraging designs that achieve a minimum Leadership in Energy and Environmental Design (LEED) certification implementing sustainable concepts within the Oregon City government facilities that receive a minimum “Platinum” LEED rating implementing design guidelines that address sustainability for private sector development taking advantage of up-to-date technology to reduce energy use developing incentive programs to apply to private sector development, where feasible

Response: As part of the proposed code amendments, industrial development in the NEC subdistrict will be required to incorporate sustainable design features; one option is to propose a LEED-certified building. (See proposed OCMC 17.37.060.G.8.) Similarly, WMU development may elect to build to LEED standards as one option to qualify for a density bonus. (See proposed OCMC 17.12.060.D.12.) The existing site development standards in OCMC 17.62 that apply to all new development except low-density residential already include green building standards and guidelines that support sustainability. For example, 15% site landscaping is required along with conservation of natural resource areas which, along with adopted LID stormwater standards, minimizes impervious surface and treats stormwater runoff. Mandatory green building standards for all development, beyond the sustainable features for industrial and high-density residential, are not recommended. Requiring compliance with a third-party set of standards, such as LEED, is inherently problematic because it outsources City decision-making to a third party, with standards that are updated more frequently than City code is updated. **The proposal is consistent with this Policy.**

Goal 14.3 Orderly Provision of Services to Growth Areas

Plan for public services to lands within the Urban Growth Boundary through adoption of a concept plan and related Capital Improvement Program, as amendments to the Comprehensive Plan.

Response: The proposed map and code amendments implement an adopted concept plan for Beaver Creek Road. The Sanitary Sewer Master Plan (2014), Water Distribution Master Plan (2012), Stormwater Master Plan (2019 Draft), and Transportation System Plan (2013) were all created subsequent to initial adoption of the BRCP in 2008 and plan for public services to serve residential and employment growth forecasted for the concept plan area. The proposed map and code amendments are estimated to support 1,105 dwellings and 5,734 jobs, consistent with demand forecasted and planned for in adopted capital improvements plans. **The proposal is consistent with this Goal.**

Policy 14.3.1

Maximize new public facilities and services by encouraging new development within the Urban Growth Boundary at maximum densities allowed by the Comprehensive Plan.

Response: The proposed map and code amendments provide for higher densities in the BRCP area to maximize utility of new public facilities developed to serve the area. Residential development will be subject to high and medium-density residential standards in the R-2 and R-5 districts respectively. Both zones have minimum density standards equal to 80% of the maximum allowed density, to ensure higher density development, as well as opportunities for types like cluster housing, duplexes, and 3-4 plexes in the R-5 zone that allow higher densities than would otherwise be permitted for single-family detached residential uses. Employment development in the two mixed-use districts will be subject to FAR minimums under the proposed code amendments to ensure efficient use of land and public facilities. **The proposal is consistent with this Policy.**

Policy 14.3.2

Ensure that the extension of new services does not diminish the delivery of those same services to existing areas and residents in the city.

Response: The adopted Sanitary Sewer Master Plan (2014), Water Distribution Master Plan (2012), Stormwater Master Plan (2019 Draft), and Transportation System Plan (2013) ensure that public facilities are extended to new areas, including the BRCP area and development anticipated through the proposed map and code amendments, without compromising the ability to provide services to existing areas and residents of the city that meet adopted service standards. **The proposal is consistent with this Policy.**

Policy 14.3.3

Oppose the formation of new urban services districts and oppose the formation of new utility districts that may conflict with efficient delivery of city utilities within the Urban Growth Boundary.

Response: The BRCP area is within the future service area of city utility providers and no new urban service districts or utility districts are proposed. **The proposal is consistent with this Policy.**

Policy 14.3.4

Ensure the cost of providing new public services and improvements to existing public services resulting from new development are borne by the entity responsible for the new development to the maximum extent possible.

Response: All development proposed with the BRCP area under the proposed map and code amendments will be subject to development review, which requires that new development provide for

on-site and off-site public services needed to serve the development. The City has also adopted System Development Charges (SDCs) that are assessed at the time of development to pay for the costs of expanding public services. **The proposal is consistent with this Policy.**

III.c. BEAVERCREEK ROAD CONCEPT PLAN GOALS AND POLICIES

Goal 1 Complete and Sustainable Community

Create a complete and sustainable community, in conjunction with the adjacent land uses, that integrates a diverse mix of uses, including housing, services, and public spaces that are necessary to support a thriving employment center.

Response: The proposal implements the plan vision for a mix of uses within the district and within individual subdistricts, notably the Mixed Employment Village and the Main Street subdistricts. Housing is provided for in all subdistricts except the North Employment Campus. Services are permitted through proposed zoning standards in all subdistricts except the East Mixed-Use Neighborhood. Public spaces are provided for consistency with the BRCP, including the South-Central Open Space Network, powerline corridor and trail network. Many of the zoning standards, particularly the expanded residential zones, support compact development, coupled with resource protection standards for sensitive environmental areas. Much of the sustainable infrastructure planning, including LID stormwater and green street designs, was done with the BRCP and can be implemented at the time of site development. **The proposal is consistent with this Goal.**

Policy 1.1

Adopt new comprehensive plan and zone designations, and development code, that implement the Beaver Creek Concept Plan. Require all development to be consistent with the Concept Plan and implementing code.

Response: The proposal applies comprehensive plan and zone designations to implement the BRCP, with development code amendments that supplement existing zoning district standards for each subdistrict to fully implement the BRCP vision for those subdistricts. Development will be reviewed for conformity with the implementing code through the development review process; discretionary development applications, such as master plans, will be required to comply with the Concept Plan as well. **The proposal is consistent with this Policy.**

Policy 1.2

Establish sub-districts to implement the Concept Plan. The sub-districts are:

North Employment Campus – NEC

The purpose of the North Employment Campus is to provide for the location of family-wage employment that strengthens and diversifies^[1] the economy. The NEC allows a mix of clean industries, offices serving industrial needs, light industrial uses, research and development and large corporate headquarters. The uses permitted are intended to improve the region's economic climate, promote sustainable and traded sector businesses, and protect the supply of sites for employment by limiting incompatible uses. The sub-district is intended to comply with Metro's Title 4 regulations. Site and building design will create pedestrian-friendly areas and utilize cost-effective green development

practices. Business^[17] and program connections to Clackamas Community College (CCC) are encouraged to help establish a positive identity for the area and support synergistic activity between CCC and NEC properties. Businesses making sustainable products and utilizing sustainable materials and practices are encouraged to reinforce the identity of the area and promote the overall vision for the Beaver Creek Road area.

Response: The NEC subdistrict will be implemented with the Industrial comprehensive plan designation and the Campus Industrial (CI) zoning district. The permitted uses in OCMC 17.37.020 include a range of industrial, light manufacturing, research and development, and corporate headquarters uses that support family-wage employment. The proposed additional code standards for the NEC include limitations on retail and service uses to 5,000 SF per use or 20,000 SF total per site to limit incompatible uses. The proposed code standards and subdistrict boundaries have been reviewed against Metro Title 4 maps and code requirements. Site and building design for development in the subdistrict will be required to implement green design features from a menu proposed in OCMC 17.37.060.G. Outside of the code and map implementation projects, supporting efforts to build relationships with CCC and to recruit businesses with sustainable practices will be led by the City's Economic Development department. **The proposal is consistent with this Policy.**

Mixed Employment Village – MEV

The purpose of the Mixed Employment Village is to provide employment opportunities in an urban, pedestrian-friendly, and mixed-use setting.^[18] The MEV is intended to be transit supportive in its use mix, density, and design so that transit remains an attractive and feasible option. The MEV allows a mix of retail, office, civic and residential uses that make up an active urban district and serve the daily needs of adjacent neighborhoods and Beaver Creek Road sub-districts. Site and building design will create pedestrian-friendly areas and utilize cost-effective green development practices. Business and program connections to Clackamas Community College and Oregon City High School are encouraged. Businesses making sustainable products and utilizing sustainable materials and practices are encouraged to reinforce the identity of the area and promote the overall vision for the Beaver Creek Road area.

Response: The MEV subdistrict will be implemented with the Mixed-Use Corridor comprehensive plan designation and the Mixed-Use Corridor-2 (MUC-2) zoning district. The permitted uses in OCMC 17.29.020, with refinements in proposed OCMC 17.29.080.C, include a range of retail, office, civic and residential uses. Proposed use standards also limit the percentage of building area that can be used for retail, service, and residential uses, to ensure that employment uses are also integrated into site development. Minimum FAR standards will support higher intensity development that will support future transit service. Site and building design for development in the subdistrict will be support an urban, pedestrian-friendly setting through a height limit of 60 feet to permit multistory construction, maximum setbacks to bring development up to the street, and prohibition on ground floor residential uses to support active ground floor uses. (See existing OCMC 17.29 and proposed 17.29.080.) Additional building and site development standards in OCMC 17.62.050 will apply at the time of development. Outside of the code and map implementation projects, supporting efforts to build relationships with CCC and to recruit businesses with sustainable practices will be led by the City's Economic Development department. **The proposal is consistent with this Policy.**

Main Street – MS

The purpose of this small mixed-use center is to provide a focal point of pedestrian activity. The MS

allows small scale commercial, mixed-use and services that serve the daily needs of the surrounding area. “Main Street” design will include buildings oriented to the street, and minimum of 2 story building scale, attractive streetscape, active ground floor uses and other elements that reinforce pedestrian-oriented character and vitality of the area.

Response: The MC subdistrict will be implemented with the Mixed-Use Corridor comprehensive plan designation and the Neighborhood Commercial (NC) zoning district. The permitted uses in OCMC 17.24.020, with refinements in proposed OCMC 17.24.050.C, include a range of retail, service and residential uses, capped at 10,000 square feet per establishment to create a small-scale character for the subdistrict. Proposed dimensional standards include a minimum height of two stories, maximum five-foot front setbacks to ensure that development engages with the street, minimum FAR of 0.5 to create more intensive development, requirement for parking areas to be located behind buildings, standards for planter boxes and urban plazas as part of required landscaping, and prohibition on ground floor residential uses to support active ground floor uses. (See existing OCMC 17.24 and proposed 17.24.050.) Additional building and site development standards in OCMC 17.62.050 will apply at the time of development. **The proposal is consistent with this Policy.**

West Mixed-Use Neighborhood – WMU

The West Mixed-Use Neighborhood will be a walkable, transit-oriented neighborhood. This area allows a transit-supportive mix of housing, live/ work units, mixed-use buildings and limited commercial uses. A variety^[SEP] of housing and building forms is required, with the overall average of residential uses not exceeding 22 dwelling units per acre. The WMU area’s uses, density and design will support the multi-modal transportation system and provide good access for pedestrians, bicycles, transit and vehicles. Site and building design will create a walkable area and utilize cost-effective green development practices.

Response: The WMU subdistrict will be implemented with the High-Density Residential comprehensive plan designation and the R-2 High-Density Residential (R-2) zoning district. Permitted residential uses, as recently expanded in the Equitable Housing Code Amendments, provide for a variety of multifamily residential, single-family attached, cluster housing, duplexes, triplexes and quadplexes. (See OCMC 17.12.020.) The proposed code amendments add live/work units as conditional uses and permit small-scale commercial and mixed-use development as part of a master plan. (See proposed OCMC 17.12.060.C.) The minimum and maximum density permitted in the R-2 district is 17.4 to 21.8 units per acre. (See OCMC 17.12.050) Up to a 20% density bonus can be earned for affordable housing or, in the WMU, for projects incorporating sustainable design features. (See proposed OCMC 17.12.D.) The base density and density bonuses together will not exceed an overall average of 22 units per acre. The density of development will support transit use, and site design will integrate pedestrian and bicycle facilities at the time of development. **The proposal is consistent with this Policy.**

East Mixed-Use Neighborhood – EMU

The East Mixed-Use Neighborhood will be a walkable and tree-lined neighborhood with a variety of housing types. The EMU allows for a variety of housing types while maintaining a low-density residential average not exceeding the densities permitted in the R-5 zone. Limited non- residential uses are permitted to encourage a unique identity, sustainable community, and in-home work options. The neighborhood’s design will celebrate open space, trees, and relationships to public open spaces. The central open space, ridge open space scenic viewpoints, and a linked system of open spaces and trails are key features of the EMU. Residential developments will provide housing for a range of income levels,

sustainable building design, and green development practices.

Response: The EMU subdistrict will be implemented with the Medium-Density Residential comprehensive plan designation and the R-5 Medium-Density Residential (R-5) zoning district. Streets will be developed with sidewalks and street trees per adopted street standards and may not exceed a maximum block length of 530 feet to ensure a robust, connected street network supporting walkability. (See OCMC 12.08, Street Trees; OCMC Table 16.12.016 for sidewalk widths; OCMC 16.12.030 for block spacing.) Permitted residential uses, as recently expanded in the Equitable Housing Code Amendments, provide for a variety of single-family detached, single-family attached, accessory dwelling units, cluster housing, duplexes, triplexes and quadplexes. (See OCMC 17.10.020.) The R-5 density standards will apply in the EMU zone. (See OCMC 17.10.050.) The variety of residential uses, including smaller lot sizes for selected types, will support housing for a wider range of income levels. The smaller lot sizes and home sizes will inherently increase the efficiency and sustainability of residential development, for example, reducing heating and cooling needs, and the mix of uses in the BRCP district will support green living by reducing the need for vehicle trips. Home occupations will be permitted to provide in-home work options; see response to OCCP Policy 9.7.1 for further discussion. New development will be required to dedicate parkland for the South-Central Open Space, and viewpoints will be created along the ridgeline through view corridor standards. (See proposed OCMC 16.12.042 and 17.10.070.C, respectively.) Trail corridors will be identified and reserved through the subdivision review process. (See OCMC 16.08.025.E.) **The proposal is consistent with this Policy.**

Policy 1.3

Within the Northern Employment Campus sub-district, support the attraction of family-wage jobs and connections with Clackamas Community College.

Response: Under the proposed code amendments, the NEC subdistrict permits a range of industrial, light manufacturing, research and development, and corporate headquarters uses that support family-wage employment. Outside of the code and map implementation projects, supporting efforts to build relationships with CCC and to recruit businesses with family-wage jobs will be led by the City's Economic Development department. **The proposal is consistent with this Policy.**

Policy 1.4

Within the Mixed Employment Village and Main Street sub-districts, promote job creation, mixed-use and transit-oriented development. Adopt minimum densities, limitations on stand-alone residential developments, and other standards that implement this policy.

Response: Under the proposed code amendments, the MEV and MS subdistricts permit a range of employment opportunities including light manufacturing (MEV only), office, retail and service uses. Proposed code standards require that residential uses be proposed as part of a mixed-use project, rather than stand-alone residential developments, and limit residential uses to upper stories in both the MS and MEV subdistricts. (See proposed OCMC 17.24.050.E and 17.29.080.E.) In the MS subdistrict, ground-floor residential uses may also be permitted on the rear of sites, set back a minimum of 150 feet from the front property line and not to exceed 50% of the total building site area, with a minimum density of 17.4 units per acre. (See proposed OCMC 17.24.050.E.) **The proposal is consistent with this Policy.**

Policy 1.5

The Main Street sub-district may be located along the extension of Glen Oak Road and not exceed 10 gross acres. The specific configuration of the MS sub-district may be established as part of a master plan.

Response: The proposed map amendments designate the MS subdistrict along Glen Oak Road, totaling 7.2 gross acres or 6.6 net acres. **The proposal is consistent with this Policy.**

Policy 1.6

Within the West and East Mixed-Use Neighborhoods, require a variety^[11]_{SEP} of housing types. Allow lot size averaging and other techniques that help create housing variety while maintaining overall average density.

Response: Permitted residential uses in R-5 and R-2 zoning districts, proposed to implement the EMU and WMU subdistricts, provide for a variety of single-family detached, single-family attached, accessory dwelling units, multifamily, cluster housing, duplexes, triplexes and quadplexes. (See OCMC 17.10.020 and 17.12.020.) Lot size averaging is permitted per OCMC 16.08.065. **The proposal is consistent with this Policy.**

Policy 1.7

Within the MEV, MS, WMU and EMU sub-districts, require master plans to ensure coordinated planning and excellent design for relatively large areas (e.g. 40 acres per master plan). Master plans are optional in the NEC due to the larger lot and campus industrial nature of the area.

Response: Master planning is permitted in all subdistricts as a discretionary review alternative. (OCMC 17.65.) Mandatory master planning is not proposed considering state standards requiring clear and objective residential development standards and revisions to the Concept plan to address this issue are included in the adopted package. Since 2008 when the BRCP was developed, state law has been strengthened to require a clear and objective review option for all residential and mixed-use development to provide greater certainty for housing development. (ORS 197.303, 197.307.) Master planning provisions are generally discretionary, and so should not be made mandatory for residential or mixed-use areas. Many of the concept plan provisions, such as green streets and LID stormwater development, can be implemented by existing or proposed code standards and thereby meet the master planning intent. Master planning can provide an alternative review path, with incentives such as higher densities or modifications to base zone standards like minimum lot sizes. **The proposal is consistent with this Policy.**

Goal 2 Model of Sustainable Design

Be a model of sustainable design, development practices, planning, and innovative thinking.

Response: The greatest strength of the BRCP, as implemented by the proposed map and code changes, is the mix of uses that will support a vibrant, interconnected district. Much of the sustainable infrastructure planning, including LID stormwater and green street designs, was done with the BRCP and subsequent utility master planning, will can be implemented at the time of site development. Many of the zoning standards, particularly the expanded uses in the residential zones, support compact development, coupled with resource protection standards for sensitive environmental areas. The proposed code amendments include site-specific sustainable design features required in the NEC subdistrict through the implementing CI standards and incentivized in the WMU subdistrict through the

implementing R-2 standards in the form of a density bonus. Future implementation efforts will continue building partnerships with private and institutional stakeholders to further support sustainable development and economic development. **The proposal is consistent with this Goal.**

Policy 2.1

Implement the Sustainable Storm Water plan recommended in the Concept Plan. During site-specific design, encourage innovative system design and require low impact development practices that manage water at the site, street and neighborhood scales.

Response: Since the BRCP was initially written in 2008, the City has adopted the Stormwater and Grading Design Standards (2015), emphasize low-impact development (LID) practices, source controls for higher pollutant generating activities, erosion prevention and sediment controls, and operation and maintenance practices designed to properly manage stormwater runoff and protect our water resources. Some of the LID techniques permitted include porous pavement, green roofs, filtration planters, infiltration planters, swales, and rain gardens. (See <https://www.orcity.org/publicworks/stormwater-and-grading-design-standards>) **The proposal is consistent with this Policy.**

Policy 2.2

Stormwater facilities will be designed so they are amenities and integrated into the overall community design.

Response: LID techniques such as green roofs, filtration planters, infiltration planters, swales, and rain gardens, consistent with the 2015 Stormwater and Grading Design Standards, will serve as amenities integrated into the community. **The proposal is consistent with this Policy.**

Policy 2.3

Support public and private sector initiatives to promote sustainable design, development practices and programs, including but not limited to:

- Energy efficiency
 - Water conservation
 - Compact development
 - Solar orientation
 - Green streets/infrastructure
 - Adaptive reuse of existing buildings/infrastructure
 - Alternative transportation
 - Pedestrian/Cyclist friendly developments
 - Natural drainage systems
 - Tree preservation and planting to “re-establish” a tree canopy
 - Minimizing impervious surfaces
- Sustainability education (builder, residents, businesses and visitors)

- Collaboration with “local” institutional and economic partners, particularly Clackamas Community College and Oregon City High School
- Community based sustainable programs and activities

Response: Many of these initiatives are ongoing and involve multiple stakeholders, which the City will continue to support. The proposed map and code amendments will directly and indirectly support a number of them. The proposed residential standards in particular support compact development by allowing a variety of residential units at higher density than permitted density for single-family detached residential uses. The City has adopted green street standards with the 2013 Transportation System Plan and the low impact development stormwater and grading design standards that will be applied to all new development. Sidewalks and bicycle lanes will be built with new roadways at the time of development to provide alternative transportation infrastructure, as well as off-street trails. Bicycle parking will be required in new developments per OCMC 17.52.040. Tree protection, preservation, removal and replanting is regulated per OCMC 17.41 to support tree preservation. Impervious surfaces can be minimized through application of the low impact development stormwater standards and supported by recent reductions to off-street parking required for residential uses in OCMC 17.52 with the Equitable Housing Code Amendments. **The proposal is consistent with this Policy.**

Policy 2.4

Work with stakeholders and the community to develop LEED or equivalent green building standards and guidelines to apply in the Concept Plan area.

Response: As part of the proposed code amendments, industrial development in the NEC subdistrict will be required to incorporate sustainable design features; one option is to propose a LEED-certified building. (See proposed OCMC 17.37.060.G.8.) Similarly, WMU development may elect to build to LEED standards as one option to qualify for a density bonus. (See proposed OCMC 17.12.060.D.12.) The existing site development standards in OCMC 17.62 that apply to all new development except low-density residential already include green building standards and guidelines that supports sustainability. For example, 15% site landscaping is required along with conservation of natural resource areas which, along with adopted LID stormwater standards, minimizes impervious surface and treats stormwater runoff. Mandatory green building standards for all development, beyond the sustainable features for industrial and high-density residential, are not recommended. Requiring compliance with a third-party set of standards, such as LEED, is inherently problematic because it outsources City decision-making to a third party, with standards that are updated more frequently than City code is updated. **The proposal is consistent with this Policy.**

Goal 3 Green Jobs

Attract “green” jobs that pay a living wage.

Response: The proposed map and code amendments lay the foundation for future “green” job and green industry recruitment by designating 135.1 net acres for industrial development under the CI standards, and permitting a wide range of industrial, research and development, and corporate headquarters uses. Further business recruitment efforts will be led by the City’s Economic Development

department and community partners to promote the BRCP area, building off the existing Beaver Creek Employment Area efforts that already include a portion of the BRCP area. (See <https://www.orcity.org/economicdevelopment/beavercreek-employment-area>) **The proposal is consistent with this Goal.**

Policy 3.1

Coordinate with county, regional and state economic development representatives to recruit green industry to the Concept Plan area.

Response: The proposed map and code amendments will support business recruitment efforts for the BRCP area that will be led by the City's Economic Development department and county, regional and state economic development representatives. The City can expand current partnerships such as the Beaver Creek Employment Area Blue Ribbon Committee that include city, county and regional representatives. (See https://www.orcity.org/sites/default/files/fileattachments/economic_development/page/11230/beavercreek_employment_area_-_marketing_and_recruitment_strategy.pdf) The Committee was identified as a stakeholder in this implementation project and provided their input at a meeting held January 17, 2019. **The proposal is consistent with this Policy.**

Policy 3.2

Promote the Concept Plan area as a place for green industry.

Response: The proposed map and code amendments will support business promotion efforts for the BRCP area that will be led by the City's Economic Development department. The City can promote the BRCP area, building off the existing Beaver Creek Employment Area efforts that already include a portion of the BRCP area. (See <https://www.orcity.org/economicdevelopment/beavercreek-employment-area>) **The proposal is consistent with this Policy.**

Policy 3.3

Work with Clackamas Community College to establish programs and education that will promote green development within the Concept Plan area.

Response: Clackamas Community College was identified as a stakeholder in this implementation project and interviewed early in the process to incorporate their ideas into the map and code amendments. The College has participated in the Beaver Creek Employment Area efforts to date as a member of the Blue-Ribbon Committee and the City will continue working with the College. **The proposal is consistent with this Policy.**

Goal 4 Sustainable Industries

Maximize opportunities for sustainable industries that serve markets beyond the Portland region and are compatible with the site's unique characteristics.

Response: The proposed map and code amendments lay the foundation for sustainable industries by designating 135.1 net acres for industrial development under the CI standards, and permitting a wide

range of industrial, research and development, and corporate headquarters uses. Further business recruitment efforts will be led by the City's Economic Development department and community partners to promote the BRCP area, building off the existing Beaver Creek Employment Area efforts that already include a portion of the BRCP area. (See

<https://www.orcity.org/economicdevelopment/beavercreek-employment-area>) **The proposal is consistent with this Goal.**

Policy 4.1

As master plans are approved, ensure there is no net loss of land designated North Employment Campus.

Response: The proposed map amendments designate 153.9 gross acres with an estimated 135.1 net acres with the Industrial comprehensive plan designation and CI zoning district. Any rezoning proposal will have to show compliance with the BRCP, including this policy, which will prevent any net loss of NEC land. Much of the NEC land is designated Industrial land consistent with Metro Title 4 regulations and is further protected from conversion to non-industrial uses by Metro standards. (See https://www.orcity.org/sites/default/files/fileattachments/planning/page/12700/title_4_map_-_employment_and_industrial_land.pdf) **The proposal is consistent with this Policy.**

Policy 4.2

Coordinate with County, regional and state economic development representatives to recruit sustainable industries that serve markets beyond the Portland region.

Response: The proposed map and code amendments will support business recruitment efforts for the BRCP area that will be led by the City's Economic Development department and county, regional and state economic development representatives. The City can expand current partnerships such as the Beaver Creek Employment Area Blue Ribbon Committee that include city, county and regional representatives. (See https://www.orcity.org/sites/default/files/fileattachments/economic_development/page/11230/beavercreek_employment_area_-_marketing_and_recruitment_strategy.pdf) The Committee was identified as a stakeholder in this implementation project and provided their input at a meeting held January 17, 2019. **The proposal is consistent with this Policy.**

Goal 5 Natural Beauty

Incorporate the area's natural beauty into an ecologically compatible built environment.

Response: The proposed map and code amendments will protect natural resources within the future built environment of the district by requiring dedication of parkland to create the South-Central Open Space Network, requiring dedication of trail corridors identified in the BRCP, protecting trees per OCMC 17.41, and protecting riparian habitat and geologic hazard areas from development through application of the Natural Resources Overlay District in OCMC 17.49 and the Geologic Hazards Overlay Zone in OCMC 17.44. **The proposal is consistent with this Goal.**

Policy 5.1

Incorporate significant trees into master plans and site-specific designs. Plant new trees to establish an

extensive tree canopy as part of the creation of an urban community.

Response: All future development in the areas affected by this proposal will be required to comply with tree protection standards in OCMC 17.41, which include replanting standards. **The proposal is consistent with this Policy.**

Policy 5.2

Provide scenic viewpoints and public access along the east ridge.

Response: Per the revised Site Plan and Design Review and Subdivision code, the East Ridge- Thimble Creek Conservation Area will be dedicated as a public park with requirements for two viewpoints, one of which is to be viewable from the road. **The proposal is consistent with this Policy.**

Policy 5.3

Protect views of Mt Hood and locate trails and public areas so Mt Hood can be viewed within the community.

Response: Under the proposed map and code amendment, trails and public areas identified in the BRCP will be acquired by the City and protected from development, which will protect views of Mt Hood from those facilities. Parkland within the South-Central Open Space Network East Ridge- Thimble Creek Conservation Area will be required to be dedicated at the time of residential development. (See proposed OCMC 16.12.042 and 17.62.058.) Trail corridors as identified in the Trails Master Plan will be identified and reserved through the development review process, including a 30-foot corridor through the powerline easement area identified in the BRCP as providing Mt Hood views. (See OCMC 16.08.025.E and proposed 17.37.060.F.) **The proposal is consistent with this Policy.**

Policy 5.4

Establish open space throughout the community consistent with the Open Space Framework Plan. Allow flexibility in site-specific design of open space, with no net loss of total open space area.

Response: Under the proposed map and code amendment, open spaces identified in the BRCP will be protected from development and/or acquired by the City. Parkland within the South-Central Open Space Network East Ridge- Thimble Creek Conservation Area will be required to be dedicated at the time of residential development. (See proposed OCMC 16.12.042 and 17.62.058.) Trail corridors as identified in the Trails Master Plan will be identified and reserved through the development review process. (See OCMC 16.08.025.E.) Additional natural, undeveloped open space will be protected through application of the Natural Resources Overlay District in OCMC 17.49 and the Geologic Hazards Overlay Zone in OCMC 17.44 which restrict development in sensitive areas. **The proposal is consistent with this Policy.**

Policy 5.5

Protect steeply sloped and geologically sensitive areas along the east ridge from development.

Response: Through the proposed code amendments, the steeply sloped areas along the east ridge will be protected through the application of the Geologic Hazards Overlay Zone in OCMC 17.44, which limits development on slopes 25 to 35% and prohibits all development on slopes over 35% and the dedication of the East Ridge- Thimble Creek Conservation Area to the city. **The proposal is consistent with this Policy.**

Goal 6 Multi-modal Transportation

Provide multi-modal transportation links (such as bus routes, trails, bikeways, etc.) that are connected within the site as well as to the surrounding areas.

Response: The proposed map and code amendments will support the provision of multi-modal transportation links within the site and to surrounding areas at the time of development. The transportation network of major arterials and collectors within the BRCP area have been adopted in the City's Transportation System Plan (2013); the projects must be complete or completed by the developer at the time of development. Improvement of these major rights-of-way will meet green street standards with multimodal elements. The trails network, as part of the Trails Master Plan, will be required to be built prior to or as a condition of development as well. Bus routes will be planned with Tri-Met as part of ongoing coordination efforts. **The proposal is consistent with this Goal.**

Policy 6.1

Work with Tri-Met and stakeholders to provide bus service and other alternatives to the Concept Plan area.

Response: Bus service will be planned with Tri-Met as part of ongoing coordination efforts outside of the proposed map and code amendments. **The proposal is consistent with this Policy.**

Policy 6.2

As land use reviews and development occur prior to extension of bus service, ensure that the mix of land uses, density and design help retain transit as an attractive and feasible option in the future.

Response: The proposed map and code amendments support development of a mix of uses both across the district and within individual subdistricts that include employment, commercial and residential uses that can support future transit service. Minimum densities will be applied to residential development in the EMU and WMU subdistricts, at 7.0 units per acre and 17.4 units per acre respectively; any ground-floor residential uses in the MS subdistrict will also be required to meet a minimum density of 17.4 units per acre. Minimum FARs are also proposed for the MEV and MS subdistricts to guide intensive design supportive of future transit options. **The proposal is consistent with this Policy.**

Policy 6.3

Ensure that local street connectivity and off-street pedestrian routes link together into a highly connected pedestrian system that is safe, direct, convenient, and attractive to walking.

Response: The proposed map and code amendments will require local street connectivity and off-street pedestrian routes to be developed with all new development. OCMC 16.12, which applies to new subdivisions and site plan reviews, requires a maximum block length of 530 feet to maintain connectivity except in the CI zone, discourages cul-de-sacs and dead ends, and requires public off-street pedestrian and bicycle accessways when through streets cannot be provided; together these provisions provide for a highly connected pedestrian system. (See OCMC 16.12.025, 16.12.030, 16.12.032.) Additionally, development under the proposed map and code amendments will be required to reserve trail corridors supporting completion of the off-street trails network established in the Trails Master Plan. **The proposal is consistent with this Policy.**

Policy 6.4

The “walkability” of the Concept Plan area will be one of its distinctive qualities. The density of walking routes and connectivity should mirror the urban form – the higher the density and larger the building form, the “finer” the network of pedestrian connections.

Response: The proposed map and code amendments will require pedestrian connectivity that mirrors the urban form. A maximum block length of 530 feet applies in all proposed zones except the CI-zoned NEC subdistrict, where greater spacing between streets is appropriate for industrial campus development. (See OCMC 16.12.030.) Within the “finer” grained residential and mixed-use subdistricts, code standards to be applied through these proposed map amendments will also require a well-marked, continuous and protected on-site pedestrian circulation system within development sites per OCMC 17.62.050.C. **The proposal is consistent with this Policy.**

Policy 6.5

Require trails to be provided consistent with the Concept Plan Circulation Framework.

Response: Development under the proposed map and code amendments will be required to reserve trail corridors supporting completion of the off-street trails network established in the Trails Master Plan. **The proposal is consistent with this Policy.**

Policy 6.6

Provide bike lanes on Beavercreek Road and all collector streets, except for Main Street. The City may consider off-street multi-use paths and similar measures in meeting this policy. Bike routes will be coordinated with the trails shown on the Circulation Framework.

Response: Streets, including Beavercreek Road, will be built prior to or as a condition of development, and will be required to be constructed to the City’s adopted green street standards that include bike lanes except on Glen Oak Road which will serve as the Main Street. Off-street multiuse paths may be developed along Center Parkway within an expanded right-of-way as part of the South-Central Open Space Network. An amendment to the Concept Plan will be added to emphasize the need for safer and wider bike lanes and direction that other street elements could be reduced to accommodate the needs for bike lanes wide than the initial 5-foot sections adopted in 2008. **The proposal is consistent with this Policy.**

Goal 7 Safety Along Beavercreek Road

Implement design solutions along Beavercreek Road that promote pedestrian safety, control traffic speeds and access, and accommodate projected vehicular demand.

Response: The Planning and City Commission reviewed the existing cross-section and intersection control for the section of Beavercreek Road that abuts the Concept Plan boundary to see if additional capacity could be added to this section that did not adversely impact pedestrian and bike use along the corridor. The Planning and City Commission directed staff to revise the Transportation System Plan by utilizing signals at all major intersections and transitioning from a 5-lane road section to a 3-lane road section south of Meyers Road **The proposal is consistent with this Goal.**

Policy 7.1

Design Beaver Creek Road to be a green street boulevard that maximizes pedestrian safety.

Response: The Planning and City Commission reviewed the existing cross-section and intersection control for the section of Beaver Creek Road that abuts the Concept Plan boundary to see if additional capacity could be added to this section that did not adversely impact pedestrian and bike use along the corridor. The Planning and City Commission directed staff to revise the Transportation System Plan by utilizing signals at all major intersections and transitioning from a 5-lane road section to a 3-lane road section south of Meyers Road. The road revisions will rely on a crown street approach to stormwater rather than the initial inverted crown center medium approach. Low-impact stormwater facilities will be added the planter strips on the outside of the street rather than the internal medium. **The proposal is consistent with this Policy.**

Policy 7.2

Work with the County and State to establish posted speeds that are safe for pedestrians and reinforce the pedestrian-oriented character of the area.

Response: Future coordination with the County and the State about the posted speeds is outside of the scope of the proposed map and code amendments. **The proposal is consistent with this Policy.**

Policy 7.3

Control access along the east side of Beaver Creek Road so that full access points are limited to the intersections shown on the Circulation Framework. Right in-Right-out access points may be considered as part of development review.

Response: The proposed map and code amendments will support limited access along the east side of Beaver Creek Road. At the time of development, driveway spacing and access limitations will be applied to individual lots including standards that require a minimum of 175 feet per driveway along an arterial like Beaver Creek Road, that limit access to one driveway per frontage, and that require access to be provided from the lowest classification street. (See OCMC 16.12.035.) The City may adopt additional access limitations specific to Beaver Creek Road. **The proposal is consistent with this Policy.**

Goal 8 Oregon City High School and Clackamas Community College

Promote connections and relationships with Oregon City High School and Clackamas Community College.

Response: Both OCHS and CCC were identified as stakeholders in this implementation project and engaged through initial interviews and invitations to all public meetings throughout the project; OCHS hosted two public open houses on January 29 and April 9, 2019. Future implementation efforts will continue to engage OCHS and CCC. **The proposal is consistent with this Goal.**

Policy 8.1

Coordinate with OCHS and CCC when recruiting businesses and promoting sustainability. Within one year of adoption of the Concept Plan, the City will convene dialogue with OCHS, CCC and other relevant partners to identify target industries and economic development strategies that are compatible with the vision for the Concept Plan. Encourage curricula that are synergistic with employment and sustainability in the Concept Plan area.

Response: Both OCHS and CCC are members of the Beavercreek Employment Area Blue Ribbon Committee that includes city, county and regional representatives to discuss economic development strategies for the area incorporating the two institutions and portions of the BRCP area. (See https://www.orcity.org/sites/default/files/fileattachments/economic_development/page/11230/beavercreek_employment_area_-_marketing_and_recruitment_strategy.pdf) Future implementation efforts will continue to engage OCHS and CCC. **The proposal is consistent with this Policy.**

Policy 8.2

Prior to application submittal, require applicants to contact OCHS and CCC to inform them and obtain early comment for master plans and design review applications.

Response: The City will develop internal policies to ensure that OCHS and CCC are engaged at the time of pre-application conferences required before all subdivision, master plan, and site plan review applications are submitted, to inform OCHS and CCC and provide opportunity for early comment. **The proposal is consistent with this Policy.**

Policy 8.3

Improving the level-of-service and investing in the Highway 213 corridor improves the freight mobility along Highway 213, which provides access^[1] to Beavercreek Road and the Concept Plan area. Protecting the corridor and intersections for freight furthers the City goal of providing living-wage employment opportunities in the educational, and research opportunities to be created with CCC and OCHS.

Response: Alternative Mobility Targets were adopted for Highway 213 in 2018, including the Highway 213 and Beavercreek Road intersection, which will support freight mobility along Highway 213 to support employment opportunities in the BRCP area in partnership with CCC and OHCS. **The proposal is consistent with this Policy.**

Goal 9 Unique Sense of Place

Have a unique sense of place created by the mix of uses, human-scale design, and commitment to sustainability.

Response: The essence of the BRCP area is the mix of uses both across the district as a whole and within individual subdistricts, which will be fully implemented by the proposed map and code amendments to create the five subdistricts including mixed-use zoning for the MEV and MS subdistricts. Design elements implemented through the proposed code amendments include maximum square footages for individual business establishments, minimum FARs, and maximum setbacks in the MS and MEV subdistricts; pedestrian connectivity within sites, subdistricts, the district and beyond; and building design standards, as discussed elsewhere in this narrative. Sustainability will be integrated into the fabric of the district as discussed in response to Goal 2 and related policies, including sustainable infrastructure, mix of uses, natural resources protection, and sustainable building and site design elements for industrial development and multifamily development in the R-2 zoned WMU zone. **The proposal is consistent with this Goal.**

Policy 9.1

Utilize master plans and design review to ensure detailed and coordinated design. Allow flexibility in development standards and the configuration of land uses when they are consistent with the comprehensive plan, development code, and vision to create a complete and sustainable community.

Response: Under the proposed map and code amendments, new development will be reviewed through site plan design review, subdivision, and/or master plans. Development standards can be modified through minor and major variances if they are consistent with the comprehensive plan including the BRCP vision. (See OCMC 17.60.) The configuration of land uses will be established by the proposed map amendments and can be modified through future map amendments consistent with OCMC 17.68, though the range of uses allowed in each subdistrict through the proposed code amendments is intended to be flexible and potentially reduce the need for map amendments, such as the R-2 standards for small-scale commercial and mixed-use in the primarily residential EMU subdistrict. **The proposal is consistent with this Policy.**

Policy 9.2

Implement human-scale design through building orientation, attractive streetscapes, building form/architecture that is matched to the purpose of the sub-district, location of parking, and other techniques. The design qualities of the community should mirror the urban form – the higher the density and larger the buildings, the higher the expectation for urban amenities and architectural details.

Response: Design elements implemented through the proposed code amendments that support human-scale design include maximum square footages for individual business establishments, minimum FARs, and maximum setbacks in the MS and MEV subdistricts; pedestrian connectivity within sites, subdistricts, the district and beyond; and requirements for parking to be located at the rear of sites. The proposed code amendments also apply the building design standards in OCMC 17.62.055 for all development, except industrial development, requiring quality building materials, siting of structures along the front property line, buildings oriented towards the street, entryways, façade modulation and articulation, and fenestration. The proposed code amendments will support attractive streetscapes through both design standards for private development along the street, such as maximum setbacks and provisions for pedestrian plazas and outdoor café seating within the setbacks, and the green street standards for the public right-of-way development. **The proposal is consistent with this Policy.**

Policy 9.3

Density should generally transition from highest on the west to lowest in the eastern part of the site.

Response: Generally, the proposed map and code amendments support graduated density across the district from west to east. Density transitions from highest in the west along Beaver Creek Road, with the R-2 zoning for the WMU subdistrict that allows development up to 21.8 units an acre, transitioning to medium density at a maximum density of 8.7 units per acre for single-family detached homes in the east with the R-5 zoning for the EMU subdistrict. **The proposal is consistent with this Policy.**

Policy 9.4

Promote compatibility with existing residential areas at the north and south end of the Concept Plan area. Transition to lower densities, setbacks, buffers and other techniques shall be used.

Response: The proposed code amendments support compatibility with existing residential areas to the north and south of the BRCP area by requiring buffers and setbacks. Under the proposed map and code amendments, the northern edge of the district is zoned CI and industrial development within the zone that is adjacent to residential is required to provide a 25-foot-wide buffer including landscaping, trees, berms, and fencing. (See proposed OCMC 17.37.060.D.) At the southern edge of the district, the proposed code requires a perimeter transition requiring larger 6,000 square foot lots restricted to single-family detached uses, a 40-foot setback from the edge of the district, and a combination of landscaping, trees and fencing. (See proposed OCMC 17.10.070.D.) **The proposal is consistent with this Policy.**

Goal 10 Ecological Health

Manage water resources on-site to eliminate pollution to watersheds and lesson impact on municipal infrastructure by integrating ecological and man-made systems to maximize function, efficiency and health.

Response: The City has adopted the Stormwater and Grading Design Standards (2015) that emphasize low-impact development (LID) practices, which will be applied to new development within the BRCP area under the proposed map and code amendments. The Natural Resources Overlay District (NROD) in OCMC 17.49 will also be applied to stream corridors and riparian habitat through the proposed map and code amendments to protect water resources on site. **The proposal is consistent with this Goal.**

Policy 10.1

Utilize low impact development practices and stormwater system designs that mimic natural hydrologic processes, minimize impacts to natural resources and eliminate pollution to watersheds.

Response: Since the BRCP was initially written in 2008, the City has adopted the Stormwater and Grading Design Standards (2015), emphasize low-impact development (LID) practices, source controls for higher pollutant generating activities, erosion prevention and sediment controls, and operation and maintenance practices designed to properly manage stormwater runoff and protect our water resources. Some of the permitted LID techniques, some of which mimic natural hydrologic processes, include porous pavement, green roofs, filtration planters, infiltration planters, swales, and rain gardens. (See <https://www.orcity.org/publicworks/stormwater-and-grading-design-standards>) **The proposal is consistent with this Policy.**

Policy 10.2

Prepare the Environmentally Sensitive Resource Area overlay to protect, conserve and enhance natural areas identified on the Concept Plan. Apply low-density base zoning that allows property owners to cluster density outside the ESRA and transfer to other sites.

Response: Areas identified within the Environmentally Sensitive Resource Area will be protected by a variety of strategies through the proposed map and code amendments. Most importantly, the Natural Resources Overlay District (NROD) in OCMC 17.49 will be applied to stream corridors and riparian habitat, including Thimble Creek on the eastern edge of the site. The Geologic Hazards Overlay District will be applied to steep slopes per OCMC 17.44, limiting development on slopes 25 to 35% to two units per acre and prohibiting development on slopes above 35%. The key ESRAs identified on page 1 of the

BRCP are generally protected through the combination of these two overlays, however, there are minor discrepancies in the extent of individual nodes. In 2008 when the BRCP was being drafted, there was discussion that upland habitat areas could be protected through the NROD as well, however, subsequent development of the NROD standards elected to exclude upland habitat areas because there is no mechanism for such in Metro's Title 13. The exclusion of the upland habitat areas slightly reduces the extent of some of the identified ESRA nodes, but the NROD and geologic hazard overlays together protect the core of each resource area. The NROD includes density transfer provisions in OCMC 17.49.240. **The proposal is consistent with this Policy.**

CHAPTER 17.50 ADMINISTRATION AND PROCEDURES

17.50.030 Summary of the City's Decision-Making Processes.

Finding: Complies as Proposed. The proposed Legislative application is being reviewed pursuant to the Type IV process. Notice was posted online and posted in the paper.

17.50.055 Neighborhood Association Meeting

Finding: Complies as Proposed. This is a citywide application; no specific neighborhood association was identified and is not required with the code that is in effect on in July 2019. However, the project was presented to the CIC as well as the Caufield Neighborhood Association.

17.50.060 Application Requirements.

Finding: Complies as Proposed. All application materials required are submitted with this narrative.

17.50.070 Completeness Review and 120-day Rule.

Finding: Complies as Proposed. This is a Legislative Decision, there is no 120-day deadline for making a final city decision.

17.50.080 Complete Application--Required Information.

Finding: Complies as Proposed. This land-use application was submitted on

17.50.090 Public Notices.

Finding: Complies as Proposed. A Measure 56 Notice was sent to all property owners within the concept plan boundary and general Land Use Notice was sent to all property owners within 300 feet of the Concept Plan boundary. The Land Use Notice was posted on the Oregon City website and in a general circulation newspaper. Staff provided an email transmittal of the application and notice to affected agencies, and to all Neighborhood Associations requesting comment.

17.50.100 Notice Posting Requirements.

Finding: Complies as Proposed. No signs were posted as there was not a limited number of affected properties for this proposed Legislative amendment.

III. STAFF RECOMMENDATION:

Based on the findings identified above, the proposal to amend the Comprehensive Plan Map, Zoning Map, Title 16 and 17 of the Oregon City Municipal Code, Beaver Creek Road Concept Plan, Parks Master Plan, Trails Master Plan and the Transportation System Plan to implement the Goals and Policies of the Beaver Creek Road Concept Plan is consistent with the Oregon City Comprehensive Plan and State Land Use Goals. Staff recommends approval of Planning file LEG 19-00003

Exhibits

1. Vicinity Map
2. Proposed amendments to the Comprehensive Plan Map
3. Proposed amendments to the Oregon City Zoning Map
4. Proposed amendments to Title 16 and 17 of the Oregon City Municipal Code
5. Proposed amendments to the Beaver Creek Road Concept Plan
6. Proposed amendments Parks Master Plan
7. Proposed amendments to the Trails Master Plan
8. Proposed amendments to the Transportation System Plan
9. Beaver Creek Road Concept Plan Adopted 2008 (readopted 2016)
10. Planning Commission Hearings Public Comment Matrix -Revised February 3, 2020
11. Applicant's Submittal
12. June 7, 2019 Draft Zoning Code Amendments
13. June 7, 2019 Revised Draft Zoning Map (with and without major streets)
14. June 7, 2019 Zoning Code Memo
15. June 7, 2019 Zoning Map Memo
16. Beaver Creek Road Concept Plan Implementation Acreage Estimate
17. Economic/Jobs Analysis Memo
18. Infrastructure Memo
19. Transportation Memo (TPR)
20. Transportation Memo- Beaver Creek Road Design
21. Transportation Memo- Beaver Creek Road Design- Appendix
22. Public Comment Tracker January 2019-June 2019
23. Planning Commission Memo -February 10, 2020 Hearing
 - a. Staff Presentation
 - b. Collector Width Survey Results
 - c. Email from Mike Mitchell
24. Planning Commission Memo January 13, 2020 Hearing
 - a. Staff Presentation
 - b. Natural Resource Committee- Letter to Planning Commission- Upland Habitat
 - c. Home Occupations Cottage Industry- Revised Code

- d. Public Park and Open Space Requirements in Beaver Creek Road Concept Plan - Revised Code
 - e. Todd Mobley Email- Collector Streets
 - f. Todd Mobley Memo- Collector Streets
 - g. Upland Habitat vs GEO-NROD Overlay Map
- 25. Planning Commission Memo- November 25, 2019 Hearing
 - a. Staff Presentation
 - b. FAQ- Transportation Planning Rule (TPR)
 - c. John Replinger Comment
 - d. November 18, 2019 ODOT Comment
 - e. Staff Memo- November 12, 2019 City Commission Work Session
 - f. Staff Presentation - November 12, 2019 City Commission Work session
 - g. Roundabout Conceptual Study- November 12, 2019 City Commission Work Session
 - h. November 4, 2019 ODOT Comments
 - i. Survey Results- Transportation Options
- 26. Planning Commission Memo- November 18, 2019 Hearing
 - a. Staff Presentation
- 27. Planning Commission Memo- October 14, 2019 Hearing
 - a. Staff Presentation
 - b. Beaver Creek Road Concept Plan- Cottage Industry- Expanded Home Occupation Options Survey Results
- 28. Planning Commission Memo- September 23, 2019 Hearing
 - a. Staff Presentation
 - b. Development Services Presentation
 - c. OCMC 17.44 Geologic Hazards
 - d. Metro Title 13 Compliance Letter
- 29. Planning Commission Memo- September 9, 2019 Hearing
 - a. Staff Presentation
 - b. City Wide Home Occupation License Worksheet
- 30. Staff Presentation- August 26, 2019
- 31. Staff Presentation- August 12, 2019
- 32. Draft Minutes, Agendas and Video the Following City Meetings (on file)
 - a. August 13, 2020 City Commission Work Session -Beaver Creek Road Design
 - b. August 29, 2019 Parks and Recreation Advisory Committee (PRAC)- Initial Presentation
 - c. October 9, 2019 Natural Resource Committee- Upland Habitat
 - d. November 12, 2019 - City Commission Work Session- Beaver Creek Road Design
 - e. November 13, 2019 Natural Resource Committee- Upland Habitat
 - f. January 21, 2020- Transportation Advisory Committee (TAC)- Protected and Buffered Bike Lanes
 - g. January 23, 2020 Parks and Recreation Advisory Committee (PRAC) Recommendation to The Planning Commission

Street Names

Taxlots

Taxlots Outside UGB

Unimproved ROW

Beaver Creek Road Planning Area Bour

City Limits

UGB

Basemap

Notes

Overview Map

This map shows the city of Oregon City, Oregon, with its boundaries highlighted in red. The city is situated along the Willamette River. A red rectangle in the southwest corner of the city indicates the location of the proposed development area.

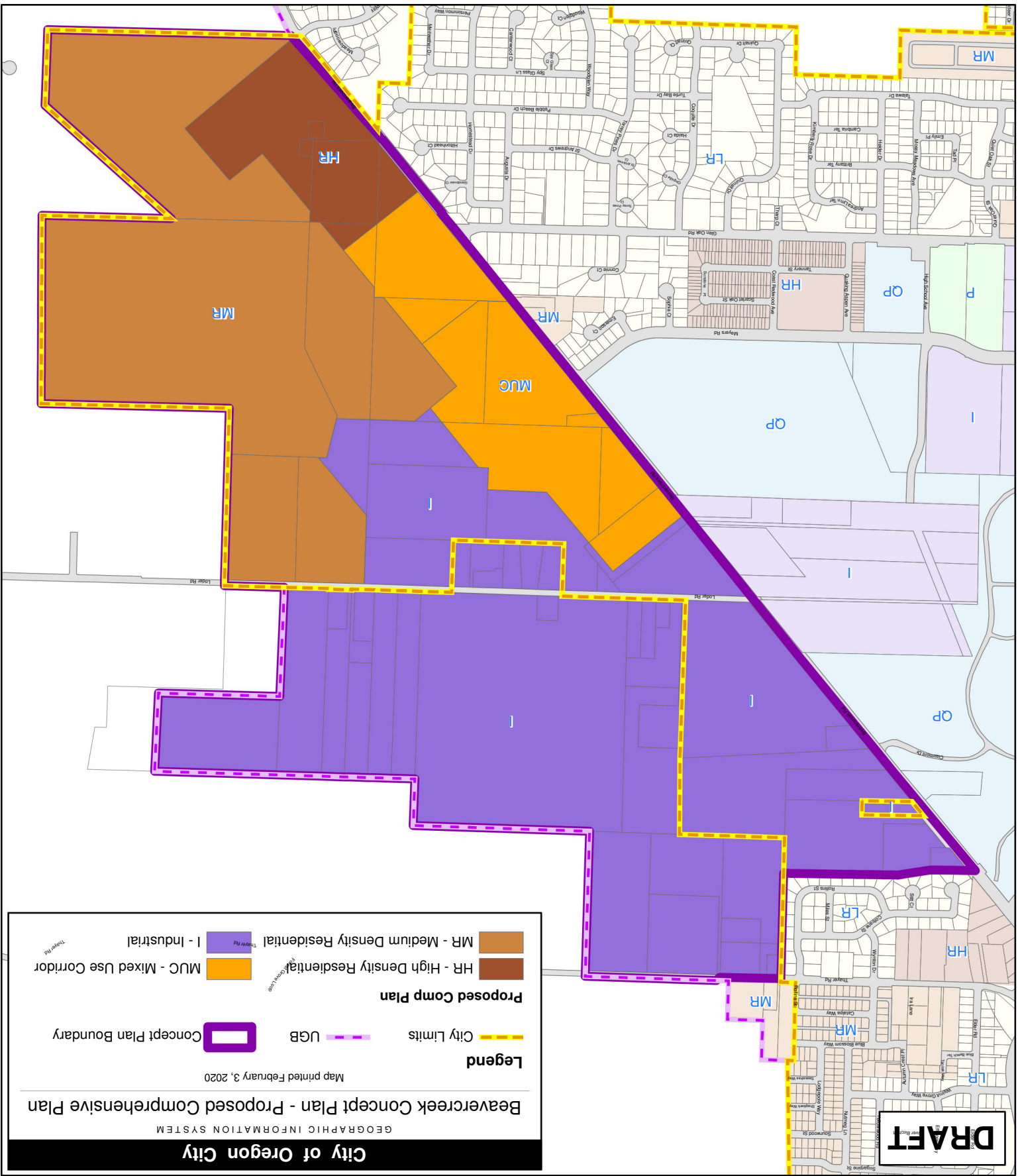
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www.orcity.org



DRAFT

- Legend**
- City Limits
 - UGB
 - Concept Plan Boundary
 - Proposed Comp Plan
 - HR - High Density Residential
 - MUC - Mixed Use Corridor
 - MR - Medium Density Residential
 - I - Industrial



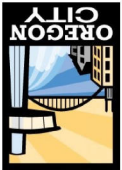
The City of Oregon City makes no representations, express or implied, as to the accuracy, completeness and timeliness of the information displayed. This map is not suitable for legal, engineering, or surveying purposes. Notification of any errors is appreciated.



1 inch = 900 feet
0 450 900 Feet

**LEG 19-0003
Beavercreek Road Concept Plan -
Zoning and Code Amendments**

City of Oregon City
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Oregon City, OR 97045
503-657-0891 phone
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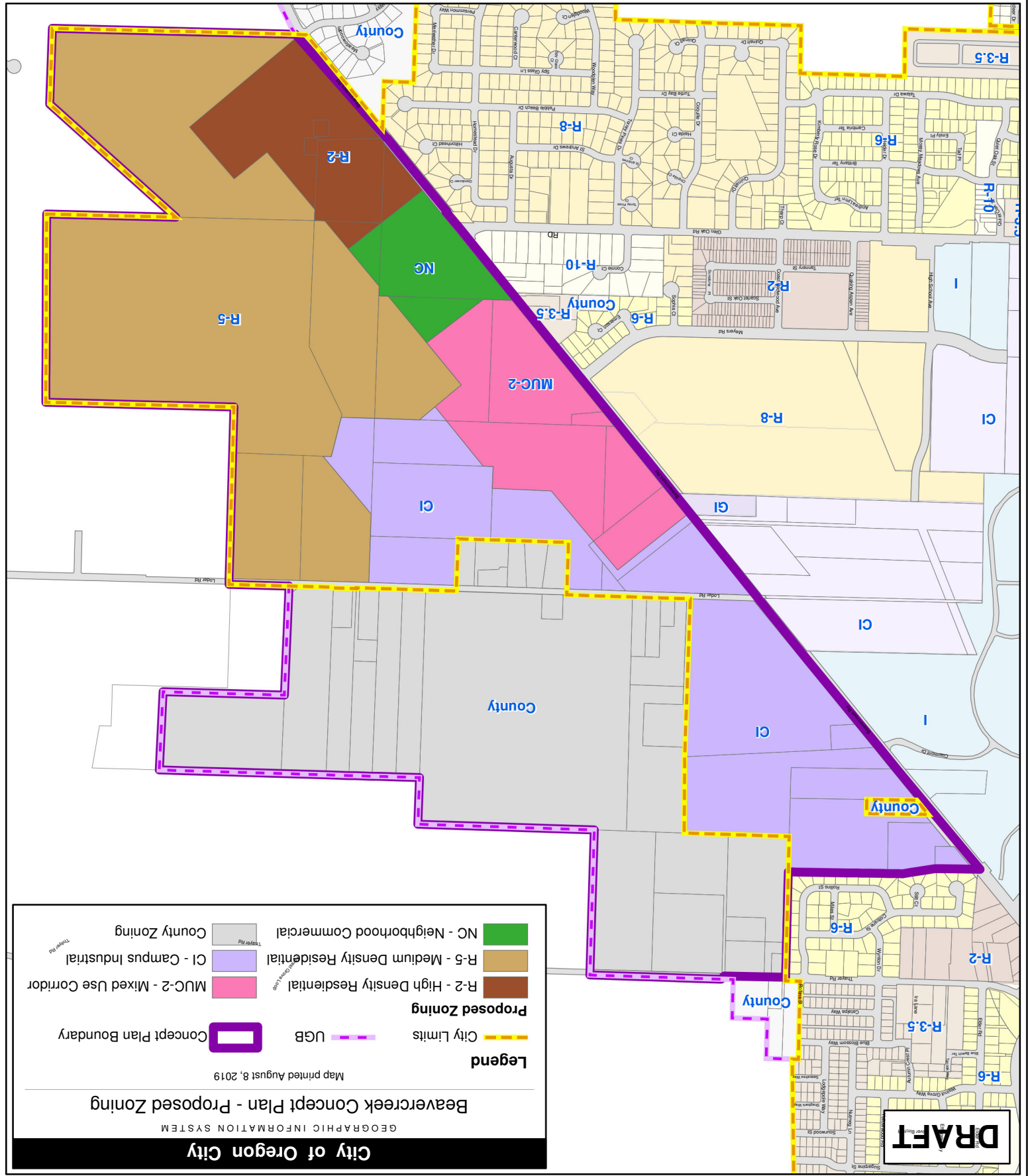
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Beaver Creek Concept Plan - Proposed Zoning

GEOGRAPHIC INFORMATION SYSTEM

Map printed August 8, 2019

- Legend**
- City Limits
 - UGB
 - Concept Plan Boundary
 - Proposed Zoning**
 - R-2 - High Density Residential
 - MUC-2 - Mixed Use Corridor
 - R-5 - Medium Density Residential
 - CI - Campus Industrial
 - NC - Neighborhood Commercial
 - County Zoning



LEG 19-0003

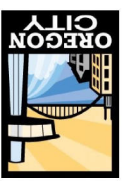
Beaver Creek Road Concept Plan - Zoning and Code Amendments

1 inch = 900 feet



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Oregon City Municipal Code Thimble Creek Concept Plan/Beavercreek Road Concept Plan Implementing Code Revised Draft – February 24, 2020 Planning Commission Meeting

Edited for grammar and code numbering- no substantial revisions were made from February 10, 2020 version

Chapter 16.08, Land Divisions - Process and Standards

16.08.025 - Preliminary plat—Required information.

- A. Site Plan. A detailed site development plan drawn to scale by a licensed professional based on an existing conditions plan drawn by a licensed surveyor. The site plan shall include the location and dimensions of lots, streets, existing and proposed street names, pedestrian ways, transit stops, common areas, parks, trails and open space, building envelopes and setbacks, all existing and proposed utilities and improvements including sanitary sewer, stormwater and water facilities, total impervious surface created (including streets, sidewalks, etc.), all areas designated as being within an overlay district and an indication of existing and proposed land uses for the site. (...)

16.08.040 – Park and Open Space Requirements.

Additional Public Park and Open Space Requirements in Thimble Creek Concept Plan area- residential development.

1. Each development within the Thimble Creek Concept Plan area that includes residential development must provide for land for neighborhood parks and open space during a development application which meets the requirements of this section.
 - a. The minimum amount of land in acres dedicated for South-Central Open Space-Neighborhood Park shall be calculated according to the following calculation: (2.6 persons per dwelling units) x (total number of dwelling units proposed in the development) x (4 acres) / (1,000 persons).
 - b. The minimum amount of land in acres dedicated for the East Ridge- Thimble Creek Conservation Area shall be 7.5 acres.
 - c. The entire acreage must be dedicated prior to approval or as part of the final plat or site plan development approval for the first phase of development.
 - d. If a larger area for a neighborhood park or open space-is proposed than is required based on the per-unit calculation described in subsection (A), the City must reimburse the applicant for the value of the amount of land that exceeds the required dedication based on the fee-in-lieu formula expressed in subsection (E)(1).

- e. The City may accept a fee-in-lieu as an alternative to this dedication at its discretion or may require a fee-in-lieu if a suitable site meeting the criteria described in subsection (F) of these provisions is not available within the development site. The calculation of the fee-in-lieu or other monetary contribution must meet the following standards.
 - i. The amount of the fee in lieu or other monetary contribution is set in dollars per acre of required dedication and is equivalent to the appraised cost of land within the development, as provided by a certified appraiser chosen by the City and with the assumption that zoning and other land use entitlement are in place.
 - ii. The fee-in-lieu or other monetary contribution must be paid prior to approval of the final plat or development approval for each phase of development.
- f. Neighborhood park and open space sites proposed for dedication must be located within the South-Central Open Space Network & East Ridge Thimble Creek Conservation Area Park locations as shown in Figure 16.08.040 -1- and meet the following standards:
 - a. South Central Open Space-Neighborhood Park
 - i. 30-foot ped/bikeway string along the east side of Center Parkway to be located in a shared-use path and will not be considered part of a pearl.
 - ii. Up to 4 pearls of various sizes spread along the open space network
 - iii. Min sizes pearl: 2 acres minimum.
 - iv. Maximum size pearl: none
 - v. Min combined size of all pearls: 10 acres
 - vi. Min average pearl width: 200 feet
 - vii. Min average pearl depth: 200 feet
 - viii. At least 5 acres to be developed with active recreation components
 - ix. The first pearl dedicated must be at least 3 acres in size
 - b. East Ridge- Thimble Creek Conservation Area
 - i. ½ of area between the Thimble Creek stream buffer and the 490-foot elevation ridgeline to be open space
 - ii. Two public viewpoints separated by at least 400 feet with a minimum size of .35 acre at less than 10% slope for each viewpoint. One of the viewpoints must be visible from a passing vehicle.
 - iii. 700-foot non-interrupted view corridor along open space from east edge of Ridge Parkway
 - iv. Provide a pedestrian-oriented forest trail from one view-point to another along the Ridge Parkway

Chapter 17.05- Definitions

Chapter 17.05.145 Beaver Creek Road Concept Plan

The Beaver Creek Road Concept Plan was renamed the Thimble Creek Concept Plan in 2020. Any reference to the Beaver Creek Road Concept Plan refers to the Thimble Creek Concept Plan.

Chapter 17.05.1277 Thimble Creek Concept Plan

The Beavercreek Road Concept Plan was renamed the Thimble Creek Concept Plan in 2020. Any reference to the Beavercreek Road Concept Plan refers to the Thimble Creek Concept Plan.

Chapter 17.10, R-5 Medium Density Residential District (East Mixed-Use Neighborhood subdistrict)

17.10.070 – Additional Standards for Thimble Creek Concept Plan Area

- A. Applicability. This section applies to all development in the R-5 district within the Thimble Creek Concept Plan area.
- B. Relationship of Standards. These standards apply in addition to and supersede the standards of the R-5 zone within the Thimble Creek Concept Plan area. In the event of a conflict, the standards of this section control.
- C. Southern Perimeter Transition. Along the southern boundary of the Thimble Creek Concept Plan area between Beavercreek Road and the eastern-most point of Tax Lot 00316, located on Clackamas County Map #32E15A, additional standards apply to create a perimeter transition.
 - 1. For all lots adjacent to the southern boundary and within 20 feet of the southern boundary, uses shall be limited to single-family detached residential and roads, parks, trails and open space.
 - 2. For all lots adjacent to the southern boundary and within 20 feet of the southern boundary, minimum lot size for residential uses shall be 6,000 square feet.
 - 3. All primary structures shall be set back a minimum of 40 feet from the southern boundary for all lots adjacent to the southern boundary and within 20 feet of the southern boundary.
 - 4. Within the 40-foot wide setback, a combination of landscaping and screening shall be provided to buffer the perimeter. The landscaping and screening shall meet one of the two standards:
 - a. Utilize existing vegetation in compliance with OCMC 17.41 resulting in preservation or replanting of a minimum of 12 inches of tree diameter inches per lot with trees spaced an average of one tree for every 30 linear feet along the southern property line. These trees may be located on the residential lots or an abutting tract created for tree preservation consistent with OCMC 17.41.050.B or other similar landscaping or open space purpose.
 - b. Provide a combination of landscaping and screening to include:
 - (i) A minimum of 12 inches of tree diameter inches per lot, or a minimum of an average of one tree with minimum caliper of two inches DBH for every 30 linear feet along the southern property line, whichever is greater; and
 - (ii) A minimum six-foot-tall, decorative, sight-obscuring fence or wall running parallel to the southern boundary. The fence or wall shall be constructed of wood, stone, rock, or brick. Other durable materials may be substituted with Planning Director's approval. Chainlink fencing with slats shall be not allowed to satisfy this standard.
 - 5. An alternative southern perimeter transition may be proposed as part of a Master Plan per OCMC 17.65, provided it is consistent with the goals of the adopted Thimble Creek Concept Plan.

Chapter 17.12, R-2 High-Density Residential District (West Mixed-Use Neighborhood subdistrict)

17.12.060 – Additional Standards for Thimble Creek Concept Plan Area

- A. Applicability. This section applies to all development in the R-2 district within the Thimble Creek Concept Plan area.
- B. Relationship of Standards. These standards apply in addition to and supersede the standards of the R-2 zone within the Thimble Creek Concept Plan area. In the event of a conflict, the standards of this section control.
- C. Uses.
 - 1. Live/work dwellings are a permitted use.
 - 2. As part of a master plan when authorized by and in accordance with the standards contained in OCMC 17.65, up to five thousand square feet of commercial space as a stand-alone building or part of a larger mixed-use building, to be used for:
 - a. Restaurants, eating and drinking establishments without a drive-through;
 - b. Services, including personal, professional, educational and financial services; laundry and dry-cleaning; or
 - c. Retail trade, including grocery, hardware and gift shops, bakeries, delicatessens, florists, pharmacies, specialty stores, and similar.
- D. Sustainability density bonus. The maximum net density allowed in 17.12.050.B may be increased by up to twenty percent, or a maximum net density of 26.2 du/acre, for projects incorporating the following sustainability features. For every feature provided below, net density may be increased by up to five percent, with a maximum twenty percent bonus available.
 - 1. A vegetated eco-roof for a minimum of thirty percent of the total roof surface.
 - 2. For a minimum of seventy-five percent of the total roof surface, a white roof with a Solar Reflectance Index (SRI) of 78 or higher if the roof has a 3/12 roof pitch or less, or SRI of 29 or higher if the roof has a roof pitch greater than 3/12.
 - 3. A system that collects rainwater for reuse on-site (e.g., site irrigation) designed to capture an amount of rainwater equivalent to the amount of stormwater anticipated to be generated by 50% of the total roof surface.
 - 4. An integrated solar panel system for a minimum of thirty percent of the total roof or building surface.
 - 5. Orientation of the long axis of the building within thirty degrees of the true east-west axis, with unobstructed solar access to the south wall and roof.
 - 6. Windows located to take advantage of passive solar collection and include architectural shading devices (such as window overhangs) that reduce summer heat gain while encouraging passive solar heating in the winter.
 - 7. Fifty percent or more of landscaped area covered by native plant species selected from the Oregon City Native Plant List.
 - 8. Provision of pedestal or wall-mounted Level 2, two hundred forty-volt electric vehicle chargers, or similar alternative fueling stations as approved by the planning director, at a

- minimum ratio of one station per fifty vehicle parking spaces up to a maximum of five such stations.
9. Building energy efficiency measures that will reduce energy consumption by thirty percent based on HERS rating for building, including efficient lighting and appliances, efficient hot water systems, solar orientation or solar water heating, solar photovoltaic panels, geothermal, and offsetting energy consumption with alternative energy.
 10. Use of Forest Stewardship Council certified wood Reclaimed Wood for a minimum of thirty percent of wood products used in the site development.
 11. Permeable paving, which may include porous concrete, permeable pavers, or other pervious materials as approved by the city engineer, for a minimum of thirty percent of all paved surfaces.
 12. Buildings LEED-certified by the U.S. Green Building Council at any level shall be allowed to increase net density by the full twenty percent.

Chapter 17.24, NC Neighborhood Commercial District (Main Street subdistrict)

17.24.050 – Additional Standards for Thimble Creek Concept Plan Area

- A. Applicability. This section applies to all development in the NC district within the Thimble Creek Concept Plan area.
- B. Relationship of Standards. These standards apply in addition to and supersede the standards of the NC zone within the Thimble Creek Concept Plan area. In the event of a conflict, the standards of this section control.
- C. Uses.
 1. All uses permitted per OCMC 17.24.020.A and B, including grocery stores, are limited to a maximum footprint for a stand-alone building with a single store or multiple buildings with the same business not to exceed ten thousand square feet, unless otherwise restricted in this chapter.
 2. Residential uses are permitted subject to limitations in OCMC 17.24.050.E, and are not subject to OCMC 17.29.020.M, OCMC 17.29.020.N, and OCMC 17.24.020.D.
 3. Artisan and specialty goods production is permitted, constituting small-scale businesses that manufacture artisan goods or specialty foods and makes them available for purchase and/or consumption onsite, with an emphasis on direct sales rather than the wholesale market. Examples include: candy, fruit and vegetable preserving and specialty foods, bakeries and tortilla manufacturing; artisan leather, glass, cutlery, hand tools, wood, paper, ceramic, textile and yarn products; microbreweries, microdistilleries, and wineries. All uses shall provide either:
 - a. A public viewing area that includes windows or glass doors covering at least twenty-five percent of the front of the building face abutting the street or indoor wall, allowing direct views of manufacturing; or
 - b. A customer service space that includes a showroom, tasting room, restaurant, or retail space.
 4. Drive-throughs are prohibited.

5. Gas stations are prohibited.

D. Dimensional standards.

1. Maximum building height shall be sixty feet or five stories, whichever is less.

2. Minimum building height shall be twenty-five feet or two stories, whichever is less, except for accessory structures or buildings under one thousand square feet.

3. Maximum corner side yard setback abutting a street shall be five feet.

4. Minimum floor area ratio (FAR) shall be 0.5.

a. Required minimum FARs shall be calculated on a project-by-project basis and may include multiple contiguous blocks. In mixed-use developments, residential floor space will be included in the calculations of floor area ratio to determine conformance with minimum FAR.

b. An individual phase of a project shall be permitted to develop below the required minimum FAR provided the applicant demonstrates, through covenants applied to the remainder of the site or project or through other binding legal mechanism, that the required FAR for the project will be achieved at project build-out.

5. Minimum required landscaping: Ten percent. Required landscaping areas may include:

a. Landscaping within a parking lot.

b. Planter boxes.

c. Eco roofs.

d. Paved courtyard or plaza with at least twenty-five percent of the area used for landscaping, planter boxes, and/or water features including shade trees planted at the ratio of one tree for every 500 square feet of urban plaza area.

E. Residential Uses. Residential uses, excluding live/work dwellings, are subject to the following additional standards:

1. All residential uses shall be proposed along with any nonresidential use allowed in the NC district in a single development application.

2. All ground-floor residential uses, with the exception of entrances for upper-story residential uses, shall be set back a minimum of 150 feet from the property line along Glen Oak Road.

3. Ground-floor residential building square footage shall not exceed fifty percent of the ground-floor nonresidential building square footage onsite.

4. Ground-floor residential uses shall achieve a minimum net density of 17.4 units per acre, with no maximum net density.

5. Any new lots proposed for exclusive residential use shall meet the minimum lot size and setbacks for the R-2 zone for the proposed residential use type.

6. Upper-story residential uses are permitted with no limitations.

F. Site design standards.

1. In lieu of complying with OCMC 17.62.050.B.1, parking areas shall be located behind the building façade that is closest to the street or below buildings and shall not be located on the sides of buildings or between the street and the building façade that is closest to the street.

Chapter 17.29, MUC Mixed-Use Corridor District (Mixed Employment Village subdistrict)

17.29.080 – Additional Standards for Thimble Creek Concept Plan Area

- A. Applicability. This section applies to all development in the MUC-2 district within the Thimble Creek Concept Plan area.
- B. Relationship of Standards. These standards apply in addition to and supersede the standards of the MUC-2 zone within the Thimble Creek Concept Plan area. In the event of a conflict, the standards of this section control.
- C. Uses.
 - 1. Light industrial uses limited to the design, light manufacturing, processing, assembly, packaging, fabrication and treatment of products made from previously prepared or semi-finished materials are permitted.
 - 2. The following permitted uses, alone or in combination, shall not exceed twenty percent of the total gross floor area of all of the other permitted and conditional uses within the development site. The total gross floor area of two or more buildings may be used, even if the buildings are not all on the same parcel or owned by the same property owner, as long as they are part of the same development site, as determined by the community development director.
 - a. Restaurants, eating and drinking establishments;
 - b. Services, including personal, professional, educational and financial services; laundry and dry-cleaning;
 - c. Retail trade, including grocery, hardware and gift shops, bakeries, delicatessens, florists, pharmacies, specialty stores, marijuana, and similar, provided the maximum footprint for a stand-alone building with a single store does not exceed twenty thousand square feet; and
 - d. Grocery stores provided the maximum footprint for a stand-alone building does not exceed forty thousand square feet.
 - 3. Drive-throughs are prohibited.
 - 4. Gas stations are prohibited.
 - 5. Bed and breakfast and other lodging facilities for up to ten guests per night are a conditional use.
 - 6. Tax Lot 00800, located on Clackamas County Map #32E10C has a special provision to allow the multifamily residential use permitted as of (Ordinance effective date) as a permitted use. This property may only maintain and expand the current use.
- D. Dimensional standards.
 - 1. Minimum floor area ratio (FAR) shall be 0.35.
 - 2. Maximum allowed setback for corner side yard abutting street shall be five feet.
- E. Residential uses. All residential uses, except live/work units, are limited to upper stories only, and may only be proposed as part of a single development application incorporating nonresidential uses allowed in the MUC-2 district on the ground floor.

Chapter 17.37 CI Campus Institutional District (North Employment Campus subdistrict)

17.37.060 – Additional Standards for Thimble Creek Concept Plan Area

- A. Applicability. This section applies to all development in the CI district within the Thimble Creek Concept Plan area.
- B. Relationship of Standards. These standards apply in addition to and supersede the standards of the CI zone within the Thimble Creek Concept Plan area. In the event of a conflict, the standards of this section control.
- C. Uses.
 - 1. The following permitted use supersedes the use allowed in OCMC 17.37.020.L. Retail sales and services, including but not limited to eating establishments for employees (i.e. a cafe or sandwich shop) or retail sales of marijuana pursuant to OCMC 17.54.110, located in a single building or in multiple buildings that are part of the same development shall be limited to a maximum of five thousand square feet in a single outlet or twenty thousand square feet in multiple outlets that are part of the same development project.
 - 2. The following permitted use supersedes the use allowed in OCMC 17.37.020.M. Retail and professional services including but not limited to financial, insurance, real estate and legal offices limited to a maximum of five thousand square feet in a single outlet or twenty thousand square feet in multiple outlets that are part of the same development project. Financial institutions shall primarily serve the needs of businesses and employees within the development, and drive-throughs are prohibited.
 - 3. Offices as an accessory to a permitted use are permitted.
 - 4. Parks, trails, urban agriculture and community garden uses are permitted.
 - 5. Distribution and warehousing are prohibited.
 - 6. Tax Lots 00300, 00301, 00302, 00303, 00400 and 00401, located on Clackamas County Map #32E10C have a special provision to allow single-family detached residential use as a permitted use. This property may only maintain and expand the current use.
- D. Buffer zone treatment required in OCMC 17.37.040.D shall include:
 - 1. Landscaping shall be installed to provide screening of views of parking, loading and vehicle maneuvering areas, refuse/recycling collection areas, outdoor storage, and building façades. Buffer zone treatment may substitute for perimeter parking lot landscaping required per OCMC 17.52.060.C. Landscaping shall include:
 - a Trees a minimum of two caliper inches dbh planted on average 30 feet on center. Existing mature vegetation may be used to meet this standard if it achieves a similar level of screening as determined by the Planning Director.
 - b An evergreen hedge screen of thirty to forty-two inches high or shrubs spaced no more than 4 four feet apart on average.
 - c Ground cover plants, which includes grasses covering all landscaping areas. Mulch (as a ground cover) shall only be allowed underneath plants at full growth and within two feet of the base of a tree and is not a substitute for ground cover.
 - 2. Buffer shall incorporate a berm no less than three feet in height above the existing grade, constructed with a slope no steeper than 3:1 on all sides. The berm shall be planted with plant materials to prevent erosion.

3. A minimum six-foot-tall, decorative, sight-obscuring fence or wall. The fence or wall shall be constructed of materials commonly used in the construction of fences and walls, such as wood, stone, rock, brick, or other durable materials. Chainlink fencing with slats shall be not allowed to satisfy this standard.
- E. Outdoor storage permitted per OCMC 17.37.050.D shall be limited to a maximum of twenty-five percent of the net developable area.
- F. Power line corridors. A distinct feature of this district is the power line corridors north of Loder Road that define open corridors.
 1. Within the power line corridors, a minimum 30-foot wide open space and public access easement shall be granted to the City. The easement shall run parallel to the power line corridor and align with easements on abutting properties to create a continuous corridor.
 2. The easement may be shown on the final plat or recorded as a separate easement document. In either case, the easement must be recorded prior to issuance of a certificate of occupancy.
 3. Open spaces within the power line corridors, including the open space easements, may be counted as landscaping satisfying the requirements of OCMC 17.62.050.A.
 4. Additional uses encouraged in the power line corridors include community gardens, urban agriculture, stormwater and water quality features, plant nurseries, and solar farms.
- G. Sustainability features. Each development must incorporate six of the following sustainability features.
 1. A vegetated eco-roof for stormwater management. An eco-roof covering twenty to forty percent of the total roof area shall count as one feature, and a roof covering more than forty percent of the total roof area shall count as two features.
 2. A white roof with a Solar Reflectance Index (SRI) of 78 or higher if the roof has a 3/12 roof pitch or less, or SRI of 29 or higher if the roof has a roof pitch greater than 3/12 covering a minimum of seventy-five percent of the total roof area.
 3. A system that collects rainwater for reuse on-site (e.g., site irrigation) designed to capture an amount of rainwater equivalent to the amount of stormwater anticipated to be generated by 50% of the total roof surface.
 4. An integrated solar panel system mounted on the roof or anywhere on site. A solar system with surface area equivalent to a minimum of twenty to forty percent of the total roof area shall count as one feature, and a solar system with surface area equivalent to forty percent or more of the total roof area shall count as two features.
 5. Use of native plant species selected from the Oregon City Native Plant List. Native plantings that cover twenty to thirty percent of the total landscaped area shall count as one feature, and plantings that cover thirty percent or more of the total landscaped area shall count as two features.
 6. Provision of pedestal or wall-mounted Level 2, two hundred forty-volt electric vehicle chargers, or similar alternative fueling stations as approved by the planning director, at a minimum ratio of one station per fifty vehicle parking spaces up to a maximum of five such stations.
 7. Permeable paving, which may include porous concrete, permeable pavers, or other pervious materials as approved by the city engineer. Permeable paving totaling twenty to forty

percent of all paved surfaces shall count as one feature, and permeable paving of forty percent or more of all paved surfaces shall count as two features.

8. Buildings LEED-certified by the U.S. Green Building Council at any level shall be counted as three features.

Chapter 17.62 Site Plan and Design Review

17.62.058 - Additional Public Park and Open Space Requirements in Thimble Creek Concept Plan area-non-residential development.

1. New non-residential development creating new commercial or industrial space will contribute to the creation of the parks and open space within the Thimble Creek Concept Plan area during a development application. Each non-residential development creating new commercial or industrial space will provide a fee in lieu to the city to proportionally support the acquisition and interim use of needed park and open space land within the Concept Plan boundary.

- a. The fee in lieu will be set by the City Commission and adopted yearly in the city's fee schedule. The fee shall only be used by the city for park, trail and open space acquisition and interim site development. [proposed fee \$1,000 per 5,000 square feet of new commercial space]
- b. The fee-in-lieu or other equivalent monetary contribution, approved by the Community Development Director, must be paid prior to approval of the Certificate of Occupancy.

17.62.059- Additional Public Park and Open Space Requirements in Thimble Creek Concept Plan area-residential development.

1. Each development within the Thimble Creek Concept Plan area that includes residential development must provide for land for neighborhood parks and open space during a development application which meets the requirements of this section.

- a. The minimum amount of land in acres dedicated for South-Central Open Space-Neighborhood Park shall be calculated according to the following calculation: (2.6 persons per dwelling units) x (total number of dwelling units proposed in the development) x (4 acres) / (1,000 persons).
- b. The minimum amount of land in acres dedicated for the East Ridge- Thimble Creek Conservation Area shall be 7.5 acres.
- c. The entire acreage must be dedicated prior to approval or as part of the final plat or site plan development approval for the first phase of development.
- d. If a larger area for a neighborhood park or open space-is proposed than is required based on the per-unit calculation described in subsection (A), the City must reimburse the applicant for the value of the amount of land that exceeds the required dedication based on the fee-in-lieu formula expressed in subsection (E)(1).
- e. The City may accept a fee-in-lieu as an alternative to this dedication at its discretion or may require a fee-in-lieu if a suitable site meeting the criteria described in subsection (F) of these

provisions is not available within the development site. The calculation of the fee-in-lieu or other monetary contribution must meet the following standards.

- i. The amount of the fee in lieu of other monetary contribution is set in dollars per acre of required dedication and is equivalent to the appraised cost of land within the development, as provided by a certified appraiser chosen by the City and with the assumption that zoning and other land use entitlement are in place.
- ii. The fee-in-lieu or other monetary contribution must be paid prior to approval of the final plat or development approval for each phase of development.
- f. Neighborhood park and open space sites proposed for dedication must be located within the South-Central Open Space Network & East Ridge Thimble Creek Conservation Area Park locations as shown in Figure 17.62.059 -1- and meet the following standards:
 - c. South Central Open Space-Neighborhood Park
 - i. 30-foot ped/bikeway string along the east side of Center Parkway to be located in a shared-use path and will not be considered part of a pearl.
 - ii. Up to 4 pearls of various sizes spread along the open space network
 - iii. Min sizes pearl: 2 acres minimum.
 - iv. Maximum size pearl: none
 - v. Min combined size of all pearls: 10 acres
 - vi. Min average pearl width: 200 feet
 - vii. Min average pearl depth: 200 feet
 - viii. At least 5 acres to be developed with active recreation components
 - ix. The first pearl dedicated must be at least 3 acres in size
 - d. East Ridge- Thimble Creek Conservation Area
 - v. ½ of area between the Thimble Creek stream buffer and the 490-foot elevation ridgeline to be open space
 - vi. Two public viewpoints separated by at least 400 feet with a minimum size of .35 acre at less than 10% slope for each viewpoint. One of the viewpoints must be visible from a passing vehicle.
 - vii. 700-foot non-interrupted view corridor along open space from east edge of Ridge Parkway
 - viii. Provide a pedestrian-oriented forest trail from one view-point to another along the Ridge Parkway

17.54.120 -Home Occupations/Cottage Industry- Thimble Creek Concept Plan Area

Home occupations and Cottage Industries within the Thimble Creek Concept Plan Area are encouraged and allowed an expanded level of uses to support job creation in Oregon City and shall comply with all of the following:

A. Up to 3 offsite employees are allowed to work at the residence. Offsite employees may work onsite Monday-Friday 7:00 am-6:00 pm and Saturday 9:00 am to 5:00 pm;

B. All business conducted on-site shall be conducted within the home or accessory structure;

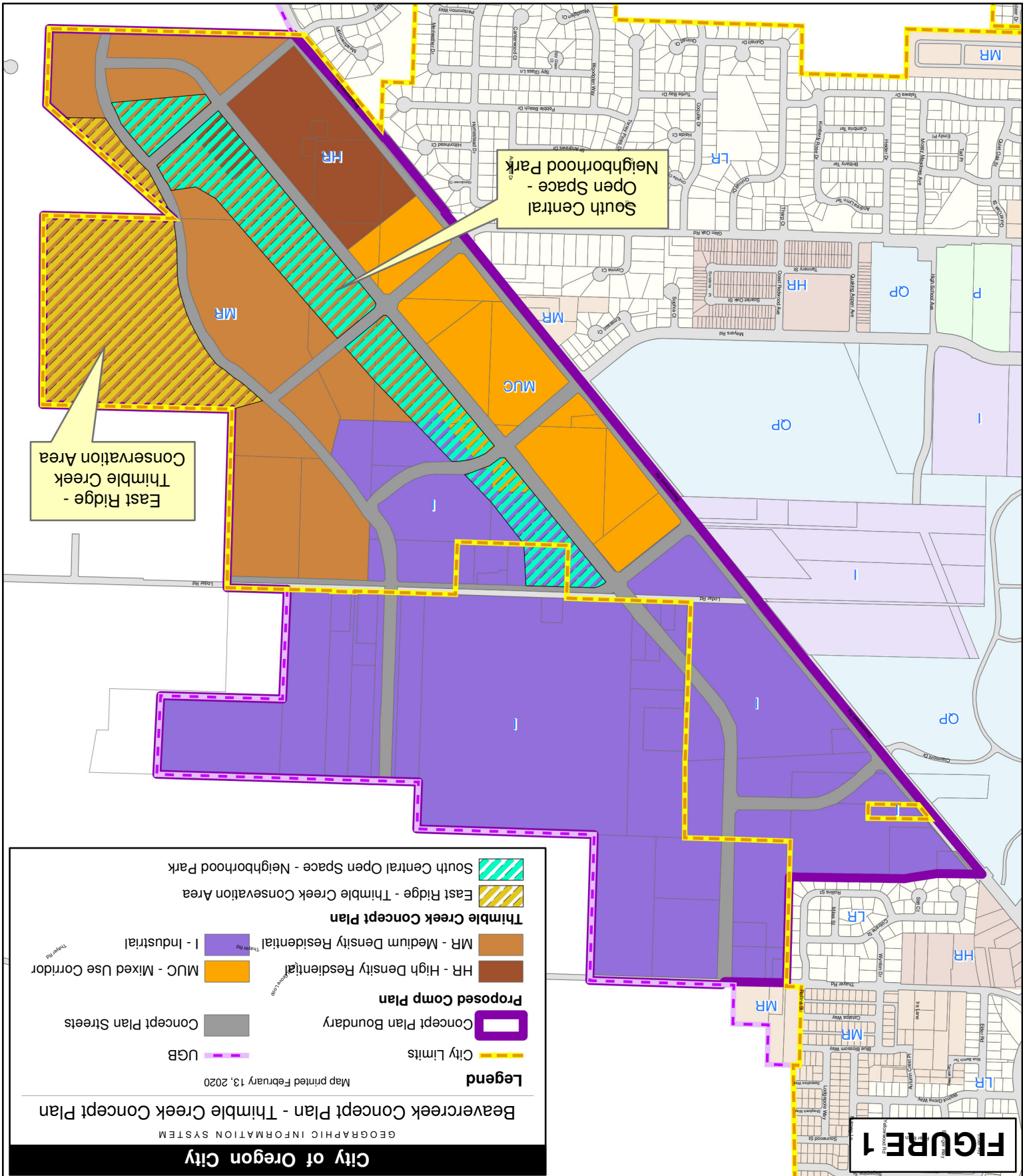
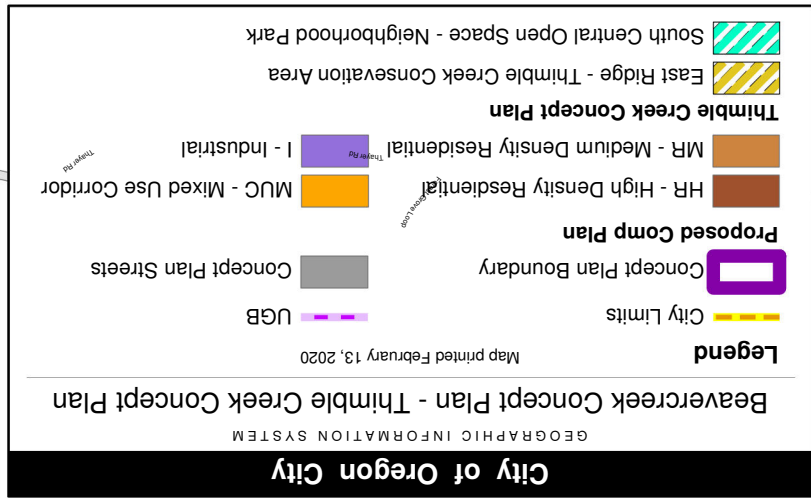
C. No outdoor storage of materials associated with the business shall occur on-site;

D. Not more than one-half of the square footage of the primary dwelling is devoted to such use;

E. One commercial vehicle associated with the business that has no more than 15 seats and does not require a commercial driver's license and one trailer associated with the business no more than 20 feet in length may be stored onsite outside of an accessory building. No commercial vehicles or trailers associated with the business may be stored in the Right of Way;

F. Any dedicated retail space located within the residence may be no larger than 300 square feet. Retail hours may not exceed Monday-Friday 7:00 am-6:00 pm and Saturday 9:00 am to 5:00 pm; The following retail uses are not allowed in this district: food, beverage, and/or marijuana sales.

FIGURE 1



The City of Oregon City makes no representations, express or implied, as to the accuracy, completeness and timeliness of the information displayed. This map is not suitable for legal, engineering, or surveying purposes. Notification of any errors is appreciated.



1 inch = 900 feet

0 450 900 Feet

Beaver Creek Road Concept Plan - Thimble Creek Concept Plan

Plot date: February 13, 2020

Map name: Beaver Creek Concept Plan - Thimble Creek Concept Plan - 8x10P - 20200213.pdf



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THIMBLE CREEK CONCEPT PLAN

Readopted x,xx,2020 ORD 20-xxxx

The Beavercreek Road Concept Plan was renamed Thimble Creek Concept Plan as part of the Zoning and Code adopting process in the spring of 2020. The previously adopted name was geographically confusing to the community. Thimble Creek is located to the east of the Concept Plan area and flows north before it empties into Abernethy Creek. City documents that refer to the Beavercreek Road Concept Plan should now refer to the revised name: Thimble Creek Concept Plan when opportunities arise to update each document.

The following items further refine and replace elements, if conflicting, in the 2008 adopted document:

Master Planning Requirement

Senate Bill 1051, passed in 2017, requires jurisdictions to provide clear and objective standards for housing. Clear and objective standards are metric based and rely on analysis using measurable standards such as height, setback, material selection, window transparency, and other architectural features that can be measured. The 2008 Beavercreek Concept Plan looked at implementation through a more subjective Master Plan process that requires applicants to show how their proposed development is consistent with the adopted plan. This would occur through a Type III Master Plan application reviewed by the Planning Commission at a public hearing. The code amendment package was written to be clear and objective to show consistency and compliance with SP 1051. Therefore, while using the Mastering Planning process to seek development approval will remain an option for applicants to pursue, it will no longer be a requirement for development within the Concept Plan area.

Speed Zones within the Concept Plan

Senate Bill 558 allows all cities and counties the authority to establish, by ordinance, a designated speed for a right of ways under their jurisdiction. The measure specifies that the designated speed must be five miles per hour slower than the statutory speed, the road is located in a residential district and not an arterial street, and that the city provides appropriate signage of the designated speed. Twenty miles per hour signage on residential streets in the Concept Plan boundary and the Glen Oak Commercial Main Street is recommended and an ideal area to test the new option for reduced speed limits. Implementation would occur at the time of road construction/dedication.

Bike Lanes on Collector Streets

The adopted bike lane width for collector streets, including the Center and Ridge Parkways in the Concept Plan area appears to include a 5-foot wide bike lane. This was a standard dimension in 2006 when the plan was designed, but best practices today recommend a wider bike lane of 8-9.5 feet for a more comfortable and safer experience. The need for increased bike safety, green infrastructure and neighborhood identity should be a balanced approach in the final street design of the area. Therefore, instead of adding additional Right of Way to Collector Streets to account for the need for wider protected or buffered bike lanes and potentially impact the neighborhood feel of the area, other elements should be reduced or removed to accommodate wider bike lanes within the adopted ROW.

Collector Streets

The adopted Concept Plan provides for a robust collector street network. Collector Streets are low-to-moderate-capacity roads that serve to move traffic from local streets to arterial roads. Unlike arterials, collector roads are designed to provide access to residential properties. To ensure that the city is not building wider roads where they are not needed, which could impact the neighborhood feel of the community, Collector Street segments should be verified at the time of development review to determine if there are sufficient traffic volumes for the designation and design, especially when abutting single-family residential development. If there is not enough traffic volume to justify construction a Collector Street, the City can choose to build the street to local street standards.

South-Central Open Space Shared Use Path

As development may happen in phases, the approach for the linear oriented South-Central Open Space park is through a pearl and string approach. The park peals may vary in size but are connected by a 30-foot-wide string which includes a shared-use path along the east side of Center Parkway as identified in the Transportation System Plan as S16 instead of the abutting sidewalk and planter strip. This shared-use path shall be dedicated and constructed at the time of development as proportional to the proposal.

Beavercreek Road Design

Twelve years after Concept Plan adoption, the City determined that a fresh look was needed to see if the adopted 3-lane design of Beavercreek Road still reflected the community vision compared to a 5-lane section (2 lanes in each direction and a center turn lane) and determine what type of intersection control (roundabouts or traffic lights) along Beavercreek Road was appropriate. After additional study and public outreach, the City Commission determined that the design of Beavercreek Road along the concept plan boundary should be revised to utilize traffic signals at all major intersections and transition from a 5-lane section to a 3-lane section south of the Beavercreek/ Meyers Road intersection and investigate if a city-lead capital improvement project is feasible for this area.

The revised Right-of-way cross-section of Beavercreek Road abutting the Concept Plan boundary shall be 120 feet to accommodate the need for additional vehicular lanes, wider/safer bike lanes, and access control mediums. The Right-of-Way needed to complete the 3-lane section of Beavercreek Road may be reduced at the time of development review if the proposed cross-section meets the goals and intent of the Concept Plan.

Alternative Plan

Per OCMC 16.12.016 - Street design, the adopted Thimble Creek Concept Plan is considered the alternate street plan for the purposes of development review.

Amendment to the Parks Master Plan

The Thimble Creek Concept Plan prioritizes an open space network that preserves identified environmental resource areas, parks, trails, and viewpoints, including the South-Central Open Space Network and the Low Impact Conservation Area upslope areas of Thimble Creek on the eastern edge of the district. The South-Central Open Space Network and East Ridge Low Impact Conservation Area through required parkland dedication at the time of development and protect trail corridors throughout the district's open space system by also requiring the dedication of easements at the time of development.

Each development within the Thimble Creek Concept Plan area that includes residential development must provide for land or fee in lieu for neighborhood parks and open space during a development application which meets the requirements of the plan. The acquisition code is not for the construction of these elements, only for the dedication of land and potentially some interim surface preparation and use. System Developments Fees would be used for the substantial construction of parkland acquired by this code. Modification to park elements or location are to be processed through a Type III Land use Review process to show that the modified elements meet or exceed the intent and vision of the Thimble Creek Concept Plan. The figures associated with each park space below are general locations, final park location shall be determined at time of development and parkland acquisition

South Central Open Space-Neighborhood Park

As development may happen in phases, the approach for the linear oriented south-central open space park is through a pearl and string approach. The park peals may vary in size but are connected by a 30-foot-wide string which includes a shared-use path. The park includes the following elements:

- 30-foot ped/bikeway string along the east side of Center Parkway to be located in a shared-use path and will not be considered part of a pearl.
- Up to 4 pearls of various sizes spread along the open space network
- Min sizes pearl: 2 acres minimum.
- Maximum size pearl: none
- Min combined size of all pearls: 10 acres
- Min average width of each park pearl: 200 feet
- Min average depth of each park pearl: 200 feet
- At least 5 acres to be developed with active recreation components
- The first park pearl dedicated shall be at least 3 acres in size

East Ridge- Thimble Creek Conservation Area

The East Ridge is a beautiful edge to the site that should be planned as a publicly accessible amenity and protected resource area. The natural resource inventory identified important resources and opportunities for habitat restoration in the riparian areas of Thimble Creek. The park is identified primarily as an open space area with space for habitat restoration, trails, viewpoints, educational and passive recreational opportunities. The park includes the following elements:

- Minimum of $\frac{1}{2}$ of area between the Thimble Creek stream buffer and the 490-foot elevation ridgeline to be open space.
- Two public viewpoints separated by at least 400 feet with a minimum size of .35 acre at less than 10% slope for each viewpoint. One of the viewpoints must be visible from a passing vehicle.
- Minimum 700-foot non-interrupted view corridor along open space from east edge of Ridge Parkway.
- Provide a pedestrian-oriented forest trail from one viewpoint to another along the Ridge Parkway.



Thimble Creek Concept Plan

Amendment to the Trails Master Plan

The following Shared Use paths identified in the 2013 Transportation System Plan (TSP) are also adopted into the Oregon City Trails Master Plan.

Project #	Project Description	Project Extent	Project Elements	Priority
S13	Holly Lane Shared-Use Path	Donovan Road to Maple Lane Road	Add a shared-use path on the east side of the street	Long-term Phase 2
S14	Maple Lane-Thayer Shared-Use Path	Maple Lane Road to Thayer Road	Add a shared-use path on the east side of the Holly Lane extension between Maple Lane and Thayer.	Long-term
S15	Thayer-Loder Shared-Use Path	Thayer Road to Loder Road	Add a shared-use path on the east side of the Holly Lane extension between Thayer and Loder.	Long-term
S16	Loder-Timbersky Shared-Use Path	Loder Road to Timbersky Way	Add a shared-use path on the east side of the Holly Lane extension between Loder and Timbersky.	Long-term Phase 3
S17	Clairmont Drive Shared-Use Path Beavercreek Road to UGB	Beavercreek Road and the UGB	Add a shared-use path on the north side of the Clairmont Drive extension between.	Long-term Phase 3
S18	Loder Road Shared-Use Path	Glen Oak Road to Holly Lane Extension	Add a shared-use path on the south/east side of the Loder Road extension between Glen Oak Road and the Holly Lane extension.	Long-term
S19	Meyers Road Extension Shared-Use Path	Holly Lane Extension to UGB	Add a shared-use path on the north side of the Meyers Road extension between the Holly Lane extension and the UGB.	Long-term Phase 3
S20	Timbersky Extension Shared-Use Path	Pebble Beach Drive to Meadow Lane Extension	Add a shared-use path on the east side of Beavercreek Road and the north side of the Timbersky Way extension between Pebble Beach Drive and the Meadow Lane Extension Shared-use Path	Long-term Phase 3
S21	Meadow Lane Extension Shared-use Path	Old Acres Lane to UGB (north of Loder Road)	Add a shared-use path on the east side of the Meadow Lane extension from Meadow Lane to the Glen Oak Road extension. Between the Glen Oak Road extension and the UGB (north of Loder Road) the shared-use path will run along the west side of the ridge	Long-term Phase 3

Trail Design Standards

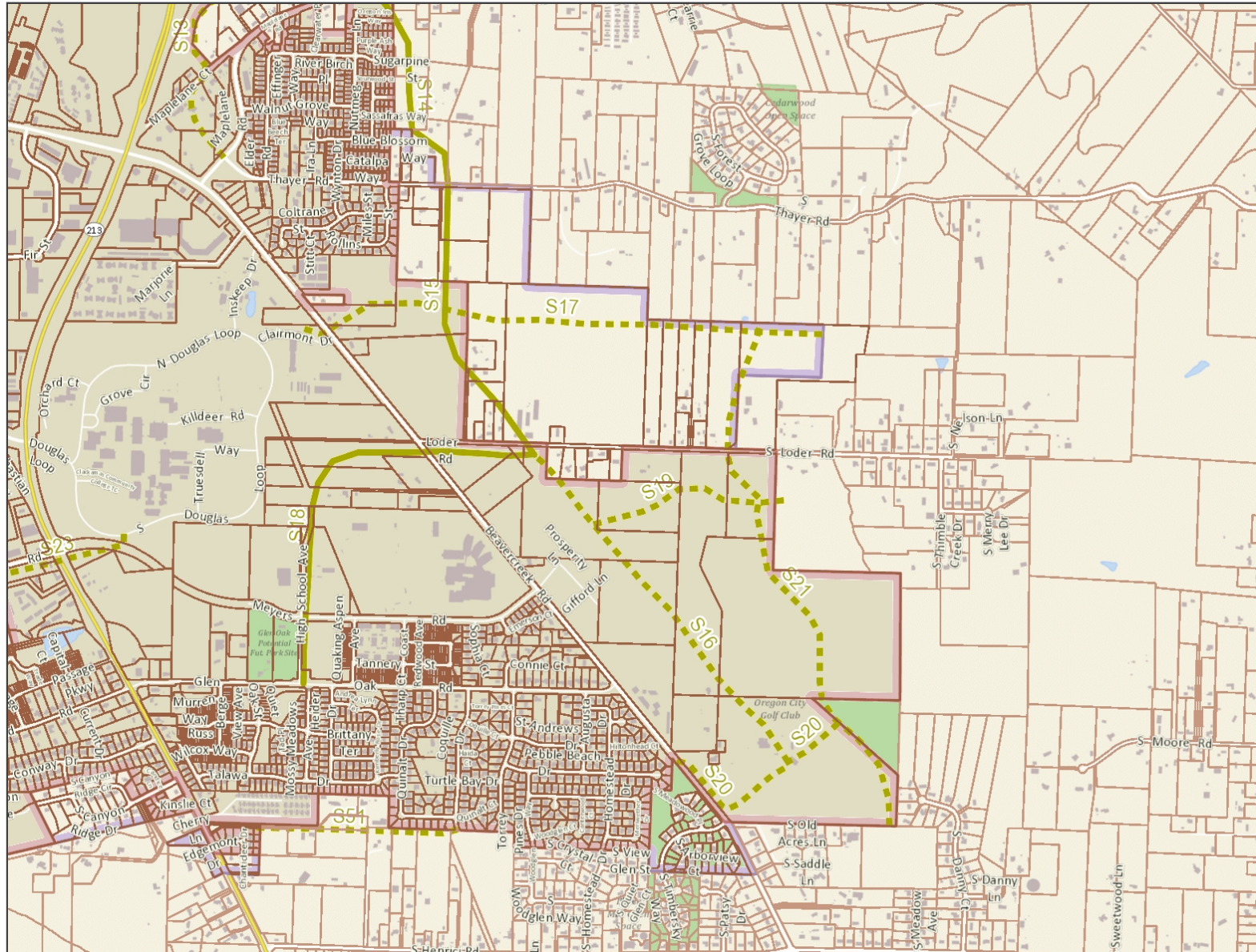
Shared Use Paths/Trails Under Power Lines

- 30-foot trail width easement or tract
- Ten-foot wide paved path

South-Central Open Space Shared Use Path:

As development may happen in phases, the approach for the linear oriented south-central open space park is through a pearl and string approach. The park peals may vary in size but are connected by a 30-foot-wide string which includes a minimum 12-foot wide shared-use path along the east side of Center Parkway as identified in the Transportation System Plan as S16 in lieu of the abutting sidewalk and planter strip.

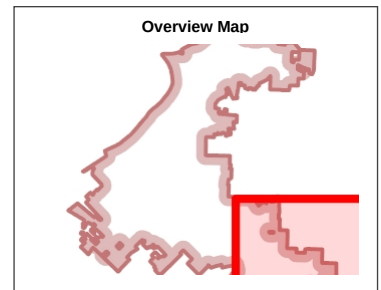
Shared Use Paths Added to the Trails Master Plan



Legend

- Street Names
- Taxlots
- Taxlots Outside UGB
- Unimproved ROW
- TSP - Shared-Use Path Solutions
 - Likely to be funded
 - Not likely to be funded
- City Limits
- UGB
- Basemap

Notes



The City of Oregon City makes no representations, express or implied, as to the accuracy, completeness and timeliness of the information displayed. This map is not suitable for legal, engineering, surveying or navigation purposes. Notification of any errors is appreciated.



0 1,600 3,200 Feet

1: 19,200

Map created 2/12/2020

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Exhibit 1 - DRAFT

Transportation System Plan Project Amendments related to the Thimble Creek Concept Plan Adoption

Project Number	Project Name	Project Extent	Description	Priority	Cost Estimate	Likely to be Funded
D39	Beavercreek Road/Glen Oak Road Operational Enhancement	Beavercreek Road/Glen Oak Road	Install a roundabout <u>traffic signal</u>	Long Term Phase 2	\$505,000	No
D44	Beavercreek Road/Loder Road Extension Operational Enhancement	Beavercreek Road/Loder Road Extension	Install a roundabout <u>traffic signal</u>	Medium Term	\$500,000	Yes
D47	Meyers Road Extension	Beavercreek Road to the Meadow Lane Extension	Extend Meyers Road from Beavercreek Road to the Meadow Lane Extension as an Industrial Minor Arterial. Between the Holly Lane and Meadow Lane extensions, add a sidewalk and bike lane to the south side of the street, with a shared-use path to be added on north side per project S19. Modify the existing traffic signal at Beavercreek Road.	Medium Term	\$2,210,000	Yes
D54	Clairmont Drive extension	Beavercreek Road to Holly Lane South Extension	Extend Clairmont Drive from Beavercreek Road to the Holly Lane South extension as an Industrial Collector. Add a sidewalk and bike lane to the south side of the street, with a shared-use path to be added on north side per project S17.	Long Term	\$1,235,000	Yes
D55	Glen Oak Road extension	Beavercreek Road to the Meadow Lane Extension	Extend Glen Oak Road from Beavercreek Road to the Meadow Lane Extension as a Residential Collector. Install a roundabout <u>traffic signal</u> at Beavercreek Road (per project D39).	Long Term	\$2,705,000	Yes
D56	Timbersky Way extension	Beavercreek Road to the Meadow Lane Extension	Extend Timbersky Way from Beavercreek Road to the Meadow Lane Extension as a Residential Collector. Add a sidewalk and bike lane to the south side of the street,	Long Term	\$1,620,000	Yes

Exhibit 1 - DRAFT

Transportation System Plan Project Amendments related to the Thimble Creek Concept Plan Adoption

			with a shared-use path to be added on north side per project S20.			
D57	Holly Lane South Extension	Maple Lane Road to Thayer Road	Extend Holly Lane from Maple Lane Road to Thayer Road as a Residential Collector. Add a sidewalk and bike lane to the west side of the street, with a shared-use path to be added on east side per project S14. Install a roundabout at Maple Lane Road (per project D37).	Medium Term	\$3,025,000	Yes
D58	Holly Lane South Extension	Thayer Road to Meyers Road	Extend Holly Lane from Thayer Road to the Meyers Road extension as an Industrial Collector. Add a sidewalk and bike lane to the west side of the street, with a shared-use path to be added on east side per project S15.	Medium Term	\$4,390,000	Yes
D59	Holly Lane South Extension	Meyers Road to Meadow Lane Extension	Extend Holly Lane from the Meyers Road extension to the Meadow Lane Extension as a Mixed-Use Collector. Add a sidewalk and bike lane to the west side of the street, with a shared-use path to be added on east side per project S16.	Long Term	\$4,785,000	Yes
D60	Meadow Lane Extension	Meadow Lane to Meyers Road	Extend Meadow Lane to the Meyers Road Extension as a Mixed-Use Collector. Between Old Acres Lane and the Glen Oak Road extension, add a sidewalk and bike lane to the west side of the street, with a shared-use path to be added on east side per project S21.	Long Term	\$4,930,000	Yes
D61	Meadow Lane Extension	Meyers Road to UGB (North of Loder)	Extend Meadow Lane from the Meyers Road Extension to the UGB (north of Loder Road) as an Industrial Collector.	Medium Term	\$2,220,000	Yes
D81	Beavercreek Road Upgrade	Clairmont Drive (CCC Entrance) to Meyers Road	Improve to Industrial Major Arterial cross-section, <u>with a 5-lane cross section.</u>	Medium Term	\$1,350,000 <u>\$17,865,000*</u>	Yes
D82	Beavercreek Road Upgrade	Meyers Road to UGB	Improve to Residential Major Arterial cross-section, <u>with a 3-lane cross section.</u>	Long Term	\$1,745,000 <u>\$11,610,000*</u>	Yes

Exhibit 1 - DRAFT

Transportation System Plan Project Amendments related to the Thimble Creek Concept Plan Adoption

W25	Loder Road Sidewalk Infill	Beavercreek Road to the Holly Lane Extension	Complete sidewalk gaps on north side of the street. A shared-use path will be added on south side per project S18.	Long Term Phase 2		No
W26	Loder Road Sidewalk Infill	Holly Lane Extension to the UGB	Complete sidewalk gaps on both sides of the street.	Long Term Phase 2		No
B23	Loder Road Bike Lanes	Beavercreek Road and the Holly Lane Extension	Add a bike lane to the north side of the street. A shared-use path will be added on south side per project S18.	Long Term Phase 2		No
B24	Loder Road Bike Lanes	Holly Lane Extension to the UGB	Add bike lanes to both sides of the street.	Long Term Phase 2		No
S16	Loder Road – Timbersky Way Shared Use Path	Loder Road to Timbersky Way	Add a shared-use path on the east side of the Holly Lane extension between Loder and Timbersky.	Long-Term Phase 3	\$846,000	No
S18	Loder Road Shared-Use Path	Glen Oak Road to Holly Lane Extension	Add a shared-use path on the south/east side of the Loder Road extension between Glen Oak Road and the Holly Lane extension.	Long Term	\$1,005,000	Yes
S19	Meyers Road Extension Shared-Use Path	Holly Lane Extension to UGB	Add a shared-use path on the north side of the Meyers Road extension between the Holly Lane extension and the UGB.	Long Term Phase 3	\$430,500	No
S20	Timbersky Extension Shared-Use Path	Pebble Beach Drive to Meadow Lane Extension	Add a shared-use path on the east side of Beavercreek Road and the north side of the Timbersky Way extension between Pebble Beach Drive and the Meadow Lane Extension Shared-use Path.	Long Term Phase 3	\$442,500	No
S21	Meadow Lane Extension Shared Use Path	Old Acres Lane to UGB (north of Loder)	Add a shared-use path on the east side of the Meadow Lane extension from Meadow Lane to the Glen Oak Road extension. Between the Glen Oak Road extension and the UGB (north of Loder Road) the shared-use path will run along the west side of the ridge.	Long Term Phase 4	\$1,180,500	No

Exhibit 1 - DRAFT

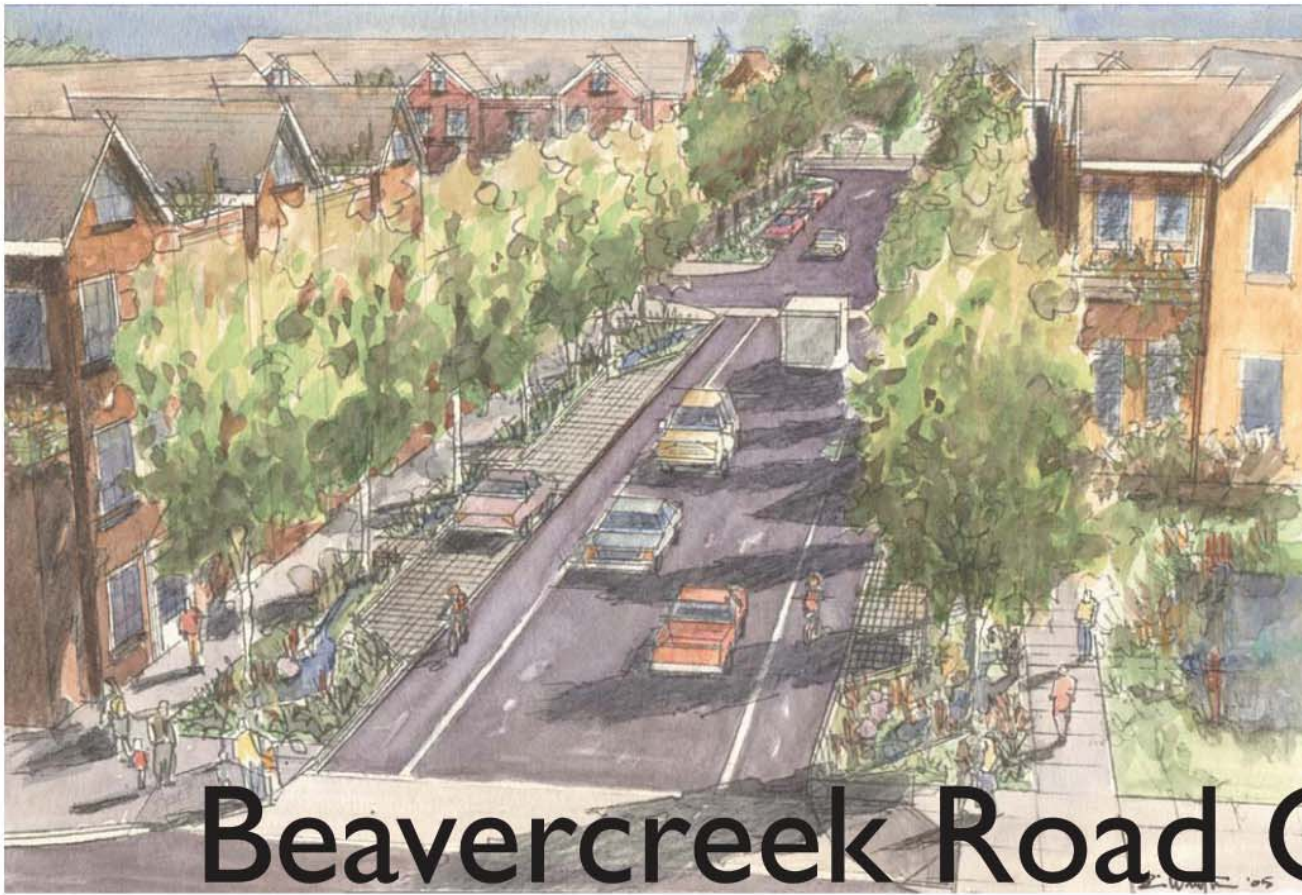
Transportation System Plan Project Amendments related to the Thimble Creek Concept Plan Adoption

The City is in the process of reviewing the street names within the Beavercreek Road Concept Plan through the City's Street Naming Policy in coordination with Emergency Services. Revisions to the street names may be needed and will be added before final adoption

If the city changes the name of Holly Lane South, we also need to change it on these in name only: D54, D57, D58, D59, W25, W26, B23, B24, S18, S19

If the city change the name of Meadow Lane, we also need to change it on these in name only: D47, D55, D56, D59, D60, S20, S21

*Revised cost estimate for Beavercreek Road includes full buildout of the 3 and 5-lane segments rather than the initial repaving/sidewalk construction calculation from 2013.



Beavercreek Road Concept Plan

Envisioning a Complete and Sustainable Community

Concept Plan Report, Summary and Recommendations

Final Plan August 2008



This project is partially funded by a grant from the Transportation and Growth Management (TGM) Program, a joint program of the Oregon Department of Transportation and the Oregon Department of Land Conservation and Development. This TGM grant is financed, in part, by Federal Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), local government, and State of Oregon funds. The contents of this document do not necessarily reflect views or policies of the State of Oregon.

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Beavercreek Road Concept Plan

Summary and Recommendations

Final Plan - August 2008

Funding provided by:

City of Oregon City

Oregon Department of Transportation -
Transportation and Growth Management Program

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Environmental Sciences Associates, Inc.

Jeanne Lawson Associates

Kittelson and Associates

Otak Project No. 13599

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Dan Lajoie	Planning Commission
Mike Riseling	Oregon City School District
Mary Smith	Transportation Advisory Committee
Bill Leach	Clackamas Community College
Lynda Orzen	Resident, Caufield Neighborhood
Ron Estes	Resident, Caufield Neighborhood
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Richard Mudgett/Patty Jacobs (alt)	Representing Hall family
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Appendix

- 1. Project Goals with Objectives, March 13, 2007
- 2. Concept Plan Alternatives
- 3. GIS Analysis Map
- 4. Job and Housing Estimates

Technical Appendix (Under Separate Cover)

- A. Public Involvement Plan
 - B. Goals and Evaluation Criteria
 - C. Existing Conditions, Opportunities and Constraints Reports
 - 1. Land use
 - 2. Transportation
 - 3. Sustainability
 - 4. Market
 - 5. Natural resources
 - 6. Infrastructure
 - D. Focus Group Summaries
 - E. Summaries of Community Events
 - 1. Open House No. 1
 - 2. Design Workshop
 - 3. Open House No. 2
- F. Alternatives Evaluation Report
 - G. Final Transportation Evaluation
 - H. Infrastructure Reports
 - 1. Water
 - 2. Sewer
 - 3. Storm Water/Water Quality
 - I. Fiscal Impact Analysis
 - J. Draft Code

I. Introduction

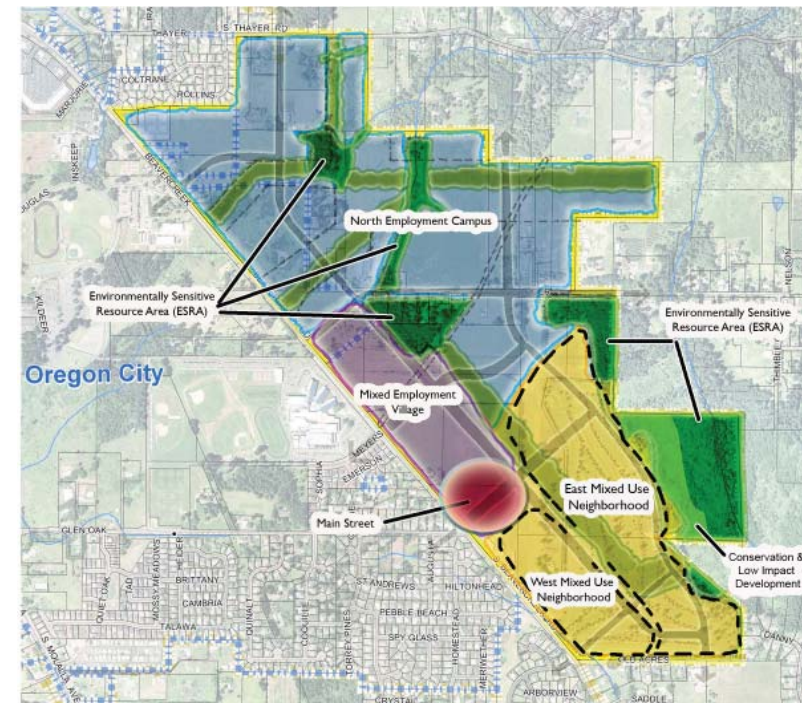
Summary

The Beaver Creek Road Concept Plan is a guide to the creation of a complete and sustainable community in southeast Oregon City. Most of the 453 acre site along Beaver Creek Road was added to the regional urban growth boundary by Metro in 2002 and 2004. The plan envisions a diverse mix of uses (an employment campus north of Loder Road, mixed use districts along Beaver Creek Road, and two mixed use neighborhoods) all woven together by open space, trails, a network of green streets, and sustainable development practices. Transit-oriented land uses have been strategically located to increase the feasibility of transit service in the future. The plan has been carefully crafted to create a multi-use community that has synergistic relationships with Clackamas Community College, Oregon City High School, and adjacent neighborhoods.

Key features of the Concept Plan are:

- *A complete mix of land uses, including:*
 - A North Employment Campus for tech flex and campus industrial uses, consistent with Metro requirements for industrial and employment areas.
 - A Mixed Employment Village along Beaver Creek Road, between Meyers Road and Glen Oak Road, located as a center for transit-oriented densities, mixed use, 3-5 story building scale, and active street life.
 - A 10-acre Main Street area at Beaver Creek Road and Glen Oak Road, located to provide local shops and services adjacent neighborhoods and Beaver Creek sub-districts.

- A West Mixed Use Neighborhood along Beaver Creek Road, intended for medium to high density (R-2) housing and mixed use.
- An East Mixed Use Neighborhood, intended for low density residential (R-5) and appropriate mixed use. The East Neighborhood has strong green edges and the potential for a fine grain of open space and walking routes throughout.



Proposed Land Use Sub-districts

- *Policy support for employment and program connections with Clackamas Community College.*
- *Sustainability strategies, including:*
 - Mixed and transit supportive land uses.
 - A sustainable stormwater management plan that supports low impact development, open conveyance systems, regional detention, and adequate sizing to avoid downstream flooding.
 - Green street design for all streets, including the three lane boulevard design for Beaver Creek Road.
 - A preliminary recommendation supporting LEED certification or equivalent for all commercial and multi-family buildings, with Earth Advantage or equivalent certification for single family buildings. This recommendation includes establishment of a Green Building Work Group to work collaboratively with the private sector to establish standards.
 - Open spaces and natural areas throughout the plan. North of Loder Road, these include the power line corridors, the tributary to Thimble Creek, and a mature tree grove. South of Loder Road, these include an 18-acre Central Park, the east ridge area, and two scenic view points along the east ridge.
- *A trail framework that traverses all sub-districts and connects to city and regional trails.*
- *A street framework that provides for a logical and connected street pattern, parallel routes to Beaver Creek Road, and connections at Clairmont, Meyers, Glen Oak, and the southern entrance to the site.*
- *A draft Beaver Creek Road Zone development code to implement the plan.*

Purpose of this Report and Location of Additional Information

This report is a summary of the Plan, with emphasis on describing key elements and recommendations. Many of the recommendation are based on technical reports and other information that is available in the Technical Appendix to this report.



Beaver Creek Road Concept Plan Area - Existing Conditions

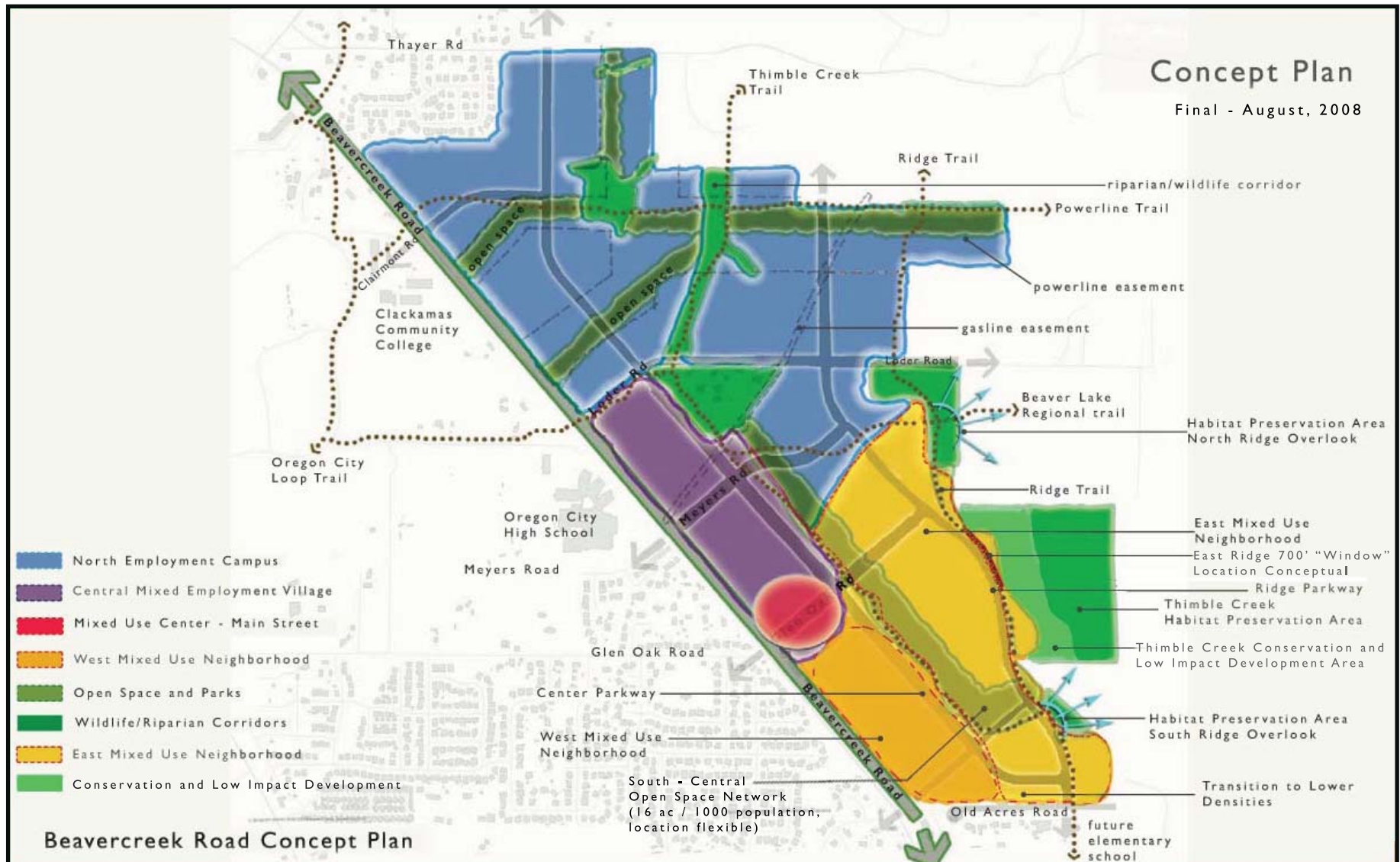


Figure 1 - Composite Concept Plan

II. Purpose and Process

The purpose of the Beavercreek Road Concept Plan is to provide a conceptual master plan to be adopted as an ancillary document to the City of Oregon City's Comprehensive Plan. As such, it provides a comprehensive and cohesive guide to future development, in three parts:

- Framework plan maps, goals and policies – These elements will be adopted as part of the Oregon City Comprehensive Plan. Compliance will be required for all land use permits and development.
- Ancillary report materials – The descriptive text, graphics and technical appendix of this report will be adopted as an “ancillary document” to the Comprehensive Plan, which provides “operational guidance to city departments in planning and carrying out city services” (Oregon City Comprehensive Plan, page 4). These documents include information for updating the City's utility master plans and Transportation System Plan.
- Draft development code – A working draft development code was prepared as part of the Concept Plan. Once final, it will be adopted as part of the Oregon City Code. Compliance will be required for all land use permits and development. The Beavercreek Zone code relies on master planning to implement the concepts in the Plan.

The Concept Plan was developed by a 15-member Citizen Advisory Committee (CAC) and 9-member Technical Advisory Committee (TAC) (see Project Participants list at the beginning of this report). The committees met twelve times between June 2006 and July 2007.



Design Workshop Participants

In addition to the Committee meetings, additional process steps and community involvement included:

- Study area tour for CAC and TAC members
- Two public open houses
- Market focus group
- Sustainability focus group
- Employment lands coordination with Metro
- Community design workshop
- Website
- Project posters, site sign, email notice, and extensive mailing prior to each public event

III. Vision, Goals and Principles

The overall vision for the Beavercreek Concept Plan is to create “A Complete and Sustainable Community”. The images shown on this page were displayed throughout the process to convey the project’s intent for this vision statement.

Regarding the meaning of sustainability, the vision statement is based in part on the definition of sustainability originally developed by the United Nations Brandtland Commission: “A sustainable society meets the needs of the present without sacrificing the ability of future generations to meet their own needs”.

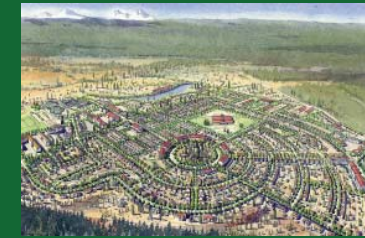
The following project goals were developed by the Citizen Advisory Committee. The Committee also added objectives to each of the goals – please see Appendix 1 for the objectives.

The Beavercreek Road Concept Plan Area will:

- Create a complete and sustainable community, in conjunction with the adjacent land uses, that integrates a diverse mix of uses, including housing, services, and public spaces that are necessary to support a thriving employment center;
- Be a model of sustainable design, development practices, planning, and innovative thinking;
- Attract “green” jobs that pay a living wage;
- Maximize opportunities for sustainable industries that serve markets beyond the Portland region and are compatible with the site’s unique characteristics;
- Incorporate the area’s natural beauty into an ecologically compatible built environment;
- Provide multi-modal transportation links (such as bus routes, trails, bike-ways, etc.) that are connected within the site as well as to the surrounding areas;

Complete Means

- Live
- Work
- Shop
- Play
- Garden
- Lifelong Learning
- (What does “complete” mean to you?)

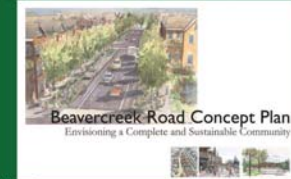


Northwest Crossing, Bend, Oregon

BEAVERCREEK ROAD
CONCEPT PLAN

Sustainable Means

- Walkable
- Green
- Energy Efficient
- Water Efficient
- Non-Resource Depleting
- Clean Employment
- Non-Polluting
- (What does “sustainable” mean to you?)



BEAVERCREEK ROAD
CONCEPT PLAN

Community Means

- A Place for People



BEAVERCREEK ROAD
CONCEPT PLAN

- Implement design solutions along Beavercreek Road that promote pedestrian safety, control traffic speeds and access, and accommodate projected vehicular demand;
- Promote connections and relationships with Oregon City High School and Clackamas Community College;
- Have a unique sense of place created by the mix of uses, human scale design, and commitment to sustainability; and
- Ecological Health – Manage water resources on site to eliminate pollution to watersheds and lesson impact on municipal infrastructure by integrating ecological and man-made systems to maximize function, efficiency and health.

The following 10 Principles of Sustainable Community Design were submitted by a CAC member, supported by the committee, and used throughout the development of the Concept Plan:

1. Mix Land Uses - Promote a mix of land uses that support living wage jobs and a variety of services.
2. Housing Types - Create a range of housing choices for all ages and incomes.
3. Walk-ability - Make the Neighborhood “walkable” and make services “walk-to-able.”
4. Transportation - Provide a range of transportation options using a connected network of streets and paths.
5. Open Space - Protect and maintain a functioning green space network for a variety of uses.
6. Integrate Systems - Integrate ecological and man-made systems to maximize function, efficiency and health.
7. Watershed Health - Manage water resources on site to eliminate pollution to watershed and lesson impact on municipal infrastructures.

8. Reuse, Recycle, Regenerate - Reuse existing resources, regenerate existing development areas
9. Green Buildings - Build compact, innovative structures that use less energy and materials
10. Work Together - Work with community members and neighbors to design and develop.



Thimble Creek Tributary

IV. Regional and Local Context

The Beaver Creek Road Concept Plan area is 453 acres of land located at the southeast edge of Oregon City and the Urban Growth Boundary (UGB). It marks a transition point between the City's current edge of urbanization and rural and resource lands to the south and east.

The majority of the site (245 acres) was added to the Metro UGB in December 2002 and an additional 63 acres were added to the UGB in 2004. The remaining site acreage was in the UGB and/or the Oregon City limits prior to 2002. The Concept Plan area carries Metro design type designations of Employment, Industrial, and Outer Neighborhood on the Region 2040 Growth Concept Map. The properties with the Outer Neighborhood designation have been in the UGB since 1980. Employment design type areas, as defined by Metro, allow various types of employment with some residential development and limited commercial uses. Industrial design type areas are set aside by Metro primarily for industrial activities with limited supporting uses.

During the update of Oregon City's Comprehensive Plan, a policy was adopted acknowledging the jobs-related importance of the site to Oregon City and the region, while also allowing some flexibility in the project area's land use. Comprehensive Plan policy 2.6.8 states:

"Require lands east of Clackamas Community College that are designated as Future Urban Holding to be the subject of concept plans, which is approved as an amendment to the Comprehensive Plan, would guide zoning designations. The majority of these lands should be designated in a manner that encourages family-wage jobs in order to generate new jobs and move towards meeting the City's employment goals."

There are relatively limited employment centers within this area of Oregon City and Clackamas County. This imbalance of jobs and housing contributes to Clackamas County's pattern of approximately 60% of the work force traveling outside of the County to work.

The site is surrounded by residential and undeveloped properties within the city limits, including the Hamlet of Beaver Creek, and rural Clackamas County. The nearest commercial area is the Berry Hill Shopping Center at the intersection of Beaver Creek Road and Highway 213. Clackamas County College (CCC) and Oregon City High School are across Beaver Creek Road adjacent to the site. These institutional uses offer a unique opportunity to plan synergistic land uses that connect the properties, reinforce an identity for the area, and help localize trips. A Tri-Met transit hub is located on the CCC property.

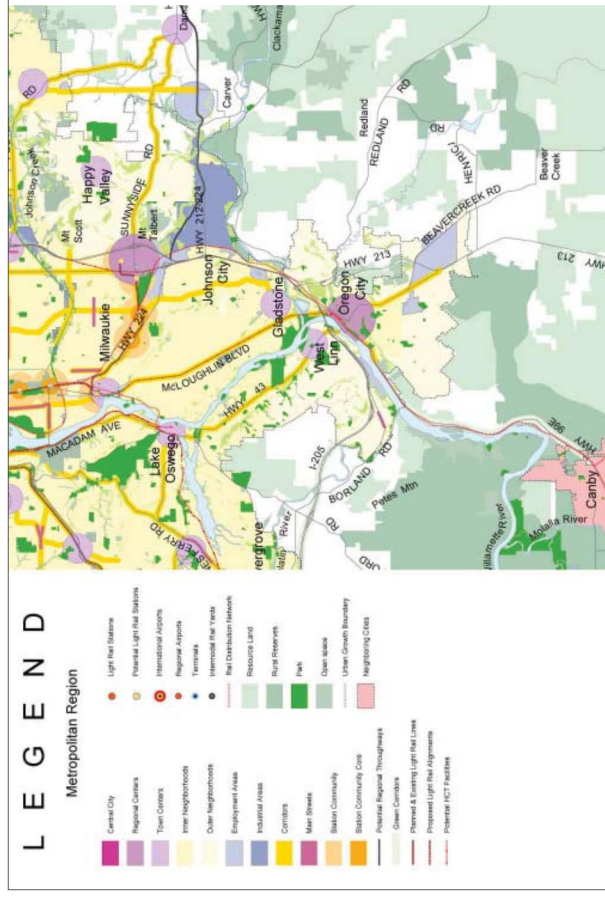


Figure 2 - Regional Context

Like all additions to the Portland Metropolitan Area Urban Growth Boundary, the Beaver Creek Road area is inextricably tied to its place in the region and its place within Oregon City. The Concept Plan responds to this context in multiple ways.

From a regional perspective, the Beaver Creek Road area is currently a transition point from urban to rural use. Whether this “hard line” of transition will remain in the future cannot be established with certainty. The CAC openly acknowledged this issue in its discussions and sought to balance the needs of creating a great urban addition to Oregon City with sensitivity to adjacent areas. Examples of this balance include:

- The plan has land use and transportation connections that support future transit. This will link the Beaver Creek Road area, via alternative transportations, to Clackamas Community College (CCC), the Oregon City Regional Center (downtown and adjacent areas) and the rest of the region.
- Trails and green spaces have been crafted to link into the broader regional network.
- The plan recommends lower densities and buffer treatments along Old Acres Road.
- The north south collector roads are coalesced to one route that could (if needed) be extended south of Old Acres Road.
- The recommended street framework provides for a street that parallels Beaver Creek Road, connecting Thayer Road to Old Acres Road, and potentially north and south in the future. This keeps options open: if the UGB extends south, the beginning of a street network is in place. If it does not, the connection is available for rural to urban connectivity if desired.
- As with the street network described above, the East Ridge trail is extended all the way to Old Acres Road, and therefore, potentially beyond.

This will provide a connection from rural areas to the open spaces and trail network of Beaver Creek Road area and the rest of the region.

From a City and local neighborhood perspective, the Beaver Creek Road area offers an opportunity to establish a new complete and sustainable community within Oregon City. Specific linkages include the following:

- Oregon City needs employment land. The Beaver Creek Concept Plan provides 156 net acres of it in two forms: 127 net acres of tech flex campus industrial land, 29 acres of more vertical mixed use village and main street. Additional employment will be available on the Main Street and as mixed use in the two southern neighborhoods.
- The street framework connects to all of the logical adjacent streets. This includes Thayer, Clairmont, Meyers, Glen Oak, and Old Acres Roads. This connectivity will disperse traffic to many routes, but equally important, make Beaver Creek Road connected to, rather than isolated from, adjacent neighborhoods, districts and corridors.
- The plan provides for a complete community: jobs, varied housing, open space, trails, mixed use, focal points of activity, trails, and access to nature.
- The plan provides for a sustainable community, in line with the City’s

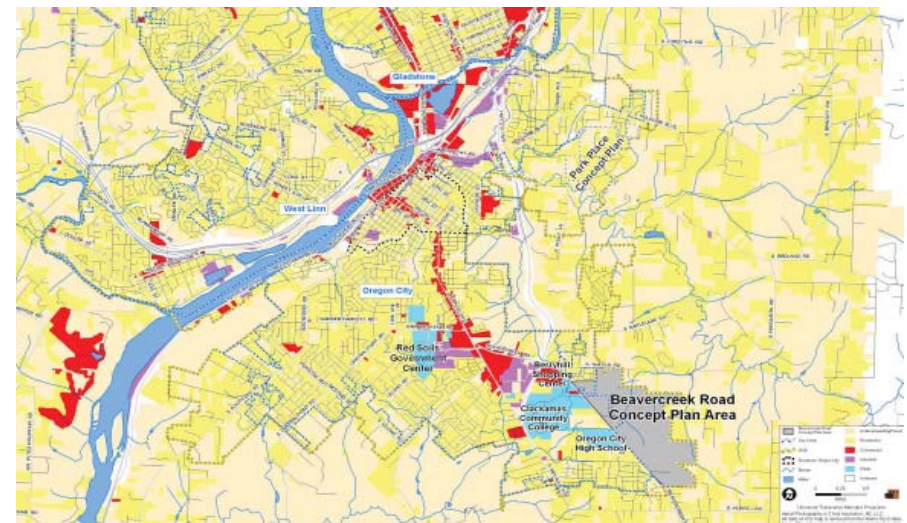


Figure 3 - Oregon City Context

Comprehensive Plan support for sustainability. This takes the form of mixed land uses, transportation options, green streets, sustainable storm water systems, and LEED or equivalent certification for buildings. Much more can certainly be done – the Concept Plan offers an initial platform to work from.

- Physical linkages have been provided to Oregon City High School and Clackamas Community College. These take the form of the planned 3-lane green street design for Beaver Creek Road and the intersections and trails at Clairmont, Loder and Meyers Roads. The physical linkages are only the beginning – the City, School District and College need to work together to promote land uses on the east side of Beaver Creek Road that truly create an institutional connection.

For additional information, see Existing Conditions, Opportunities and Constraints Reports, Technical Appendix C.



Figure 4 - Existing Conditions

Site Conditions and Buildable Lands

A portion of the study area (approximately 50 acres) is currently within the existing city limits and zoned Campus Industrial (CI). The study area's northern boundary is Thayer Road and the southern boundary is Old Acres Lane. Loder Road is the only existing road that runs through the project area.

Currently, the project area is largely undeveloped, which has allowed the site to retain its natural beauty. There are 448 gross acres in the project area, not including the right-of-way for Loder Road (approximately five acres). The existing land uses are primarily large-lot residential with agricultural and undeveloped rural lands occupying approximately 226 acres of the project area. The Oregon City Golf Club (OCGC) and private airport occupy the remaining 222 acres.

There are several large power line and natural gas utility easements within the project boundaries. These major utility easements crisscross the northern and central areas of the site. The utility easements comprise approximately 97 acres or 20% of the project area.

There are 51 total properties ranging in size from 0.25 acres to 63.2 acres. Many of these properties are under single ownership, resulting in only 42 unique property owner names (Source: Clackamas County Assessor). There are several existing homes and many of the properties have outbuildings such as, sheds, greenhouses, barns, etc. , which result in 127 existing structures on the site (Source: Clackamas County Assessor).

A key step in the concept planning process is the development of a Buildable Lands Map. The Buildable Lands Map was the base map from which the concept plan alternatives and the final recommended plan were. "Buildable" lands, for the purpose of the Beaver Creek Road Concept Plan, are defined as the gross site area minus wetlands, steep slopes, other Goal 5 resources, public utility easements, road rights-of-way, and committed properties (developed properties with an assessed improvement value

greater than \$350,000). Properties with an assessed improvement value of less than \$350,000 (based on County assessment data) are considered redevelopable over the long-term as the existing structures are converted to higher value uses. The OCGC has an improvement value over \$350,000, but has been included as buildable lands (minus the clubhouse) because the owners may wish to redevelop the property in coordination with the recommended concept plan over time. The private airport has also been included as buildable over the long-term, recognizing that the owners may choose to continue the airport's use for many years.

When land for power lines, the natural gas line, natural resources, and committed structures are removed the net draft buildable acreage is approximately 292 acres. The CAC reviewed the Preliminary Buildable Lands map and approved a three-tier system to define the buildable lands. Tier A or "Unconstrained" has approximately 292 acres, Tier B or "Low Impact Development Allowed with Review" has approximately 28 acres, and Tier C "Constrained" has approximately 131 acres. The "Low Impact" area was later further evaluated and recommended for conservation under a Environmentally Sensitive and Resource Area designation on the plan.

The Buildable Lands Map was reviewed at the July 20th and August 17th Citizen and Technical Advisory Committee (CAC/TAC) meetings, as well as at the August 24th, 2006 Open House. The draft buildable land boundaries and acreages shown in Figure 6 reflect the input received from the advisory committee members, property owners, and citizen input.

For additional information, see Existing Conditions, Opportunities and Constraints Reports, Technical Appendix C.

Figure 6 - Natural Resource Inventory

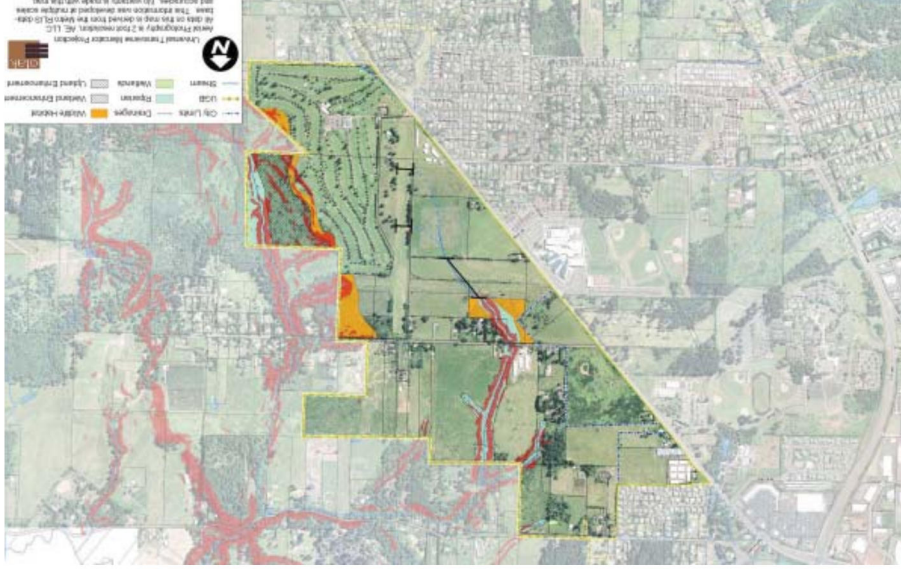
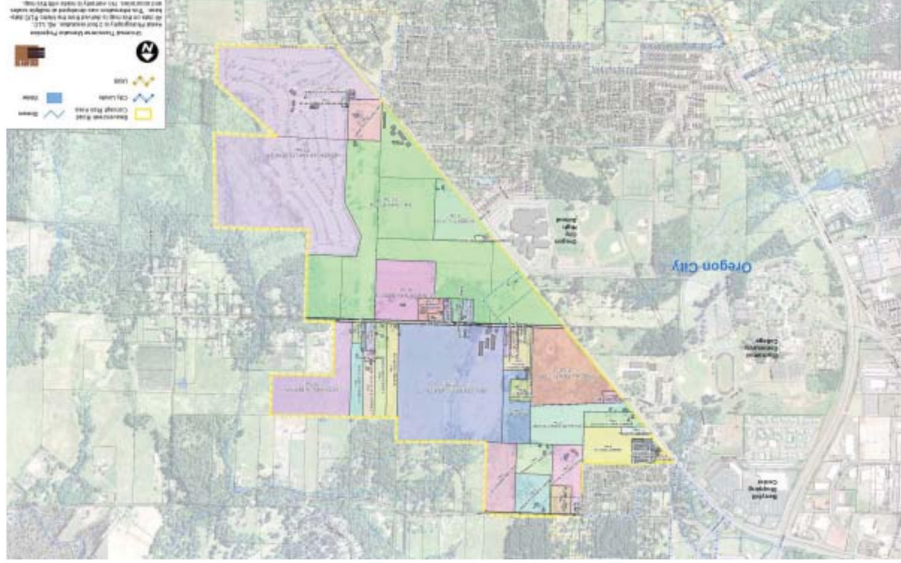


Figure 5 - Ownership



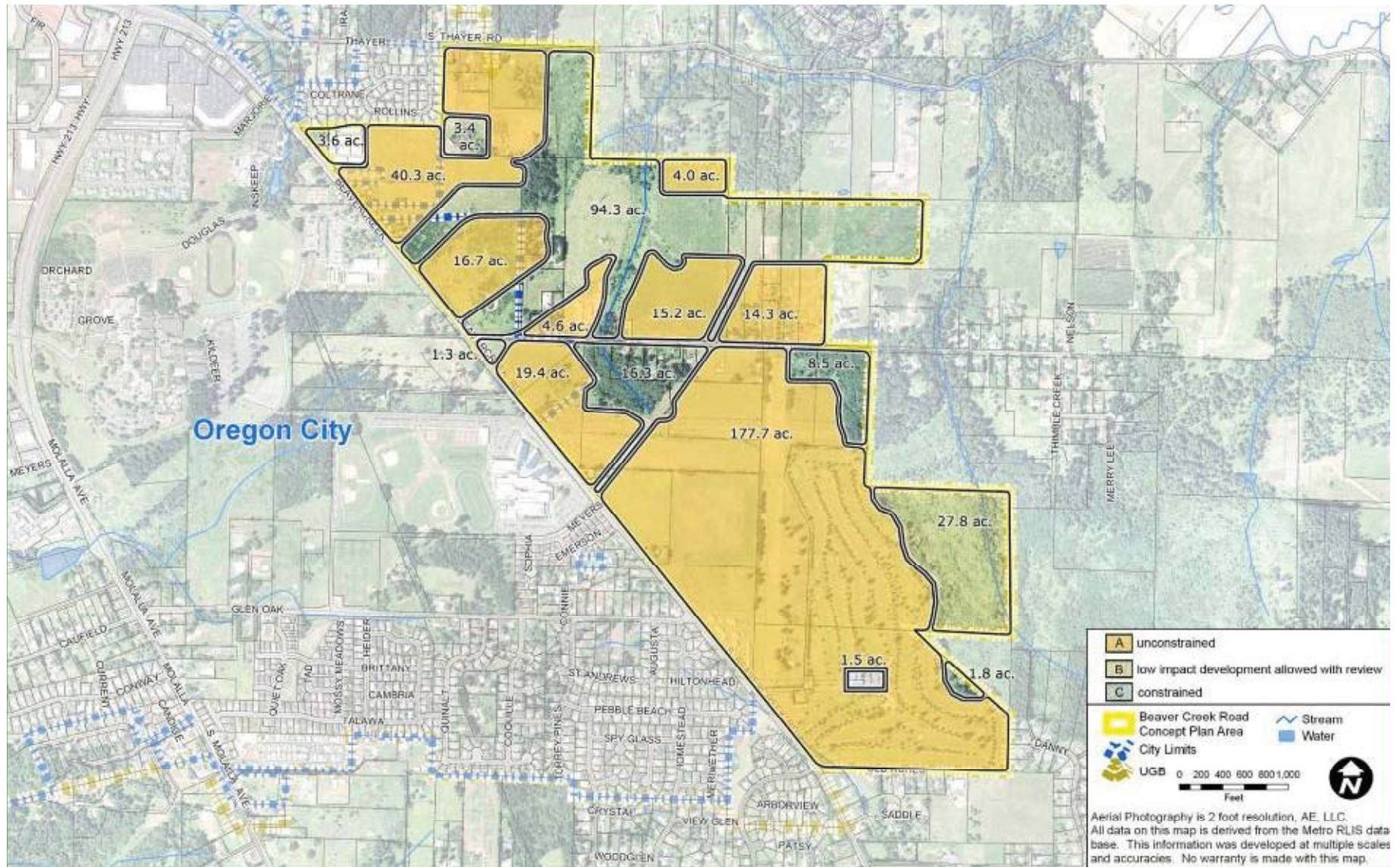


Figure 7 - Buildable Lands

Employment – A Key Issue

How much employment? What type? And where? These questions were extensively discussed during the development of the Concept Plan. Three perspectives emerged as part of the discussion:

Oregon City Perspective

Prior to initiating the Concept Plan process, the City adopted a comprehensive plan policy which emphasizes family wage employment on the site. The policy reads: “Require lands east of Clackamas Community College that are designated as Future Urban Holding to be the subject of concept plans, which is approved as an amendment to the Comprehensive Plan, [and will] guide zoning designations. The majority of these lands should be designated in a manner that encourages family-wage jobs in order to generate new jobs and move towards meeting the City’s employment goals.” Oregon City Comprehensive Plan, Policy 2.6.8.

Metro Perspective

Metro brought the majority of the concept plan area (245 gross acres) into the UGB in 2002 and 2004 to fulfill regional industrial employment needs. These areas (308 gross acres) are designated as the Industrial Design Type on Metro’s 2040 Growth Concept Map. As part of its land need metrics reported to the region and state, Metro estimated 120 net acres of the Beaver Creek Road Concept Plan’s land would be used for employment uses. Metro representatives met with the Concept Plan CAC and emphasized: (1) it was important to Metro for the Concept Plan to fulfill their original intent for providing Industrial land; and, (2) that there was flexibility, from Metro’s perspective, for the local process to evaluate creative ways to meet that intent.

Citizen Advisory Committee Perspective

The CAC discussed extensively the issues and options for employment lands. Many sources of information were consulted: a market analysis by ECONorthwest (See Appendix __), a developer focus group, land inventory and expert testimony submitted by property owners, the Metro perspective cited above, and concerns of neighbors. The advice ranged from qualified optimism about long term employment growth to strong opposition based on shorter term market factors and location considerations. Some members of the CAC advocated for a jobs target (as opposed to an acreage target) to be the basis for employment planning.

At its meeting on September 14th, 2006, the CAC developed a set of “bookends” for the project team to use while creating the plan alternatives.

- a. At least one plan alternative will be consistent with the Metro Regional Growth Concept.
- b. At least one plan alternative (may be the same as above) would be designed consistent with Policy 2.6.8.
- c. Other alternatives would have the freedom to vary from “a” and “b” above, but would also include employment.
- d. No alternative would have heavy industrial, regional warehousing or similar employment uses”.

After evaluating alternatives, the CAC ultimately chose a hybrid employment strategy. The recommended Concept Plan includes: (1) about 127 net acres of land as North Employment Campus, which is consistent with Metro’s intent and similar to Oregon City’s Campus Industrial designation; (2) about 29 acres as Mixed Employment Village and Main Street, which allows a variety of uses in a village-oriented transit hub; and, (3) mixed use neighborhoods to the south that also provide for jobs tailored to their neighborhood setting.

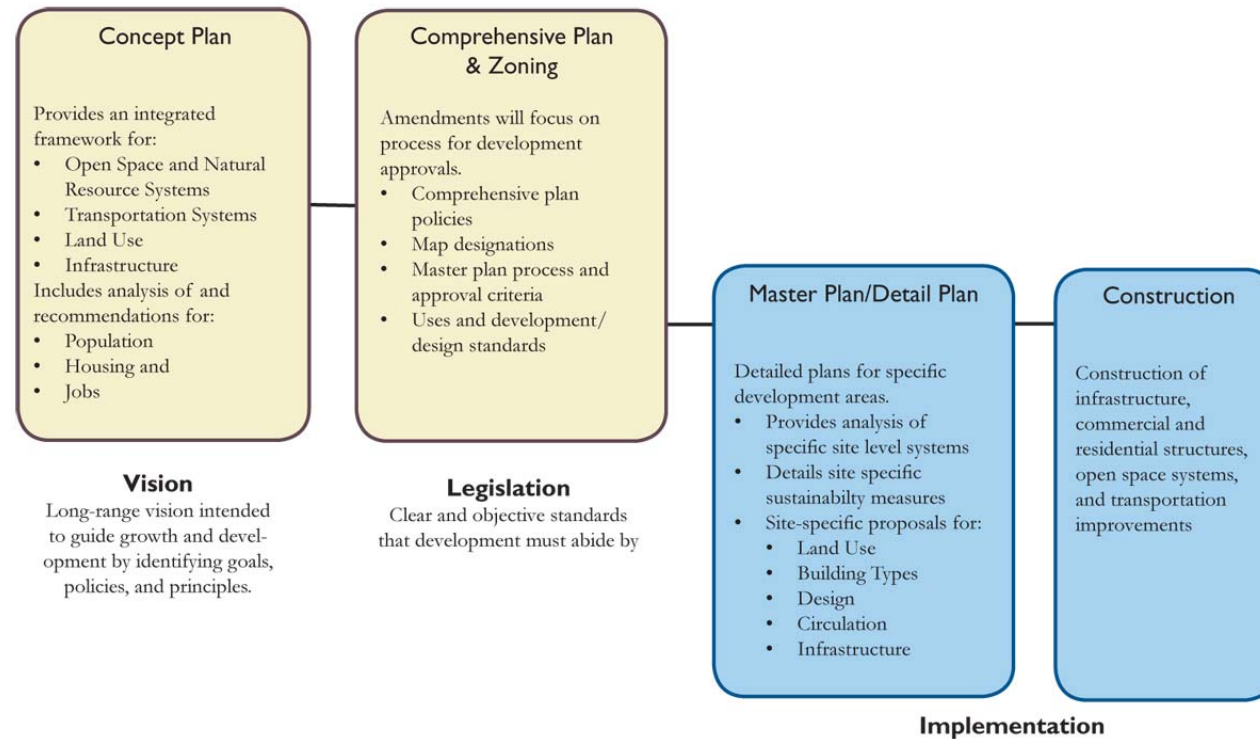
V. Concept Plan Summary

The Framework Plan Approach

The Beaver Creek Road Concept Plan is a framework for a new, urban community. The plan is comprised of generalized maps and policies that integrate land use, transportation, open space, and green infrastructure. The framework maps and policies are supported by detailed code and requirements for master planning and design review. The approach here is to set the broad framework and intent on the figures and text in this Plan. Detailed development plans demonstrating compliance with the Concept Plan are required in the implementing code.

The framework plan approach is intended to:

- Ensure the vision, goals and standards are requirements in all land use decisions
- Provide for flexibility in site specific design and implementation of the Plan and code
- Allow for phased development over a long period of time (20+ years)



The code describes many detailed requirements such as street connectivity, block configuration, pocket parks, building scale, pedestrian connections, low impact development features, tree preservation, and sustainable buildings. These design elements will be essential to the success of the area as a walkable, mixed use community. The expectation of this Plan is that the flexibility is coupled with a high standard for sustainable and pedestrian-oriented design.

Land Use Sub-Districts

Figure 8 illustrates the five land-use “sub-districts” of the concept plan area. Each has a specific focus of land use and intended relationship to its setting and the plan’s transportation and open space systems. Each is briefly described below and illustrated on Figures 9 through 12.

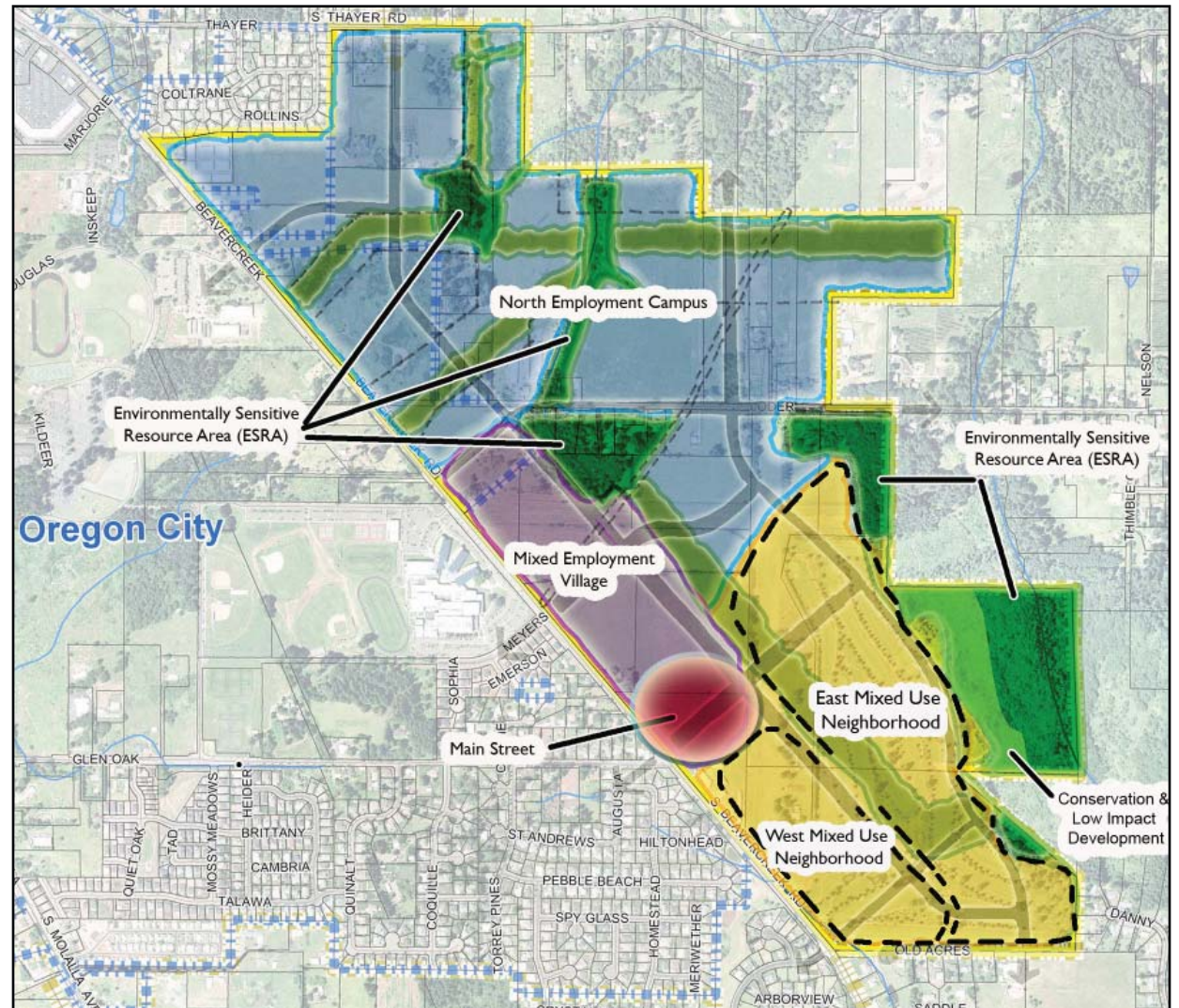


Figure 8 - Land Use Sub-districts

North Employment Campus – NEC

The purpose of the North Employment Campus is to provide for the location of family wage employment that strengthens and diversifies the economy. The NEC allows a mix of clean industries, offices serving industrial needs, light industrial uses, research and development and large corporate headquarters. The uses permitted are intended to improve the region's economic climate, promote sustainable and traded sector businesses, and protect the supply of sites for employment by limiting incompatible uses. The sub-district is intended to comply with Metro's

Title 4 regulations. Site and building design will create pedestrian-friendly areas and utilize cost effective green development practices. Business and program connections to Clackamas Community College (CCC) are encouraged to help establish a positive identity for the area and support synergistic activity between CCC and NEC properties. Businesses making sustainable products and utilizing sustainable materials and practices are encouraged to reinforce the identity of the area and promote the overall vision for the Beavercreek Road area.

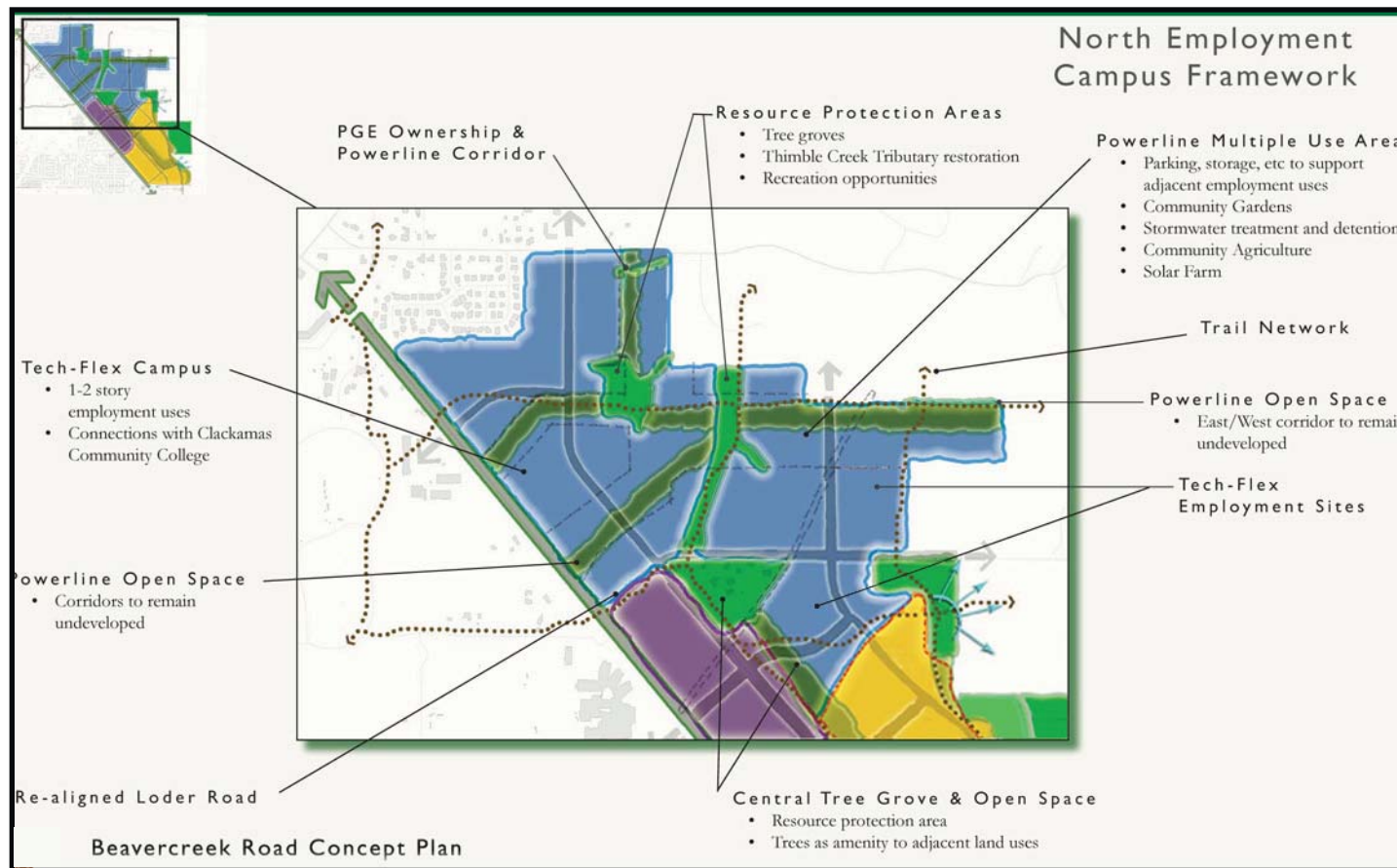


Figure 9 - North Employment Campus Framework

Mixed Employment Village – MEV

The purpose of the Mixed Employment Village is to provide employment opportunities in an urban, pedestrian friendly, and mixed use setting. The MEV is intended to be transit supportive in its use mix, density, and design so that transit remains an attractive and feasible option. The MEV allows a mix of retail, office, civic and residential uses that make up an active urban district and serve the daily needs of adjacent neighborhoods and Beaver Creek Road sub-districts. Site and building design will create

pedestrian-friendly areas and utilize cost effective green development practices. Business and program connections to Clackamas Community College and Oregon City High School are encouraged. Businesses making sustainable products and utilizing sustainable materials and practices are encouraged to reinforce the identity of the area and promote the overall vision for the Beaver Creek Road area.

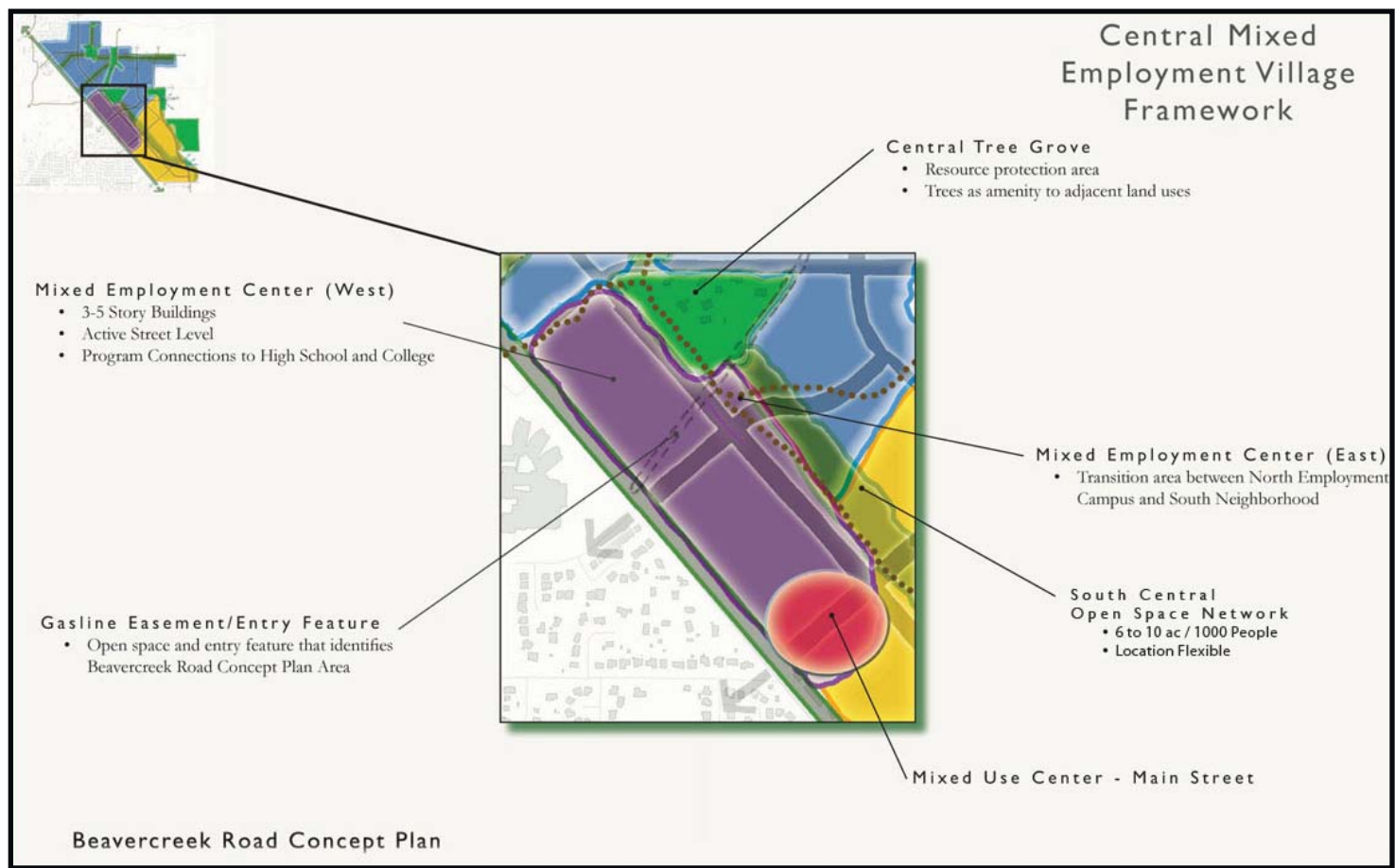


Figure 10 - Central Mixed Employment Village Framework

Main Street – MS

The purpose of this small mixed-use center is to provide a focal point of pedestrian activity. The MS allows small scale commercial, mixed use and services that serve the daily needs of the surrounding area. “Main Street” design will include buildings oriented to the street, an minimum of 2 story building scale, attractive streetscape, active ground floor uses and other elements that reinforce pedestrian oriented character and vitality of the area.



Figure 11 - Main Street Framework

West Mixed Use Neighborhood – WMU

The West Mixed Use Neighborhood will be a walkable, transit-oriented neighborhood. This area allows a transit supportive mix of housing, live/work units, mixed use buildings and limited commercial uses. A variety of housing and building forms is required, with the overall average of residential uses not exceeding 22 dwelling units per acre. The WMU area's uses, density and design will support the multi-modal transportation system and provide good access for pedestrians, bicycles, transit and vehicles. Site and building design will create a walkable area and utilize cost effective green development practices.

East Mixed Use Neighborhood – EMU

The East Mixed Use Neighborhood will be a walkable and tree-lined neighborhood with a variety of housing types. The EMU allows for a variety of housing types while maintaining a low density residential average not exceeding densities permitted in the R-5 zone. Limited non-residential uses are permitted to encourage a unique identity, sustainable community, and in-home work options. The neighborhood's design will celebrate open space, trees, and relationships to public open spaces. The central open space, ridge open space scenic viewpoints, and a linked system of open spaces and trails are key features of the EMU. Residential developments will provide housing for a range of income levels, sustainable building design, and green development practices.

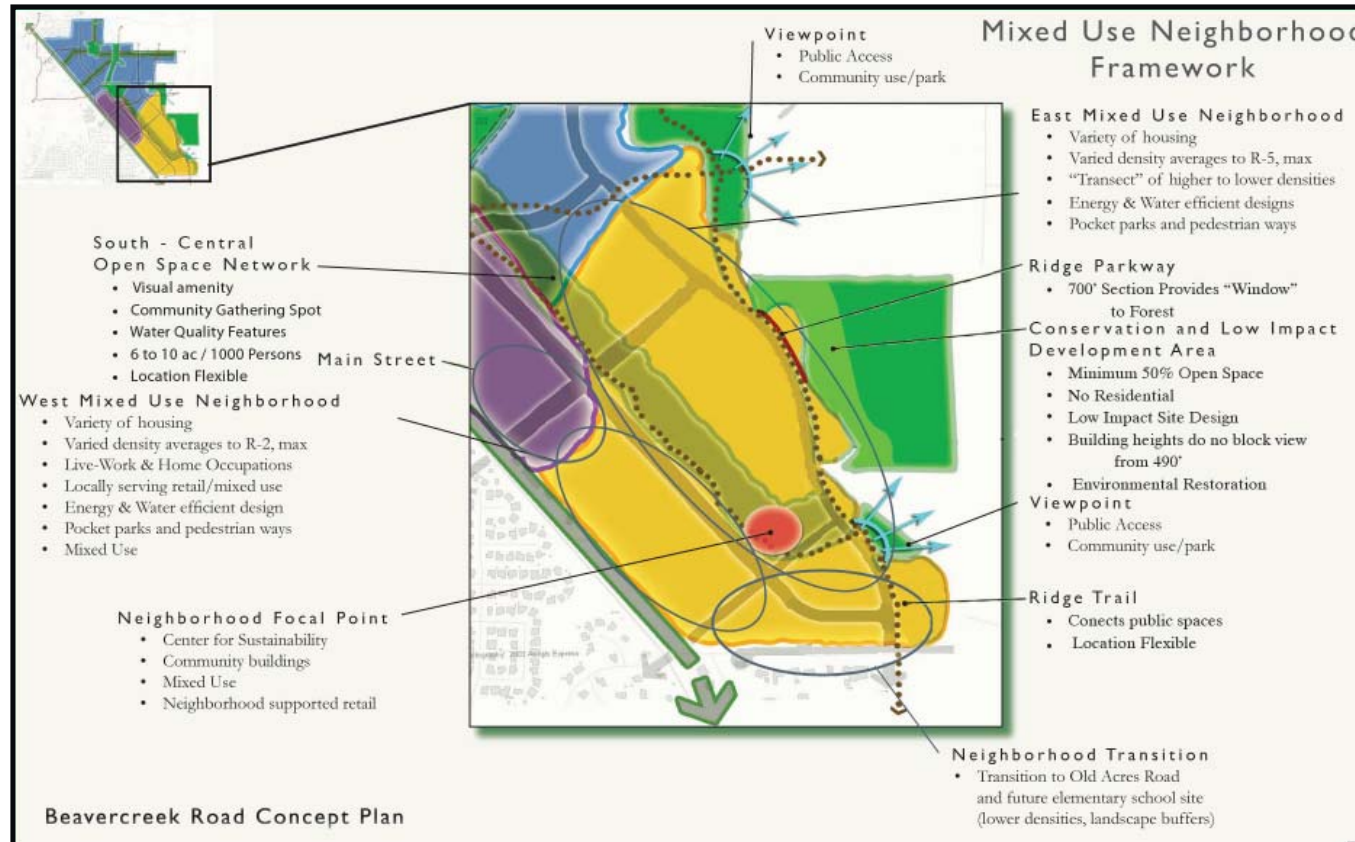


Figure 12 - West and East Mixed Use Neighborhoods

Open Space

The Open Space Framework illustrated on Figure 13 provides a network of green spaces intended to provide:

- A connected system of parks, open spaces and natural areas that link together and link to the Environmentally Sensitive Resource Areas.
- Scenic and open space amenities and community gathering places
- Access to nature
- Tree and natural area preservation
- Locations where storm water and water quality facilities can be combined with open space amenities, and opportunities to implement sustainable development and infrastructure
- Green spaces near the system of trails and pedestrian connections
- Open spaces which complement buildings and the urban, built environment

Power Line Open Spaces

The power line corridors and gas line corridor comprise 97 acres of land. The power line corridors north of Loder Road are a dominant feature. They are a dominant feature because they define open corridors and have a significant visual impact related to the towers. They also have an influence on the pattern of land use and transportation connections. In response to these conditions, the Concept Plan includes four main strategies for the use of the power line corridors:

- Provide publicly accessible open spaces. The implementing code includes a minimum 100 foot-wide open space and public access easement would be required at the time of development reviews, or, obtained through cooperative agreements with the utilities and property owners.
- Provide trails. A new east-west trail is shown on Figure 13 that follows the main east-west corridor. This corridor has outstanding views of Mt. Hood.

- Allow a broad array of uses. Ideas generated by the CAC, and permitted by the code, include: community gardens, urban agriculture, environmental science uses by CCC, storage and other “non-building” uses by adjacent industries, storm water and water quality features, plant nurseries, and solar farms.
- Link to the broader open space network. The power line corridors are linked to the open spaces and trail network in the central and southern areas of the plan.

South-Central Open Space Network

Park spaces in the central and southern areas of the plan will be important to the livability and sustainability goals for the plan. The basic concept is to assure parks are provided, provide certainty for the total park acreage, guide park planning to integrate with other elements, and provide flexibility for the design and distribution of parks.

The following provisions will apply during master planning and other land use reviews:

- Park space will be provided consistent with the City’s Park and Recreation Master Plan standard of 6 to 10 acres per 1000 population.
- The required acreage may be proposed to be distributed to a multiple park spaces, consistent with proposed land uses and master plan design.
- A central park will be provided. The location and linearity of the park was first indicated by Metro’s Goal 5 mapping. It was illustrated by several citizen groups during the design workshop held in October, 2006. This open space feature is intended as a connected, continuous and central green space that links the districts and neighborhoods south of Loder Road. The code provides for flexibility in its width and shape, provided there remains a clearly identifiable and continuous open space. It may be designed as a series of smaller spaces that are clearly connected by open space. It may be designed

as a series of smaller spaces that are clearly connected by open space. If buildings are incorporated as part of the central park, they must include primary uses which are open to the public. Civic buildings are encouraged adjacent to the central park. Streets may cross the park as needed. The park is an opportunity to locate and design low impact storm water facilities as an amenity for adjacent urban uses.

East Ridge

The East Ridge is a beautiful edge to the site that should be planned as a publicly accessible amenity and protected resource area. The natural resource inventory identified important resources and opportunities for habitat restoration in the riparian areas of Thimble Creek. In addition, Lidar mapping and slope analysis identified steeper slopes (greater than 15%) that are more difficult to develop than adjacent flat areas of the concept plan. The sanitary sewer analysis noted that lower areas on the east

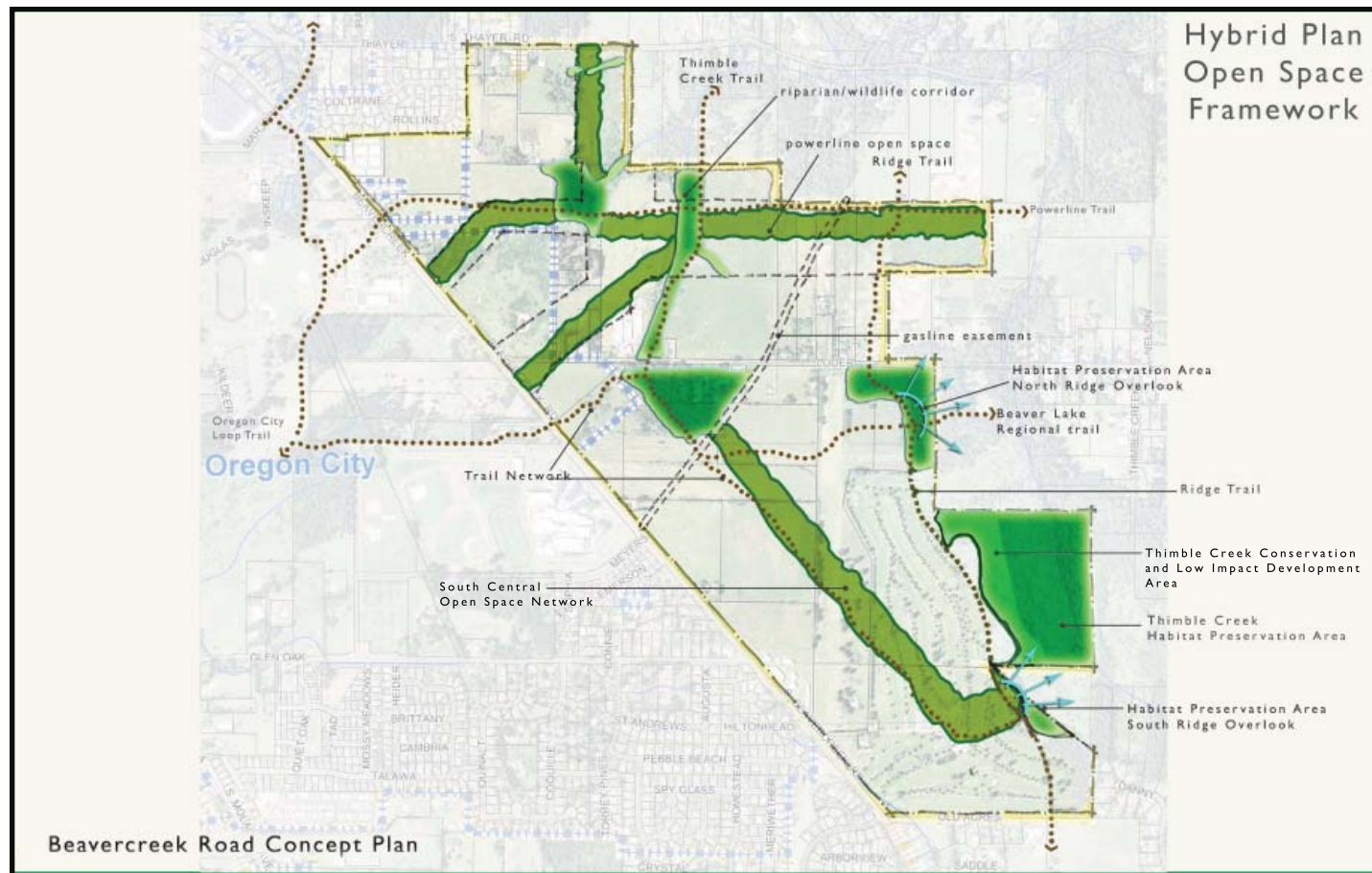


Figure 13 - Open Space Framework

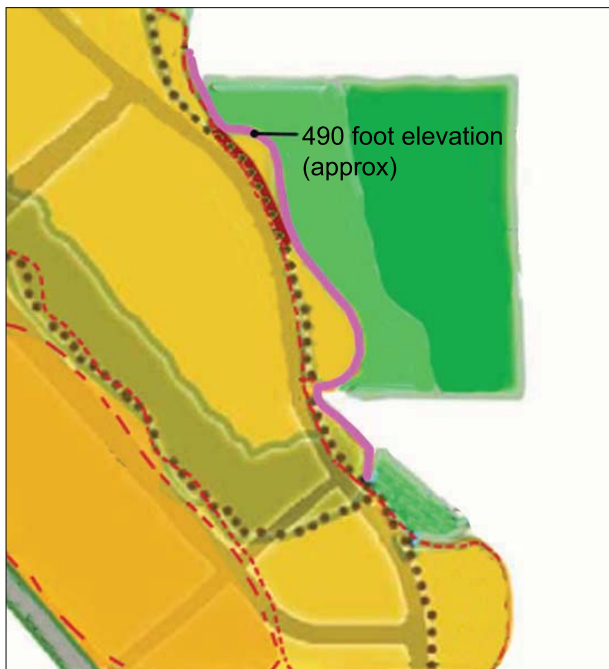
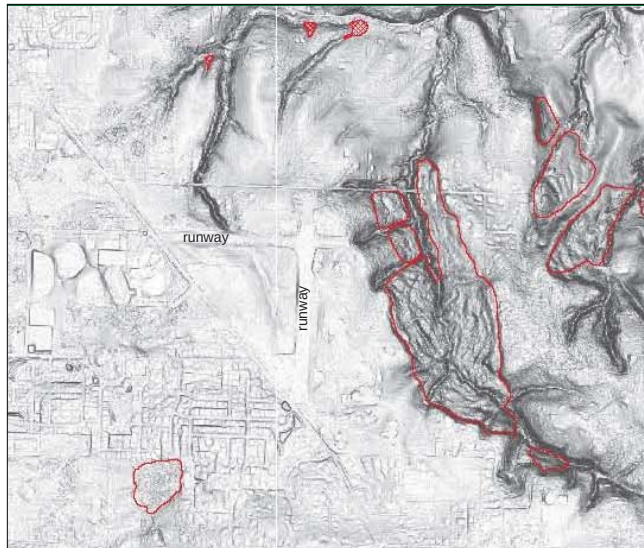


Figure 13A - East Ridge Lidar and 490 foot elevation

ridge could not be readily served with gravity systems - they would require private pump facilities. For all of these reasons, it is recommended here that an East Ridge open space and conservation area be designated.

The plan and code call for:

- Establishing the Class I and II Riparian area (per Metro mapping) plus 200 feet as a protected open space area. No development is permitted, except for very limited uses such as trails.
- Between the west edge of the above referenced protected open space area and the 490 foot elevation (MSL), establish a conservation area within which the following provisions apply:
 - a. A minimum of 50% of the conservation area must be open space. No residential uses are permitted.
 - b. All development must be low impact with respect to grading, site design, storm water management, energy management, and habitat.
 - c. Building heights must not obscure views from the 490 foot elevation of the ridge.
 - d. Open space areas must be environmentally improved and restored.
- Establishing a limit of development that demarks the clear edge of urban uses and a “window” to adjacent natural areas. In the central area of the est ridge, the “window” must be a minimum of 700 feet of continuous area and publicly accessible. The specific location of the “window” is flexible and will be establishing as part of a master plan.
- Creating two scenic view points that are small public parks, located north and south of the central area.
- Creating an East Ridge Trail - the location of the trail is flexible and will be established during master planning. It will be located so as to be safe, visible, and connect the public areas along the ridge. Along the “window” area described above, it will be coordinated with the location of the adjacent East Ridge Parkway.

Transportation

In summary, the key elements of the Concept Plan transportation strategy are to:

- Plan a mixed use community that provides viable options for internal trip making (i.e. many daily needs provided on-site), transit use, maximized walking and biking, and re-routed trips within the Oregon City area.
- Improve Beavercreek Road as a green street boulevard.
- Create a framework of collector streets that serve the Beavercreek Road Concept Plan area.
- Require local street and pedestrian way connectivity.
- Require a multimodal network of facilities that connect the Beavercreek Road Concept Plan area with adjacent areas and surrounding transportation facilities.
- Provide an interconnected street system of trails and bikeways.
- Provide transit-attractive destinations.
- Provide a logical network of roadways that support the extension of transit services into the Beavercreek Road Concept Plan area.
- Use green street designs throughout the plan.
- Update the Oregon City Transportation System Plan to include the projects identified in the Beavercreek Road Concept Plan, provide necessary off-site improvements, and, assure continued compliance with Oregon's Transportation Planning Rule.
- *Center Parkway as a parallel route to Beavercreek Road.* This new north-south route provides the opportunity to completely avoid use of Beavercreek Road for trips between Old Acres and Thayer Road. This provides a much-needed separation of local and through trips, as well as an attractive east-side walking and biking route. Major cross-street intersections, such as Loder, Meyers and Glen Oak may be treated with roundabouts or other treatments to help manage average speeds on this street. Minor intersections are likely to be stop-controlled on the side street approaches. The alignment of Center Parkway along the central open space is intended to provide an open edge to the park. The cross-section for Center Parkway includes a multi-use path on the east side and green street swale. Center Parkway is illustrated as a three-lane facility. Depending on land uses and block configurations, it may be able to function well with a two lane section and left turn pockets at selected locations.
- *Ridge Parkway as a parallel route to Center Parkway and Beavercreek Road.* The section of Ridge Parkway south of the Glen Oak extension is intended as the green edge of the neighborhood. This will provide a community "window" and public walkway adjacent to the undeveloped natural areas east of the parkway. Ridge Parkway should be two lanes except where left turn pockets are needed. Major intersections south of Loder are likely to only require stop control of the side street, if configured as "tee" intersections. Mini roundabouts could serve as a suitable option, particularly if a fourth leg is added.
- *Ridge Parkway.* Ridge Parkway was chosen to extend as the through-connection south of the planning area to Henrici Road. Center Parkway and Ridge Parkway are both recommended for extension to the north as long-term consideration for Oregon City and Clackamas County during the update of respective Transportation System Plans. It is beyond the scope of this study to identify and determine each route and the feasibility of such extensions. Fatal flaws to one or both may be discovered during subsequent planning. Nonetheless, it is prudent at this level of study, in this area of the community, to identify opportunities to efficiently and systematically expand the transportation system to meet existing and future needs.

Streets

Figure 14 illustrates the street plan. Highlights of the plan include:

- *Beavercreek as a green boulevard.* The cross-section will be a 5 lane arterial to Clairmont, then a 3 lane arterial (green street boulevard) from Clairmont to UGB. The signalization of key intersections is illustrated on the Street Plan.

- *Extensions of Clairmont, Meyers, Glen Oak Roads and the south entrance through to the Ridge Parkway.* These connections help complete the network and tie all parts of the community to adjacent streets and neighborhoods.
- *Realignment of Loder Road at its west end. Loder is recommended for re-configuration to create a safer “T” intersection.* The specific location of the intersection is conceptual and subject to more site specific planning.

The streets of the Concept Plan area are recommended to be green streets. This is an integral part of the storm water plan and overall identity and vision planned for the area. The green street cross-sections utilize a combination of designs: vegetated swales, planter islands, curb extensions, and porous pavement. Figures 15 – 19 illustrate the recommended green street cross-sections. These are intended as a starting point for more detailed design.

Trails

Figure 14 also illustrates the trail network. The City’s existing Thimble Creek Trail and Metro’s Beaver Lake Regional Trail have been incorporated into the plan. New trails include the Powerline Corridor Trail, multi-use path along Center Parkway, and the Ridge Trail.

Transit

The Concept Plan sets the stage for future transit, recognizing that how that service is delivered will play out over time. Specifics of transit service will depend on the actual rate and type of development built, Tri-Met resources and policies, and, consideration of local options. Three options have been identified:

1. A route modification is made to existing bus service to Clackamas Community College (CCC) that extends the route through CCC to Beaver Creek Road via Clairmont, then south to Meyers or Glen Oak, back to HWY 213, and back onto Molalla to complete the normal route down to the Oregon City Transit Center. To date, CCC has identified Meyers Road as a future transit connection to the college.
2. A new local loop route that connects to the CCC transit center and serves the Beaver Creek Road Concept Planning area, the High School, the residential areas between Beaver Creek and HWY 213, and the residential areas west of HWY 213 (south of Warner Milne).
3. A new “express” route is created from the Oregon City Transit Center, up/down HWY 213 to major destinations (CCC, the Beaver Creek Road Employment area, Red Soils, Hilltop Shopping Center, etc.).

It is the recommendation of this Plan that the transit-oriented (and Use mix), density, and design of the Beaver Creek Road area be implemented so that transit remains a viable option over the long term. The City should work with Tri-Met, CCC, Oregon City High School, and developers within the Concept Plan area to facilitate transit.

Connectivity

The street network described above will be supplemented by a connected local street network. Consistent with the framework plan approach, connectivity is required by policy and by the standards in the code. The specific design for the local street system is flexible and subject to master plan and design review. Figure 20 illustrates different ways to organize the street and pedestrian systems. These are just three examples, and are not intended to suggest additional access to Beaver Creek Road beyond what is recommended in Figure 14. The Plan supports innovative ways to configure the streets that are consistent with the goals and vision for the Beaver Creek Concept Plan area.

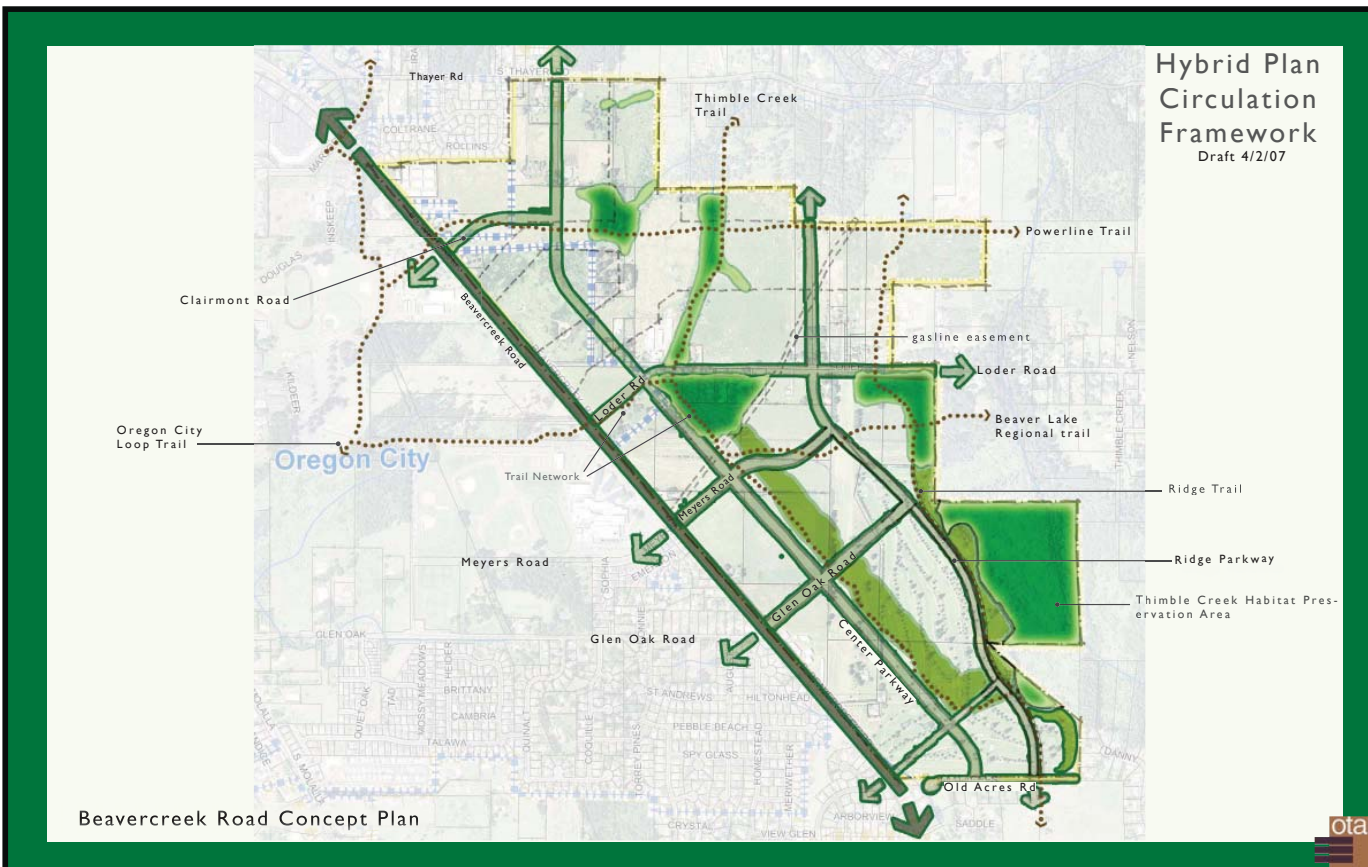


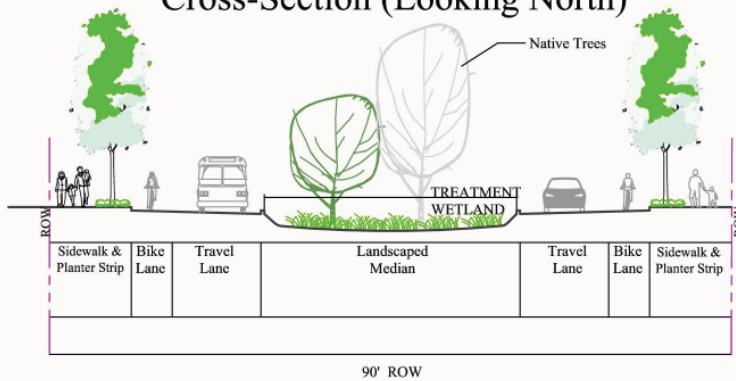
Figure 14 - Circulation Framework



Figure 20 - Connectivity Diagrams

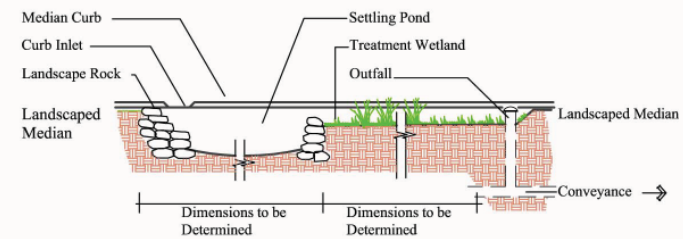
Conceptual only - See Figure 14 for recommended access points to Beaver Creek Road.

Beavercreek Road Greenstreet - Option 1 3-lane Right-of-way Cross-Section (Looking North)



Beavercreek Road Concept Plan

Median Treatment Wetland Conceptual Detail



Beavercreek Road - Option 1 3-lane Right-of-way Plan Concept

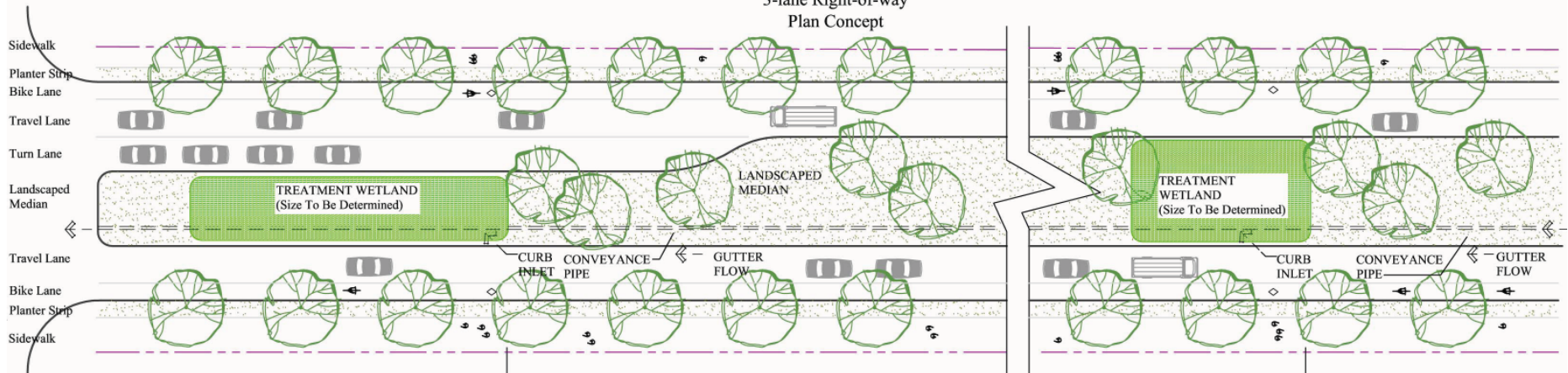


Figure 15 - Beavercreek Road Green Street

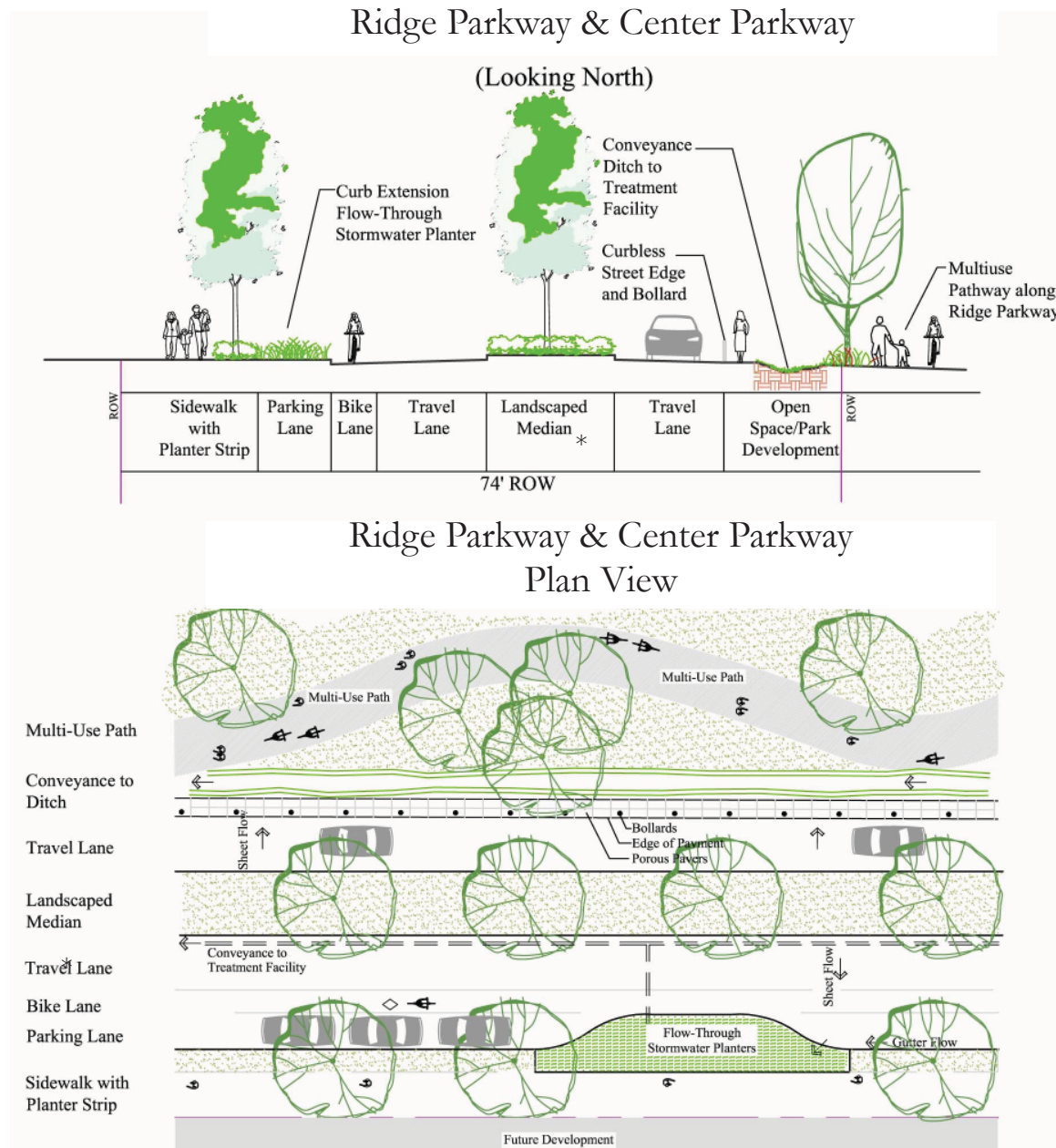
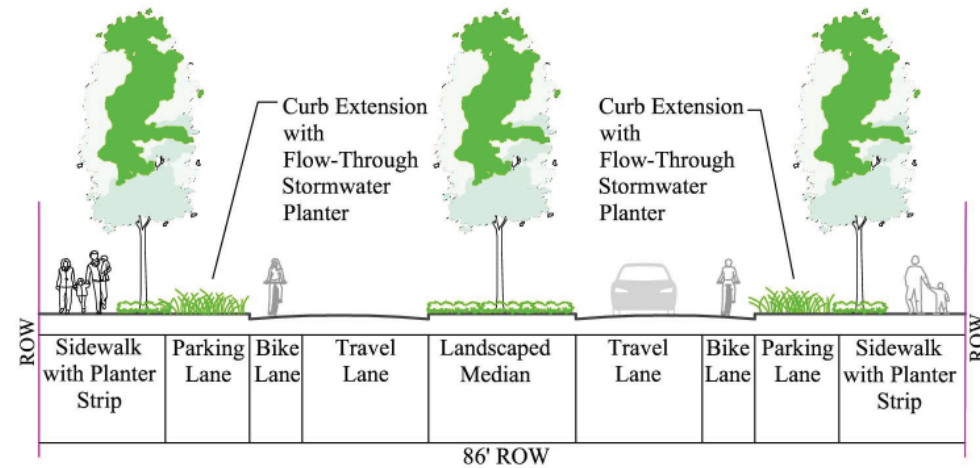


Figure 16 - Ridge Parkway and Central Parkway Green Streets

*Center median is optional for Ridge Parkway.

Collector Greenstreet (Looking North)



Collector Greenstreet Plan View

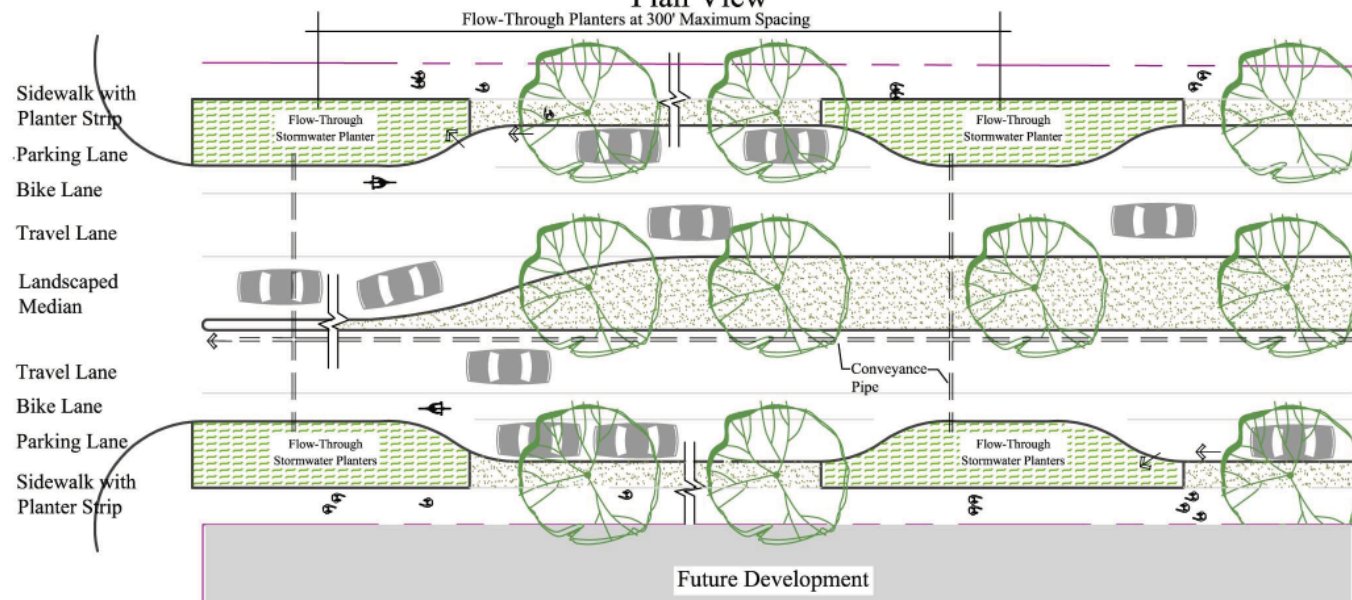
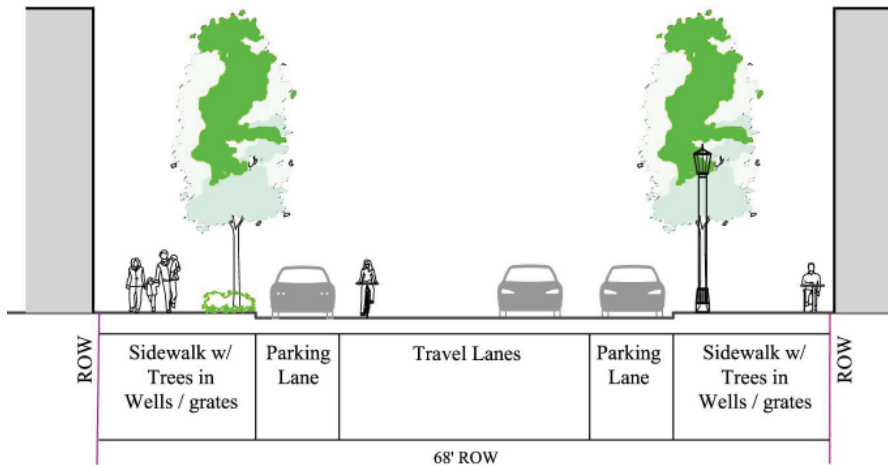


Figure 17 - Collector Green Street

Main Street Collector

Potential Building
Frontage with Future
Development



Main Street Collector Plan View

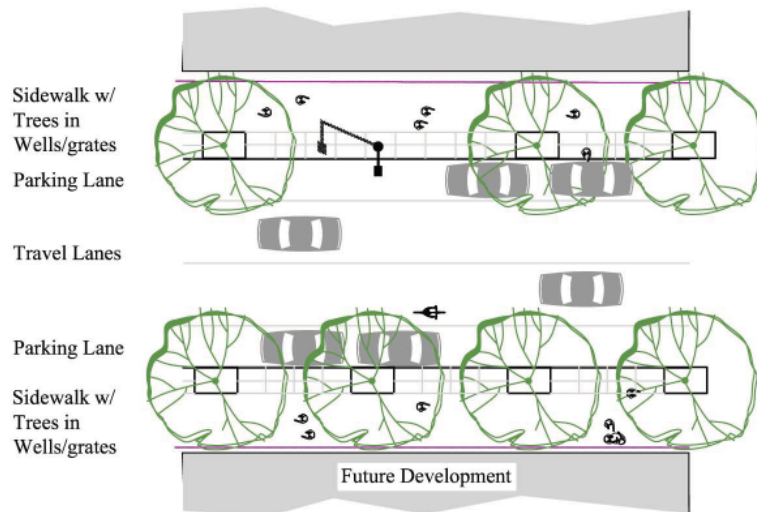
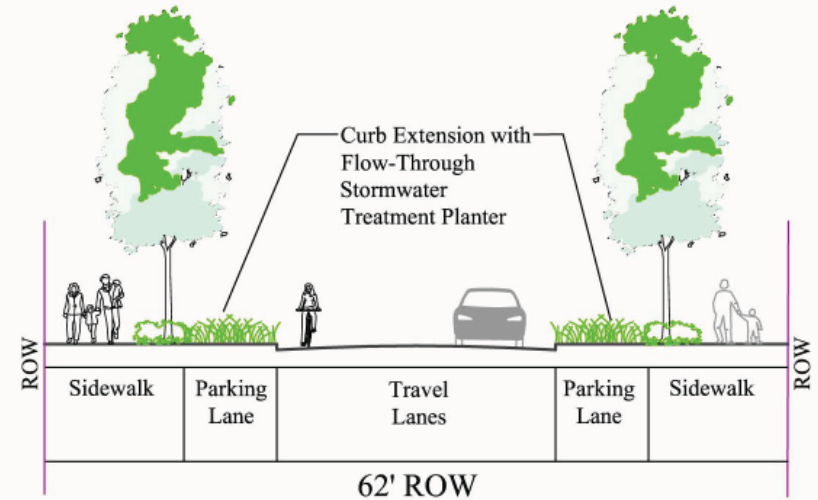


Figure 18 - Main Street Green Street

Neighborhood Greenstreet



Neighborhood Greenstreet Plan View

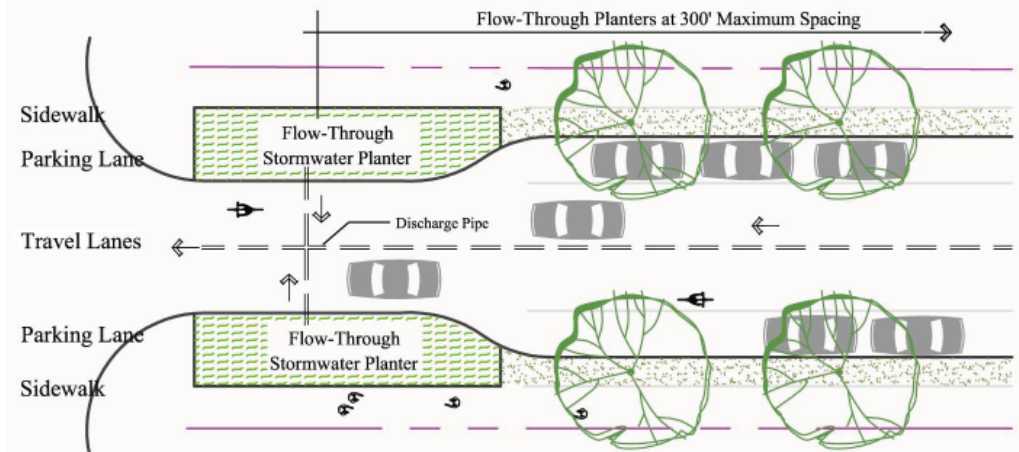


Figure 19 - Neighborhood Green Street

Cost Estimate

A planning-level cost estimate analysis was conducted in order to approximate the amount of funding that will be needed to construct the needed improvements to the local roadway system, with the build-out of the Beavercreek Road Concept Plan. The table below lists these improvements and their estimated costs. These generalized cost estimates include assumptions for right-of-way, design, and construction.

For additional information, please see Technical Appendix, Sections C2 and G.

Roadway Improvements	Improvement	Estimated Cost
Beavercreek Road: Marjorie Lane to Clairmont Drive	Construct 5-lane cross-section to City standards	\$6,300,000
Beavercreek Road: Clairmont Drive to Henrici Road	Construct 3-lane cross-section to City standards	\$12,300,000
Clairmont Drive: Beavercreek Road – Center Parkway	Construct new 3-lane collector to City standards and modify signal at Beavercreek Road	\$2,400,000
Loder Road: Beavercreek Road to Center Parkway	Construct 3-lane cross-section to City standards and signalize Beavercreek Road intersection	\$1,400,000
Loder Road: Center Parkway – East Site Boundary	Construct 3-lane cross-section to City standards	\$4,200,000
Meyers Road: Beavercreek Road – Ridge Parkway	Construct new 3-lane collector to City standards and modify signal at Beavercreek Road	\$3,500,000
Glean Oak Road: Beavercreek Road – Ridge Parkway	Construct new 3-lane collector to City standards and modify signal at Beavercreek Road	\$3,400,000
Center Parkway	Construct new 3-lane collector with 12' multi-use path	\$17,700,000
Ridge Parkway	Construct new 3-lane collector	\$9,800,000
Total Roadway Improvements		\$61,000,000
Intersection Only Improvements	Improvement	Estimated Cost
Beavercreek Road/Maplelane	Road Construct new WB right-turn lane	\$250,000
Beavercreek Road/ Meyers Road	Construct new NB and SB through lanes	\$5,000,000
Total Intersection Improvements		\$5,250,000
TOTAL IMPROVEMENTS		\$66,250,000

Transportation Cost Estimate



Figure 21 - Sustainable Stormwater Plan

Storm Water and Water Quality

This Beavercreek Road stormwater infrastructure plan embraces the application of low-impact development practices that mimic natural hydrologic processes and minimize impacts to existing natural resources. It outlines and describes a stormwater hierarchy focused on managing stormwater in a naturalistic manner at three separate scales: site, street, and neighborhood.

Tier 1 – Site Specific Stormwater Management Facilities (Site)

All property within the study area will have to utilize on-site best management practices (BMPs) to reduce the transport of pollutants from their site. Non-structural BMPs, such as source control (e.g. using less water) are the best at eliminating pollution. Low-impact structural BMPs such as rain gardens, vegetated swales, pervious surface treatments, etc. can be designed to treat stormwater runoff and reduce the quantity (flow and volume) by encouraging retention/infiltration. They can also provide beneficial habitat for wildlife and aesthetic enhancements to a neighborhood. These low-impact BMP's are preferred over other structural solutions such as underground tanks and filtration systems. Most of these facilities will be privately maintained.

Tier 2 – Green Street Stormwater Management Facilities (Street)

Green Streets are recommended for the entire Beavercreek Concept Plan area. The recommended green street design in Figures 15 - 19 use a combination of vegetated swales or bioretention facilities adjacent to the street with curb cuts that allow runoff to enter. Bioretention facilities confined within a container are recommended in higher density locations where space is limited or is needed for other urban design features, such as on-street parking or wide sidewalks. The majority of the site is underlain with silt loam and silty clay loam. Both soils are categorized as Hydrologic Soil Group C and have relatively slow infiltration rates.

The recommended green streets will operate as a collection and conveyance system to transport stormwater from both private property and streets to regional stormwater facilities. The conveyance facilities need to be capable of managing large storm events that exceed the capacity of the swales. For this reason, the storm water plan's conveyance system is a combination of open channels, pipes, and culverts. Open channels should be used wherever feasible to increase the opportunity for stormwater to infiltrate and reduce the need for piped conveyance.

Tier 3 – Regional Stormwater Management Facilities (Neighborhood)

Regional stormwater management facilities are recommended to manage stormwater from larger storms that pass through the Tier 1 and Tier 2 facilities. Figure 21 illustrates seven regional detention pond locations. Coordinating the use of these for multiple properties will require land owner cooperation during development reviews, and/or, City initiative in advance of development.

The regional facilities should be incorporated into the open space areas wherever possible to reduce land costs, and reduce impacts to the buildable land area. Regional stormwater facilities should be designed to blend with the other uses of the open space area, and can be designed as a water feature that offers educational or recreational opportunities. Stormwater runoff should be considered as a resource, rather than a waste stream. The collection and conveyance of stormwater runoff to regional facilities can offer an opportunity to collect the water for re-use.

Discharge Locations

Post-development stormwater runoff rates from the Beavercreek Road Concept Plan Area will need to match pre-development rates at the existing discharge locations, per City Stormwater Design Standards. Since there are several small discharge locations to Thimble Creek, flow control facilities may not be feasible at all discharge locations. In this situation, over-detention is needed at some discharge locations to compensate for the undetained areas so that flows in Thimble Creek at the downstream point of compliance meet City Stormwater Design Standards for flow control.

The stormwater infrastructure for the Beavercreek Road Concept Plan Area is estimated to cost between \$7.8 million and \$9.4 million for base construction. When construction contingencies, soft costs (engineering, permitting, construction management), and land acquisition, the total cost is estimated at \$15 to \$23 million.

Water

The proposed water infrastructure plan creates a network of water supply pipelines as the “backbone” system. In addition, as individual parcels are developed, a local service network of water mains will be needed to serve individual lots.

Since there are two pressure zones in the concept plan area, there will need to be a network of pipes for each of the two zones. These systems are illustrated on Figure 22. The Fairway Downs Pressure Zone will serve the south one-third of the concept plan area. This zone receives water from

the system reservoirs. But, because this zone is at the highest elevation in the entire water system, pressure from the reservoir system is insufficient to maintain a usable pressure to customers in this part of the system. The water pressure is increased by using a booster pump station located at the intersection of Glen Oak Road and Beavercreek Road.

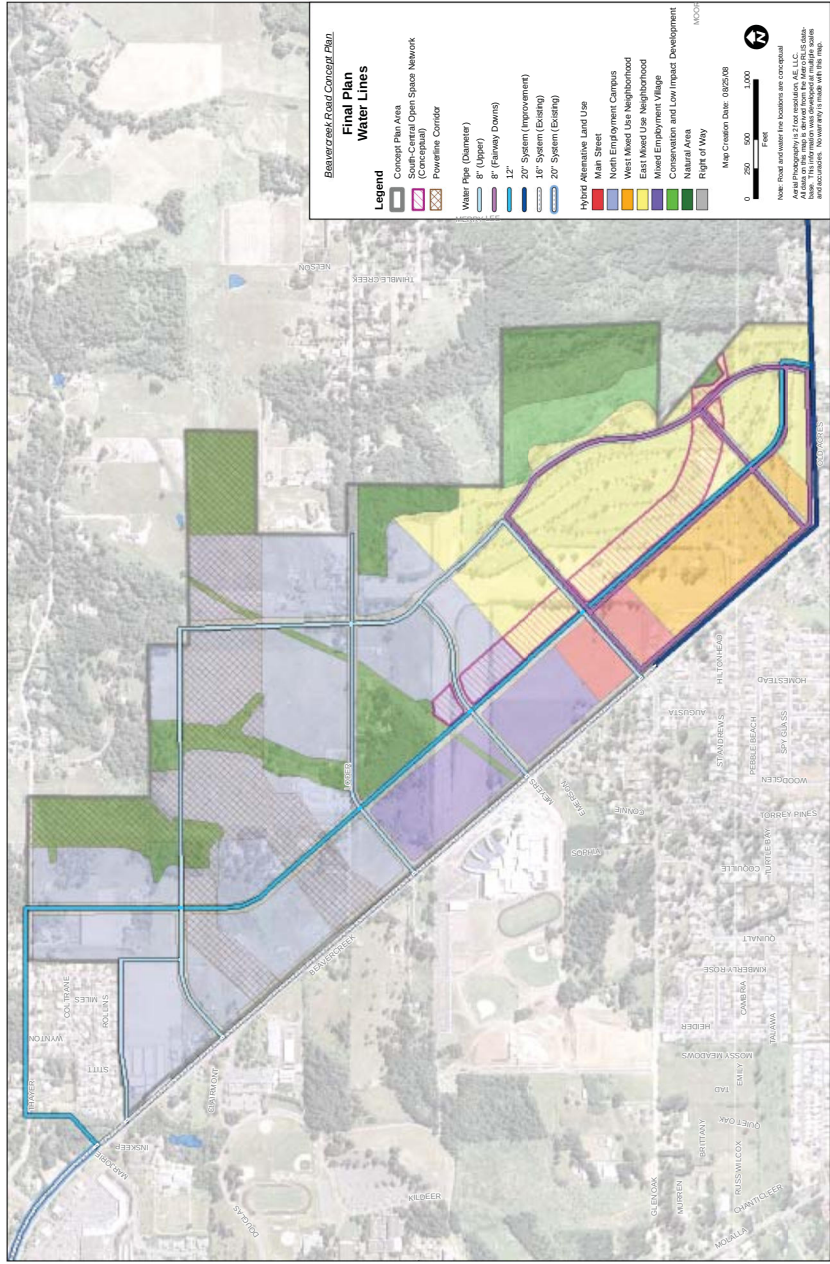


Figure 22 - Water Plan

In the Fairway Downs Pressure Zone, the majority of the water mains will be installed in the proposed public rights-of-way. However, a small portion of the system may need to be in strip easements along the perimeter of the zone at the far southeast corner of the concept plan area. The system layout shown is preliminary and largely dependent on future development and the final system of internal (local) streets. Additional mains may be needed or some of the water mains shown may need to be removed. For instance, if the development of the residential area located at the southeast end of the site, adjacent to Old Acres Road, includes internal streets, the water mains shown along the perimeter of the site may be deleted because service will be provided from pipes that will be installed in the internal street system.

Some of the planned streets in the Fairway Downs Pressure Zone will contain two water mains. One water main will provide direct water service to the area from the booster pump system. The other water main will carry water to the lower elevation areas in the Upper Pressure Zone.

The Upper Pressure Zone will serve the north two-thirds of the concept plan area. The “backbone” network for the Upper Pressure Zone will have water mains that are pressured from the Henrici and Boynton reservoirs. A single 12-inch water main will run parallel with Beaver Creek Road through the middle of concept plan area. This water conduit will serve as the “spine” for the Upper Pressure Zone. A network of 8-inch water pipes will be located in the public rights-of-way and will provide water to the parcels that are identified for development. The system can be extended easterly on Loder Road, if needed.

The preliminary design ensures that the system is looped so that there are no dead-end pipes in the system. Along a portion of the north perimeter, approximately 1,600 feet of water pipe will be needed to complete a system loop and provide water service to adjacent lots. This pipe will share

a utility easement with a gravity sanitary sewer and a pressure sewer. There may also be stormwater facilities in this same alignment.

In the Water Master Plan, under pipeline project P-201, there is a system connection in a strip easement between Thayer Road and Beaver Creek Road at the intersection with Marjorie Lane. Consideration should be given to routing this connection along Thayer Road to Maple Lane Road and then onto Beaver Creek Road. This will keep this proposed 12-inch main in the public street area where it can be better accessed.

The estimated total capital cost for the “backbone” network within the concept plan area will be in the area of \$5,400,000. This estimate is based on the one derived for Alternative D, which for concept planning purposes, is representative of the plan and costs for the final Concept Plan. This is in addition to the \$6.9 million of programmed capital improvement projects that will extend the water system to the concept plan area. All estimates are based on year 2003 dollars. Before the SDC can be established, the estimates will need to be adjusted for the actual programmed year of construction.

For additional information, please see Technical Appendix, Sections C6 and H3.

Sanitary Sewer

The northern half of the concept area drains generally to the north and follows the natural land contours formed by the uppermost portion of Thimble Creek. The proposed sanitary sewer system in the vicinity of Loder Road will follow the north-south street rights-of-way. This part of the system will terminate at the low point of the concept plan area in a wetwell. A sanitary lift station over the wetwell will pump the wastewater uphill in a westerly direction to a point that it can be discharged into a gravity sewer that will flow west to the trunk sewer in Beaver Creek Road. The lift station and pressure sewer project has been identified in the Sanitary Sewer Master Plan as projects BC-COL-5 and 6. A utility bridge that will carry the pressure pipe and gravity sewer pipe over Thimble Creek is anticipated.

A short road access to the pump station that is parallel to Thimble Creek will also be needed.

The majority of the southern half of the concept area will have a gravity sanitary sewer system that will convey waste water to the existing 2,400-foot long trunk sewer in Beaver Creek Road, which currently extends from Highway 213 to approximately 800 feet south of Marjorie Lane. This portion of the system can be built in the planned roadways and in the existing Beaver Creek Road right-of-way. This portion of the system can be built in the planned roadways. A portion of the system, approximately 900 feet long, will need to be built in the current alignment of Loder Road so that the gravity sewer can be connected to the trunk sewer in Beaver Creek Road. The circulation plan includes a realignment of Loder Road. Therefore, a sewer easement will need to be retained across the future parcel that now includes the current Loder Road alignment.

The approximate elevation of 490 ft (MSL) is important in the southern half of the concept plan area relative to gravity sewer service. Roadways and developed above constructed above 490 ft will most likely allow for gravity sewer service. If land uses requiring sanitary sewer service (or roadways with sewer underneath) are located lower than 490 ft, individual pump stations and pressurized services may be required.

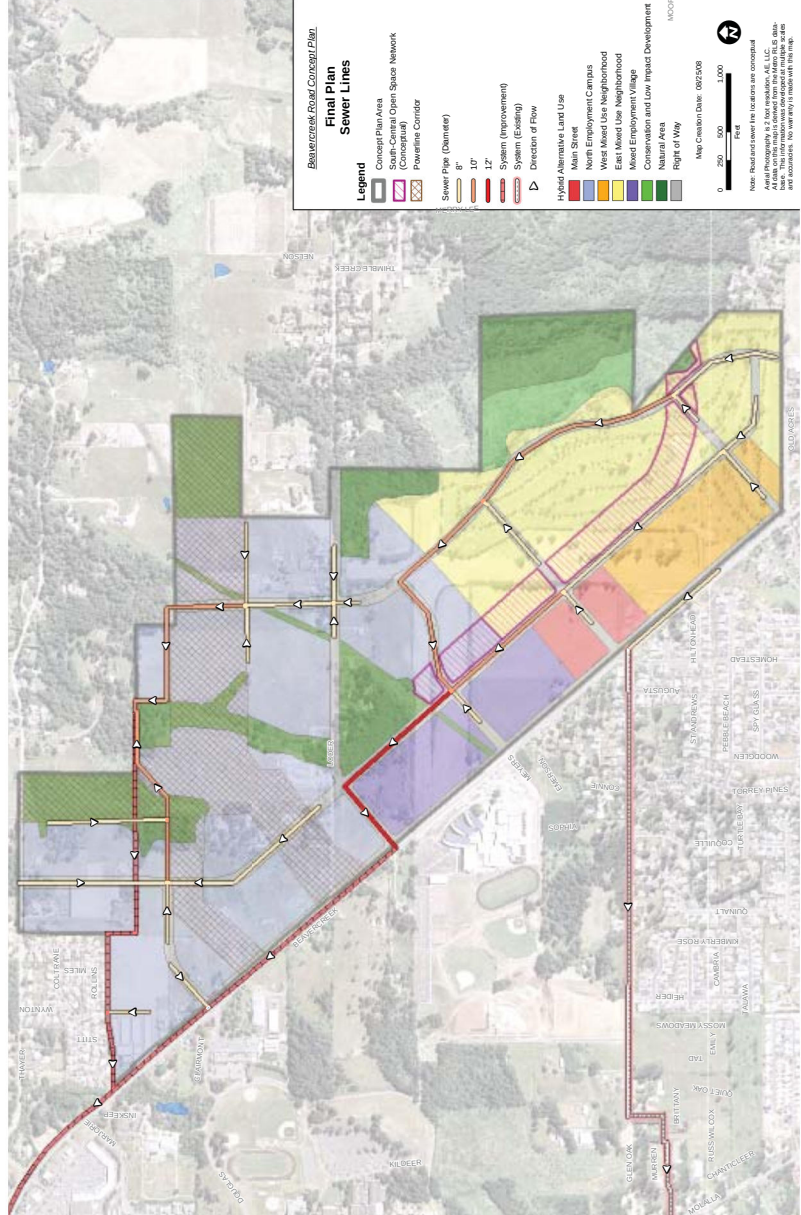


Figure 23 - Sewer Plan

The estimated total capital cost will be in the vicinity of \$4,400,000. This estimate is based on the cost analysis for Alternative D, which is comparable. This is in addition to the \$2.3 million in sanitary sewer master plan capital costs that needed to bring the sanitary sewers to the concept plan area. These estimates are based on year 2003 dollars. The estimates will need to be adjusted for the programmed year of construction.

For additional information, please see Technical Appendix, Sections C6 and H2.

Funding strategies

For water, sewer, storm water and parks, there are five primary funding sources and strategies that can be used:

- *System development charges (SDCs)*– Oregon City requires developers to pay SDCs for new development. Developers pay these charges up front based on the predicted impact of the new development on the existing infrastructure and the requirements it creates for new improvements. Although the charges are paid by the developer, the developer may pass on some of these costs to buyers of newly developed property. Thus, SDCs allocate costs of development to the developer and buyers of the new homes or new commercial or industrial buildings.
- *Urban renewal/tax increment financing* - Tax increment financing is the primary funding vehicle used within urban renewal areas (URA). The tax increment revenue is generated within a URA when a designated area is established and the normal property taxes within that area are ‘frozen’ (often called the frozen base). Any new taxes generated within that area through either property appreciation or new investment becomes the increment. Taxing jurisdictions continue to collect income from the frozen base but agree to release assessed value above the base to the URA. The URA then can issue bonds to pay for identified public improvements. The tax increment is used to pay off the bonds.

Oregon City has the authority to establish an URA. The Beavercreek Road Concept Plan Area would have to meet the definition of ‘blight’ as defined in ORS 457. It is likely to meet ‘blight’ standards because its existing ratios of improvement-to-land values are likely low enough to meet that standard.

- *Local Improvement Districts* - Local Improvement Districts (LIDs) are formed for the purpose of assessing local property owners an amount sufficient to pay for a project deemed to be of local benefit. LIDs are a specific type of special assessment district, which more broadly includes any district that is formed within an existing taxing district to assess specific property owners for some service that is not available throughout the larger district. The revenues from the LID assessments are used to pay the debt payments on a special assessment bond or a note payable issued for the capital improvements.

LID assessments increase costs for property owners. Under a LID the improvements must increase the value of the taxed properties by more than the properties are taxed. LIDs are typically used to fund improvements that primarily benefit residents and property owners within the LID.

- *Bonds* - Bonds provide a financing mechanism for local governments to raise millions of dollars for parks and other capital projects. The City could back a bond with revenue from a LID, the Urban Renewal Districts, or property taxes citywide. General obligation (GO) bonds issued by local governments are secured by a pledge of the issuer’s power to levy real and personal property taxes. Property taxes necessary to repay GO bonds are not subject to limitation imposed by recent property tax initiatives. Oregon law requires GO bonds to be authorized by popular vote.

Bond levies are used to pay principal and interest for voter-approved bonded debt for capital improvements. Bond levies typically are approved in terms of dollars, and the tax rate is calculated as the total levy divided by the assessed value in the district.

- *Developer funded infrastructure* – The City conditions land use approvals and permits to include required infrastructure. Beyond

the sources cited above, developers cover the remaining costs for the infrastructure required for their development.

Additional funding tools that could be investigated and implemented within the Concept Plan area include a Road District, a County Service District, Intergovernmental Agreements, an Advance Finance District, a Certificate of Participation, and a Utility Fee. There are benefits and limitations associated with each of the funding options that should be reviewed carefully before implementing.

For transportation infrastructure, the same sources as cited above are available. For larger facilities, such as Beavercreek Road, additional funds may be available. They include Metro-administered federal STP and CMAQ funding, and, regional Metro Transportation Improvement Plan funding. These sources are limited and extremely competitive. County funding via County SCSs should also be considered a potential source for Beavercreek Road. Facilities like Beavercreek Road are often funded with a combination of sources, where one source leverages the availability of another.

Sustainability

One of the adopted goals is: The Beavercreek Road Concept Plan Area will be a model of sustainable design, development practices, planning, and innovative thinking.

Throughout the development of the concept plan, sustainability has been paramount in guiding the CAC, the City, and the consultant team. The final plan assumes that sustainable practices will be a combination of private initiatives (such as LEED certified buildings), public requirements (green streets and low impact development policies), and public-private partnerships. It is recommended that City use incentives, education and policy support as much as possible for promoting sustainability at Beavercreek Road. Some initiatives will require regulation and City mandates, but caution and balance should be used. At the end of the

day, it is up to the private sector to invest in sustainable development. The Beavercreek Road's site's legacy as a model of sustainable design will depend, in large part on the built projects that are successful in the marketplace and help generate the type of reputation that the community desires and deserves.

The key to fulfilling the above-listed goal will be in the implementation. For the City's part, implementation strategies that support sustainable design will be included within the Oregon City Comprehensive Plan policies and Code provisions. They will be applied during master plan and design review permitting. Some of these strategies will be "required" while other are appropriate to "encourage." These sustainability strategies include:

- Energy efficiency
- Water conservation
- Compact development
- Solar orientation
- Green streets/infrastructure
- Adaptive reuse of existing buildings/infrastructure
- Alternative transportation
- Pedestrian/Cyclist friendly developments
- Natural drainage systems
- Tree preservation and planting to "re-establish" a tree canopy
- Minimizing impervious surfaces
- Sustainability education (builder, residents, businesses and visitors)
- Collaboration with "local" institutional and economic partners, particularly Clackamas Community College and Oregon City High School
- Community-based sustainable programs and activities

Principles for Sustainable Community Design

The CAC discussed Principles for Sustainable Community Design that were offered by one of the members. These provide a good framework for how the Concept Plan is addressing sustainability.

Mix Land Uses - Promote a mix of land uses that support living wage jobs and a variety of services.

All of the sub-districts are, to some degree, mixed use districts. The Mixed Use Village, Main Street and West Mixed Use Neighborhood allow a rich mix of employment, housing, and services. Taken together, the entire 453 acre area will be a complete community.

Housing Types - Create a range of housing choices for all ages and incomes.

The concept plan includes housing in many forms: mixed use formats in the 3-5 story buildings, high density apartments and condominiums, live-work units, townhomes, small cottage lots, and low density single family homes.

Walk-ability - Make the Neighborhood “walkable” and make services “walk-to-able.”

The plan provides a street and trail framework. The code will require a high level of connectivity and maximum block sizes for most sub-districts. Services are provided throughout the plan as part of mixed use areas and a broad range of permitted uses.

Transportation - Provide a range of transportation options using a connected network of streets and paths.

The plan provides for all modes: walking, biking, driving and transit. Transit-supportive land use is specifically required in the Mixed Employment Village, Main Street and West Mixed Use Neighborhoods. The framework of connected streets and paths will be supplemented by a

further-connected system of local streets and walking routes.

Open Space - Protect and maintain a functioning green space network for a variety of uses.

Open space is distributed throughout the plan. New green spaces are connected with existing higher-value natural areas.

Integrate Systems - Integrate ecological and man-made systems to maximize function, efficiency and health.

Infrastructure systems (green storm water, multi-modal transportation) are highly integrated with the open space network and array of land uses. It will be important for the implementation of the plan to further integrate heating, cooling, irrigation and other man-made systems with the Concept Plan framework.

Ecological Health - Manage natural resources to eliminate pollution to watersheds and lessen impact on habitat and green infrastructure.

Methods to achieve this principle are identified in the Stormwater Infrastructure Report. Additionally, the code requires measures to preserve natural resources and eliminate pollution to watersheds necessary to achieve this principle.

Reuse, Recycle, Regenerate - Reuse existing resources, regenerate existing development areas.

The principle will be applied primarily at time of development and beyond.

Green Buildings - Build compact, innovative structures that use less energy and materials.

The draft code includes provisions for green buildings. This is a new area for the City to regulate, so a public-private Green Building Work Group is recommend to explore issues, build consensus, and develop specific code recommendations.

Work Together - Work with community members and neighbors to design and develop.

The development of the alternatives and the recommended plan has been a collaborative process with all project partners. The concept plan process through implementation and subsequent project area developments will continue to be a collaborative process where all stakeholders are invited to participate.

For additional information, please see Technical Appendix, Sections C3, D, and F.

Metrics

Land Use

The following table summarizes the acreages for major land uses on the Concept Plan.

Land Use Category (acres)	Hybrid
North Employment Campus (adjusted gross acreage)*	149
Mixed Employment Village	26
Main Street	10
West Mixed Use Neighborhood	22
East Mixed Use Neighborhood	77
Total Acres of "built" land use	284
Other Land Uses (not "built")	
Parks/Open Space/Natural Areas (Total)**	113
Major ROW+	56
Existing Uses (unbuildable)	0
Total Project Area Gross Acres	453

*Adjusted gross acreage is the sum of 50% of the employment land use shown under the powerline easement plus all other unconstrained employment land use areas. Calculations shown below:

Land Use Category (acres)	Hybrid
Total North Employment Campus	175
Unconstrained NEC	123
Employment with powerline overlay	52
Useable portion of powerline overlay (50%)	26
North Employment Campus (adjusted gross acreage)*	149

Housing and Employment Estimates

The Concept Plan has an estimated capacity for approximately 5000 jobs and 1000 dwellings. The following table displays the estimates and assumptions used to estimate jobs and housing. On a net acreage, these averages are 33 jobs/ net developable acre and 10.3 dwellings/ net developable acre.

Land Use Category	Hybrid Gross Acres	Hybrid Net Acres*	FAR/Acre**	SF/Job**	# of Jobs***	Avg. Units/Acre	# of Units+
North Employment Campus (adjusted gross acreage)	149	127	0.3	450	3,678		
Mixed Employment Village	26	21	0.44	350	1,139		
Main Street****	10	8	0.44	350	219	25	100
West Mixed Use Neighborhood	22	18			15	22	387
East Mixed Use Neighborhood	77	62			21	8.7	536
Total # of Jobs					5,073		
Total # of Housing Units							1,023
Total Acres of Developed Land++	284	235					

*For Hybrid - Net acres equals gross acres minus 15% for local roads and easements in Employment. Mixed Employment, Mixed Use, and residential areas assume 20% for local roads and easements

*Based on Metro 2002-2022 Urban Growth Report: An Employment Land Need Analysis. Includes total on site employment (full and part time). Mixed Employment FAR and job density reflects a mix of office, tech/flex, and ground floor retail.

***Number of Jobs in Employment, Mixed Employment, Mixed Use calculated by multiplying total acres by the FAR; Converting to square feet; and dividing by number of jobs/square foot. Jobs in residential areas (Work at Home Jobs) estimated at 4% (potential could be as high as 15%).

**** Mixed Use land use assumes 50% of acreage devoted to commercial uses and the remaining 50% devoted to vertical mixed use.

+Number of units calculated by multiplying total net acres of residential land use by average units per acre

++Includes 50% of useable power line corridor (26 acres total) as part of developed land (included in Employment land area)

+++Does not include powerline corridor acreage as part of developed land

VI. Goals and Policies

The following goals and policies are recommended for adoption into the Oregon City Comprehensive Plan. The goal statements are those developed by the Citizen Advisory Committee as goals for the plan.

Goal 1 Complete and Sustainable Community

Create a complete and sustainable community, in conjunction with the adjacent land uses, that integrates a diverse mix of uses, including housing, services, and public spaces that are necessary to support a thriving employment center.

Policy 1.1

Adopt new comprehensive plan and zone designations, and development code, that implement the Beavercreek Concept Plan. Require all development to be consistent with the Concept Plan and implementing code.

Policy 1.2

Establish sub-districts to implement the Concept Plan. The sub-districts are:

North Employment Campus – NEC

The purpose of the North Employment Campus is to provide for the location of family wage employment that strengthens and diversifies the economy. The NEC allows a mix of clean industries, offices serving industrial needs, light industrial uses, research and development and large corporate headquarters. The uses permitted are intended to improve the region's economic climate, promote sustainable and traded sector businesses, and protect the supply of sites for employment by limiting

incompatible uses. The sub-district is intended to comply with Metro's Title 4 regulations. Site and building design will create pedestrian-friendly areas and utilize cost effective green development practices. Business and program connections to Clackamas Community College (CCC) are encouraged to help establish a positive identity for the area and support synergistic activity between CCC and NEC properties. Businesses making sustainable products and utilizing sustainable materials and practices are encouraged to reinforce the identity of the area and promote the overall vision for the Beavercreek Road area.

Mixed Employment Village – MEV

The purpose of the Mixed Employment Village is to provide employment opportunities in an urban, pedestrian friendly, and mixed use setting. The MEV is intended to be transit supportive in its use mix, density, and design so that transit remains an attractive and feasible option. The MEV allows a mix of retail, office, civic and residential uses that make up an active urban district and serve the daily needs of adjacent neighborhoods and Beavercreek Road sub-districts. Site and building design will create pedestrian-friendly areas and utilize cost effective green development practices. Business and program connections to Clackamas Community College and Oregon City High School are encouraged. Businesses making sustainable products and utilizing sustainable materials and practices are encouraged to reinforce the identity of the area and promote the overall vision for the Beavercreek Road area.

Main Street – MS

The purpose of this small mixed-use center is to provide a focal point of pedestrian activity. The MS allows small scale commercial, mixed use and services that serve the daily needs of the surrounding area. "Main Street" design will include buildings oriented to the street, and minimum of 2 story building scale, attractive streetscape, active ground floor uses and other elements that reinforce pedestrian oriented character and vitality of the area.

West Mixed Use Neighborhood – WMU

The West Mixed Use Neighborhood will be a walkable, transit-oriented neighborhood. This area allows a transit supportive mix of housing, live/work units, mixed use buildings and limited commercial uses. A variety of housing and building forms is required, with the overall average of residential uses not exceeding 22 dwelling units per acre. The WMU area's uses, density and design will support the multi-modal transportation system and provide good access for pedestrians, bicycles, transit and vehicles. Site and building design will create a walkable area and utilize cost effective green development practices.

East Mixed Use Neighborhood – EMU

The East Mixed Use Neighborhood will be a walkable and tree-lined neighborhood with a variety of housing types. The EMU allows for a variety of housing types while maintaining a low density residential average not exceeding the densities permitted in the R-5 zone. Limited non-residential uses are permitted to encourage a unique identity, sustainable community, and in-home work options. The neighborhood's design will celebrate open space, trees, and relationships to public open spaces. The central open space, ridge open space scenic viewpoints, and a linked system of open spaces and trails are key features of the EMU. Residential developments will provide housing for a range of income levels, sustainable building design, and green development practices.

Policy 1.3

Within the Northern Employment Campus sub-district, support the attraction of family wage jobs and connections with Clackamas Community College.

Policy 1.4

Within the Mixed Employment Village and Main Street sub-districts, promote job creation, mixed use and transit oriented development. Adopt minimum densities, limitations on stand-alone residential developments, and other standards that implement this policy.

Policy 1.5

The Main Street sub-district may be located along the extension of Glen Oak Road and not exceed 10 gross acres. The specific configuration of the MS sub-district may be established as part of a master plan.

Policy 1.6

Within the West and East Mixed Use Neighborhoods, require a variety of housing types. Allow lot size averaging and other techniques that help create housing variety while maintaining overall average density.

Policy 1.7

Within the MEV, MS, WMU and EMU sub-districts, require master plans to ensure coordinated planning and excellent design for relatively large areas (e.g. 40 acres per master plan). Master plans are optional in the NEC due to the larger lot and campus industrial nature of the area.

Goal 2 Model of Sustainable Design

Be a model of sustainable design, development practices, planning, and innovative thinking.

Policy 2.1

Implement the Sustainable Storm Water plan recommended in the Concept Plan. During site specific design, encourage innovative system design and require low impact development practices that manage water at the site, street and neighborhood scales.

Policy 2.2

Storm water facilities will be designed so they are amenities and integrated into the overall community design.

Policy 2.3

Support public and private sector initiatives to promote sustainable design, development practices and programs, including but not limited to:

- Energy efficiency
- Water conservation
- Compact development
- Solar orientation
- Green streets/infrastructure
- Adaptive reuse of existing buildings/infrastructure
- Alternative transportation
- Pedestrian/Cyclist friendly developments
- Natural drainage systems
- Tree preservation and planting to “re-establish” a tree canopy
- Minimizing impervious surfaces

- Sustainability education (builder, residents, businesses and visitors)
- Collaboration with “local” institutional and economic partners, particularly Clackamas Community College and Oregon City High School
- Community based sustainable programs and activities

Policy 2.4

Work with stakeholders and the community to develop LEED or equivalent green building standards and guidelines to apply in the Concept Plan area.

Goal 3 Green Jobs

Attract “green” jobs that pay a living wage.

Policy 3.1

Coordinate with county, regional and state economic development representatives to recruit green industry to the Concept Plan area.

Policy 3.2

Promote the Concept Plan area as a place for green industry.

Policy 3.3

Work with Clackamas Community College to establish programs and education that will promote green development within the Concept Plan area.

Goal 4 Sustainable Industries

Maximize opportunities for sustainable industries that serve markets beyond the Portland region and are compatible with the site's unique characteristics.

Policy 4.1

As master plans are approved, ensure there is no net loss of land designated North Employment Campus.

Policy 4.2

Coordinate with County, regional and state economic development representatives to recruit sustainable industries that serve markets beyond the Portland region.

Goal 5 Natural Beauty

Incorporate the area's natural beauty into an ecologically compatible built environment.

Policy 5.1

Incorporate significant trees into master plans and site specific designs. Plant new trees to establish an extensive tree canopy as part of the creation of an urban community.

Policy 5.2

Provide scenic viewpoints and public access along the east ridge.

Policy 5.3

Protect views of Mt Hood and locate trails and public areas so Mt Hood can be viewed within the community

Policy 5.4

Establish open space throughout the community consistent with the Open Space Framework Plan. Allow flexibility in site specific design of open space, with no net loss of total open space area.

Policy 5.5

Protect steeply sloped and geologically sensitive areas along the east ridge from development.

Goal 6 Multi-modal Transportation

Provide multi-modal transportation links (such as bus routes, trails, bike-ways, etc.) that are connected within the site as well as to the surrounding areas.

Policy 6.1

Work with Tri-Met and stakeholders to provide bus service and other alternatives to the Concept Plan area.

Policy 6.2

As land use reviews and development occur prior to extension of bus service, ensure that the mix of land uses, density and design help retain transit as an attractive and feasible option in the future.

Policy 6.3

Ensure that local street connectivity and off-street pedestrian routes link together into a highly connected pedestrian system that is safe, direct, convenient, and attractive to walking.

Policy 6.4

The "walkability" of the Concept Plan area will be one of its distinctive qualities. The density of walking routes and connectivity should mirror

the urban form – the higher the density and larger the building form, the “finer” the network of pedestrian connections.

Policy 6.5

Require trails to be provided consistent with the Concept Plan Circulation Framework.

Policy 6.6

Provide bike lanes on Beavercreek Road and all collector streets, except for Main Street. The City may consider off-street multi-use paths and similar measures in meeting this policy. Bike routes will be coordinated with the trails shown on the Circulation Framework.

Goal 7 Safety Along Beavercreek Road

Implement design solutions along Beavercreek Road that promote pedestrian safety, control traffic speeds and access, and accommodate projected vehicular demand.

Policy 7.1

Design Beavercreek Road to be a green street boulevard that maximizes pedestrian safety.

Policy 7.2

Work with the County and State to establish posted speeds that are safe for pedestrians and reinforce the pedestrian-oriented character of the area.

Policy 7.3

Control access along the east side of Beavercreek Road so that full access points are limited to the intersections shown on the Circulation Framework. Right in-Right-out access points may be considered as part of master plans or design review.

Goal 8 Oregon City High School and Clackamas Community College

Promote connections and relationships with Oregon City High School and Clackamas Community College.

Policy 8.1

Coordinate with OCHS and CCC when recruiting businesses and promoting sustainability. Within one year of adoption of the Concept Plan, the City will convene dialogue with OCHS, CCC and other relevant partners to identify target industries and economic development strategies that are compatible with the vision for the Concept Plan. Encourage curricula that are synergistic with employment and sustainability in the Concept Plan area.

Policy 8.2

Prior to application submittal, require applicants to contact OCHS and CCC to inform them and obtain early comment for master plans and design review applications.

Policy 8.3

Improving the level-of-service and investing in the Highway 213 corridor improves the freight mobility along Highway 213, which provides access to Beavercreek Road and the Concept Plan area. Protecting the corridor and intersections for freight furthers the City goal of providing living-wage employment opportunities in the educational, and research opportunities to be created with CCC and OCHS.

Goal 9 Unique Sense of Place

Have a unique sense of place created by the mix of uses, human scale design, and commitment to sustainability.

Policy 9.1

Utilize master plans and design review to ensure detailed and coordinated design. Allow flexibility in development standards and the configuration of land uses when they are consistent with the comprehensive plan, development code, and vision to create a complete and sustainable community.

Policy 9.2

Implement human scale design through building orientation, attractive streetscapes, building form/architecture that is matched to the purpose of the sub-district, location of parking, and other techniques. The design qualities of the community should mirror the urban form – the higher the density and larger the buildings, the higher the expectation for urban amenities and architectural details.

Policy 9.3

Density should generally transition from highest on the west to lowest in the eastern part of the site.

Policy 9.4

Promote compatibility with existing residential areas at the north and south end of the Concept Plan area. Transition to lower densities, setbacks, buffers and other techniques shall be used.

Goal 10 Ecological Health

Manage water resources on site to eliminate pollution to watersheds and lessen impact on municipal infrastructure by integrating ecological and man-made systems to maximize function, efficiency and health.

Policy 10.1

Utilize low impact development practices and stormwater system designs that mimic natural hydrologic processes, minimize impacts to natural resources and eliminate pollution to watersheds.

Policy 10.2

Prepare the Environmentally Sensitive Resource Area overlay to protect, conserve and enhance natural areas identified on the Concept Plan. Apply low-density base zoning that allows property owners to cluster density outside the ESRA and transfer to other sites.

Appendix

1. Project Goals
2. Concept Plan Alternatives
3. GIS Analysis Map
4. Job and Housing Estimates

Appendix I

	To: Beaver Creek Road Concept Plan Citizens and Technical Advisory Committees From: Tony Konkol Date: March 13, 2007 Subject: Project Goals with Objectives
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The following project goals and supplemental objectives were prepared using the *Ideas we Like*, *Principles of Sustainable Development*, and the Advisory Committees' long-term vision for the project area. This update reflects input by the Citizens and Technical Advisory Committees at their March 8th, 2007 meeting.

The Beaver Creek Road Concept Plan Area will:

Goal

1. Create a **complete community**, in conjunction with the adjacent land uses, that integrates a diverse mix of uses, including housing, services, and public spaces that are necessary to support a thriving employment center;

Objective 1.1

Allow a variety of employment uses that may integrate and utilize the surrounding city and rural economies.

Objective 1.2

Develop plans that consider the existing rural lands and uses around the Urban Growth Boundary.

Objective 1.3

Continue to coordinate with the Oregon City School District and Clackamas Community College to identify partnerships, land needs and programs that would be beneficial to all parties and contribute to the community.

Objective 1.4

Encourage neighborhood-oriented and scaled mixed-use centers that provide goods, services, and housing for local workers and residents of all ages and incomes.

Objective 1.5

Become a model of sustainability that may be implemented throughout the City.

Objective 1.6

Allow the integration of housing and employment uses where practicable.

Objective 1.7

Work with Metro to ensure that there is enough land available within the Beaver Creek Road Study Area to meet the need for employment/industrial development and reduce the jobs to housing imbalance in the sub-region.

2. Be a **model of sustainable design**, development practices, planning, and innovative thinking;

Objective 2.1

Allow a variety of employment uses that may integrate and utilize the surrounding city and rural economies.

Objective 2.2

Develop plans that consider the existing rural lands and uses around the Urban Growth Boundary.

Objective 2.3

Encourage neighborhood-oriented and scaled mixed-use centers that provide goods, services and housing for local workers and residents of all ages and incomes.

Objective 2.4

Encourage environmentally responsible developments that are economically feasible, enhance livability of neighborhoods and enhance the natural environment.

Objective 2.5

Investigate development standards that offer incentives for developments that exceed energy efficiency standards and meets green development requirements and goals.

3. Attract **“green” jobs** that pay a living wage;

Objective 3.1

Allow a variety of employment uses that may integrate and utilize the surrounding city and rural economies.

Objective 3.2

Develop plans that consider the existing rural lands and uses around the Urban Growth Boundary.

Objective 3.3

Encourage neighborhood-oriented and scaled mixed-use centers that provide goods, services and housing for local workers and residents of all ages and incomes.

Objective 3.4

Allow the integration of housing and employment uses where practicable.

Objective 3.5

Work with Metro to ensure that there is enough land available within the Beavercreek Road Study Area to meet the need for employment/industrial development and reduce the jobs to housing imbalance in the sub-region.

Objective 3.6

Create a “brand” for the area that reflects the desire for sustainable development that will serve as the theme to attract and recruit businesses and developers as well as guide the design standards and build-out of the area.

4. Maximize opportunities for **sustainable industries that serve markets beyond the Portland region** and are compatible with the site’s unique characteristics;

Objective 4.1

Create a “brand” for the area that reflects the desire for sustainable development that will serve as the theme to attract and recruit businesses and developers as well as guide the design standards and build-out of the area.

Objective 4.2

Work with Metro to ensure that there is enough land available within the Beavercreek Road Study Area to meet the need for employment/industrial development and reduce the jobs to housing imbalance in the sub-region.

Objective 4.3

Support locally based and founded employers that provide living wages jobs.

Objective 4.4

Support the development of sustainable industries that utilize green design standards and development practices.

5. Incorporate the area’s **natural beauty** into an ecologically compatible built environment;

Objective 5.1

Design the adjacent land-uses to Beavercreek Road in such a manner to ensure that the pedestrian experience is not diminished through the development of fences, parking lots, backs of buildings, or other impediments to pedestrian access and circulation.

Objective 5.2

Allow a variety of employment uses that may integrate and utilize the surrounding city and rural economies.

Objective 5.3

Develop plans that consider the existing rural lands and uses around the Urban Growth Boundary.

Objective 5.4

Work with Metro to ensure that there is enough land available within the Beavercreek Road Study Area to meet the need for employment/industrial development and reduce the jobs to housing imbalance in the sub-region.

6. Provide **multi-modal transportation links** (such as bus routes, trails, bike-ways, etc.) that are connected within the site as well as to the surrounding areas;

Objective 6.1

Provide public connectivity routes for bicycles and pedestrians that encourage non-vehicular trips to employment, retail and recreational areas within the study area and to the communities beyond.

Objective 6.2

Provide an integrated street system that is designed as practicable to minimize the impacts to the environment through the use of green streets, swales and other natural stormwater systems that provide water quality and quantity control and contribute to the natural beauty of the area.

Objective 6.3

Explore local and regional transit opportunities that will increase non-single occupancy vehicle travel.

7. Implement **design solutions along Beavercreek Road** that promote pedestrian safety, control traffic speeds and access, and accommodate projected vehicular demand;

Objective 7.1

Develop and maintain a multi-modal transportation system that is safe for all users and will minimize conflict points between different modes of travel, especially across Beavercreek Road to the existing neighborhoods, Clackamas Community College, Oregon City High School and the Berry Hill Shopping Center.

Objective 7.2

Design the adjacent land-uses to Beavercreek Road in such a manner to ensure that the pedestrian experience is not diminished through the development of fences, parking lots, backs of buildings, or other impediments to pedestrian access and circulation.

8. Promote connections and relationships with **Oregon City High School and Clackamas Community College;**

Objective 8.1

Allow a variety of employment uses that may integrate and utilize the surrounding city and rural economies.

Objective 8.2

Develop plans that consider the existing rural lands and uses around the Urban Growth Boundary.

Objective 8.3

Continue to coordinate with the Oregon City School District and Clackamas Community College to identify partnerships, land needs and programs that would be beneficial to all parties and contribute to the community.

9. Have a **unique sense of place** created by the mix of uses, human scale design, and commitment to sustainability.

Objective 9.1

Provide public connectivity routes for bicycles and pedestrians that encourage non-vehicular trips to employment, retail and recreational areas within the study area and to the communities beyond.

Objective 9.2

Provide an integrated street system that is designed as practicable to minimize the impacts to the environment through the use of green streets, swales and other natural stormwater systems that provide water quality and quantity control and contribute to the natural beauty of the area.

Objective 9.3

Allow a variety of employment uses that may integrate and utilize the surrounding city and rural economies.

Objective 9.4

Develop plans that consider the existing rural lands and uses around the Urban Growth Boundary.

Objective 9.5

Encourage neighborhood-oriented and scaled mixed-use centers that provide goods, services and housing for local workers and residents of all ages and incomes.

Objective 9.6

Allow the integration of housing and employment uses where practicable.

Objective 9.7

Work with Metro to ensure that there is enough land available within the Beavercreek Road Study Area to meet the need for employment/industrial development and reduce the jobs to housing imbalance in the sub-region.

Objective 9.8

Create a “brand” for the area that reflects the desire for sustainable development that will serve as the theme to attract and recruit businesses and developers as well as guide the design standards and build-out of the area.

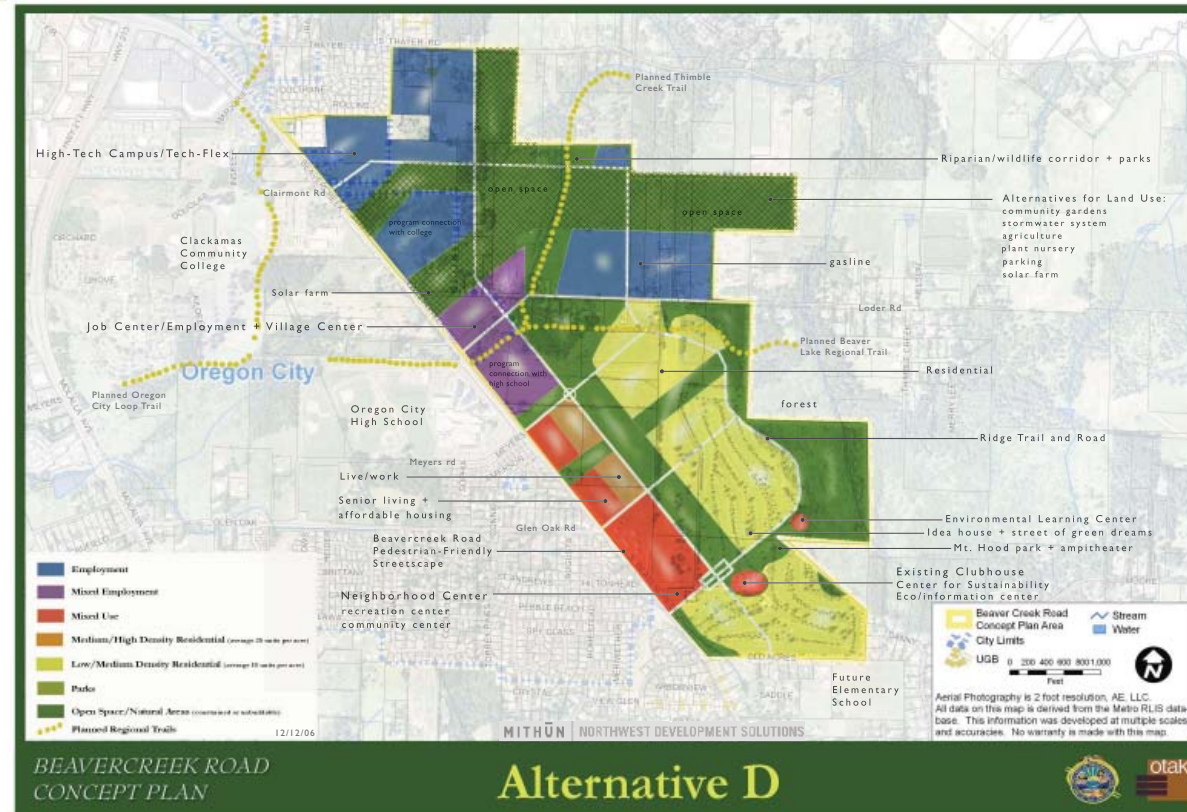
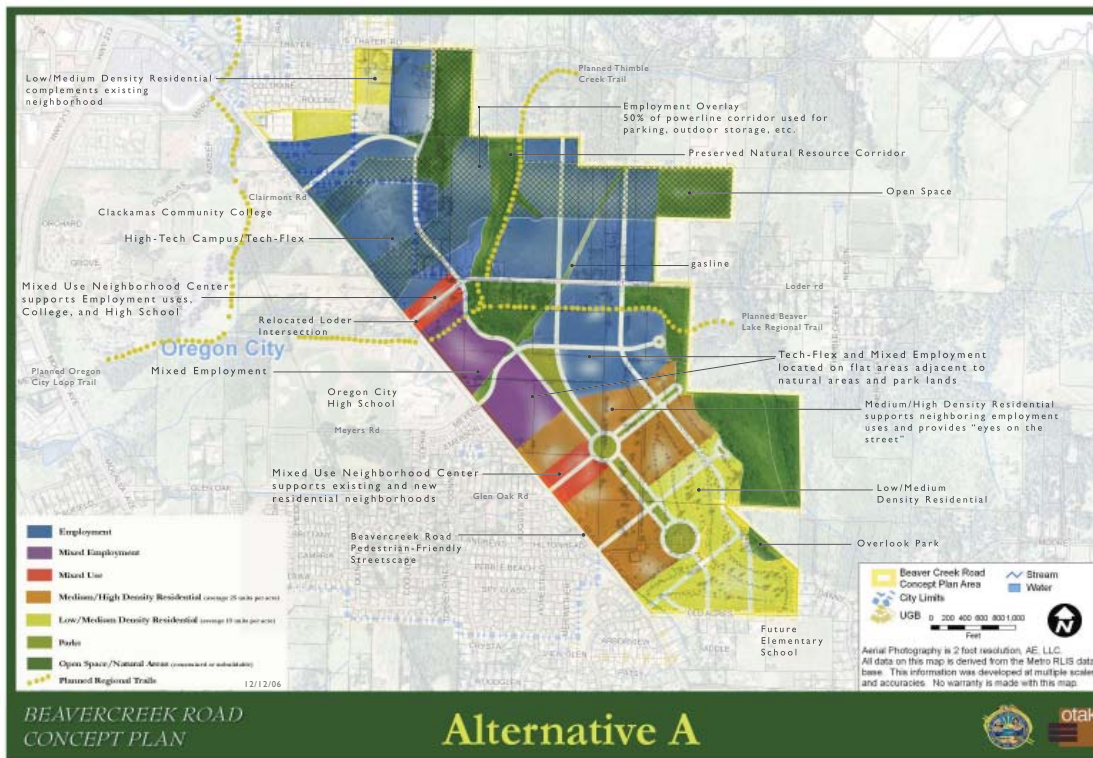
Objective 9.9

Design the adjacent land-uses to Beavercreek Road in such a manner to ensure that the pedestrian experience is not diminished through the development of fences, parking lots, backs of buildings, or other impediments to pedestrian access and circulation.

10. Ecological Health – Manage water resources on site to **eliminate pollution to watersheds** and lessen impact on municipal infrastructure by integrating ecological and man-made systems to maximize function, efficiency and health.

Objective 10.1

Provide an integrated street system that is designed as practicable to minimize the impacts to the environment through the use of green streets, swales and other natural stormwater systems that provide water quality and quantity control and contribute to the natural beauty of the area.



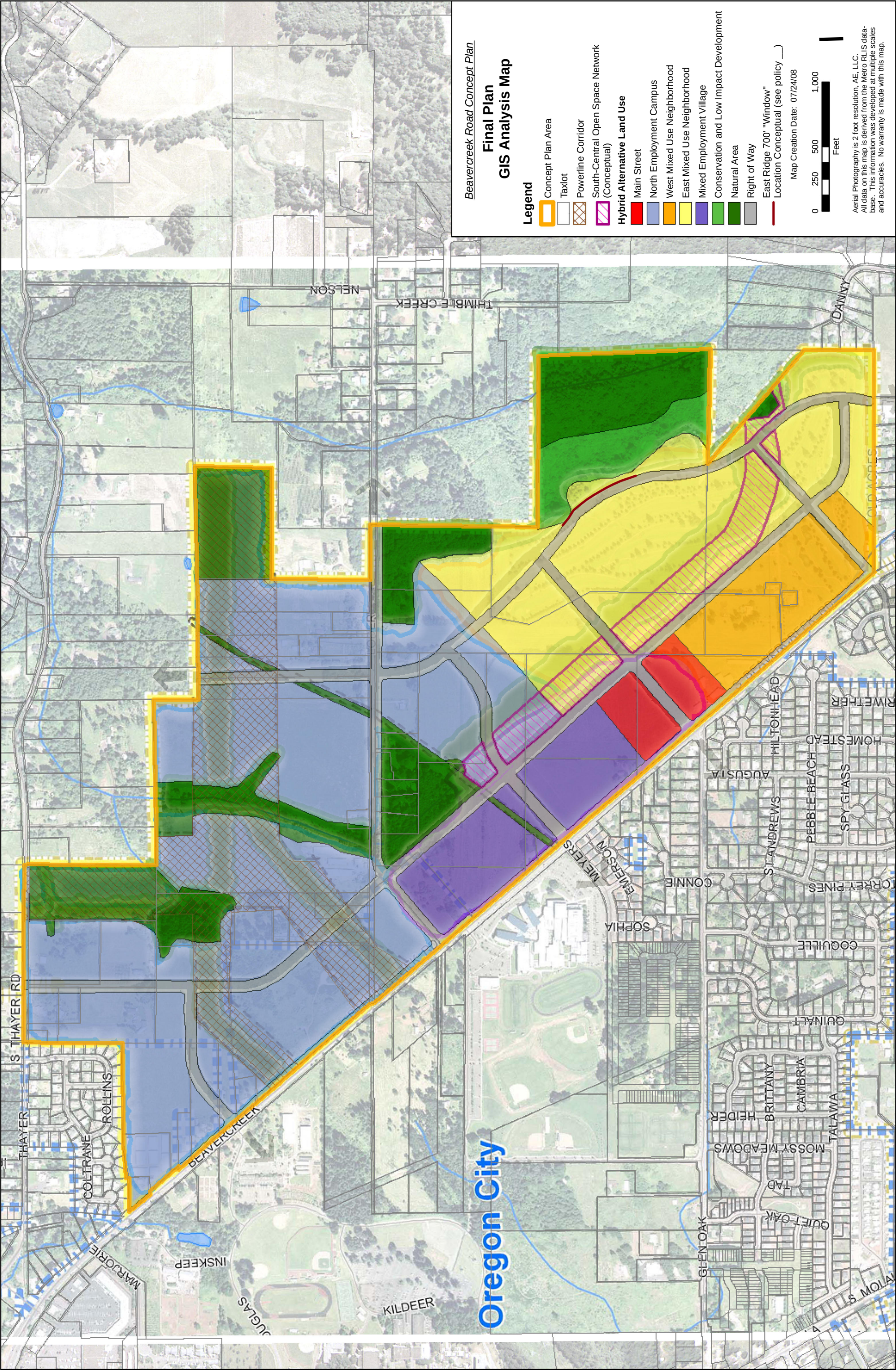


Table 2
Beavercreek Concept Plan Job & Housing Density Assumptions
Revised - 7/10/07

Land Use Category	Hybrid Gross Acres	Hybrid Net Acres*	FAR/Acre**	SF/Job**	# of Jobs***	Avg. Units/Acre	# of Units+
North Employment Campus (adjusted gross acreage)	149	127	0.3	450	3,678		
Mixed Employment Village	26	21	0.44	350	1,139		
Main Street****	10	8	0.44	350	219	25	100
West Mixed Use Neighborhood	22	18			15	22	387
East Mixed Use Neighborhood	77	62			21	8.7	536
Total # of Jobs					5,073		
Total # of Housing Units							1,023
Total Acres of Developed Land++	284	235					
Land Use Category	Plan A Gross Acres	Plan A Net Acres*	FAR/Acre**	SF/Job**	# of Jobs***	Avg. Units/Acre	# of Units+
Employment (adjusted gross acreage)	139	118	0.3	450	3,431		
Mixed Employment	24	20	0.44	350	1,117		
Mixed Use****	10	9	0.44	350	233	25	106
Medium/High Density Residential	50	43			43	25	1,063
Low/Medium Density Residential	53	45			18	10	451
Total # of Jobs					4,841		
Total # of Housing Units							1,619
Total Acres of Developed Land++	276	235					
Land Use Category	Plan D Gross Acres	Plan D Net Acres*	FAR/Acre**	SF/Job**	# of Jobs***	Avg. Units/Acre	# of Units+
Employment (adjusted gross acreage)	84	71	0.3	450	2,073		
Mixed Employment	25	21	0.44	350	1,164		
Mixed Use****	29	25	0.44	350	675	25	308
Medium/High Density Residential	9	8			8	25	191
Low/Medium Density Residential	99	84			34	10	842
Total # of Jobs					3,953		
Total # of Housing Units							1,341
Total Acres of Developed Land+++	246	209					

***For Hybrid** - Net acres equals gross acres minus 15% for local roads and easements in Employment. Mixed Employment, Mixed Use, and residential areas assume 20% for local roads and easements

*** *Based on Metro 2002-2022 Urban Growth Report: An Employment Land Need Analysis.** Includes total on site employment (full and part time). Mixed Employment FAR and job density reflects a mix of office, tech/flex, and ground floor retail.

*****Number of Jobs in Employment, Mixed Employment, Mixed Use** calculated by multiplying total acres by the FAR; Converting to square feet; and dividing by number of jobs/square foot. Jobs in residential areas (Work at Home Jobs) estimated at 4% (potential could be as high as 15%).

****** Mixed Use land use** assumes 50% of acreage devoted to commercial uses and the remaining 50% devoted to vertical mixed use.

+Number of units calculated by multiplying total net acres of residential land use by average units per acre

++Includes 50% of useable power line corridor (26 acres total) as part of developed land (included in Employment land area)

+++Does not include powerline corridor acreage as part of developed land

Appendix IV

Table 3
Land Use Metrics/Assumptions - HYBRID
Revised - 7/10/07

Land Use Category (acres)	Hybrid	Alt. A	Alt. D
North Employment Campus (adjusted gross acreage)*	149	139	84
Mixed Employment Village	26	24	25
Main Street	10	10	29
West Mixed Use Neighborhood	22	50	9
East Mixed Use Neighborhood	77	53	99
Total Acres of "built" land use	284	276	246
Other Land Uses (not "built")			
Parks/Open Space/Natural Areas (Total)**	113	132	166
Major ROW+	56	36	30
Existing Uses (unbuildable)	0	7	7
Total Project Area Gross Acres	453	~450	~450

***Adjusted gross acreage** is the sum of 50% of the employment land use shown under the powerline easement plus all other unconstrained employment land use areas. Calculations shown below:

<u>Land Use Category (acres)</u>	<u>Hybrid</u>	<u>Alt. A</u>	<u>Alt. D</u>
Total North Employment Campus	175	166	84
Unconstrained NEC	123	111	84
Employment with powerline overlay	52	55	0
Useable portion of powerline overlay (50%)	26	28	na
North Employment Campus (adjusted gross acreage)*	149	139	84

**** Open Space/Natural areas** is the sum of all "unbuildable lands" as shown on the *Buildable Lands Map* plus two areas under the powerlines. Calculations shown below.

<u>Open Space/Natural Areas Break-Out</u>	<u>Hybrid</u>	<u>Alt. A</u>	<u>Alt. D</u>
Open Space -Gas Overlay	3	4	4
Open Space - Unbuildable Powerlines***	48	49	0
Environmental Resources/ <i>Buildable Lands Map</i>	61	61	61
Parks	na	12	na
Other Open Space Areas	18	6	101
Open Space/Natural Areas (Total)	130	132	166

*****For Hybrid** - Unbuildable Powerlines area includes 12 acres on east edge of site under powerlines plus 50% of employment area under powerlines (~26 acres) and the PGE parcel (10 acres). **For Alt. A** - Unbuildable Powerlines area includes 12 acres on east edge of site under powerlines and 10 acres of the PGE Parcel and 50% of powerline area (27 acres).

+Major ROW are approximate location & acreage (may be shown as crossing natural resource areas. Actual location and size of ROW will be addressed during development review/master planning). Includes 2 acre adjustment for GIS polygon alignment.

Date	Topic	Issue / Comment / Concern	Staff Comment	Has this been Addressed? How?
7.3.19 Written Comment to Planning Commission Wendy Black	Natural Resources	Concerned that the area where home is located was in a protected natural area according to the first map they were sent, but now seems to be included in the industrial area. Concern about project impact to farm use.	Existing farm uses are allowed both inside and outside of the city. Development Review of new construction and new grading will be subject to the City's Natural Resource Overlay District once annexed into the city.	Planning Commission did not recommend any revisions to the proposed code amendments at the September 23, 20149 Planning Commission Meeting and discussed the NRC's recommendation at the January 13, 2019 Planning Commission Meeting. After further deliberation, the Planning Commission retained their initial direction to staff to not pursue additional code amendments for Upland Habitat.

Date	Topic	Issue / Comment / Concern	Staff Comment	Has this been Addressed? How?
Natural Resources Committee (NRC) Letter	Upland Habitat	The NRC believes that there is a need for additional protection to retain high-value habitat directly abutting protected water features. The Natural Resources Committee believes that new code should be created to address these areas as part of the Beavercreek Road Concept Plan Zoning and Code Amendments.	Staff presented this analysis to the Natural Resource Committee on October 9, 2019 and November 13, 2019. The Natural Resource Committee submitted a letter with a keyed map into the record requesting the Planning Commission create code to regulate and protect upland habitat areas 3 and 4 as they are of specific interest to the committee and are contiguous to large habitat areas. They support additional protection in Area 2 in locations that abut the identified and protected stream. Area 1 merits additional protection if analysis can show enough tree area located outside of the Natural Resource Overlay District exists. If the Planning Commission supports additional regulation, staff recommends adding code to either OCMC Chapter 17.49 Natural Resource Overlay District or OCMC 17.41 Tree Protection, Preservation, Removal and Replanting Standards and return at a future meeting with proposed code.	Planning Commission did not recommend any revisions to the proposed code amendments at the September 23, 2019 Planning Commission Meeting and discussed the NRC's recommendation at the January 13, 2019 Planning Commission Meeting. After further deliberation, the Planning Commission retained their initial direction to staff to not pursue additional code amendments for Upland Habitat.
7.12.19 Written Comment to Planning Commission Clackamas River Water (CRW)	Infrastructure	Territory that is annexed to the City must be withdrawn from CRW and served by Oregon City services to the extent practicable. CRW assumes that future development will, in large part, be guided and coordinated consistent with the concepts provided in the Joint Engineering Study, June 11, 2018, by Murraysmith.	This is consistent with Staff's understanding. New development within the concept plan area (except for the previously approved Villages of Beavercreek) will utilize city water.	No response needed for this comment

Date	Topic	Issue / Comment / Concern	Staff Comment	Has this been Addressed? How?
7.15.19 Written Comment to Planning Commission Wes Rogers Oregon City School District	Infrastructure	Assuming that the BRCP is developed in stages over the next 5-10 years, the District currently believes that it has the current capacity and/or will be able to have time to add capacity to meet the long-term enrollment generated by the Beaver Creek Road Concept Plan development.	The school property to the south of the Concept Plan area will have vehicular access to the Concept Plan and can connect to local streets when it is constructed.	No response needed for this comment
8.12.19 Testimony to Planning Commission Paul Edgar Entered into the record- Title 4 Map	Zoning Map	Request that the Planning Commission work with Metro to revise the Title 4 Industrial maps to remove a parcel owned by Terry Emmert to allow construction of housing for homeless veterans onsite.	https://www.oregonmetro.gov/industrial-and-employment-land Portions of the CI area in the BRCP are identified as Title 4 Industrial areas. Any change to the title 4 Map must be adopted by Metro and would need to be completed before the Code amendments are adopted by the City to remain consistent with Title 4.	This will be addressed at the September 9, 2019 Planning Commission Hearing

Date	Topic	Issue / Comment / Concern	Staff Comment	Has this been Addressed? How?
8.12.19 Testimony to Planning Commission Christine Kosinski	Geologic Hazards	Concerned about development in the Beavercreek concept Plan areas affecting homes on Holly Lane as Holly lane is in a historic landslide area. Does not support any connection of the concept plan area to Holly Lane-	Geologic Hazard Review within the city is subject to OCMC 17.44 Geologic Hazard Review . Areas near the Thimble Creek Conservation Area are subject to the Geologic Hazard code at time of Development.	This topic will be addressed at the September 23, 2019 Planning Commission Meeting
9.9.19 Jim Nicita	Cottage Industry	2011 City Commission Meeting voted to have additional job opportunities at the south of the concept plan. Encouraged PC to look at a hybrid district rather than a residential district with home occupation uses. Encourage implementing cottage industry.	Planning Commission requested staff to return at a future meeting with additional opportunities for jobs in the southern part of the Concept Plan area above and beyond the existing home occupation license.	This topic will be further addressed at the October 14, 2019 Planning Commission Meeting
9.9.19 Elizabeth Grazer Lindsey	Cottage Industry	This area was brought into the Urban Growth Boundary for jobs. There are many businesses that are currently in the county that would want to be involved in this use. Encourage allowing cottage industry to promote incubator spaces.	Planning Commission requested staff to return at a future meeting with additional opportunities for jobs in the southern part of the Concept Plan area above and beyond the existing home occupation license.	This topic was further addressed at the October 14, 2019, and November 18, 2019 January 13, 2020 Planning Commission Meetings

Date	Topic	Issue / Comment / Concern	Staff Comment	Has this been Addressed? How?
Elizabeth Grazer Lindsey 10.14.19 Submitted 10.14	Cottage Industry/Enhanced Home Occupation	Traffic congestion exists because of everybody leaving the city to work, Cottage Industry allows entrepreneurs to grow their business inside the city. Jobs in rural areas should be in city areas. The City is losing a lot by not allowing people to grow their own business. We should have a neighborhood where industrious people can have an opportunity to thrive. Fences can be used to make outdoor storage more compatible. The residential areas would benefit having a range of lot sizes to allow different cottage industry types. Think of this area as an attraction/brand. The Planning Commission needs to find more people to interview to see what meets their needs.	Planning Commission reviewed possible revisions to the home occupation license for the concept plan areas and choose not to allow outdoor storage.	
Elizabeth Grazer Lindsey 11.18.19	Cottage Industry/Enhanced Home Occupation			

Date	Topic	Issue / Comment / Concern	Staff Comment	Has this been Addressed? How?
Elizabeth Grazer Lindsey 1.13.20	Cottage Industry/Enhanced Home Occupation/Parks	Recommend under allowed uses, hoe occupation should be identified as encouraged. Keep larger park factor in the park acquisition code.	Revised the home occupation code langue which does not change the requirements to does provide additional background on intent. <i>17.54.120 -Home Occupations/Cottage Industry- Thimble Creek Concept Plan Area</i> <i>Home occupations and Cottage Industries within the Thimble Creek Concept Plan Area are encouraged and allowed an expanded level of uses to support job creation in Oregon City and shall comply with all of the following:</i>	The draft Code has been amended to reflect this change. The Planning Commission did not make any additional revisions to the revised park acquisition equation
9.23.19 Christine Kosinki Handouts	Geologic Hazards	Holly Lane Connection is not suitable for road connection to I-205 No insurance coverage is readable available for property owners If near a landslide area you cannot get landslide insurance. The City should provide additional information on landslides and protection people can take to protect their land. State law requires people to educate about landslides. Oregon City has been derelict in educating the public.	Josh Wheeler, Assistant Engineer presented a background on the OCMC 17.44 Geologic Hazard Overlay District. He also recommended people attend the October 8, 2019 City Commission Worksession about Geologic Hazards.	Planning Commission did not provide staff with any direction on amending the existing 17.44 Geologic Hazards Overlay District.
Todd Mobley Letter submitted 11.25.19 PC Meeting	Transportation Collector Roads	Street system classification – Recommends that the city revisit the need for residential collectors in Beavercreek Concept Plan much lower volumes in the south of the Concept Plan area.	While staff does not disagree with Mr. Mobley that some of the proposed collector may very well not support collector level traffic and should be downgraded to a local street, that level of analysis should be down at the time of development review based on a specific proposal and traffic study.	No amendments are needed to address this issue.

Christina Kosinski Letter Submitted prior to 11.25.19 & letter submitted at the 11.25.19 PC Meeting	Transportation Holly Lane	Oregon City is required to account for known hazards, and such is required to remove Holly Lane from the TSP and not allow more trips to utilize Holly Lane. If the City does not do that, the city will lose its FEMA status. Traffic impacts to Holly lane from concept Plan traffic will be huge and Holly Lane should not be sued as an alternative route. The Holly Lane Extension needs to be removed from the TSP.	The request to remove the Holly lane extension was shared with the City Commission at the November 12, 2019 City Commission Worksession and Planning Commission at the November 25, 2019 Planning Commission Hearing. During the Transportation System Plan (TSP) update in 2012, it was determined that the intersection of Hwy 213 & Beaver Creek Road would be too congested in the future and would not meet Oregon Highway Plan mobility standards through the TSP planning horizon year of 2035. The TSP recommended the City move forward with a project to address the need for a refinement plan at the intersections. Over the next 3 years, the City worked with ODOT and a Technical Advisory Group and a Community Advisory Group identified a variety of reasonable improvements to increase the capacity and/or safety of the intersection along with alternative mobility targets for measuring congestion which was adopted by the City and the Oregon Transportation Commission. Holly Lane and its long-term connection to the Concept Plan area through Maple Lane and Thayer Road was identified as an alternate route to the intersection of Beaver Creek and Highway 213. Seth Brumley, Region 1 Planner with the Oregon Department of Transportation (ODOT) submitted a letter identifying that removing Holly Lane extension projects from the TSP would require the City to revise the alternate mobility target and provide an	The Planning and City Commission directed staff to keep the Holly Lane extension projects in the Transportation system Plan as adopted.
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Date	Topic	Issue / Comment / Concern	Staff Comment	Has this been Addressed? How?
			alternate project that meets or exceeds the benefit of the Holly Lane extension. Staff is currently unable to identify an alternate project which is affordable and has not allocated funding or staff time towards the creation of such an alternative. The city is currently working with Clackamas County on the implementation of the Holly Lane connection and believes that the project is an important alternate route to the system to ease congestion in this area.	
Paul Edgar Email Submitted 11.25.19	Transportation Holly Lane	Mr. Edgars comments were very similar to Ms. Kosinski –	Please refer to above comments	Please refer to above comments

Date	Topic	Issue / Comment / Concern	Staff Comment	Has this been Addressed? How?
Ray Atkinson Email (2) Submitted 11.25.19	Transportation Induced Demand, Transit analysis in Transportation Plan	Induced demand would reduce any long-term congestion reduction from widening Beaver Creek Road. Even though the City Commission supported widening Beaver Creek Road, I am thankful that both memos state that widening Beaver Creek Road will make this road less inviting and safe for pedestrians and cyclists. Since the Beaver Creek Road Concept Plan encourages walking and biking, I hope the City Commission realizes that widening Beaver Creek Road likely will discourage walking and biking and encourage more people to drive. Did either memo analyze whether induced demand or future drivers would likely be the main cause for the widened Beaver Creek Road to become congested?	This issue was discussed with the City Commission at the November 12, 2019 City Commission Worksession and Planning Commission at the November 25, 2019 Planning Commission Hearing.	The Planning and City Commission both recommended a transition from 5 lanes to 3 lanes after Meyers Road.
Diane Maxon Email (11.25.19) and Letter (11.18.19)	Transportation Traffic Congestion	Transportation General Traffic Congestion	This issue was discussed with the City Commission at the November 12, 2019 City Commission Worksession and Planning Commission at the November 25, 2019 Planning Commission Hearing.	The Planning and City Commission both recommended a transition from 5 lanes to 3 lanes after Meyers Road.
Debbie Riggen Email submitted at 11.12.19 CCWS	Transportation Beaver Creek Road Design	Not Supportive of Roundabout	This issue was discussed with the City Commission at the November 12, 2019 City Commission Worksession and Planning Commission at the November 25, 2019 Planning Commission Hearing.	The Planning and City Commission both recommended the use of signals along Beaver Creek.

Date	Topic	Issue / Comment / Concern	Staff Comment	Has this been Addressed? How?
Elizabeth Grazier Lindsey 11.25.19 PC Hearing	Transportation	Stream of traffic on Beavercreek Road throughout the day. Both to and from Oregon City. It is only right to protect the capacity. Arterials should be 5-lane this area was determined a 3 lane as it was supposed be green and everybody was bike or walk. SDCs should be raised to pay for a full 5 lane section. Roundabouts are not optimal for pedestrians.	This issue was discussed with the City Commission at the November 12, 2019 City Commission Worksession and Planning Commission at the November 25, 2019 Planning Commission Hearing.	The Planning and City Commission both recommended the a transition from 5 lanes to 3 lanes after Meyers Road. Discussions about funding strategies will occur outside of the zoning code amendment process.

From: [Lori Bell](#)
To: [Christina Robertson-Gardiner](#)
Subject: Beaver Creek Employment Area
Date: Monday, August 26, 2019 10:09:39 AM
Attachments: [image001.png](#)

Thank you for reaching out Christina. The Blue Ribbon Committee, created in 2016, is a community group working to increase awareness around available sites around Clackamas Community College.

Below are the answers to your questions.

1. Why was it created? – to attract targeted industry to the existing and zoned Industrial sites in the Beaver Creek Employment Area, near and around Clackamas Community College area by leveraging the education and training resources at Clackamas Community College.
2. Steering Committee -Lori Hall, CCC PIO, Lisa Davidson Executive Director of CCC Center for Business and Industry, Lori Bell Economic Development City of Oregon City, Current Executive Director Oregon City Chamber of Commerce Victoria, Jon Legarza – or other representative from Clackamas County Ec Dev Department, Kent Ziegler, OCBA representative.
3. Eric Underwood and Amber Holvek, previous Chamber Director, created the ad hoc committee.
4. It is not a public body and interested parties are welcome to attend. The group meets on an ad-hoc basis. Contact Lori Bell for more information.

Please let me know if you need anything else.

Lori Bell
Economic Development
lbell@orc.org



City of Oregon City
PO Box 3040
625 Center Street
Oregon City, Oregon 97045
503-974-5517 x 1588 Direct
503-657-0891 City Hall

From: [Wendy Black](#)
To: [Christina Robertson-Gardiner](#)
Subject: Beavercreek Road Concept Plan - Loder Rd Residents
Date: Wednesday, July 3, 2019 2:39:07 PM

Hello,

I live on Loder Road in the area that now seems to be planned for a Campus Industrial Zoning. Currently we are Rural Residential Farm/Forest 5 and we have a small farm that does include animals. This is significant source of food for our family. We also live on the ridge above the creek. I am concerned how the rezoning would impact our land use. Are you able to provide me further information? I've read through much of the information on the website. I am very concerned that the area where our home is was in a protected natural area according to the first map we were sent, but now seems to be included in the industrial area. I had trouble telling from all the other maps and information what was happening.

Thank you for your assistance in this matter. Kind regards,
Wendy Black
15060 S Loder Rd, Oregon City, OR 97045

Memorandum



**LANCASTER
ENGINEERING**

To: Oregon City Planning Commission
From: Todd E. Mobley, PE
Date: November 25, 2019
Subject: Beaver Creek Concept Plan Implementation: Street Classification

321 SW 4th Ave., Suite 400
Portland, OR 97204
phone: 503.248.0313
fax: 503.248.9251
lancasterengineering.com

This memorandum is written to provide comments regarding the planned street system within the Beaver Creek Concept Plan area, specifically, the number of streets slated for designation as collector within the plan area.

Collector Function

In the hierarchy of streets, collectors take people from local streets, “collect” them, and bring them to higher-order streets such as minor and major arterials. In the vicinity of the concept plan area, streets such as Glen Oak Road and Loder Road are collectors. Meyers Road is a minor arterial and Beaver Creek Road is a major arterial. Figure 1 below is an excerpt from the Transportation System Plan (TSP) that shows street functional classifications in and around the plan area.

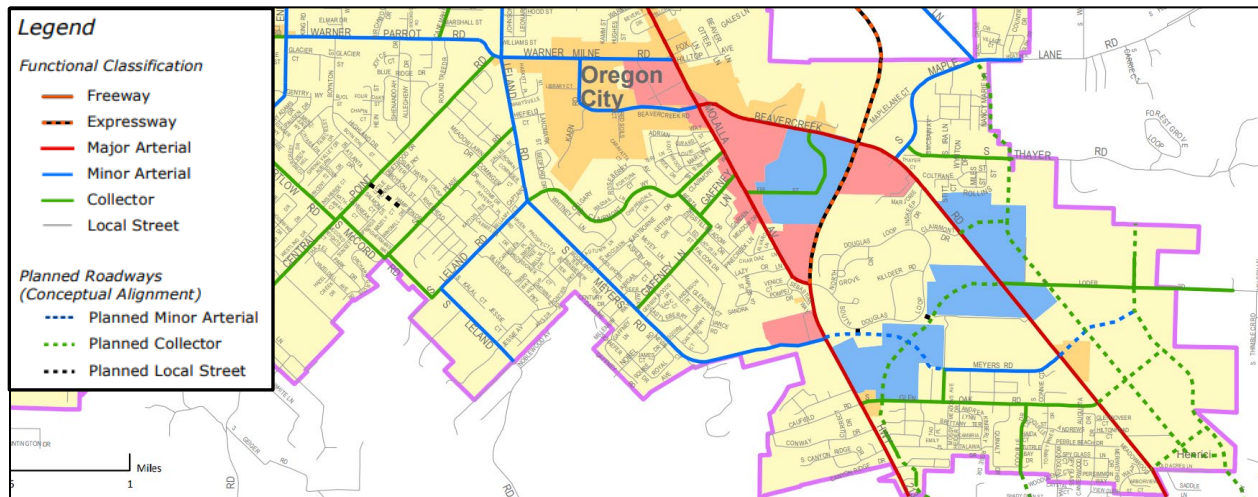


Figure 1 - Excerpt from Figure 8 in the Transportation System Plan

Planned Density

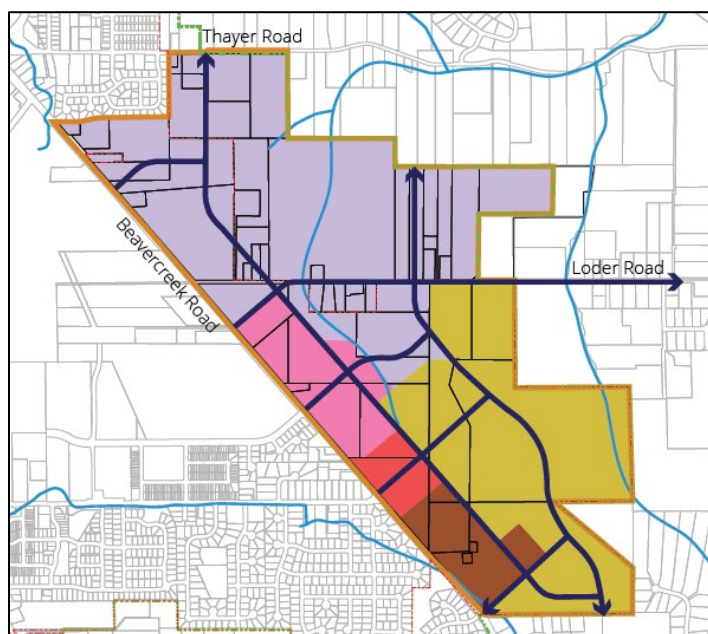
The current proposal for implementation of the Beaver Creek Concept Plan includes a mix of industrial, commercial, mixed-use, and residential zones. The northern end of the plan area is primarily industrial,



November 25, 2019

Page 2 of 3

transitioning to mixed use and residential zones to the south. The higher intensity uses such as commercial and high density residential are near Beaver Creek Road and lower density residential to the south and east, away from Beaver Creek Road. In addition, the Oregon City School District has long-term plans to construct a new elementary school south of the plan area, adjacent to the southeast corner of the plan boundary.



An exhibit showing the proposed zoning and comprehensive plan designations is attached to this memo, with an excerpt shown in Figure 2 for reference. The blue lines in the Figure 2 are all planned collector-level roadways. On the north end of the plan area, the collectors have a wider spacing. As those same streets extend south, the plan area narrows, and the spacing of collectors becomes much tighter. The street layout is logical, but as explained below, closer examination of residential densities and developable area shows that some of the streets slated for collector status will very likely not carry more traffic than local streets and will not warrant designation as a collector.

Figure 2 - Proposed Zoning

With land uses that have the highest trip intensity situated closest to Beaver Creek Road, some of the streets, particularly to the south and east, will naturally carry lower traffic volumes. The proposed R5 zoning designation to the south and east result in lower density and correspondingly low trip intensity. That combined with the closer collector spacing, results in a collector roadway density that is higher than necessary.

Effect of Left Turn Restrictions

The concept plan includes restricting left turn movements along Beaver Creek Road, except at intersections controlled by either a traffic signal or a roundabout. The intersection of Glen Oak Road at Beaver Creek Road is the southernmost intersection along Beaver Creek Road within the Urban Growth Boundary that is planned for either a traffic signal or a roundabout. All new street intersection south of Glen Oak Road will be limited to right turns in and out, including the major arterial/collector intersection of Beaver Creek Road at D56/Timbersky Way. See Figure 3 for a reference to the future street labeled D56.

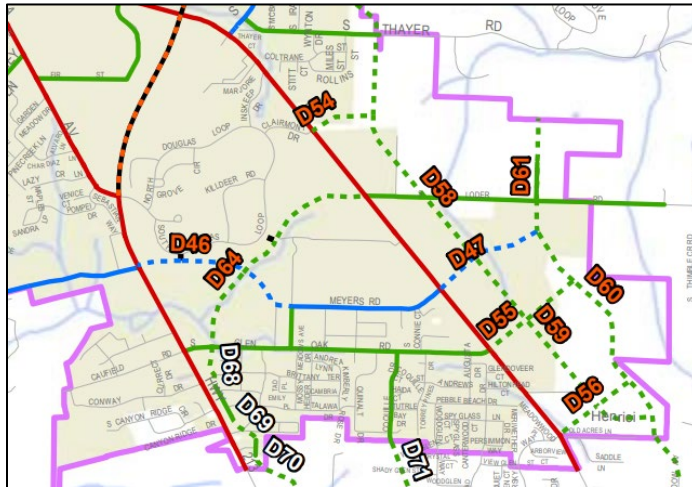


Figure 3 - Excerpt from TSP with New Street Labels

These turn restrictions further diminish the future traffic volumes on some of the streets within the plan area. For example, most trips, particularly in the southern area, are expected to be to and from the north. Exiting trips will have convenient access to Beaver Creek Road to make a right turn and travel north, but incoming trips will need to make a left turn from Beaver Creek Road at Glen Oak Road and use the internal street network. This results in decreased traffic volumes on streets such as D56, which is shown in Figure 3.

Does it Matter?

Sizing and classifying streets appropriately results in the most efficient use of the land available within the plan area. Perhaps more importantly, ensuring that streets are not overbuilt results in increased safety and neighborhood livability. By design, collector streets typically have wider lanes and higher travel speeds than local streets. Keeping street designs slow and safe is critical to ensuring that neighborhoods are comfortable for all users.

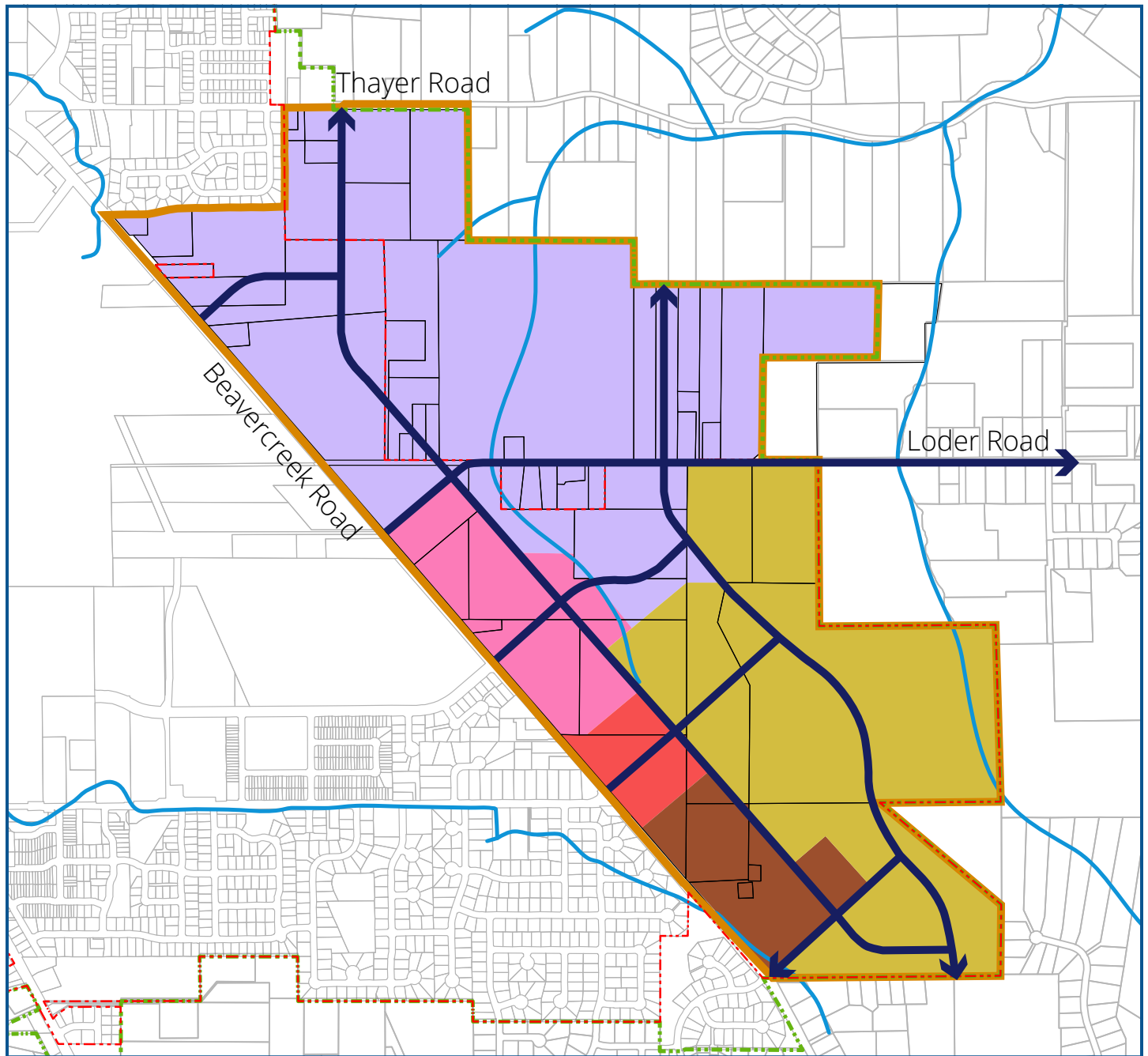
Summary & Conclusions

The streets contained in the current Beaver Creek Concept Plan create a logical network that will serve the diverse range of land uses in the plan area. However, as the plan area narrows to the south and zoning districts get lower in both density and trip intensity, the result is a system of too-closely spaced collector streets.

It is recommended that with the implementation of the concept plan, that flexibility be retained with respect to internal street classifications, particularly in the southern portion of the plan area. This will allow the creation of new, vibrant neighborhoods, where the emphasis is on the people, the neighborhoods, the land uses, and the parks, with lower emphasis on the streets that connect them.

Beavercreek Road Concept Plan

Proposed Zoning and Comprehensive Plan Designations



Legend



BRCP Subdistrict	Comp Plan Designation	Zoning Designation	
West Mixed Use Neighborhood	High Density Residential	High Density Residential	R-2
East Mixed Use Neighborhood	Medium Density Residential	Medium Density Residential	R-5
Main Street	Mixed Use Corridor	Neighborhood Commercial	NC
Mixed Employment Village	Mixed Use Corridor	Mixed Use Corridor	MUC-2
North Employment Campus	Industrial	Campus Industrial	CI
			BRCP Boundary
			Urban Growth Boundary
			City Limits
			Future Road Connections
			Streams



Oregon City School District No. 62

Learning to be our Best

PO Box 2110 (1417 12th St.), Oregon City, Oregon 97045-5010

July 15, 2019

Community Development Department
City of Oregon City
698 Warner Parrott Road
Oregon City, OR 97045

RE: Beaver Creek Road Concept Plan - BRCP

The District has been asked to provide comments concerning the BRCP and the current proposal for zoning designations and code amendments. Comments are to address the ability of Oregon City School District to adequately provide public educational services to the area. Current impacted school enrollment areas are Gaffney Lane and Beaver Creek Elementary Schools, Ogden Middle School and Oregon City High School.

The District has limited short-term capacity available at both Gaffney Lane and Beaver Creek Elementary Schools, capacity available at Ogden Middle School and capacity at our three high schools. Recent residential developments in the District have yielded significantly less than one student per household across all grade levels. The District currently is in design and construction to replace/expand and update middle schools and add safety and security features to all District schools. Current enrollment projections show a gradually increasing elementary enrollment, a middle school enrollment that decreases in the short term and then gradually increases and high school enrollment that slightly decreases. Assuming that the BRCP is developed in stages over the next 5-10 years, the District currently believes that it has the current capacity and/or will be able to have time to add capacity to meet the long-term enrollment generated by the Beaver Creek Road Concept Plan development.

Sincerely,

A handwritten signature in blue ink that reads "Wes Rogers".

Wes Rogers
Bond Program Manager
503-785-8531, wes.rogers@orecity.k12.or.us

NOV 21 11:33 AM

Oregon City Planning Commission
Meeting of November 18, 2019

RE: Agenda Item 3c – LEG 19-00003 Beavercreek Rd Concept Plan

Testimony of: Christine Kosinski, Unincorporated Clackamas County

At a recent Planning Commission meeting regarding the above BRCP, I believe this was in September, after a presentation by the City and DKS Traffic Consultants, a question came forward from the Commissioners who wanted to know the traffic impacts to Holly Lane from the BRCP. The answer from the City and DKS was that the impacts to Holly Ln would be minimal. I'm here to give you facts that show the traffic impacts to Holly Ln (at full build out) will be huge, in fact, earth shaking.

First you must understand the approved development on the old bus barn. I've given you a map which shows these vehicles will exit onto Maplelane, go up Thayer Rd to a turnaround. When they come back down to Maplelane, the vehicles will only be allowed to make an automatic right hand turn, and then an automatic left onto Holly Ln. This would be for a capped trip count, of I believe, 127 trips per day which can be changed in the future. At this point, the City is beginning to force traffic down Holly Ln, **See Map #1 which illustrates the flow of traffic onto Holly Ln.**

Next you must understand the huge traffic counts that will come up the South end of Holly Ln from the Park Place Concept Plan. Next in your packet, is Page 7 of the Kittleson & Associates Traffic Report, dated May, 2007. The report shows the significant impacts to Holly Ln of 167-200%, and this is just for the Park Place Concept Plan

Next in your packet is Page 16 of the Kittleson & Associates Traffic Report, dated May, 2007, stating that the Park Place Plan will generate about 22,990 new weekday daily trips with almost all of these using Holly Ln since it is the only North/South Connector.

Next, see Map #2, where I have circled a large area where most of these streets will use Holly Ln, in addition to both the BRCP and the Park Place Concept Plan. The City is planning for Holly Ln to take on monumental amounts of traffic due to the traffic counts coming out of both of these Concept Plans, however, this small landslide ridden street will not be able to absorb these large amounts of traffic which do belong only on a Major Arterial.

In the meantime, I hope you will read the letter from Kristina Browning, a homeowner on Thayer Rd. The letter is posted on the City website under the Nov. 12th City Commission Work Session. She speaks to the SAFETY issues that already exist on Maplelane and which are worsening by the day. Then I ask you to read the Oregon City Comprehensive Plan, under Landslides, where it clearly states "Landslides can be triggered by heavy rains, groundshaking from earthquakes and heavy traffic, and undercutting the lower edge of a slope, which can be caused by erosion along stream banks, and by development, such as cuts in road construction." All of these concerns are very real for Holly Ln homeowners who cannot obtain any landslide insurance to cover expensive damages.

I will be back in a week with testimony that I believe will help you to understand why the City will not be able to use Holly Ln. In the meantime, see more numbers below.

Traffic Numbers for Holly Lane

Park Place Plan - 22,990 new weekday daily trips

Growth in travel demand for Holly Ln (from Park Place Plan) from 167-200 %

Beavercreek Road Concept Plan traffic numbers for Holly Lane

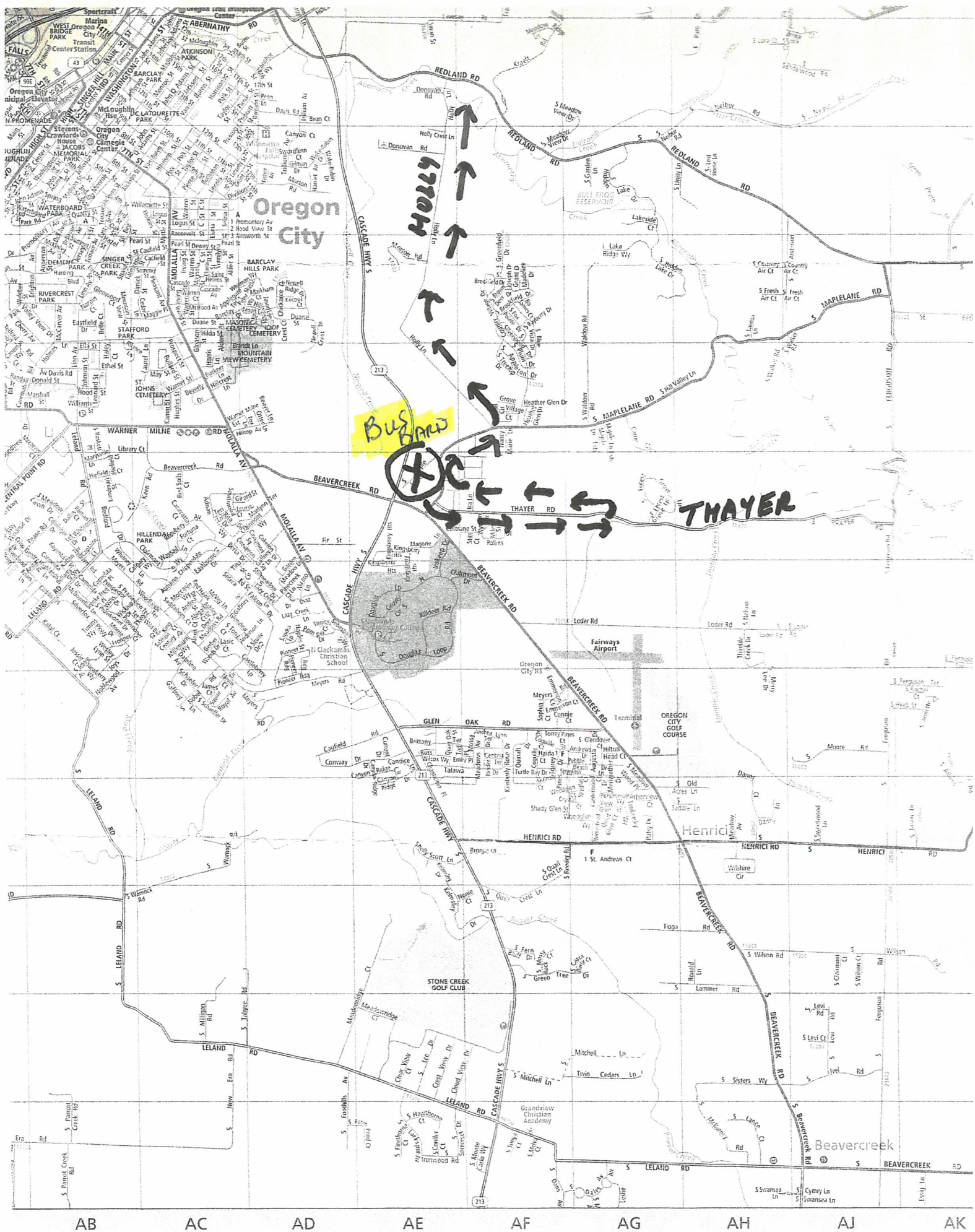
5700 part time employees = Two trips per day equals more than 10,000 trips per day

1100 new residences = Nominal 7 trips per day equals 7700 trips per day

Commercial Center = Add on another 20,000+ trips per day

Total here is about 37,700 trips per day from BRCP, many will affect Holly Ln

These numbers are for full build out, as currently planned.



Growth in Travel Demand

Substantial growth in local and regional travel is anticipated over the next 25 years. The HWY 213 corridor will be hardest hit, with travel demands growing by nearly 50 percent to almost 60,000 vehicle-trips a day. Improvements to this corridor would be very costly and face many difficult challenges to overcome. City and regional planners agree that this vital facility must be protected by enhancing the city's transportation system to better serve local travel.

Redland Road, Holcomb Boulevard, and Holly Lane are also forecast to experience significant increases in travel demands. Each corridor is constrained by narrow rights-of-way, physical features, and/or difficult topography that make improvements difficult. Nonetheless, it is imperative that the local transportation system be improved and expanded to better serve the Oregon City area and protect the regional resources of HWY 213 and I-205.

A comparison of 2027 No-Build forecast traffic volumes to those measured under existing conditions reveals significant growth in demand will occur on several key corridors in the Oregon City area. Table 1 provides examples of existing and forecast volumes on several roadway segments and the percentage of growth that is estimated to occur.

**TABLE 1
GROWTH IN TRAVEL DEMAND ON KEY CORRIDORS**

Roadway	Existing PM Peak Hour Volumes	2027 No-Build PM Peak Hour Volumes	Percent Increase
HWY 213: North of Washington St.	5,500	8,600	56%
HWY 213: Washington St. to Redland Rd.	4,900	6,700	37%
HWY 213: Redland Rd. to Beavercreek Rd.	4,000	5,800	45%
Redland Rd.: HWY 213 to Abernethy Rd-Holcomb Blvd	900	1,500	67%
Redland Rd.: Abernethy Rd.-Holcomb Blvd. to Anchor Way	1,300	1,800	38%
Redland Rd.: Anchor Way to Livesay Rd.	1,100	1,800	64%
Redland Rd.: Livesay Rd to Holly Ln.	1,100	1,800	64%
Holly Ln.: Redland Rd. to Donovan Rd.	300	900	200%
Holly Ln.: Donovan Rd. to Maplelane Rd.	300	800	167%
Holcomb Blvd.: Redland Rd. to Front St.	800	1,300	63%
Holcomb Blvd.: Front St. to Swan Ave.	600	1,100	83%

The projected growth in travel demand on these corridors ranges between 300 vehicles per hour (on Holly Lane) to 3,100 vehicles per hour (on the northernmost segment of HWY 213). The percent increase ranges from 38 percent to 200 percent. These increases are so significant that demands on several roadways will exceed their existing capacity. The next section presents a summary of how well the existing transportation system can accommodate these 2027 No-Build travel demands and what mitigations are likely necessary to meet agency performance standards.

Park Place Concept Plan
May 21, 2007

Project #: 7938.0
Page 16

Table 4 summarizes the estimated site trip generation during a typical weekday, as well as during the weekday PM peak hour (all trip ends shown in Table 4 are rounded to the nearest five trips).

TABLE 4
PARK PLACE CONCEPT PLAN ESTIMATED TRIP GENERATION

Land Use	ITE Land Use Code	Size	Weekday Daily Trips	Weekday PM Peak Hour Trips		
			Total	Total	In	Out
Single Family Residential	110	1,106 HH	10,585	1,120	705	415
Apartments	220	470 HH	3,160	290	190	100
Condo/Townhouse	230	134 HH	785	70	45	25
Specialty Retail	814	122,750 SF	5,440	330	145	185
General Office	710	274,430 SF	3,020	410	70	340
Total New Trips			22,990	2,220	1,155	1,065
Internal Trips (5%)			1,150	110	55	55
Mode Split (5%)			1,150	110	60	50
Total Net New Trips			20,690	2,000	1,040	960

Table 4 shows that the site is expected to generate approximately 22,990 new weekday daily trips; of which 2,220 will be during the weekday PM peak hour. Approximately 110 of the PM peak hour trips will be internal to the site, while another 110 trips will be made by modes other than a single-occupancy vehicle. This means that the site will generate approximately 2,000 net new trips on the surrounding roadway system during the weekday PM peak hour; of which, approximately 1,040 will be into the site and 960 will be leaving the site.

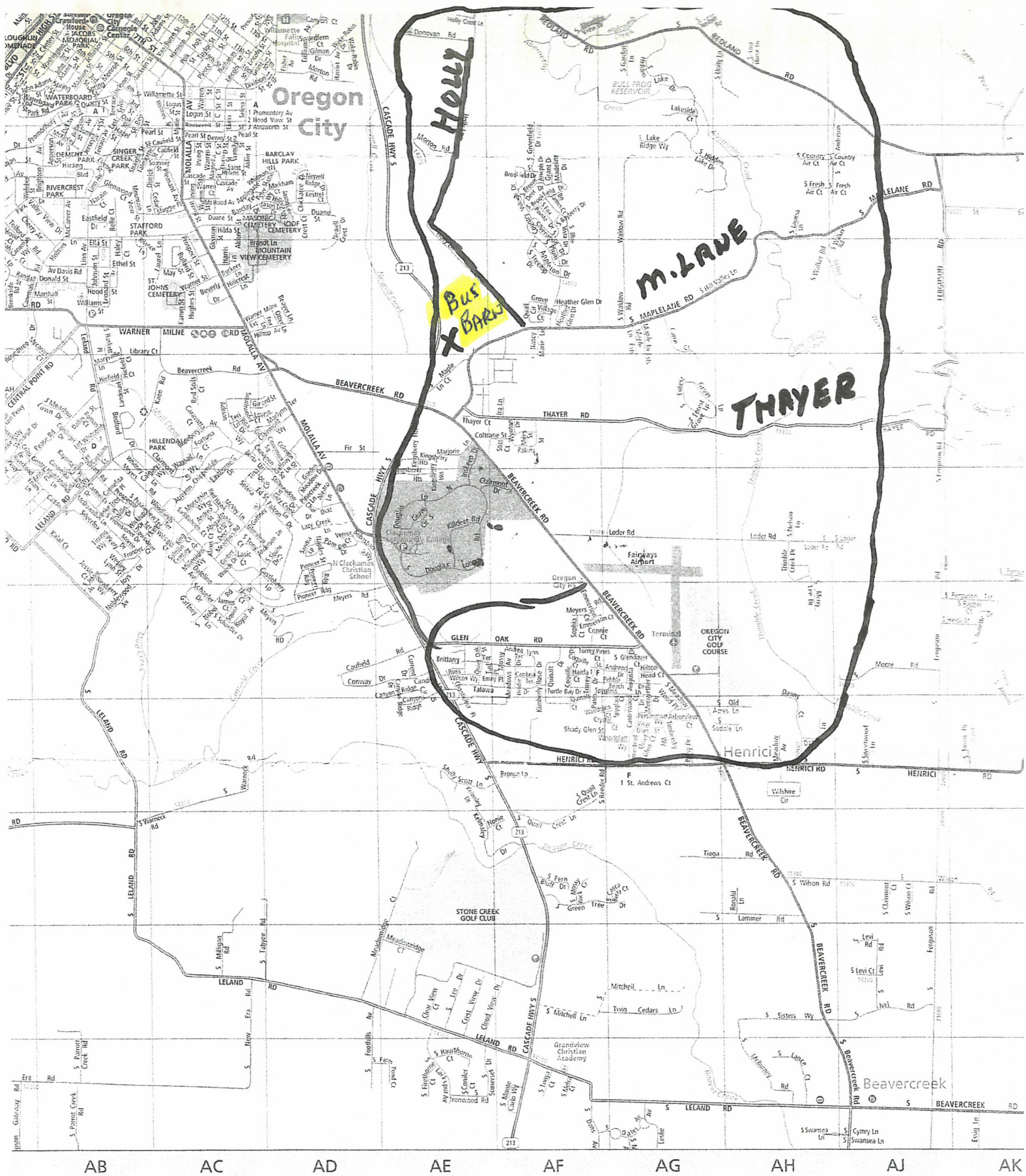
It should be noted that the 2027 No-Build forecast includes growth in households and jobs in TAZs 505, 506, 507, and 508. Because only a fraction of the planning area is in each zone, it is difficult to determine whether some or all of that growth is anticipated within the Park Place concept planning area. No reduction in travel demand was made to try and account for any "overlap" in assumed development. Therefore, it is safe to say the forecasts used in this analysis represent a reasonable worst-case scenario and likely represent greater levels of development than may actually occur. *Appendix "E" contains the land use estimates assumed in the Sunrise model for TAZs located within the planning area.*

Trip Distribution and Assignment

Trip Distribution

Distribution of the net new site-generated trips onto the study area roadway system is estimated based on a review of select zone analyses produced by the METRO Sunrise model, as well as existing traffic patterns, local knowledge of the area, and professional judgment. Figure 8, displays the estimated trip distribution pattern for the net new trips associated with the Park Place Concept Plan. *Appendix "F" contains the select zone analyses results.*

Figure 8 shows that approximately one third of all trips are to/from the I-205 corridor, one third are to/from the west, more than one quarter to/from the south, and 13 percent to/from the east.



MAP #2

Oregon City Planning Commission
Hearing of September 23rd, 2019

RE: Testimony of Christine Kosinski, unincorporated Clackamas County

Agenda Item 3b – LEG19-0003 Beaver Creek Rd Concept Plan – Geology

Oregon City is comprised of some of the most difficult and dangerous topography in the State. I continue to be shocked that the City would even consider using Holly Lane as a freeway for motorists to reach the I-205. This is being done to preserve Beaver Creek Road, since it is at capacity, and the City has failed in the past to construct a grade separated intersection at Hwy 213 and Beaver Creek Rd which would have been the solution to its capacity issues at this intersection. Because the City failed, they pulled out Plan B from their pocket and decided to use Holly Lane which is a small 2 lane road that is riddled on both sides with landslides. The homeowners on Holly Lane have suffered previous landslides which demolished two homes and severely damaged four others. There was NO insurance coverage when the slides occurred in 1996 and the homeowners had to pay hundreds of thousands of dollars to fix and re-build their homes.

Case in point, the City has failed to fulfill its obligations to their people in providing adequate transportation infrastructure to support the large build out they are proposing, however using Holly Ln to carry some 70,000 plus vehicles per day is simply ludicrous. To make the people of Holly Lane pay for the errors of the City should never be done, rather the City must now go back to plan their way out of this difficult situation that they themselves have created.

Following are several Exhibits I am entering into the City record for the Beaver Creek Rd Concept Plan. These exhibits show that poor planning on the part of the City has created these traffic problems.

EXHIBIT ONE – One page of a new article where Scott Burns, Professor of Geology, PSU, was being interviewed after the OSO, WA Landslide Disaster. This is the statement he had about the poor people losing everything, **and there's no insurance covering them.**

EXHIBIT TWO – This is the first sheet of an application for Landslide Insurance, NOTE the question "Is the building in a known landslide area or have there been any incidents of landslide within ONE MILE of the property? It doesn't matter if you answer yes or no since the insurance company will look up your address on lidar landslide maps. If there has been a previous landslide within one mile of your property you will not get insured.

EXHIBIT THREE – There are extensive exclusions, in fact so many, that even if you could get landslide insurance, it would virtually never pay out.

EXHIBIT FOUR – Here is a copy of the denial my Husband and I received when we tried to obtain landslide insurance in 2015.

EXHIBIT FIVE – An e-mail from Professor Scott Burns speaking to the concerns of the Thayer Road landslides and that the road will not take large amounts of traffic.

EXHIBIT SIX – Oregon City's Comprehensive Plan for Landslides. If the City approves the use of Holly Lane, as well as the approving both the North and South extensions of Holly, they will be going against their own Comprehensive Plan, as well as the requirements of the State and LCDC.

EXHIBIT SEVEN – Oregon City “Trail News

EXHIBIT EIGHT - DOGAMI's Lidar Landslide Map. The location of the BRCP is highlighted. I want you to note that this map includes an extensive area of Oregon City because NO ONE in this entire area will be able to obtain Landslide Insurance. Many of them will not know this when they are purchasing homes and/or property. They need to be told the truth if they are moving into a landslide area, they need to know there will be no insurance coverage if a landslide hits their property. **This is STATE LAW – Property Disclosure Law.**

The City should not be using the people of Holly Lane to try and fix it's planning problem where the grade separated intersection, which should have been built way back before three very large concept plans were proposed. The City was wrong in doing this, and now must, once again, re-consider the grade separated intersection which is what should have happened years ago. We ask and ask again and again, take Holly Lane out of your TSP. It is a dangerous street with high susceptibility to future landslides. A City should NEVER compromise the SAFETY of the people!

A Call For Landslide Insurance For Homeowners

*Scott
Barnes*

By DAVID HYDE (/PEOPLE/DAVID-HYDE) & MARCIE SILLMAN (/PEOPLE/MARCIE-SILLMAN) •
MAR 26, 2014

Twitter (<http://twitter.com/intent/tweet?url=http%3A%2F%2Fwww.tinyurl.com%2Fk9hh9uk&text=A%20Call%20for%20Landslide%20Insurance%20For%20Homeowners>)



(http://mediad.publicbroadcasting.net/p/kuow/files/styles/x_large/public/201403/osomudslide-GovInsleeaerial1.jpg)

All those people who lost their houses in the Oso landslide have lost everything, and there's no insurance covering them. We lost lives. That is the worst thing. But then property is the second thing. Hopefully, this will be enough of an impetus to take us to the next level and put more pressure on insurance companies to possibly come forward with landslide insurance.

#1

Building Information

Foundation Type:	Crawl Space
Dwelling Type:	Owner Occupied Primary Residence
Year Built:	1971
Roof Update:	1998
Construction Type:	Wood Frame
Dwelling Value Declared at 100% Replacement Cost:	\$200,000.00
Total Square Footage:	1,410
Do you own this property?	Yes
Select the option that best describes the building:	Single-Family
Is this a split level home?	No

General Questions

Does the building have additions or extensions supported by posts, piers, or beams?	No
Is there existing cracking of wall or foundation?	No
Is there a garage attached to the building?	Yes
Is the sill plate permanently bolted to the foundation of the building?	No
What year was the roof last updated?	1998

Earthquake Questions

Have any buildings or personal property located on the premises been damaged from an incident of Earthquake Shock?	No
--	----

Landslide Questions

Is the building in a known landslide area or have there been any incidents of landslide within 1 mile of the property?	Yes
Have any buildings or personal property located on the premises been damaged from an incident of landslide, earth movement, or land subsidence?	No

2

H.Premises means the real property at the address shown on the Coverage Declarations.

- I. Sinkhole** collapse means the settlement or systematic weakening of the land supporting the **building(s)**, when such settlement or systematic weakening results from movement or ravelling of soils, sediments, or rock materials into subterranean voids created by the effect of water on a limestone or similar rock formation.

III. Losses Excluded

A. This Policy does not insure against:

1. Loss or damage arising directly or indirectly out of nuclear reaction, nuclear radiation or radioactive contamination, however such nuclear reaction, nuclear radiation or radioactive contamination may have been caused.
2. Loss or damage arising directly or indirectly out of war, invasion, acts of foreign enemies, hostilities (whether war be declared or not) civil war, rebellion, revolution, insurrection, military or usurped power or martial law or confiscation or nationalization or requisition or destruction of or damage to property by or under the order of any government or public or local authority.
3. Loss, damage or increased cost arising directly or indirectly out of enforcement of any ordinance or law regulating the use, reconstruction, repair or demolition of any **building(s)** insured hereunder, nor any loss, damage, cost, expense, fine or penalty which is incurred, or sustained by or imposed on you at the order of any governmental agency, court or other authority arising from any cause whatsoever.
4. Loss or damage arising out of acts or decisions, including the failure to act or decide, of any person, group, organization or governmental body relating to faulty, inadequate or defective:
 - a. Planning, zoning, development, surveying, siting;
 - b. Design, specifications, workmanship, repair, construction, renovation, remodelling, grading, compaction;
 - c. Materials used in repair, construction, renovation or remodelling; or
 - d. Maintenance of all or part of any property on or off the **premises**.
5. Loss or damage arising out of normal settling, shrinking or expansion of land, **buildings**, structures or foundations; or erosion, gradual subsidence or the processes of erosion that take place over time, or any other gradually occurring loss or damage whether caused by **earthquake shock, flood or landslide** or not, or any loss or damage which commenced prior to the inception of this Policy.
6. Loss or damage arising out of fire regardless of any other event which contributes concurrently or in any sequence to the loss or damage.
7. Loss or damage arising out of exposure to weather conditions where any **personal property** is left in the open or not contained in **buildings** which are on permanent foundations and capable of secure storage.
8. Mysterious disappearance or inventory shortage, theft, fraud, or any kind of wrongful conversion or abstraction.
9. The costs for reconstruction of electronic data or other data.
10. Loss or damage arising out of cessation, fluctuation or variation in, or insufficiency of, water, gas or electricity supplies, or other public utility service supplying the **premises**.
11. Reduction in rental value, reduction in market value or the saleability of property insured by this Policy, or any costs or expenses related thereto.

B. Notwithstanding any provision in this Policy to the contrary (or within any Endorsement which forms part of this Policy), this Policy does not insure:

1. Any loss, damage, costs or expense, or
2. Any increase in insured loss, damage, cost or expense, or
3. Any loss, damage, cost, expense, fine or penalty, which is incurred, sustained or imposed by order, direction, instruction or request of, or by any agreement with, any court, government agency or any public, civil or military authority, or threat thereof, (and whether or not as a result of public or private litigation) which arises from "any kind of seepage or any kind of pollution and/or contamination," or threat thereof, whether or not caused by or resulting from a peril insured, or from

SPECIMEN

3

This exclusion applies regardless whether there is (i) any physical loss or damage to insured property; (ii) any insured peril or cause, whether or not contributing concurrently or in any sequence; (iii) any loss of use, occupancy, or functionality; or (iv) any action required, including but not limited to repair, replacement, removal, clean-up, abatement, disposal, relocation, or steps taken to address medical or legal concerns.

This exclusion replaces and supersedes any provision in the Policy that provides insurance, in whole or in part, for these matters.

- I. This Policy does not cover any costs and expenses, whether preventative, remedial or otherwise, arising out of or relating to change, alteration or modification of any computer system, hardware, program or software and/or any microchip, integrated circuit or similar device in computer equipment or non-computer equipment, whether the property of the insured or not.
- J. Notwithstanding any provision to the contrary within this insurance or any endorsement thereto it is agreed that this insurance excludes loss, damage, cost or expense of whatsoever nature directly or indirectly caused by, resulting from or in connection with any act of terrorism regardless of any other cause or event contributing concurrently or in any other sequence to the loss.

For the purpose of this Policy an act of terrorism means an act, including but not limited to the use of force or violence and/or the threat thereof, of any person or group(s) of persons, whether acting alone or on behalf of or in connection with any organization(s) or government(s), committed for political, religious, ideological or similar purposes including the intention to influence any government and/or to put the public, or any section of the public, in fear.

This also excludes loss, damage, cost or expense of whatsoever nature directly or indirectly caused by, resulting from or in connection with any action taken in controlling, preventing, suppressing or in any way relating to any act of terrorism.

If the underwriters allege that by reason of this exclusion, any loss, damage, cost or expense is not covered by this insurance the burden of proving the contrary shall be upon the insured.

In the event any portion of this endorsement is found to be invalid or unenforceable, the remainder shall remain in full force and effect.

IV. Property Excluded

A. This Policy does not cover:

1. Land, land values, soil, water, air, or any interest or right therein.
2. **Building(s)** and other structures used in whole or in part for any commercial, farming or manufacturing purposes, other than residences on the **premises** held for rental.
3. Mobile homes; but this exclusion does not apply to modular or manufactured housing permanently attached to foundations.
4. Paved areas, including but not limited to parking lots, terraces, driveways, walkways, sidewalks, pavements, paths, curbing and swimming pools. 
5. Bridges, steps and stairs; wharves, piers and jetties, unless physically attached to any **building(s)**.
6. Retaining walls whether or not necessary for the continuing stability of any part of the **premises**, and whether or not attached to any **building(s)**.
7. Fences; embankments and earthen structures, tanks, wells, ponds, dams, and dikes.
8. Trees, shrubs, lawns, plants, landscaping costs, animals, birds or fish.
9. Any aircraft or other aerial device, watercraft and their trailers, motorized and non-motorized vehicles other than motorized equipment used to maintain the **premises**.
10. Accounts, bills, currency, money, medals, notes, credit cards, securities, deeds, bullion, books of account, evidences of debt or title, manuscripts, passports, tickets, stamps and valuable papers.
11. Jewellery, watches, precious stones, precious metals, silverware, silver-plated ware, gold-ware, gold-plated ware, and pewter ware, fine art, objects d'art, firearms, sculpture and statuary, furs and garments trimmed with fur.
12. Loss or damage to the basement and/or real property and **personal property** suffering loss or damage within the basement where the basement has not been declared within the Policy Application for this insurance.

SPECIMEN

3

From: Jackie Goodman <jackie@huggins.com>
To: britenshin <britenshin@aol.com>
Subject: RE: Landslide and earthquake quote
Date: Wed, Oct 28, 2015 11:20 am

Hello Christine and John,

I received a response from the Underwriter and I am sorry to tell you that your application has been denied. Unfortunately you are ineligible for landslide coverage at this time. The comments from the Underwriter indicate the risk is surrounded by 6 large landslides and a recent fan of debris. The Catcoverage.com market is the only market that we have available for this type of coverage.

I am so sorry that I am unable to assist you. If you have any questions or concerns, please let me know.

Kindly,

Jackie Goodman
Account Manager
Huggins Insurance Services
jackie@huggins.com

#4

Subj: **Re: Thayer Road in Oregon City**
Date: 11/19/2007 6:20:35 A.M. Pacific Standard Time
From:
To:

Christine - great to hear from you!! Keep working at getting the county to change - it takes time! The Thayer Road problem is a big one - that slide keeps creeping. The road will not take large amounts of traffic and they definitely should not build on the site! Thanks for keeping me up on these things! Good luck,

Scott Burns, PSU Geology

Quoting Britenshin@aol.com:

> Dr. Burns: I was speaking with Sha Spady last week regarding the large
> landslide area on Thayer Road which sinks every year. Sha told me that you
> were recently here to inspect this part of the road and that I should
> contact you
> for your thoughts and concerns about this area.
>

#5

areas of concern are shown on other city, county, state and federal maps. These publications are available at the Oregon City Planning Department.

Development and construction in areas with unstable soils require that special development standards be met on a site-specific basis to prevent or minimize damage caused by unstable soils. Maintaining existing vegetation or revegetating may be required for excavation and road slopes in areas designated as landslide-prone.

Landslides. Landslides include rockslides, mudslides, debris flows, earthflows, and slumping. These phenomena are natural geologic processes that occur principally when soils and rock in steep areas become saturated with water, increasing weight and lubricating the mass. Gravity pulls the affected areas downhill. Landslides can be exacerbated by adding fill material to a slope, removing vegetation, altering drainage and runoff patterns, and undercutting a slope. Landslides can be triggered by heavy rains, groundshaking from earthquakes and heavy traffic, and undercutting the lower edge of a slope, which can be caused by erosion along stream banks, and by development, such as cuts in road construction.

Areas most susceptible to landslides in Oregon City are those with slopes of greater than 25 percent. These areas have been mapped by DOGAMI and are shown in the *Oregon City Hazard Mitigation Plan* (1998). The Unstable Soils and Hillside Constraint Overlay District requires geotechnical surveys of other potential hazard areas and provides standards that are used to determine the potential risk of landslides on slopes with various degrees of steepness in relation to the development.

Seismic Activity

Although predicting seismic events is extremely difficult, some prediction is possible by looking at the history of a particular region. Oregon is in a region with a history of intense seismic activity, generated by the subduction of the Juan de Fuca Plate under the North American Plate and by the collision of the Pacific Plate with the North American Plate along the San Andreas Fault and associated faults in California. Known catastrophic subduction-zone seismic events in the Pacific Northwest, which have occurred every 300 to 800 years, have caused a down-drop of land, generated enormous tsunamis along the coast, and triggered major landslides throughout the region. The last such event took place in 1700.

Tectonic uplift of the entire Pacific Northwest region, driven by subduction of the Juan de Fuca Plate far offshore, has spawned many faults throughout the region, including the West Hills Fault along the axis of the toe of Portland's West Hills. An earthquake in March of 1993 near Molalla just south of Oregon City, dubbed the "Spring Break Quake," had a magnitude of 5.6 on the Richter

#6

OREGON CITY TRAIL NEWS

Since April of 1996 until the Fall issue of this year, 2019 – There have been many articles in the Trail News on.....

City Sewers
City Streets
National Night Out
City Heritage Day
Water Safety
Stormwater Master Plan Update
Construction Projects
Many articles on living in the flood plain
Many articles on flood insurance
Many articles on the BRCP
The Pioneer Center

**BUT
NEVER ONE ARTICLE EVER IN THE PAST 23 YEARS
ABOUT LANDSLIDES!!!!!!**

Both Land Use Goals 7 and 2, as well as Oregon Statutes Chapter 195 – Local Government Planning Coordination – Section 195.260. All of these State laws call for local governments to educate their people about the risks of Landslides.

The people of Oregon City must know who to call, where to go for help when noticing things like cracks in their foundations, windows that won't go up or down due to shifting, cracks appearing in their ceilings, floors that begin to tilt and become unlevel. The people of Oregon City must be educated in reading the DOGAMI Lidar Landslide Maps, if they have questions, the City must be ready with answers and with help.

This is simply awful that Oregon City, with some of the worst topography in the State, has not reached out to their people through the Trail News, through newspaper articles, through mailers, through classes held within the community on the dangers of Landslides, Earthquakes and they must know about Emergency preparedness and the fact that Landslide Insurance does not exist at this time in the U.S. and that the Homeowner is responsible for all damages.

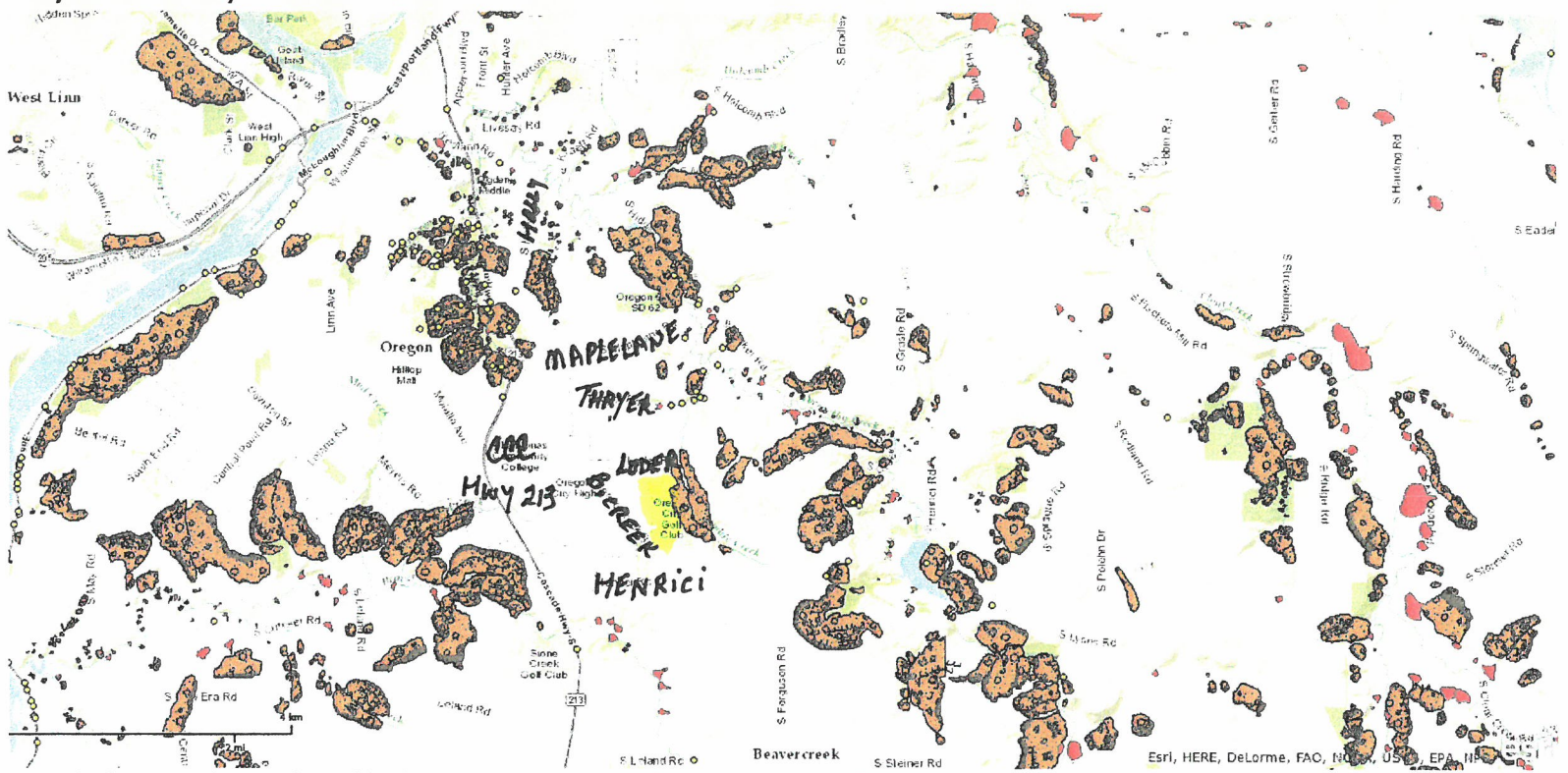
Oregon City has been derelict in it's duties to protect the lives and property of it's people, and must, by State law, begin an intensive plan to educate their people into the dangers and hazards of living in a landslide area, of which Oregon City is highly comprised of – difficult topography.

Christine Kosinski

#7

Map from DOGAMI S SLIDO viewer

olly Ln & Hwy 213 Landslides



general information only; not to be used for planning purposes. <http://www.oregongeology.org/slido> Sat Aug 27 2016 09:53:25 PM.

#8

Planning Commission Meeting of Oct. 14, 2019-10-14

Testimony from Elizabeth Graser-Lindsey

I am grateful the Planning Commission requested further delving into cottage industry as the city commission requested some years ago and I appreciate the research and thought the staff has given the issue.

Oregon City is a middle-sized city, the county seat, the home of Clackamas Community College, a large and growing education center and a bedroom city for the region. Most residents have to commute to cities with more abundant jobs since Oregon City has a particularly-low jobs-to-housing ratio. All this driving by Oregon City commuters and people living further out to get to distant jobs causes traffic congestion. Because, currently the city's home occupation code is very limiting, it leads to potential city entrepreneurs, who are starting urban-connected businesses, to live in the rural area where the conditional use code is more permissive when the city won't let them in. This restrictiveness also leads to business income benefitting other local governments rather than Oregon City. The city should not lack a neighborhood where people can be industrious and start a business from their home. ~~You'd fill a pad of paper with all the home-occupation permits issued outside the city for city-related jobs. In my area~~

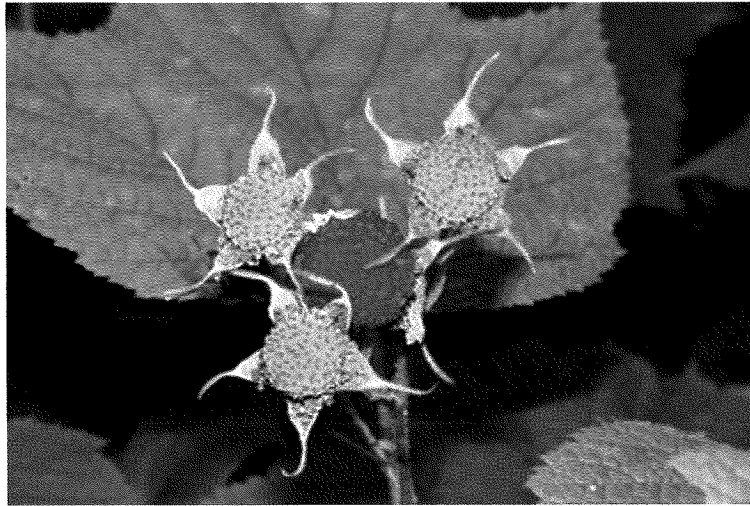
Oregon City needs to give its motivated and talented residents of ordinary means the opportunity to innovate, be productive, generate wealth, and grow a successful business in the spectrum of urban activities that serve cities. Even the proposed changes -- to establish a unique Beavercreek Road Concept Plan area home occupation code -- just cracks the door open a little. It still leaves many occupations for people to pursue somewhere else. This includes the would-be up-and-coming landscapers, the forklift business, the dump truck business, the caterer, the welder, the car repairer, the construction contractor, the gutter installer, the plumber, and so forth.

The Beavercreek Road Concept Plan area was brought into the Urban Growth Boundary for industry, to solve the shortage of family-wage jobs in the city and region; LUBA's remand confirmed that this is true. Oregon City still needs the jobs; it still needs the business revenue; and it needs relief from excess commuting impacts on its roads whether from its own residents or commuters from further out passing through to the good jobs. It's not enough to try to attract successful businesses to Oregon City.

Fully open up Oregon City to the city's own residents being the spark plugs of innovation, productivity and wealth-generation that power the city into the future.

These people need all the opportunities it takes to operate varied businesses – a few employees, a bit of sales and traffic, storage, business vehicles, out-growing invisibility. Instead of seeing industry and its evidences as a problem, embrace industry and see how code needs to be addressed to make industry a good neighbor. Maybe there can be a place for a bit of sound and storage, especially when all the ^{home} buyers are attracted to the opportunity. Why doesn't the city interview its own citizens participating in business to see what is necessary for success for a range of businesses? Maybe the Chamber of Commerce could help.

The Thimble Creek Concept Plan name has the advantages of being unique and connecting with the common thimble berry of our area.



Comments on BREP form Elizabeth Graser-Lindley
1-13-2020

Because the goal of the home
occupation/cottage industry code changes
is to get more jobs - esp. home-grown jobs -
in Oregon City & to reduce commuting
impacts on the crowded roads in the area,
please consider

Instead of

17.54.120 in Home occupation and Cottage Industries
in are allowed in and shall comply with all
of the following in
having

Home occupation and Cottage Industries
in shall be ~~allowed~~ ^{the development type} in and shall
comply with all of the following.

That is, instead of "are allowed," "shall be the
development type."

Was the original park factor
8 acres with a corresponding
total park area of 20 acres?

Isn't it good to keep a larger
park area of 20 acres ^{& factor of 8} rather
than decreasing to 10 acres with the factor of 4?

To: Planning Commission

From: Natural Resources Committee

RE: Beaver Creek Road Concept Plan Implementation Upland Habitat

Date: November 13, 2019

The Natural Resources Committee reviewed a presentation by Christina Robertson-Gardiner, Senior Planner at the October 9, 2019, NRC meeting, which provided background on upland habitat areas in the adopted Beaver Creek Road Concept Plan.

While a fair amount of the area identified as upland habitat in the adopted plan is already protected by OCMC 17.49 Natural Resources Overlay District, OCMC 17.44 Geologic Hazards and OCMC 17.41 Tree protection, we feel that there is a need for additional protection to retain high-value habitat directly abutting protected water features. The Natural Resources Committee believes that new code should be created to address these areas as part of the Beaver Creek Road Concept Plan Zoning and Code Amendments.



Areas 3 and 4 as identified in the city map below are of specific interest to this committee as they are contiguous to large habitat areas. We support additional protection in Area 2 in locations that abut the identified and protected stream. Area 1 may merit additional protection if analysis shows enough tree area located outside of the Natural Resource Overlay District.

We look forward to working with city staff on any proposed code amendments.



MEMO

To: Laura Terway, Community Development Director, Oregon City
cc: files
From: Joseph D. Eskew, Engineering Manager
Date: 7/12/2019
RE: *Beavercreek Road Concept Plan – CRW Comments*

Thank you for this opportunity to provide comments regarding the Beavercreek Road Concept Plan and how Clackamas River Water (CRW) will be affected.

The area of interest (the Area) is located east of Beavercreek Rd, south of Thayer Rd and north of Henrici Rd. The area lies wholly within the Urban Growth Boundary (UGB) and partially within City limits.

Portions of the Area extend into current CRW jurisdictional territory that is served by CRW. Regarding these portions of the Area, CRW provides the following summary comments:

1. Existing CRW customers within the UGB and/or City limits, will remain customers until such time that the City has infrastructure and can provide water service.
2. CRW owns service mains that traverse through the Area to territory outside the UGB. Water mains must remain in service to provide water to customers outside the UGB. CRW is open to discussions regarding alternatives for maintaining service to customers outside the UGB.
3. Territory that is annexed to the City must be withdrawn from CRW and served by Oregon City services to the extent practicable.
4. An Intergovernmental Agreement between CRW and Oregon City, dated October, 13 2016 provides a mechanism to serve CRW water within Oregon City limits, on a limited basis, through a master meter for water sales to Oregon City. The IGA is focused specifically to provide interim water service for the proposed “Villages at Beavercreek” development. This agreement is in force and will be honored.
5. CRW lacks required storage and infrastructure to increase the amount of water sales for additional development over the flow rate designated in the IGA.
6. CRW assumes that future development will, in large part, be guided and coordinated consistent with the concepts provided in the Joint Engineering Study, June 11, 2018, by Murraysmith.

From: [Paul Edgar](#)
To: [Mike Mitchell](#); [Laura Terway](#); [Christina Robertson-Gardiner](#); [Dayna Webb](#)
Cc: [Christine Kosinski](#); [Bob La Salle](#); [Paul Savas - County Commissioner](#); [Bezner, Mike](#); [Karen Buehrig - CC Trans Planning Sup](#); [Rachel Lyles Smith](#); [Frank O'Donnell - OC City Commissioner](#)
Subject: Fwd: RE: Oregon City intersection analysis Highway 213 and Beavercreek Road (Please include this as part of the record with the current Beavercreek Road Concept Plan Updates)
Date: Tuesday, November 19, 2019 11:10:14 AM
Attachments: [afhiefaknelkamio.png](#)

FYI, This below email was initially sent out, October 14th 2016 to the owners of the Beavercreek Road, and that is Clackamas County and it was later copied to others like Dayna Webb within Oregon City.

This can has been kicked down the road and in doing so it is a disservice to everyone, for the failure to be honest. This paragraph is in the text of this email from October 14th, 2016.

"It is effectively impossible to use Holly Lane as an alternative route. Holly Lane has some of the highest susceptibility to Landslides and Land Movement as per DOGAMI. To me it is similar to the County "owned" Road section of South End Road, which is a nightmare to the county, with maintenance and how to stop the land movement, where the road is breaking off. Therefore there appears to be little or NO effective ability to mitigate Beavercreek Road congestion, using Holly Lane as it surely cannot be expanded or improved without overcoming heroic contingencies at great cost."

The understanding that were forged with ODOT on "Alternative Mobility Standards", now 3 years later, we now see that they cannot be justified. Virtually within any case and "in particular" the assumption of the use of Holly Lane to provide enough trip diversion generation case, **whereby the Volume over Capacity does not exceed the physical capacity of this Beavercreek Road & Highway 213 intersection**, cannot be made.

The physical improvements proposed to to the Highway 213 & Beavercreek Road intersection are less than Band-Aids, and do great harm, within the failure of getting the needs of this Hwy 213 & Beavercreek Road Intersection into Long-Term Transportation Planning with the only real solution, which is a true Fly-Over Interchange. We need funding and help from JPACT, Metro, Clackamas County and ODOT, and when we tell everyone to not worry, its OK and then we all experience this collapse and it is 10 years out to pull together the coordination of funding and design!! Everyone that needs a free flowing Highway 213 & Beavercreek Road will be trapped and effective screwed.

We cannot go ahead, in my opinion with virtually any development, with job's and housing as is outlined in the Beavercreek Concept Plan, with "Faulty and Unrealistic Assumptions".

From the time of these initial studies and when the understanding with ODOT were being put into place, to where we are today, we are seeing/experiencing exponential growth in incidences of travel (trips) on Beavercreek Road and Highway 213 and these incidents of travel are exceeding all previous estimates, with most all coming and going to places not in Oregon City.

The failure to not take this into consideration with what is being said and done now in November 2019 with this update to the Beavercreek Concept Plan and forward, is a great/significant error in judgement. Holly Lane "Trip Diversion" is just smoke and mirrors and it is unethical in how it is being used in the Oregon City Planning and within the Oregon City Beavercreek Concept Plan. I also wrote this in this in the below forwarded October 14th 2016 email.

"Can anyone tell me what alternative mobility methods off of the top of your heads that can be deployed, that can take a intersection that has had historically a LOS "F" congestion "Failure" ranking, whereby you can mitigate/change those conditions with PED, Bike and Bus, where none of these Alternative Mobility Methods are applicable at this intersection. Even if they were, how can you measure their effect."

Paul Edgar, is a former member of the Clackamas County Transportation Committee that created the Clackamas Country - Transportation Systems Plan (TSP)

----- Forwarded Message -----

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X-Mozilla-Status2: 00000000
X-Mozilla-Keys:

Return-Path:literway@ci.oregon-city.or.us
Received:from mx05.quartz.synacor.com (LHLO mx.q.com) (10.30.2.125) by
md07.quartz.synacor.com with LMTP; Tue, 18 Oct 2016 12:04:43 -0400 (EDT)
Return-Path:[<literway@ci.oregon-city.or.us>](mailto:literway@ci.oregon-city.or.us)
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Tue, 18 Oct 2016 12:04:36 -0400
Received:from exchange.orcity.org ([10.61.1.27]) by Exchange ([10.61.1.27]) with mapi; Tue, 18
Oct 2016 09:04:29 -0700
From:Laura Terway [<literway@ci.oregon-city.or.us>](mailto:literway@ci.oregon-city.or.us)
To:pauloedgar@q.com [<pauloedgar@q.com>](mailto:pauloedgar@q.com)
CC:Dayna Webb [<dwebb@ci.oregon-city.or.us>](mailto:dwebb@ci.oregon-city.or.us), Kelly Reid [<kreid@orccity.org>](mailto:kreid@orccity.org)
Date:Tue, 18 Oct 2016 09:04:27 -0700
Subject:RE: Oregon City intersection analysis
Thread-Topic:Oregon City intersection analysis
Thread-Index:AdImb0Wre+sZd7scTPebG5Amz7RMkQC6eMQw
Message-ID:<79182DEA2A9EBD459F20AD5CB90FEAA55F9A33EB51@Exchange>
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Paul,

Thank you for your email. I have copied Dayna Webb and Kelly Reid on this reply, as they will be managing the project.



Laura Terway, AICP
Community Development Director
Planning Division
City of Oregon City
PO Box 3040
221 Molalla Avenue, Suite 200
Oregon City, Oregon 97045
Direct - 503.496.1553
Planning Division - 503.722.3789
Fax 503.722.3880

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PUBLIC RECORDS LAW DISCLOSURE: This e-mail is subject to the State Retention Schedule and may be made available to the public.

From: Paul Edgar [<mailto:pauloedgar@q.com>]
Sent: Friday, October 14, 2016 4:04 PM
To: Bezner, Mike
Cc: Karen Buehrig - CC Trans Planning Sup; Laura Terway
Subject: Re: Oregon City intersection analysis

Mike, Karen & Laura,

Highway 213 and Beavercreek Road intersection needs to be a full interchange and Beavercreek Road needs to be expanded out to 5-lanes (two in each direction and a turn lane) with a separate bike and PED Path, out to Henrici Road.

With Volume to Capacity determinations as to how to measuring congestion (at this intersection) within "Alternative Mobility Standards" to determine what can mitigate this congestion, we are truly embarking on a case study.

It is effectively impossible to use Holly Lane as an alternative route. Holly Lane has some of the highest susceptibility to Landslides and Land Movement as per DOGAMI. To me it is similar to the County "owned" Road section of South End Road, which is a nightmare to the county, with maintenance and how to stop the land movement, where the road is breaking off. Therefore there appears to be little or NO effect ability to mitigate Beavercreek Road congestion, using Holly Lane as it surely cannot be expanded or improved without overcoming heroic contingencies at great cost.

I would like to be part of this of this TAC group, as someone who is very knowledgeable in most all aspects.

We need quantifiable understandings, that create measurable methods of all Deploy-able - Mitigation within "Alternative Mobility Methods" to come out of this effort.

If a suite is filled, asking for "Concurrency Ruling" to stop all future development within the Beavercreek Road Concept Plan Area, this could be part of this Case Study.

To me, it would sure be nice to come out of this, with positive case law - ruling, that limit wheel spinning and help all of us move forward and get things done that need to be done.

State Highway 213 is listed within the Comprehensive Plan as a Strategic Urban Freight Route and critical to the county for a lot more reasons, than just freight. Just ask the commuters that rely on it to get to work, as well as those who depend on free movement to all important services.

I could say much the same thing about Beavercreek Road.

Can anyone tell me what alternative mobility methods off of the top of your heads that can be deployed, that can take a intersection that has had historically a LOS "F" congestion ranking, whereby you can mitigate/change those conditions with PED, Bike and Bus, where none of these Alternative Mobility Methods are applicable at this intersection. Even if they were,

how can you measure there effect.

Paul Edgar

On 10/10/2016 5:33 PM, Bezner, Mike wrote:

Paul:

I talked with Karen Buehrig about your concerns that you expressed at the BCC meeting a couple of weeks ago about the Oregon City Beavercreek Road Alternate Mobility Standards project. The County will have an employee on the project's Technical Advisory Group (TAG). As a member of the TAG, we intend to be looking out for the interests of freight movement, unintended alternative routes, and maintaining the route access for emergency vehicles.

Yes, the project will be looking at the standards used to evaluate the Beavercreek/213 intersection, and will study alternatives. But it will also hopefully identify some feasible projects that might be affordable that can improve mobility.

Thanks,

Mike Bezner | Assistant Director of Transportation

Clackamas County Department of Transportation and Development | 150 Beavercreek Road | Oregon City, OR 97045 | 📞 : 503-742-4651

My office hours: Monday thru Thursday, 7AM-6PM.

From: [Ray Atkinson](#)
To: [Dayna Webb](#); [John M. Lewis](#); [Christina Robertson-Gardiner](#)
Subject: Widening Beavercreek Road
Date: Sunday, November 24, 2019 1:41:06 PM
Attachments: [DKS Associates Analysis \(August 6 2019\).pdf](#)
[Staff Memo.pdf](#)

Good Afternoon,

I watched [this recording](#) of the November 12 City Commission Work Session and read the attached memos. Even though both memos state that induced demand would reduce (many studies show it will negate) any long-term congestion reduction from widening Beavercreek Road, I heard Mayor Holladay at about 41 minutes into the Work Session respond to Dayna's explanation of induced demand. He did not agree that induced demand would cause the widened Beavercreek Road to become congested. Instead, he believes that future drivers from new development in the Beavercreek Concept Plan Area would cause the widened Beavercreek Road to become congested. While I know induced demand and future drivers will both contribute to congestion if Beavercreek Road is actually widened, it appears Mayor Holladay is saying that induced demand would not happen. Did either memo analyze whether induced demand or future drivers would likely be the main cause for the widened Beavercreek Road to become congested?

Even though the City Commission supported widening Beavercreek Road, I am thankful that both memos state that widening Beavercreek Road will make this road less inviting and safe for pedestrians and cyclists. Since the Beavercreek Road Concept Plan encourages walking and biking, I hope the City Commission realizes that widening Beavercreek Road likely will discourage walking and biking and encourage more people to drive.

Thank you,

Ray Atkinson

Master of Urban and Regional Planning | Class of 2016

Portland State University

Vice-Chair, Clackamas County Pedestrian and Bikeway Advisory Committee

Member, City of Oregon City Transportation Advisory Committee

Member, Transportation Choices Alliance Advisory Council

Phone: (704) 787-5859 | Email: gismap1@gmail.com



From: [Ray Atkinson](#)
To: [Christina Robertson-Gardiner](#)
Subject: Re: Beavercreek Road Concept Plan- Code and Zoning Amendments- (Beavercreek Road Design, Transportation Analysis, Speed Zones within the Concept Plan)
Date: Tuesday, November 19, 2019 2:38:08 PM

Hi Christina,

I see in the transportation analysis for Beavercreek Road that it does not include correct transit data. TriMet and CCC operate transit at the Beavercreek Road and Highway 213 intersection. Is there time to correct the data issues?

Thanks,

Ray Atkinson

From: Christina Robertson-Gardiner <crobertson@orccity.org>
Sent: Tuesday, November 19, 2019, 10:56 AM
To: Ray Atkinson
Subject: Beavercreek Road Concept Plan- Code and Zoning Amendments- (Beavercreek Road Design, Transportation Analysis, Speed Zones within the Concept Plan)

Planning Commission Hearing November 25, 2019

**Planning Files: LEG 19-00003 -
Beavercreek Road Concept Plan-
Code and Zoning Amendments-
(Beavercreek Road Design,
Transportation Analysis, Speed**

Zones within the Concept Plan)

The November 25, 2019 Planning Commission Agenda is now available for review at <https://oregon-city.legistar.com/Calendar.aspx>. Meetings may be attended in person, viewed *Live on Comcast Channel 28* or on the City's website via streaming video.

The Planning Commission is reviewing the zoning and code amendments for the Beavercreek Road Concept Plan (BRCP) over multiple meetings during the late summer and fall of 2019. Each meeting will be broken into 1-3 topics to allow the Planning Commission, staff and the public time to focus their energy. Planning Commission comments and direction as well as public comments will be tracked throughout the hearings and topics may be added to future meetings if new items are identified or issues have not been resolved. Please refer to the updated calendar attached to each Planning Commission packet for meeting topics. **Please note that public comment at any meeting is not limited to the identified topic and may be on any issue related to LEG 19-0003.**

The following topics were identified either by public comment or the Planning Commission for the November 25, 2019 Hearing. Staff will provide background on the following issues and will provide a recommendation if warranted.

1. Beavercreek Road Design
2. Beavercreek Road Concept Plan- Transportation Analysis
3. Speed Zones within the Concept Plan

There will be additional opportunities to comment. A list of all past meetings and future meetings can be found below and are subject to change.

August 12, 2019 Background on Project, Open Record

August 26, 2019: Introduce Tracking Matrices, An Overview Of 8.13.19 City Commission Work Session, Identify Future Topics /Calendar

September 9, 2019: Beavercreek Zones & Maps, Home Occupation

September 23, 2019: Master Planning Requirement, Upland Habitat, Geologic Hazards

October 14, 2019: Parks, Renaming Concept Plan, Home Occupation/Cottage Industry

November 18, 2019 PC Meeting- Parks Home Occupation/Cottage Industry

November 25, 2019: Transportation Roadway Width, Roundabout, Holly Lane, Local Street Speed

December 16, 2019 or January 13, 2019: Parks, Home Occupation/Cottage Industry, Tentative Planning Commission Recommendation

January 27, 2020: Formal Planning Commission Recommendation to City Commission

February/March 2019: 1st City Commission Review of Planning Commission Recommendations

Other Meetings

November 12, 2019 - City Commission Beavercreek Road Design Work Session-

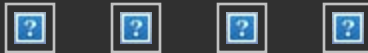
August 29, 2019 Parks and Recreation Advisory Committee (PRAC)- Initial Presentation October 9, 2019 Natural Resource Committee Upland Habitat

November 13, 2019 Natural Resource Committee Upland Habitat

TBD- Parks and Recreation Advisory Committee (PRAC) Recommendation To The Planning Commission



Find Out More



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City of Oregon City
625 Center St
Oregon City, OR 97045-2253

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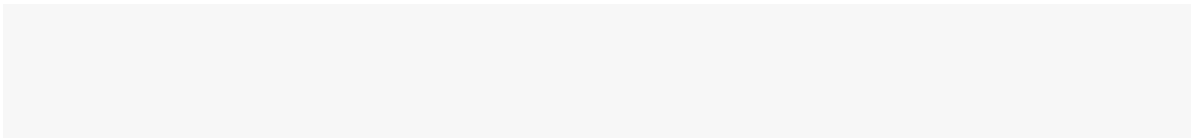
From: [Diane Maxon](#)
To: [Christina Robertson-Gardiner](#)
Subject: Re: ADV: Beaver Creek Road Concept Plan- August 12, 2019 Planning Commission Agenda
Date: Saturday, August 10, 2019 12:11:56 PM

I went to a planning meeting a few months ago & since that time, I've had many thoughts about it, most of them not good. What good is there coming to any planning meetings when the plan is already done. I wasn't in Beaver Creek in 2002 when this started so I couldn't protest then. Planning people seem to think that all growth is for the good, but it isn't. When this started, did anyone think of all the people who live south of the "plan" & will have to go through the additional traffic? The 1600 new residences will bring approximately 3000 new vehicles, let alone those coming to work at all the businesses that have been planned. Have you driven on our roads lately? They are already crowded & yet more & more large housing units are being put all over the place! Most of us came here slowly, one at a time, & we came to live in a country setting, so we will be losing what we came for. Was that given any thought? What about all the wildlife that will be displaced by 584 acres of people? Why would anyone want this to become a big city? I am just horrified by all the changes that planning type people think the rest of us want. We really don't. So, roads are already crowded, schools are already crowded and you can hardly get into the O.C. post office. Is there even an upside to those of us who live here already? I have not seen one, nor have my neighbors.

I see now that there is a meeting to decide which of 3 plans for traffic control is best. NONE! Going through Holly Lane sounds fine, but would you want all that extra traffic coming through your once quiet neighborhood? And roundabouts are just plain confusing & dangerous when crowded.

I'm having trouble not saying awful things, so I think I'll quit. I'm sure you've gotten my thoughts & feelings.
Diane Maxon

On Aug 5, 2019, at 5:56 PM, Christina Robertson-Gardiner <crobertson@orc.org> wrote:



Beaver Creek Road Concept Plan

LEG 19-0003

1st Planning Commission

Meeting

August 12, 2019

The August 12, 2019 Planning Commission Agenda is now available for review at <https://oregon-city.legistar.com/Calendar.aspx> and can be downloaded [here](#).

Any interested party may testify at the hearings or submit written comments at or prior to the public hearings while the record is open. Public comments can be mailed to City of Oregon City| PO Box 3040| Oregon City, OR 97045 or via email to Christina Robertson-Gardiner, AICP, Senior Planner at

crobertson@orc.org

LEG 19-00003 - Amendments to various Chapters of the Oregon City Municipal Code, Zoning Map and Comprehensive Plan Map and ancillary documents to the Comprehensive Plan to implement the Beavercreek Road Concept Plan.

How Many Hearings will the Planning and City Commission Hold for this Project?

This is the 1st Planning Commission hearing date for LEG 19-00003. The number of hearings is at the discretion of the Planning and City Commissions- though it is anticipated that each hearings body will hold a couple of hearings each on this matter. The first hearing on this item will consist of a staff presentation of the project, public comments and Planning Commission questions. Staff has requested a continuance to August 26, 2019 when the staff report will be presented and staff will request approval by the Planning Commission.

[Beavercreek Road Concept Plan Project- Zoning and Code Amendments](#)

The Beavercreek Road Concept Plan (BRCP) is a guide to the creation of a complete and sustainable neighborhood in southeast Oregon City. The acknowledged BRCP provides a framework for urbanization of 453 acres within the urban growth boundary including a diverse mix of uses (an employment campus north of Loder Road, mixed-use districts along Beavercreek Road, and two mixed-use neighborhoods), all woven together by open space, trails, a network of green streets, and sustainable development practices. This spring and summer, the City of Oregon City will embark on a process to amend the Comprehensive Plan Map, Zoning Map and Oregon City Municipal Code (OCMC) to allow planned housing, employment and mixed-use development within the Concept Plan Area. www.orcity.org/Beavercreekroadconceptplan



[Find Out More](#)



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MEMO

Date: June 26, 2019
To: Laura Terway & Christina Robertson-Gardiner, City of Oregon City
CC: Steve Faust, 3J Consulting
From: Elizabeth Decker, JET Planning
Subject: Beaver Creek Road Concept Plan Map and Code Implementation Project

I. PROJECT DESCRIPTION AND BACKGROUND

I.a. CONCEPT PLAN SUMMARY

The Beaver Creek Road Concept Plan (BRCP) establishes the goal of creating a complete and sustainable community in southeast Oregon City within a 453-acre district along Beaver Creek Road. The district is intended to provide for a mix of uses including an employment campus north of Loder Road, mixed-use districts along Beaver Creek Road, and two mixed-use neighborhoods woven together by open space, trails, a network of green streets, and sustainable development practices. District development will help to provide 1000 to 1,600 diverse housing options and to realize the City's economic development goals, including creation of up to 5,000 family-wage jobs. The five subdistricts that support these development goals include:

- ***North Employment Campus:*** The largest subdistrict, located north of Loder Road and is intended for tech flex and campus industrial uses.
- ***Mixed Employment Village:*** Located along Beaver Creek Road between Meyers Road and Glen Oak Road, and intended for mixed-use, 3-5 story building scale, active street life.
- ***Main Street:*** A node located Beaver Creek Road and Glen Oak Road, intended for mixed-use, local shops and services.
- ***West Mixed-Use Neighborhood:*** Located along Beaver Creek Road south of Glen Oak Road and the Main Street subdistrict, and intended for medium to high density housing and limited community uses.
- ***East Mixed-Use Neighborhood:*** Located in the southeast end of concept plan area, and is intended for low-density residential and green space throughout.

- ***Parks, Open Spaces and Resource Areas:*** Includes a connected system of parks, open spaces and natural areas that link together and link to the environmentally sensitive areas throughout the district, including the undevelopable portion of the powerline overlay.

The Beaver Creek Road Concept Plan was initially adopted in 2008 and re-adopted in 2016, following legal and legislative findings that affirmed the plan's consistency with Metro regional employment goals. (See File No. LE-15-0003.) While approximately half of the district has been annexed to the City, mapping and zoning regulations need to be developed and applied for the annexed areas and the remainder of the district to fully implement the BRCP.

I.b. IMPLEMENTATION PROJECT SUMMARY

Oregon City aims to further implementation of the Beaver Creek Road Concept Plan (BRCP) through comprehensive plan designation and zone mapping, and development code amendments. The specific tasks for this project will be to develop comprehensive plan map and zoning map designations to implement the Beaver Creek Road Concept Plan map, and supporting development code regulations for each implementing zone. The existing Concept Plan map was the guide for mapping implementation. Existing city zoning, bolstered by recent Amendments to the Oregon City Municipal Code (including the Equitable Housing Project recommendations) code amendments, generally lines up with the desired land use concepts within the plan and will facilitate implementation with minor amendments. Additional plan goals beyond land use implementation are outside the scope of this project, including infrastructure, transportation and economic development measures that have already been completed or planned for the concept plan area. Additional items will be pursued separately from this land use implementation project.

I.c. PROJECT PUBLIC ENGAGEMENT

The BRCP implementation project engaged a range of stakeholders in multiple venues and formats over eight months, with each successive round of engagement used to inform project refinements in subsequent phases.

The first round of engagement consisted of four stakeholder interviews with property owners, economic development representatives, and local educational institutions to understand current conditions and priorities for the implementation project. This initial round also included three presentations to the following community groups to update them on the status of the BRCP concept plan and hear their priorities for the implementation process:

- Caulfield Neighborhood Association- January 22, 2019

- The Hamlet of Beavercreek- January 23, 2019
- Beavercreek Blue Ribbon Committee- January 17, 2019

Three public meetings were held at the Oregon City High School, near the concept plan area, and at City Hall during the course of the project to provide information and discussion opportunities on the evolving maps and code amendments:

- Tuesday, January 29, 2019- Oregon City High School Library- 7:00-8:30 PM
- Tuesday, April 9, 2019- Oregon City High School Library- 7:00-8:30 PM
- Monday, June 10, 2019- City Hall Commission Chambers - 5:00-7:00 PM

For all meetings, materials were also available online including comment forms to allow community members to participate virtually if they were not able to attend the meetings in person.

Additional presentations were held at the following City meetings to detail the implementation project elements:

- Citizen Involvement Committee- January 7, 2019
- Transportation Advisory Committee- March 19, 2019

The proposed map and code amendments were discussed at the two work sessions this spring:

- Planning Commission Work Session- May 13, 2019
- City Commission Work Session- June 11, 2019

Throughout the project, ongoing methods used to engage citizens in the process have included:

- Project website with regular updates
(<https://www.orcity.org/Beavercreekconceptplan>)
- Email Updates announcing upcoming meetings and events
- Mailing List
- Public comment tracker, compiling feedback from all engagements with responses from staff, updated throughout the project
- Online comment forms
- Naming survey for renaming the concept plan area
- Notice board posted within the concept plan area

The following meetings are anticipated as of the date of this report as part of the adoption process.

- 1st Planning Commission Hearing: August 12, 2019- 7:00 PM
- City Commission Work Session (Beavercreek Road Street Design): August 13, 2019
- Additional Planning Commission and City Commission public hearings and work sessions to be scheduled.

All meetings will be properly noticed and advertised through the project's mailing list and website.

II. PROPOSED AMENDMENTS

II.a. AMENDMENT SUMMARY

The implementation project includes map and text amendments consistent with BRCP including:

1. *Comprehensive plan text amendments:* Proposed clarification in the Parks Master Plan (ancillary document to the Comprehensive Plan) as well as amendments to the Transportation System Plan (ancillary document to the Comprehensive Plan) as needed.
2. *Comprehensive plan map amendments:* Proposed amendments to the comprehensive plan map implement the five subdistricts identified in the BRCP consistent with the concept plan maps throughout the concept plan area.
3. *Zoning map amendments:* Proposed amendments to the zoning map implement the five subdistricts consistent with the concept plan and comprehensive plan designations for properties within the concept plan area that have been annexed into the city limits. Zoning for properties within the Concept Plan boundary but not annexed into the City will be applied at the time of annexation, consistent with the adopted comprehensive plan map.
4. *Zoning text amendments:* Code amendments to the Oregon City Municipal Code include geographically specific provisions to supplement the base zoning district provisions to fully implement the concept plan goals for each subdistrict. Limited amendments to subdivision and site plan review standards are also proposed to ensure concept plan standards are implemented at the time of development.

The BRCP subdistricts are proposed to be implemented with existing city comprehensive plan designations and zoning districts for proposed maps, with proposed code amendments building on existing district standards.

<i>Subdistrict</i>	<i>Comprehensive plan designation</i>	<i>Zone</i>
North Employment Campus	Industrial (I)	Campus Industrial (CI)
Mixed Employment Village	Mixed-Use Corridor (MUC)	Mixed-Use Corridor (MUC-2)
Main Street	Mixed-Use Corridor (MUC)	Neighborhood Commercial (NC)
West Mixed-Use Neighborhood	High-Density Residential (HDR)	High-Density Residential (R-2)
East Mixed-Use Neighborhood	Medium-Density Residential (MDR)	Medium-Density Residential (R-5)
Environmentally Sensitive Restoration Area		Natural Resources Overlay District (NROD) Geological Hazard Overlay District (GHOD)

II.b. SUMMARY OF ZONING TEXT AMENDMENTS

The proposed code amendments specific to each subdistrict are described below, and supplement rather than supplant the base zone standards.

OCMC 16.08, Land Divisions – Process and Standards

- Proposed code amendments include additional public park requirements or fee-in-lieu option for certain properties to ensure land for the South Central Open Space Network is reserved and dedicated to the city at the time of residential subdivisions. This is expected to largely apply to development in the R-5 district.

OCMC 17.10, R-5 Medium Density Residential District (East Mixed-Use Neighborhood subdistrict)

- No changes are proposed to the mix of uses or dimensional standards in the zone beyond those proposed in the Amendments to the Oregon City Municipal Code (including the Equitable Housing Project recommendations).

- Standards for the Low-Impact Conservation Area implement the plan goals for the area upslope of Thimble Creek, on the eastern edge of the Beavercreek Road district. The proposed standards limit development to two units per acre, require open space preservation and restoration, and require view corridors to preserve views.
- A 40-foot perimeter buffer is proposed along the southern edge of the district including landscaping, setbacks and fencing, to manage the transition to lower-density residential development outside City limits along Old Acres Lane to the south.

OCMC 17.12, R-2 High Density Residential District (West Mixed-Use Neighborhood subdistrict)

- Allows additional uses consistent with the Concept Plan include live/work dwellings and limited commercial/mixed-use spaces.
- Provides up to a 20% density bonus for development incorporating sustainability features.
- Additional changes in Site Plan and Design Review standards to add requirement for additional public park dedication or fee-in-lieu, consistent with requirement for new subdivisions.

OCMC 17.24, MC Neighborhood Commercial District (Main Street subdistrict)

- Limits uses to a 10,000 SF building footprint to encourage pedestrian-scale, main street businesses. Limits residential uses to 50% of the project floor area, and prohibits ground-floor residential uses within 150 feet of Glen Oak Road (which will be the “main street.”) Adds a new use category for artisan and specialty goods production to allow limited manufacturing type uses.
- Increase dimensional standards to match scale proposed in the Concept Plan, including a five-story height limit and 0.5 FAR minimum.
- Improves building presence and interaction along the street by requiring parking to be located behind building facades.

OCMC 17.29, MUC Mixed-Use Corridor District (Mixed Employment Village subdistrict)

- Light industrial uses are permitted to implement the employment aspect of the vision for this subdistrict. Retail and service uses, including food service, are limited to 20% of a site to maintain the focus on employment uses generating family-wage jobs. Residential uses are limited to upper stories only.

- One parcel with an in-progress residential development is permitted outright, to avoid creating a nonconforming use.
- An additional dimensional standard implements a minimum 0.35 FAR for new development to ensure efficient use of land.

OCMC 17.31, CI Campus Industrial District (North Employment Campus subdistrict)

- Retail and professional service uses are limited consistent with Metro Title 4 requirements to preserve land for industrial uses. Offices are permitted consistent with uses outlined in the Concept Plan, whereas distribution and warehouse uses are prohibited because they create relatively few jobs per acre inconsistent with the plan goals.
- Several parcels with existing single-family residential development are permitted outright, to avoid creating nonconforming uses. (These parcels are outside of Title 4 lands, so there is no conflict with employment requirements.)
- Additional standards require landscaping, berms and fences within the required 25-foot transition area between industrial and residential uses.
- Outdoor storage is limited to a maximum of 25% of the developable area to avoid inefficient use of land that does not support employment plan goals.
- A minimum 30-foot open space and trail corridor is required along the powerline corridor. Additional parks, trails, urban agriculture and community garden uses are permitted consistent with the plan goals for uses within the powerline easement.
- Sustainable development features are required for all development to implement the plan's sustainability goals.

OCMC 17.44, US - Geologic Hazards and OCMC 17.49 - Natural Resources Overlay District

- No changes are proposed to the geologic hazard or natural Resources Overlay District standards for this district; resource areas within the concept plan area will be protected consistent with existing standards.

OCMC 17.62, Site Plan and Design Review

- Proposed code amendments include additional public park requirements or fee-in-lieu option to ensure land for the South Central Open Space Network is reserved and dedicated to the city at the time of residential subdivisions.

This is intended to apply to any residential development in the R-2 or the mixed-use districts that does not get developed through subdivision.

III. COMPLIANCE

III.a. CHAPTER 17.68 ZONING CHANGES AND AMENDMENTS

17.68.010 Initiation of the amendment.

A text amendment to this title or the comprehensive plan, or an amendment to the zoning map or the comprehensive plan map, may be initiated by:

A. A resolution by the commission;

B. An official proposal by the planning commission;

C. An application to the planning division presented on forms and accompanied by information prescribed by the planning commission.

All requests for amendment or change in this title shall be referred to the planning commission.

Response: This request is for amendments to the zoning map, amendments to the comprehensive plan map, and text amendments to the Oregon City Municipal Code and was initiated by the Planning Division.

17.68.020 Criteria.

The criteria for a zone change are set forth as follows:

A. The proposal shall be consistent with the goals and policies of the comprehensive plan.

Response: Consistency with the Oregon City Comprehensive Plan (OCCP) Goals and Policies follow starting on page 11.

B. That public facilities and services (water, sewer, storm drainage, transportation, schools, police and fire protection) are presently capable of supporting the uses allowed by the zone, or can be made available prior to issuing a certificate of occupancy. Service shall be sufficient to support the range of uses and development allowed by the zone.

Response: The capacity of the respective public facilities and services to support the proposal is addressed below.

Water and Sewer Capacity

Please refer to the attached memorandum from 3J Consulting. The memorandum provides an assessment of the water and sanitary sewer system implications of the map and code amendments proposed with the BRCP implementation project.

Wastewater treatment is provided by the Tri-City Sewer District, which the project contacted for comment.

The 3J memorandum concludes that development of 1,105 dwelling units and 5,734 jobs within the BRCP area have been adequately planned for in infrastructure master plans and sufficient capacity will be available to serve development. The Sanitary Sewer (2014) and Water Distribution (2012) Master Plans were all created subsequent to initial adoption of the Beavercreek Road Concept Plan (2008). Each master plan incorporated the BRCP area into future capital improvement projections and will ensure adequate water and sewer capacity is developed.

South Fork Water Board (SFWB), Oregon City's water provider was contacted for comment.

Schools

The proposal was sent to the Oregon City School District (OCSD) for comment.

Police and Fire Protection

Oregon City Police Department and Clackamas Fire District capacity would not be affected by the proposal, since the proposal does not change existing service areas. They have been contacted for comment.

Wastewater Treatment

Tri-City Sewer District was contacted for comment.

Storm Drainage

This proposal does not change the city's adopted policies and technical documents related to storm water management and erosion control. The Draft 2019 Oregon City Stormwater Master Plan includes the BRCP area, which is part of the Newell Creek Basin, but does not identify any capital improvement projects specifically needed to serve the BRCP district. The Plan states that the eventual layout of the stormwater conveyance systems and management facilities will be crafted through the preliminary and final design process for development projects within the BRCP district.

Transportation

Impacts to the transportation system are addressed under (C) below.

Based on the various analyses provided, public facilities and services are presently capable of supporting the uses allowed by the proposal, or can be made available prior to issuing a certificate of occupancy. **This criterion is met.**

C. The land uses authorized by the proposal are consistent with the existing or planned function, capacity and level of service of the transportation system serving the proposed zoning district.

Response: The impacts of the proposal on the transportation system were reviewed by a transportation consultant, DKS. Please refer to the DLS analysis and memorandum which is attached to this narrative. The memorandum provides an assessment of the transportation implications of the project proposal. The memorandum assesses whether the proposed amendments trigger a finding of significant effect that would require further analysis to determine transportation impacts under OAR 660-12-0060 (Transportation Planning Rule or “TPR”).

The memo concludes that the proposed map and code amendments do not result in a significant change in the number of trips resulting from the dwelling units and jobs anticipated within the BRCP district compared to the traffic anticipated and planned for in Oregon City’s Transportation System Plan (TSP) adopted in 2013. Therefore, the proposed amendments do not have a significant effect on the transportation system and that the city may adopt findings to that effect when adopting the proposed amendments. **This criterion is met.**

D. Statewide planning goals shall be addressed if the comprehensive plan does not contain specific policies or provisions which control the amendment.

Response: The acknowledged Oregon City Comprehensive Plan (OCCP) addresses all of the applicable Statewide Planning goals unless the Statewide Goal is inapplicable. The relevant sections of the OCCP implemented by this proposal, and the applicable Statewide Goals, is indicated below.

Statewide Planning Goal	OCCP Section / Goal(s) Implemented by this Proposal
1: Citizen Involvement	1. Citizen Involvement / Goals 1.2, 1.4
2: Land Use Planning	2. Land Use Planning / Goals 2.1, 2.3, 2.4, 2.5, 2.6, 2.7
3: Agricultural Lands	3. Not applicable within UGB
4: Forest Lands	4. Not applicable within UGB
5: Natural Resources, Scenic and Historic Areas, and Open Spaces	5. Open Spaces, Scenic and Historic Areas, and Natural Resources / Goals 5.1, 5.4
6: Air, Water and Land Resources Quality	6. Quality of Air, Water, and Land Resources / Goals 6.1, 6.2
7: Areas Subject to Natural Hazards	7. Natural Hazards / Goal 7.1
8: Recreation Needs	8. Parks and Recreation / Goal 8.1,

9: Economic Development	9. Economic Development / Goals 9.1, 9.3, 9.5, 9.7, 9.8
10: Housing	10. Housing / Goals 10.1, 10.2
11: Public Facilities and Services.	11. Public Facilities / Goals 11.1, 11.6, 11.7
12: Transportation	12. Transportation / Goal 12.1
13: Energy Conservation	13. Energy Conservation / Goal 13.1
14: Urbanization	14. Urbanization / Goal 14.3
15: Willamette River Greenway	Not affected by this proposal.
16: Estuarine Resources	Not applicable.
17: Coastal Shorelands	Not applicable.
18: Beaches and Dunes	Not applicable.
19: Ocean Resources	Not applicable.

Detailed responses to the OCCP goals and policies are provided in Section III.b below.

III.b. OREGON CITY COMPREHENSIVE PLAN GOALS AND POLICIES

Goal 1.2 Community and Comprehensive Planning

Ensure that citizens, neighborhood groups, and affected property owners are involved in all phases of the comprehensive planning program.

Policy 1.2.1

Encourage citizens to participate in appropriate government functions and land-use planning.

Goal 1.4 Community Involvement

Provide complete information for individuals, groups, and communities to participate in public policy planning and implementation of policies.

Policy 1.4.1

Notify citizens about community involvement opportunities when they occur.

Response: The proposal is consistent with these Goals and Policies. The project provided numerous opportunities for citizen involvement, including engagement with the Citizen Involvement Committee, the Caufield Neighborhood Association, property owners, and other stakeholders through multiple avenues throughout the eight-month project planning process with multiple notification and participation options provided. See Section I.c for full summary of citizen involvement efforts.

2.1 Efficient Use of Land

Ensure that property planned for residential, commercial, office, and industrial uses is used efficiently and that land is developed following principles of sustainable development.

Response: The proposal maps and supplements existing zoning district standards for the R-5, R-2, NC, MUC-II, and CI zones that have been found to support efficient and sustainable development. The BRCP envisions the area developed with vibrant, walkable, amenity rich neighborhoods with active community centers, as mapped and implemented by this proposal. The proposed code amendments further support efficient land use by providing residential density bonuses, FAR minimums for mixed-use development, and requiring sustainable design features for industrial development. **The proposal is consistent with this Goal.**

Policy 2.1.1

Create incentives for new development to use land more efficiently, such as by having minimum floor area ratios and maximums for parking and setbacks.

Response: The proposed code amendments create additional incentives for efficient land use in the BRCP district beyond the existing code standards, including higher minimum FARs for development in the two mixed-use zones and reduced setbacks and landscaping area for the NC zone applied to the Main Street subdistrict. The OCMC already includes parking maximums in OCMC 17.52.020. **The proposal is consistent with this Policy.**

Policy 2.1.2

Encourage the vertical and horizontal mixing of different land-use types in selected areas of the city where compatible uses can be designed to reduce the overall need for parking, create vibrant urban areas, reduce reliance on private automobiles, create more business opportunities and achieve better places to live.

Response: The proposed map amendments apply two existing mixed-use zones with the BRCP area, the MUC-II and NC zones. In addition to the mix of office, commercial and residential uses allowed in the base zones, the proposed code amendments expand the mix of uses including allowing light manufacturing uses in the MUC-II zone. The proposed code amendments limit the scale and percentages of different categories of uses, including limiting residential uses to upper stories or ground-floor uses set back a minimum distance from the main roadways, to provide for a greater mix of uses. The proposed code amendments also introduce opportunities for small-scale commercial uses in the R-2 zone for additional opportunities for mixed-use development. **The proposal is consistent with this Policy.**

Goal 2.3 Corridors

Focus transit-oriented, higher intensity, mixed-use development along selected transit corridors.

Response: The proposed map amendments apply two existing mixed-use zones with the BRCPP area, the MUC-II and NC zones, along Beavercreek Road, which has potential to be a future transit corridor as development increases potential ridership numbers. The higher-intensity residential development zoned R-2 is also located along Beavercreek Road, compared to medium-density residential areas zoned R-5 located further east away from major roads. In addition, the site is near the Clackamas Community College which has a transit center for Tri-Met. **The proposal is consistent with this Goal.**

Policy 2.4.2

Strive to establish facilities and land uses in every neighborhood that help give vibrancy, a sense of place, and a feeling of uniqueness; such as activity centers and points of interest.

Response: The essence of the BRCPP is to establish a district with interconnected, vibrant neighborhoods. The proposed map amendments support a mix of uses throughout the district, included a district focal point in the Main Street subdistrict zoned NC that will serve as the hub for the district's neighborhoods. The proposed code amendments also support development of smaller-scale activity centers throughout the district, such as permitting small-scale commercial uses with the East Mixed-Use Neighborhood zoned R-2 and supporting creation of the South-Central Open Space Network through required parkland dedications. **The proposal is consistent with this Policy.**

Policy 2.4.3

Promote connectivity between neighborhoods and neighborhood commercial centers through a variety of transportation modes.

Response: The BRCPP plans for multimodal transportation networks throughout the district, as supported by the proposed map and code amendments. The proposed code amendments support creation of the South-Central Open Space Network through required parkland dedications, which will form a linear park and multimodal trail connecting multiple subdistricts. **The proposal is consistent with this Policy.**

Goal 2.5 Retail and Neighborhood Commercial

Encourage the provision of appropriately scaled services to neighborhoods.

Response: The map amendments, consistent with the BRCP map, provide for a Main Street subdistrict zoned NC in close proximity to the residential East and West Mixed-Use Neighborhoods. In addition, the proposed code amendments add opportunities to integrate small-scale commercial uses in the West Mixed-Use Neighborhood zoned R-2. **The proposal is consistent with this Goal.**

Policy 2.5.4

Encourage the development of successful commercial areas organized as centers surrounded by higher density housing and office uses, rather than as commercial strips adjacent to low-density housing.

Response: The map amendments, consistent with the BRCP map, provide for a Main Street subdistrict zoned NC in close proximity to the higher-density West Mixed-Use Neighborhood zoned R-2 and the Mixed Employment Village subdistrict zoned MUC-II that will support office uses. There are no commercial strips proposed adjacent to lower-density housing in the East Mixed-Use Neighborhood zoned R-5. **The proposal is consistent with this Policy.**

Policy 2.5.5

Encourage commercial and industrial development that enhances livability of neighborhoods through the design of attractive LEEDTM-certified buildings and environmentally responsible landscaping that uses native vegetation wherever possible, and by ensuring that development is screened and buffered from adjoining residential neighborhoods and access is provided by a variety of transportation modes.

Response: The proposed code amendments include requirements for sustainable design features for industrial development within the North Employment Campus zoned CI; the menu of features includes LEEDTM-certified buildings and use of native vegetation. The proposed code amendments also provide for an enhanced landscaping buffer incorporating berms and fencing between the industrial subdistrict and adjacent residential development in the East Mixed-Use Neighborhood. The BRCP includes plans for a multimodal transportation network that will be built out as development occurs. **The proposal is consistent with this Policy.**

Goal 2.6 Industrial Land Development

Ensure an adequate supply of land for major industrial employers with family-wage jobs.

Response: The map amendments designate 236.1 gross acres, estimated at 132.1 net acres for Industrial designation and Campus Industrial zoning; the North Employment Campus is the largest of all the BRCP subdistricts. All Metro Title 4

land protected for employment use has been designated and zoned CI. The existing CI zone allows a range of uses that support family-wage jobs, such as light manufacturing; the proposed code amendments further protect job generation potential by limiting the amount of site area that can be used for outdoor storage areas and prohibiting distribution and warehouse uses, which typically do not generate significant job opportunities. **The proposal is consistent with this Goal.**

Policy 2.6.2

Ensure that land zoned or planned for industrial use is used for industrial purposes, and that exceptions are allowed only where some other use supports industrial development. New non-industrial uses should especially be restricted in already developed, active industrial sites.

Response: The map amendments ensure that land planned for industrial use is protected for industrial purposes by zoning it CI. The CI zoning code standards limit non-industrial uses, and the proposed code amendments further limit the size of any supporting retail or office to 5,000 SF per establishment or 20,000 per development. Existing residential uses on a handful of parcels within the North Employment Campus are permitted outright, rather than rendered nonconforming uses, but no new residential uses are permitted. **The proposal is consistent with this Policy.**

Policy 2.6.3

Protect the city's supply of undeveloped and underdeveloped land zoned for industrial uses by limiting non-industrial community uses, such as schools, parks, and churches on such properties and by limiting larger commercial uses within those areas.

Response: The CI zoning code standards already prohibit schools and churches; parks, trails and urban agriculture uses are proposed as permitted uses in the code amendments for the North Employment Campus subdistrict, intended to apply within the powerline easement areas that would otherwise be undevelopable for industrial use. The proposed code amendments limit the size of any supporting commercial use to 5,000 SF per establishment or 20,000 per development. **The proposal is consistent with this Policy.**

Policy 2.6.4

Protect existing and planned undeveloped and underdeveloped industrial lands from incompatible land uses, and minimize deterrents to desired industrial development.

Response: Much of the North Employment Campus industrial lands are currently undeveloped. The map amendments applying the CI zone will protect these lands from incompatible development through existing CI use standards. The CI zoning

code standards limit non-industrial uses, and the proposed code amendments further limit the size of any supporting retail or office to 5,000 SF per establishment or 20,000 per development. Existing residential uses on a handful parcels within the North Employment Campus are permitted outright, rather than rendered nonconforming uses, but no new residential uses are permitted. The CI zoning code standards also prohibit schools and churches; parks, trails and urban agriculture uses are proposed as permitted uses in the code amendments for the North Employment Campus subdistrict, intended to apply within the powerline easement areas that would otherwise be undevelopable for industrial use. **The proposal is consistent with this Policy.**

Policy 2.6.5

Ensure that land-use patterns create opportunities for citizens to live closer to their workplace.

Response: A central feature of the BRCP is the integration of residential and employment opportunities to create possibilities to live, work and play in the district. The proposed map amendments will create residential and employment districts in close proximity, including two mixed-use districts with both residential and employment opportunities. **The proposal is consistent with this Policy.**

Policy 2.6.6

Identify industrial uses that could partner with Clackamas Community College as training centers and future employers of students graduating from CCC.

Response: CCC was identified as a stakeholder in the implementation project, and was engaged in the map and code development. The proximity of the North Employment Campus and the CCC campus create an exciting opportunity for future industrial developments in the BRCP area that partner with CCC as training centers and future employers. The existing CI use standards permit a wide range of industrial uses, including light manufacturing and research and development, that could accommodate future industrial uses within the BRCP district. **The proposal is consistent with this Policy.**

Policy 2.6.7

Establish priorities to ensure that adequate public facilities are available to support the desired industrial development.

Response: Public facility master planning has been completed for the district, and planned water, sewer, stormwater, and transportation facilities have been shown to support the full 5,734 jobs projected with this implementation project. See response to approval criteria 17.68.020.B and C in Section III.a. All proposed industrial

development will be reviewed through the Site Plan and Design Review process in OCMC 17.62 that includes a criteria for approval for any new development that public facilities are adequate to support the proposal. **The proposal is consistent with this Policy.**

Policy 2.6.8

Require lands east of Clackamas Community College that are designated as Future Urban Holding to be the subject of concept plans, which if approved as an amendment to the Comprehensive Plan, would guide zoning designations. The majority of these lands should be designated in a manner that encourages family-wage jobs in order to generate new jobs and move towards meeting the city's employment goals.

Response: The lands east of CCC have been incorporated into the BRCP and envisioned for industrial development that encourages family-wage jobs. The proposed map amendments, guided by the approved concept plan, designate this area for Industrial designation and Campus Industrial zoning. The existing CI zone allows a range of uses that support family-wage jobs, such as light manufacturing; the proposed code amendments further protect job generation potential by limiting the amount of site area that can be used for outdoor storage areas and prohibiting distribution and warehouse uses, which typically do not generate significant job opportunities. **The proposal is consistent with this Policy.**

Goal 2.7 Oregon City Comprehensive Plan Land-Use Map

Maintain the Oregon City Comprehensive Plan Land-Use Map as the official long-range planning guide for land-use development of the city by type, density and location.

Response: The proposal includes amendments to the official Comprehensive Plan Land-Use Map as part of on-going maintenance to update designations for the BRCP area. **The proposal is consistent with this Goal.**

Policy 2.7.2

Use the following 11 land-use classifications on the Oregon City Comprehensive Plan Land-Use Map to determine the zoning classifications that may be applied to parcels:

- *Low Density Residential (LR)*
- *Medium Density Residential (MR)*
- *High Density Residential (HR)*
- *Commercial (C)*
- *Mixed Use Corridor (MUC)*
- *Mixed Use Employment (MUE)*

- *Mixed Use Downtown (MUD)*
- *Industrial (I)*
- *Public and Quasi-Public (QP)*
- *Parks (P)*
- *Future Urban Holding (FUH)*

Response: The proposed comprehensive plan map amendments apply the Medium Density Residential, High Density Residential, Mixed Use Corridor, and Industrial designations to the BRCP area, with zoning classifications that are consistent with these designations. **The proposal is consistent with this Policy.**

Goal 5.1 Open Space

Establish an open space system that conserves fish and wildlife habitat and provides recreational opportunities, scenic vistas, access to nature and other community benefits.

Response: The BRCP prioritizes an open space network that preserves identified environmental resource areas, parks, trails, and viewpoints, including the South-Central Open Space Network and the Low Impact Conservation Area upslope of Thimble Creek on the eastern edge of the district. The map amendments will include mapping and applying the Natural Resources Overlay District (NROD) – OCMC 17.49 and Geologic Hazards – OCMC 17.44 to habitat areas. The proposed code amendments will create the South-Central Open Space Network through required parkland dedication at the time of development, protect trail corridors throughout the district’s open space system by requiring dedication of easements at the time of development, and protect the Low Impact Conservation Area by limiting development to two units per acre and protecting view corridors. **The proposal is consistent with this Goal.**

Policy 5.1.1

Conserve open space along creeks, urban drainage ways, steep hillsides, and throughout Newell Creek Canyon.

Response: The existing Natural Resources Overlay District (NROD) will be applied to all riparian corridors and the Geologic Hazards standards will be applied to all steep hillsides to conserve those areas. **The proposal is consistent with this Policy.**

Goal 5.4 Natural Resources

Identify and seek strategies to conserve and restore Oregon City’s natural resources, including air, surface and subsurface water, geologic features, soils, vegetation, and fish and wildlife, in order to sustain quality of life for current and future citizens and visitors, and the long-term viability of the ecological systems.

Response: The proposed amendments do not include any changes to OCMC 17.44, Natural Resources Overlay District, or to OCMC 17.49 – Geologic Hazards. These acknowledged codes are intended to conserve, protect and restore inventoried natural resources within the City’s Urban Growth Boundary. **The proposal is consistent with this policy.**

Policy 5.4.16

Protect surfacewater quality by:

- *providing a vegetated corridor to separate protected water features from development*
- *maintaining or reducing stream temperatures with vegetative shading*
- *minimizing erosion and nutrient and pollutant loading into water*
- *providing infiltration and natural water purification by percolation through soil and vegetation*

Response: The proposed amendments do not include any changes to OCMC 17.44, Natural Resources Overlay District, which provides for a vegetated corridor and shading along street corridors, or to the City’s recently adopted stormwater and erosion control standards, design manuals or review processes. **The proposal is consistent with this policy.**

Goal 6.1 Air Quality

Promote the conservation, protection and improvement of the quality of the air in Oregon City.

Response: The proposed amendments will not affect any codes or policies that implement Goal 6. The City’s overlay districts, such as the Natural Resource Overlay District, Flood Management Overlay, and Geologic Hazards Overlay will apply regardless of the proposed changes. All engineering standards and building code standards for storm drainage, grading, erosion control, water quality facilities will continue to apply to development. Oregon Dept. of Environmental Quality (DEQ) air and water quality permits are required separately for new development. **The proposal is consistent with this Goal.**

Policy 6.1.2

Ensure that development practices comply with or exceed regional, state, and federal standards for air quality.

Response: Oregon Dept. of Environmental Quality (DEQ) air and water quality permits are required separately for new development. Oregon City planning and

engineering staff are included in the coordination of these permits prior to issuance by DEQ. **The proposal is consistent with this Policy.**

Goal 6.2 Water Quality

Control erosion and sedimentation associated with construction and development activities to protect water quality.

Response: Oregon Dept. of Environmental Quality (DEQ) air and water quality permits are required separately for new development. Oregon City planning and engineering staff are included in the coordination of these permits prior to issuance by DEQ. **The proposal is consistent with this Policy.**

Policy 6.2.1

Prevent erosion and restrict the discharge of sediments into surface- and groundwater by requiring erosion prevention measures and sediment control practices.

Response: All engineering standards and building code standards for storm drainage, grading, erosion control, and water quality facilities will continue to apply to development. **The proposal is consistent with this Policy.**

Policy 6.2.2

Where feasible, use open, naturally vegetated drainage ways to reduce stormwater and improve water quality.

Response: All engineering standards and building code standards for storm drainage, grading, erosion control, and water quality facilities will continue to apply to development. **The proposal is consistent with this policy.**

Goal 7.1

Natural Hazards Protect life and reduce property loss from the destruction associated with natural hazards.

Response: Development within the Natural Resources Overlay District and Geologic Hazards Overlay District (which includes sloped and historic landslide areas) is limited by development standards in the Municipal Code to protect the public.

Policy 7.1.1 Limit loss of life and damage to property from natural hazards by regulating or prohibiting development in areas of known or potential hazards.

Response: Development within the Natural Resources Overlay District and Geologic Hazards Overlay District (which includes sloped and historic landslide areas) is limited by development standards in the Municipal Code to protect the public.

8.1 Developing Oregon City's Park and Recreation System

Maintain and enhance the existing park and recreation system while planning for future expansion to meet residential growth.

Response: The BRCP prioritizes a network of parks, trails, and open spaces, including the South-Central Open Space Network. The proposed code amendments will support creation of the South-Central Open Space Network through required parkland dedication at the time of development and protect trail corridors throughout the district's open space system by requiring dedication of easements at the time of development. **The proposal is consistent with this Goal.**

Policy 8.1.1

Provide an active neighborhood park-type facility and community park-type facility within a reasonable distance from residences, as defined by the Oregon City Park and Recreation Master Plan, to residents of Oregon City.

Response: The South-Central Open Space Network will create park facilities within proposed neighborhoods; all residences will be within approximately 1/4 mile of the network, which will include multiple elements including features similar to a neighborhood park-type facility and a multipurpose trail. The proposed code amendments will create the South-Central Open Space Network through required parkland dedication at the time of development. **The proposal is consistent with this Policy.**

Policy 8.1.2

When property adjacent to an existing neighborhood or community park becomes available, consider adding property to the park and developing it to meet the current needs of existing neighborhoods.

Response: There are no existing parks in the BRCP area, however, future park facilities in the South-Central Open Space Network will be expanded over time as the properties in the district are developed. The proposed code amendments will create the South-Central Open Space Network through required parkland dedication at the time of development, and include provisions for dedication of land within the mapped South-Central Open Space Network to allow the facility to expand and maintain connectivity throughout the district. **The proposal is consistent with this Policy.**

Policy 8.1.5

Identify and construct a network of off-street trails throughout the city for walking and jogging.

Response: The BRCP identifies a network of off-street trails including regional trails throughout the district. The proposed code amendments will protect identified trail corridors by requiring dedication of easements at the time of development. **The proposal is consistent with this Goal.**

Policy 8.1.9

Emphasize retaining natural conditions and the natural environment in proposed passive recreation areas.

Response: Passive recreation areas will include open space areas and environmental resource areas. The Natural Resources Overlay District (NROD) – OCMC 17.49 and Geologic Hazards – OCMC 17.44 will be applied to habitat areas which promote retention of natural conditions. In addition, the proposed code amendments include provisions for the Low Impact Conservation Area that require environmental restoration as a condition of any adjacent development. **The proposal is consistent with this Policy.**

Policy 8.1.12

Identify and protect land for parks and recreation within the Urban Growth Boundary.

Response: The BRCP identifies and prioritizes a network of parks, trails, and open spaces, including the South-Central Open Space Network. The proposed code amendments will support creation of the South-Central Open Space Network through required parkland dedication at the time of development and protect trail corridors throughout the district's open space system by requiring dedication of easements at the time of development. **The proposal is consistent with this Policy.**

Policy 8.1.14

Require or encourage developers to dedicate park sites as part of the subdivision review process. When possible, require or encourage developers to build parks to City standards and give them to the City to operate and maintain.

Response: The proposed code amendments will require parkland dedication to create the South-Central Open Space Network as part of subdivision review process. **The proposal is consistent with this Policy.**

Goal 9.1 Improve Oregon City's Economic Health

Provide a vital, diversified, innovative economy including an adequate supply of goods and services and employment opportunities to work toward an economically reasonable, ecologically sound and socially equitable economy.

Response: A core aspect of the BRCP is to create economic opportunities, and the proposed map and code amendments implement three distinct subdistricts focused on employment opportunities. The North Employment Campus, proposed for CI zoning, will provide family-wage employment opportunities. The two mixed-use subdistricts in the Mixed Employment Village and Main Street will provide goods and services, and additional jobs in those sectors. In total, the proposal is estimated to support up to 5,734 jobs, exceeding the BRCP goal of 5,000 jobs. The proposed code amendments include provisions such as sustainable design elements for industrial development and the inherent efficiencies of mixing uses within the district and individual subdistricts to reduce distances travelled to live, work, shop and eat, which will support ecologically sound economic growth. **The proposal is consistent with this Goal.**

Policy 9.1.1

Attract high-quality commercial and industrial development that provides stable, high-paying jobs in safe and healthy work environments, that contributes to a broad and sufficient tax base, and that does not compromise the quality of the environment.

Response: Three of the BRCP subdistricts, proposed to be implemented through map and code amendments, will support commercial and industrial development. The North Employment Campus, proposed for CI zoning, will support primarily industrial development with family-wage employment opportunities. The Mixed Employment Village subdistrict will provide support high-quality commercial and office employment, with similar opportunities in the Main Street subdistrict. In total, the proposal is estimated to support up to 5,734 jobs, exceeding the BRCP goal of 5,000 jobs. The proposed code amendments include provisions such as sustainable design elements for industrial development and the inherent efficiencies of mixing uses within the district and individual subdistricts to reduce distances travelled to live, work, shop and eat, which will support ecologically sound economic growth. Natural resources will be protected through the Natural Resources Overlay District (NROD) – OCMC 17.49 and Geologic Hazards – OCMC 17.44 to habitat areas to ensure development does not compromise the quality of the environment. As discussed in response to Goals 6.1 and 6.2 above, compliance with existing state and local air and water standards will ensure protection of those resources at the time of future development. **The proposal is consistent with this Policy.**

Policy 9.1.2

Contribute to the health of the regional and state economy by supporting efforts to attract “traded sector industries” such as high technology and production of metals, machinery, and transportation equipment. (Traded sector industries compete in multi-state, national, and international markets and bolster the state’s economy by bringing money in from sales of goods and services outside of the state.)

Response: The BRCP prioritizes recruitment of sustainable industries, which could include traded sector industries. The proposed map and code amendments support this goal by creating development opportunities for such industries within the proposed North Employment Campus and Mixed Employment Village subdistrict. Additional recruitment efforts will be led by the City’s Economic Development Department. **The proposal is consistent with this Policy.**

Goal 9.3 Retention of Existing Employers

Retain existing employers, both public and private, and encourage them to expand their operations within the City.

Response: The proposed map and code amendments will create significant new acreage for industrial and employment growth, which could be acquired and developed by existing employers looking to expand their operations. **The proposal is consistent with this Policy.**

Policy 9.3.1

Protect existing industries from encroachment by incompatible land uses, and ensure that expansion options are available to them wherever possible.

Response: The proposed map amendments will not create any incompatible land uses near existing industries. The proposed map and code amendments will create significant new acreage for industrial and employment growth, which could be acquired and developed by existing employers looking to expand their operations. **The proposal is consistent with this Policy.**

Goal 9.5 Retail Service

Allow a variety of retail outlets and shopping areas to meet the needs of the community and nearby rural areas.

Response: The proposed map and code amendments will support the creation of the Main Street subdistrict along Glen Oak Road providing retail and shopping opportunities for the immediate BRCP district and nearby areas. The code amendments specifically support retail development by limiting residential uses to upper stories and the rear portion of sites, to ensure commercial development remains the priority. Limited retail outlets are also permitted under the proposed

code amendments for the Mixed Employment Village to support those who work and live in the subdistrict. **The proposal is consistent with this Goal.**

Policy 9.5.1

Develop local neighborhood or specific plans, when appropriate, to blend infill development along linear commercial areas into existing neighborhoods.

Response: The BRCP district is undeveloped and as such, does not have existing commercial or existing neighborhoods; the plan as implemented by the proposed map and code amendments proactively creates opportunities to blend commercial development within neighborhoods. The proposed map and code amendments create opportunities for retail and commercial development primarily within the Main Street subdistrict, which is located along Glen Oak Road interior to the district, rather than strung out as a linear commercial development along Beaver Creek Road. The proposed code amendments also allow small-scale retail and commercial development within the West Mixed-Use Neighborhood to the south of the Main Street subdistrict. **The proposal is consistent with this Policy.**

Policy 9.5.2

Develop plans to provide necessary public services to surrounding rural industrial lands for future development.

Response: No changes are proposed to adopted infrastructure master plans for water, sewer and stormwater and the Transportation System Plan (TSP) which will ensure provision of necessary services to industrial lands within and outside of the BRCP district. **The proposal is consistent with this Policy.**

Goal 9.7 Home-Based Businesses

Provide a supportive climate for home-based businesses.

Response: The City has already adopted standards and permitting processes for home occupations, defined by OCMC 17.04.580 and permitted in all residential zones. The City has developed a worksheet to support owners of home occupations to comply with business licensing and zoning requirements. (See https://www.orcity.org/sites/default/files/fileattachments/economic_development/page/4592/2016_home_occupation_worksheet_-_fillable.pdf) Home-based businesses will similarly be allowed and supported within residential areas of the BRCP district. **The proposal is consistent with this Goal.**

Policy 9.7.1

Encourage home-based businesses that are low impact and do not disrupt the residential character of the neighborhoods in which they are located.

Response: No changes are proposed to adopted home occupation standards in OCMC 17.04.580, which limit disruptions to neighborhood residential character by prohibiting non-resident employees, prohibiting retail sales onsite, prohibiting off-site sound impacts, prohibiting outdoor uses, and requiring that uses are secondary to the residential purpose of the dwelling. During the development of the code amendments, a “cottage industry” concept was explored to permit small-scale manufacturing based businesses as home occupations within the BRCP neighborhoods, such as welding or cabinet making. Some small-scale manufacturing could be permitted under the existing home occupations code, provided it was conducted indoors and did not generate off-site sound impacts, however, changes to the home occupation standards to promote such uses or loosen current restrictions are not recommended based on citizen feedback concerning potential disruptions to residential neighborhood character. During the April 9, 2019 public workshop, citizens shared concerns that noise and visual impacts from potential cottage manufacturing uses could be a conflict with residential neighborhoods, as well as concern that the smaller homes and dwelling types proposed in the BRCP neighborhoods would not have sufficient room for such uses or sufficient buffering between residences. Therefore, existing home occupation standards are proposed for BRCP neighborhoods to encourage home-based businesses while limiting disruptions to residential neighborhoods. **The proposal is consistent with this Policy.**

Policy 9.7.2

Encourage the support services that home-based businesses need.

Response: No changes are proposed to adopted home occupation standards in OCMC 17.04.580 or City policies to support business owners. The City will continue to work with business owners to support them in obtaining business licenses. The plan provides nearby mixed use and employment districts to support home based businesses. **The proposal is consistent with this Policy.**

Goal 9.8 Transportation System

Recognize the importance of the land use-transportation link and encourage businesses to locate in areas already served by the type of transportation system they need.

Response: The adopted BRCP transportation strategy includes elements such as planning a mixed-use community that will increase options for internal trip making, developing a framework of collector streets, improving Beaver Creek Road itself to accommodate trips within and through the district, and developing off-site transportation connections guided by the Transportation System Plan; the transportation strategy was developed to serve the intended industrial and

commercial development in each subdistrict. The proposed map and code amendments provide for the intended types of development in each subdistrict, that will be served by existing and planned transportation elements. **The proposal is consistent with this Goal.**

Policy 9.8.1

Through coordination with TriMet and local employers, encourage and promote the use of mass transit to travel between residential areas and employment areas.

Response: The adopted BRCP sets the stage for future transit by providing transit-attractive destinations, such as high-density employment and residential nodes, and a logical network of roadways that would support future transit routes. The proposed map and code amendments support future transit improvements by implementing the plan subdistricts that concentrate job and housing densities near Beaver Creek Road and the transit center at Clackamas Community College. **The proposal is consistent with this Policy.**

Policy 9.8.4

Promote “shared parking” and transportation demand management techniques such as transit vouchers, car or van pooling, and flexible schedules and telecommuting options to reduce peak hour trips.

Response: The adopted parking standards permit shared parking facilities per OCMC 17.52.020.B.2, and will apply to development within the BRCP area. Additional transportation demand management techniques are more appropriate for individual businesses to develop, and can be implemented at the time of development. **The proposal is consistent with this Policy.**

Policy 9.8.6

Encourage the provision of multi-modal transportation to support major existing employers.

Response: There are no existing employers within the BRCP area that will be affected by the proposed map and code amendments. However, the amendments will support development of a multimodal transportation system throughout the BRCP area consistent with adopted transportation strategies, including transit, sidewalks, bike routes, and off-street trail network that will serve future employers in the North Employment Campus and throughout the district. **The proposal is consistent with this Policy.**

Policy 9.8.7

Assess methods to integrate the pedestrian, bicycle and elevator transportation modes into the mass transit system.

Response: The adopted transportation strategies in the BRCP include development of on and off-street pedestrian and bicycle facilities throughout the district; an elevator mode is not proposed because it is not suitable for the district's topography. The proposed map and code amendments support future development of these facilities by requiring facilities to be constructed at the time of site development. **The proposal is consistent with this Policy.**

Goal 10.1 Diverse Housing Opportunities

Provide for the planning, development and preservation of a variety of housing types and lot sizes.

Response: The BRCP prioritizes a variety of housing types for a range of income levels across the different subdistricts. The proposed map and code amendments support these goals by implementing the West and East Mixed Use Neighborhoods, with additional residential opportunities in the mixed-use Main Street and Mixed Employment Village subdistricts. The proposed zoning districts for the West and East Mixed-Use Neighborhoods are R-2 and R-5, respectively; these districts were significantly revised as part of the Amendments to the Oregon City Municipal Code (including the Equitable Housing Project recommendations) earlier in 2019 to better meet this goal. The housing code amendments allow for a broad range of housing options collectively referred to as "missing middle housing," defined as a range of multi-unit or clustered housing types compatible in scale with single-family homes that help meet the growing demand for housing choices at a variety of scales across a variety of neighborhoods, encouraging a more diverse housing stock in residential zones that are currently dominated by single-family residential homes. The proposed map and code changes with this proposal implement these zones and will guide planning and development of a variety of housing types and lot sizes. **The proposal is consistent with this Goal.**

Policy 10.1.1

Maintain the existing residential housing stock in established older neighborhoods by maintaining existing Comprehensive Plan and zoning designations where appropriate.

Response: There are no established older neighborhoods in the BRCP area, however, there are a handful of existing residences. The proposed code amendments will permit existing homes with proposed CI zoning to remain permitted uses rather than making them nonconforming uses. **The proposal is consistent with this Policy.**

Policy 10.1.2

Ensure active enforcement of the City of Oregon City Municipal Code regulations to ensure maintenance of housing stock in good condition and to protect neighborhood character and livability.

Response: No changes are proposed to the code enforcement standards or policies with this proposal. As neighborhoods are developed in the BRCP area, code enforcement will ensure housing and neighborhoods are maintained in good condition. **The proposal is consistent with this Policy.**

Policy 10.1.3

Designate residential land for a balanced variety of densities and types of housing, such as single-family attached and detached, and a range of multi-family densities and types, including mixed-use development.

Response: The proposed map amendments designate land for a variety of densities and types of housing as follows: 25.1 gross acres of High Density Residential with R-2 zoning, 136.7 gross acres of Medium Density Residential with R-5 zoning, and 13.5 gross acres of Mixed-Use Corridor with NC zoning for mixed-use residential development. The existing zoning standards for these districts permit a range of densities for different housing types ranging from a minimum of 7.0 units per net acre for single-family detached homes in the R-5 zone to a maximum of 21.8 units per net acre for townhouse and multifamily development in the R-2 zone, or up to 26.2 units per net acre for projects that incorporate sustainability features in the proposed code amendments. **The proposal is consistent with this Policy.**

Policy 10.1.4

Aim to reduce the isolation of income groups within communities by encouraging diversity in housing types within neighborhoods consistent with the Clackamas County Consolidated Plan, while ensuring that needed affordable housing is provided.

Response: The proposed map and code amendments apply the revised R-5 and R-2 zoning district standards that were developed as part of the Equitable Housing Project specifically to provide greater variety of affordable housing options, both regulated, income-restricted housing options and market-rate housing options that are lower priced and thus affordable to housing with lower household incomes. The variety of housing types allowed in both zones will provide opportunities to integrate affordable housing into the BRCP neighborhoods as they are developed. **The proposal is consistent with this Policy.**

Policy 10.1.5

Allow Accessory Dwelling Units under specified conditions in single-family residential designations with the purpose of adding affordable units to the housing inventory and

providing flexibility for homeowners to supplement income and obtain companionship and security.

Response: Accessory Dwelling Units (ADUs) are permitted in both the R-5 and R-2 zoning districts proposed for the BRCP neighborhoods with this proposal; no further changes to the ADU regulations are included with this proposal. Code revisions adopted with the Amendments to the Oregon City Municipal Code (including the Equitable Housing Project recommendations) included a provision in OCMC 16.08.095 that restricts new subdivisions from applying code, covenants, and restrictions (CC&Rs) that prohibit ADUs, which will ensure that new developments within the BRCP are not restricted by public zoning code or private CC&Rs from developing ADUs. **The proposal is consistent with this Policy.**

Policy 10.1.6

Allow site-built manufactured housing on individual lots in single-family residential zones to meet the requirements of state and federal law. (Pursuant to state law, this policy does not apply to land within designated historic districts or residential land immediately adjacent to a historic landmark.)

Response: The Oregon City Municipal Code does not differentiate between manufactured housing and other housing types on individual lots and the proposed code amendments do not propose to change this; an individual manufactured house is permitted on any lot where a single-family detached, site-built house would be permitted in the BRCP neighborhoods under the proposed R-5 and R-2 zoning. **The proposal is consistent with this Policy.**

Policy 10.1.7

Use a combination of incentives and development standards to promote and encourage well-designed single-family subdivisions and multi-family developments that result in neighborhood livability and stability.

Response: The proposed map amendments apply the R-2 and R-5 zoning districts within the BRCP, which already incorporate numerous incentives and development standards to support livability and stability. The proposed code amendments further support livable neighborhoods by requiring parkland dedication or fee-in-lieu for all new subdivisions and multifamily developments, to create the South-Central Open Space Network with park and trail facilities serving the BRCP neighborhoods. The proposed amendments also include a density bonus option as an incentive for multifamily development to incorporate sustainability features. **The proposal is consistent with this Policy.**

Goal 10.2 Supply of Affordable Housing

Provide and maintain an adequate supply of affordable housing.

Response: The proposed map amendments add significant buildable residential land to the City's inventory, including 12.1 net acres of buildable land zoned R-2 in the West Mixed Use Neighborhood and 64.5 net acres of buildable land plus 15.9 acres of constrained land zoned R-5 in the East Mixed Use Neighborhood and additional opportunities in the two mixed-use subdistricts with a combined estimated potential for 1,105 new housing units. Maintaining an adequate supply of buildable land will help keep housing prices affordable by reducing land scarcity. These areas will be developed under the R-5 and R-2 zoning district standards recently amended with the Amendments to the Oregon City Municipal Code (including the Equitable Housing Project recommendations) project that expand the range of housing types permitted, decrease minimum lot sizes for many types, and increase density for some missing middle housing types. Together, these standards create opportunities to build market-rate housing that is more affordable than traditional single-family detached, large-lot subdivisions. **The proposal is consistent with this Policy.**

Policy 10.2.1

Retain affordable housing potential by evaluating and restricting the loss of land reserved or committed to residential use. When considering amendments to the Comprehensive Plan Land-Use Map, ensure that potential loss of affordable housing is replaced.

Response: The proposed map amendments commit a total of 161.8 gross acres of land for residential use, consistent with the BRCPP map; no existing residential land or affordable housing will be lost with this proposal. **The proposal is consistent with this Policy.**

Policy 10.2.2

Allow increases in residential density (density bonuses) for housing development that would be affordable to Oregon City residents earning less than 50 percent of the median income for Oregon City.

Response: The proposed map amendments apply the R-2 zone to the West Mixed Use Neighborhood, and existing R-2 code standards provide up to a 20% density bonus for affordable units at 80% AMI for a minimum term of 30 years for apartment projects. No further changes to the affordable housing density bonus is proposed with this project. **The proposal is therefore consistent with this policy.**

Policy 10.2.3

Support the provision of Metro's Title 7 Voluntary Affordable Housing Production Goals.

Response: (From Comprehensive Plan, P. 77):

In 2001, Metro adopted amendments to Title 7 of the Urban Growth Management Functional Plan to implement the Regional Affordable Housing Strategy (2000), which identifies measures to provide adequate affordable housing in the Metro region. The amendments require local jurisdictions to consider adopting a number of tools and strategies for promoting the creation and retention of affordable housing. Metro defines an affordable housing unit as one that requires no more than 30 percent of household income for people earning 50 percent of the median household income in their jurisdiction. By that definition, an affordable housing unit in Oregon City in 2000 would cost \$570 per month or less. The 2002 housing inventory and analysis showed that the number of lower-cost units in Oregon City was inadequate to meet both the current (2002) and projected housing needs of the city's lower-income residents. Title 7 tools and strategies have been adopted as Goal 10.2 and Policies 10.2.1 through 10.2.4.

The proposed map and code amendments support affordable housing creation consistent with Title 7 through compliance with Goal 10.2 and Policies 10.2.1 through 10.2.4, as demonstrated in this section. **The proposal is consistent with this Policy.**

Policy 10.2.4

Provide incentives that encourage the location of affordable housing developments near public transportation routes. Incentives could include reduction of development-related fees and/or increases in residential density (density bonuses).

Response: As mentioned in Policy 10.1.4, the West Mixed Use Neighborhood will be zoned R-2 under the proposed map amendments and the R-2 standards include a 20% density bonus for affordable units at 80% AMI for a minimum term of 30 years. The West Mixed Use Neighborhood is located along Beavercreek Road and the future Center Parkway which have been identified as potential future public transportation routes. **The proposal is consistent with this Policy.**

Goal 11.1 Provision of Public Facilities

Serve the health, safety, education, welfare, and recreational needs of all Oregon City residents through the planning and provision of adequate public facilities.

Policy 11.1.1

Ensure adequate public funding for the following public facilities and services, if feasible:

- *Transportation infrastructure*
- *Wastewater collection*
- *Stormwater management*
- *Police protection*
- *Fire protection*
- *Parks and recreation*
- *Water distribution*

Response: As demonstrated within this report the aforementioned systems can accommodate the impact anticipated in the Concept Plan.

Policy 11.1.7

Develop and maintain a coordinated Capital Improvements Plan that provides a framework, schedule, prioritization, and cost estimate for the provision of public facilities and services within the City of Oregon City and its Urban Growth Boundary

Response: As demonstrated within this report the aforementioned systems can accommodate the impact anticipated in the Concept Plan.

Goal 12.1 Land Use-Transportation Connection

Ensure that the mutually supportive nature of land use and transportation is recognized in planning for the future of Oregon City.

Response: The adopted BRCP includes interconnected land use and transportation elements that ensure appropriately scaled multimodal facilities will serve future development. The plan establishes a variety of interconnected subdistricts with a mix of uses that increase opportunities for local trips while decreasing total trips utilizing the broader transportation network. The proposed map and code amendments implement this vision to balance land use and transportation goals; the proposal is supported by a transportation memo prepared by DKS that concludes that development associated with the proposal can be served by the planned City-wide transportation system. **The proposal is consistent with this Goal.**

Policy 12.1.1

Maintain and enhance citywide transportation functionality by emphasizing multi-modal travel options for all types of land uses.

Response: The adopted BRCP includes multimodal transportation provisions. As development occurs, on-street and off-street pedestrian and bicycle facilities will be required to be constructed as outlined in the plan. The proposed map and code amendments are consistent with the BRCP and will support expanded multimodal facilities throughout the district serving all the different land uses from industrial to residential. **The proposal is consistent with this Policy.**

Policy 12.1.3

Support mixed uses with higher residential densities in transportation corridors and include a consideration of financial and regulatory incentives to upgrade existing buildings and transportation systems.

Response: The proposed map and code amendments create mixed-use subdistricts including the NC-zoned Main Street and MUC-II-zoned Mixed Employment Village that permit high-density residential development, as well as a mix of uses within the district as a whole across the five subdistricts. The map and code amendments will facilitate a mix of uses at higher residential densities along Beaver Creek Road, including the two aforementioned mixed-use districts and the R-2-zoned West mixed Use Neighborhood. There are no significant existing buildings within the BRCP area affected by this policy. **The proposal is consistent with this Policy.**

Policy 12.1.4

Provide walkable neighborhoods. They are desirable places to live, work, learn and play, and therefore a key component of smart growth.

Response: Walkability is a central goal of all the BRCP neighborhoods, and is supported by the proposed map and code amendments. Neighborhoods will be built around blocks with a maximum block length of 530 feet, except for the industrial areas in the North Employment Campus, consistent with zoning standards in OCMC 16.12.030 for implementing districts that create easily walkable neighborhoods that minimize out-of-direction travel by pedestrians. On-street pedestrian facilities will be required consistent with green street cross-sections which create a desirable walking environment, in addition to an off-street trail network. The proposed code amendments support a compelling, walkable Main Street subdistrict along Glen Oak Road by requiring building presence along a minimum percentage of the site and limiting parking areas to the rear of the site. **The proposal is consistent with this Policy.**

Goal 13.1 Energy Sources

Conserve energy in all forms through efficient land-use patterns, public transportation, building siting and construction standards, and city programs, facilities, and activities.

Response: The Concept Plan includes an efficient mix of uses to allow those that leave in or near the site to also obtain amenities and employment nearby.

Goal 14.3 Orderly Provision of Services to Growth Areas

Plan for public services to lands within the Urban Growth Boundary through adoption of a concept plan and related Capital Improvement Program, as amendments to the Comprehensive Plan.

Response: The proposed map and code amendments implement an adopted concept plan for Beaver Creek Road. The Sanitary Sewer Master Plan (2014), Water Distribution Master Plan (2012), Stormwater Master Plan (2019 Draft), and Transportation System Plan (2013) were all created subsequent to initial adoption of the BRCP in 2008 and plan for public services to serve residential and employment growth forecasted for the concept plan area. The proposed map and code amendments are estimated to support 1,105 dwellings and 5,734 jobs, consistent with demand forecasted and planned for in adopted capital improvements plans. **The proposal is consistent with this Goal.**

Policy 14.3.1

Maximize new public facilities and services by encouraging new development within the Urban Growth Boundary at maximum densities allowed by the Comprehensive Plan.

Response: The proposed map and code amendments provide for higher densities in the BRCP area to maximize utility of new public facilities developed to serve the area. Residential development will be subject to high and medium-density residential standards in the R-2 and R-5 districts respectively. Both zones have minimum density standards equal to 80% of the maximum allowed density, to ensure higher density development, as well as opportunities for types like cluster housing, duplexes, and 3-4 plexes in the R-5 zone that allow higher densities than would otherwise be permitted for single-family detached residential uses. Employment development in the two mixed-use districts will be subject to FAR minimums under the proposed code amendments to ensure efficient use of land and public facilities. **The proposal is consistent with this Policy.**

Policy 14.3.2

Ensure that the extension of new services does not diminish the delivery of those same services to existing areas and residents in the city.

Response: The adopted Sanitary Sewer Master Plan (2014), Water Distribution Master Plan (2012), Stormwater Master Plan (2019 Draft), and Transportation System Plan (2013) ensure that public facilities are extended to new areas, including the BRCP area and development anticipated through the proposed map and code amendments, without compromising the ability to provide services to existing areas and residents of the city that meet adopted service standards. **The proposal is consistent with this Policy.**

Policy 14.3.3

Oppose the formation of new urban services districts and oppose the formation of new utility districts that may conflict with efficient delivery of city utilities within the Urban Growth Boundary.

Response: The BRCP area is within the future service area of city utility providers and no new urban service districts or utility districts are proposed. **The proposal is consistent with this Policy.**

Policy 14.3.4

Ensure the cost of providing new public services and improvements to existing public services resulting from new development are borne by the entity responsible for the new development to the maximum extent possible.

Response: All development proposed with the BRCP area under the proposed map and code amendments will be subject to development review, which requires that new development provide for on-site and off-site public services needed to serve the development. The City has also adopted System Development Charges (SDCs) that are assessed at the time of development to pay for the costs of expanding public services. **The proposal is consistent with this Policy.**

III.c. BEAVERCREEK ROAD CONCEPT PLAN GOALS AND POLICIES

Goal 1 Complete and Sustainable Community

Create a complete and sustainable community, in conjunction with the adjacent land uses, that integrates a diverse mix of uses, including housing, services, and public spaces that are necessary to support a thriving employment center.

Response: The proposal implements the plan vision for a mix of uses within the district and within individual subdistricts, notably the Mixed Employment Village and the Main Street subdistricts. Housing is provided for in all subdistricts except the North Employment Campus. Services are permitted through proposed zoning standards in all subdistricts except the East Mixed Use Neighborhood. Public spaces

are provided for consistent with the BRCP, including the South Central Open Space Network, powerline corridor and trail network. Many of the zoning standards, particularly the expanded residential zones, support compact development, coupled with resource protection standards for sensitive environmental areas. Much of the sustainable infrastructure planning, including LID stormwater and green street designs, was done with the BRCP and can be implemented at the time of site development. **The proposal is consistent with this Goal.**

Policy 1.1

Adopt new comprehensive plan and zone designations, and development code, that implement the Beavercreek Concept Plan. Require all development to be consistent with the Concept Plan and implementing code.

Response: The proposal applies comprehensive plan and zone designations to implement the BRCP, with development code amendments that supplement existing zoning district standards for each subdistrict to fully implement the BRCP vision for those subdistricts. Development will be reviewed for conformity with the implementing code through the development review process; discretionary development applications, such as master plans, will be required to comply with the Concept Plan as well. **The proposal is consistent with this Policy.**

Policy 1.2

Establish sub-districts to implement the Concept Plan. The sub-districts are:

North Employment Campus – NEC

The purpose of the North Employment Campus is to provide for the location of family wage employment that strengthens and diversifies the economy. The NEC allows a mix of clean industries, offices serving industrial needs, light industrial uses, research and development and large corporate headquarters. The uses permitted are intended to improve the region's economic climate, promote sustainable and traded sector businesses, and protect the supply of sites for employment by limiting incompatible uses. The sub-district is intended to comply with Metro's Title 4 regulations. Site and building design will create pedestrian-friendly areas and utilize cost effective green development practices. Business and program connections to Clackamas Community College (CCC) are encouraged to help establish a positive identity for the area and support synergistic activity between CCC and NEC properties. Businesses making sustainable products and utilizing sustainable materials and practices are encouraged to reinforce the identity of the area and promote the overall vision for the Beavercreek Road area.

Response: The NEC subdistrict will be implemented with the Industrial comprehensive plan designation and the Campus Industrial (CI) zoning district. The permitted uses in OCMC 17.37.020 include a range of industrial, light manufacturing, research and development, and corporate headquarters uses that support family-wage employment. The proposed additional code standards for the NEC include limitations on retail and service uses to 5,000 SF per use or 20,000 SF total per site to limit incompatible uses. The proposed code standards and subdistrict boundaries have been reviewed against Metro Title 4 maps and code requirements. Site and building design for development in the subdistrict will be required to implement green design features from a menu proposed in OCMC 17.37.060.G. Outside of the code and map implementation projects, supporting efforts to build relationships with CCC and to recruit businesses with sustainable practices will be led by the City's Economic Development department. **The proposal is consistent with this Policy.**

Mixed Employment Village – MEV

The purpose of the Mixed Employment Village is to provide employment opportunities in an urban, pedestrian friendly, and mixed use setting. The MEV is intended to be transit supportive in its use mix, density, and design so that transit remains an attractive and feasible option. The MEV allows a mix of retail, office, civic and residential uses that make up an active urban district and serve the daily needs of adjacent neighborhoods and Beaver Creek Road sub-districts. Site and building design will create pedestrian-friendly areas and utilize cost effective green development practices. Business and program connections to Clackamas Community College and Oregon City High School are encouraged. Businesses making sustainable products and utilizing sustainable materials and practices are encouraged to reinforce the identity of the area and promote the overall vision for the Beaver Creek Road area.

Response: The MEV subdistrict will be implemented with the Mixed Use Corridor comprehensive plan designation and the Mixed Use Corridor-2 (MUC-2) zoning district. The permitted uses in OCMC 17.29.020, with refinements in proposed OCMC 17.29.080.C, include a range of retail, office, civic and residential uses. Proposed use standards also limit the percentage of building area that can be used for retail, service, and residential uses, to ensure that employment uses are also integrated into site development. Minimum FAR standards will support higher intensity development that will support future transit service. Site and building design for development in the subdistrict will be support an urban, pedestrian friendly setting through a height limit of 60 feet to permit multistory construction, maximum setbacks to bring development up to the street, and prohibition on

ground floor residential uses to support active ground floor uses. (See existing OCMC 17.29 and proposed 17.29.080.) Additional building and site development standards in OCMC 17.62.050 will apply at the time of development. Outside of the code and map implementation projects, supporting efforts to build relationships with CCC and to recruit businesses with sustainable practices will be led by the City's Economic Development department. **The proposal is consistent with this Policy.**

Main Street – MS

The purpose of this small mixed-use center is to provide a focal point of pedestrian activity. The MS allows small scale commercial, mixed use and services that serve the daily needs of the surrounding area. "Main Street" design will include buildings oriented to the street, and minimum of 2 story building scale, attractive streetscape, active ground floor uses and other elements that reinforce pedestrian oriented character and vitality of the area.

Response: The MC subdistrict will be implemented with the Mixed Use Corridor comprehensive plan designation and the Neighborhood Commercial (NC) zoning district. The permitted uses in OCMC 17.24.020, with refinements in proposed OCMC 17.24.050.C, include a range of retail, service and residential uses, capped at 10,000 square feet per establishment to create a small-scale character for the subdistrict. Proposed dimensional standards include a minimum height of two stories, maximum five-foot front setbacks to ensure that development engages with the street, minimum FAR of 0.5 to create more intensive development, requirement for parking areas to be located behind buildings, standards for planter boxes and urban plazas as part of required landscaping, and prohibition on ground floor residential uses to support active ground floor uses. (See existing OCMC 17.24 and proposed 17.24.050.) Additional building and site development standards in OCMC 17.62.050 will apply at the time of development. **The proposal is consistent with this Policy.**

West Mixed Use Neighborhood – WMU

The West Mixed Use Neighborhood will be a walkable, transit-oriented neighborhood. This area allows a transit supportive mix of housing, live/ work units, mixed use buildings and limited commercial uses. A variety of housing and building forms is required, with the overall average of residential uses not exceeding 22 dwelling units per acre. The WMU area's uses, density and design will support the multi-modal transportation system and provide good access for pedestrians, bicycles, transit and vehicles. Site and building design will create a walkable area and utilize cost effective green development practices.

Response: The WMU subdistrict will be implemented with the High-Density Residential comprehensive plan designation and the R-2 High-Density Residential (R-2) zoning district. Permitted residential uses, as recently expanded in the Amendments to the Oregon City Municipal Code (including the Equitable Housing Project recommendations), provide for a variety of multifamily residential, single-family attached, cluster housing, duplexes, triplexes and quadplexes. (See OCMC 17.12.020.) The proposed code amendments add live/work units as conditional uses and permit small-scale commercial and mixed-use development as part of a master plan. (See proposed OCMC 17.12.060.C.) The minimum and maximum density permitted in the R-2 district is 17.4 to 21.8 units per acre. (See OCMC 17.12.050) Up to a 20% density bonus can be earned for affordable housing or, in the WMU, for projects incorporating sustainable design features. (See proposed OCMC 17.12.D.) The base density and density bonuses together will not exceed an overall average of 22 units per acre. The density of development will support transit use, and site design will integrate pedestrian and bicycle facilities at the time of development. **The proposal is consistent with this Policy.**

East Mixed Use Neighborhood – EMU

The East Mixed Use Neighborhood will be a walkable and tree-lined neighborhood with a variety of housing types. The EMU allows for a variety of housing types while maintaining a low density residential average not exceeding the densities permitted in the R-5 zone. Limited non-residential uses are permitted to encourage a unique identity, sustainable community, and in-home work options. The neighborhood's design will celebrate open space, trees, and relationships to public open spaces. The central open space, ridge open space scenic viewpoints, and a linked system of open spaces and trails are key features of the EMU. Residential developments will provide housing for a range of income levels, sustainable building design, and green development practices.

Response: The EMU subdistrict will be implemented with the Medium-Density Residential comprehensive plan designation and the R-5 Medium-Density Residential (R-5) zoning district. Streets will be developed with sidewalks and street trees per adopted street standards, and may not exceed a maximum block length of 530 feet to ensure a robust, connected street network supporting walkability. (See OCMC 12.08, Street Trees; OCMC Table 16.12.016 for sidewalk widths; OCMC 16.12.030 for block spacing.) Permitted residential uses, as recently expanded in the Amendments to the Oregon City Municipal Code (including the Equitable Housing Project recommendations), provide for a variety of single-family detached, single-family attached, accessory dwelling units, cluster housing, duplexes, triplexes and quadplexes. (See OCMC 17.10.020.) The R-5 density standards will apply in the

EMU zone. (See OCMC 17.10.050.) The variety of residential uses, including smaller lot sizes for selected types, will support housing for a wider range of income levels. The smaller lot sizes and home sizes will inherently increase the efficiency and sustainability of residential development, for example, reducing heating and cooling needs, and the mix of uses in the BRCP district will support green living by reducing the need for vehicle trips. Home occupations will be permitted to provide in-home work options; see response to OCCP Policy 9.7.1 for further discussion. New development will be required to dedicate parkland for the South-Central Open Space, and view points will be created along the ridgeline through view corridor standards. (See proposed OCMC 16.12.042 and 17.10.070.C, respectively.) Trail corridors will be identified and reserved through the subdivision review process. (See OCMC 16.08.025.E.) **The proposal is consistent with this Policy.**

Policy 1.3

Within the Northern Employment Campus sub-district, support the attraction of family wage jobs and connections with Clackamas Community College.

Response: Under the proposed code amendments, the NEC subdistrict permits a range of industrial, light manufacturing, research and development, and corporate headquarters uses that support family-wage employment. Outside of the code and map implementation projects, supporting efforts to build relationships with CCC and to recruit businesses with family-wage jobs will be led by the City's Economic Development department. **The proposal is consistent with this Policy.**

Policy 1.4

Within the Mixed Employment Village and Main Street sub-districts, promote job creation, mixed use and transit oriented development. Adopt minimum densities, limitations on stand-alone residential developments, and other standards that implement this policy.

Response: Under the proposed code amendments, the MEV and MS subdistricts permit a range of employment opportunities including light manufacturing (MEV only), office, retail and service uses. Proposed code standards require that residential uses be proposed as part of a mixed-use project, rather than stand-alone residential developments, and limit residential uses to upper-stories in both the MS and MEV subdistricts. (See proposed OCMC 17.24.050.E and 17.29.080.E.) In the MS subdistrict, ground-floor residential uses may also be permitted on the rear of sites, set back a minimum of 150 feet from the front property line and not to exceed 50% of the total building site area, with a minimum density of 17.4 units per acre. (See proposed OCMC 17.24.050.E.) **The proposal is consistent with this Policy.**

Policy 1.5

The Main Street sub-district may be located along the extension of Glen Oak Road and not exceed 10 gross acres. The specific configuration of the MS sub-district may be established as part of a master plan.

Response: The proposed map amendments designate the MS subdistrict along Glen Oak Road, totaling 13.5 gross acres or 6.6 net acres. The gross acre numbers that we have include the ROW along Glen Oak and Center/Holly, which may be inflating this figure. **The proposal is consistent with this Policy.**

Policy 1.6

Within the West and East Mixed Use Neighborhoods, require a variety of housing types. Allow lot size averaging and other techniques that help create housing variety while maintaining overall average density.

Response: Permitted residential uses in R-5 and R-2 zoning districts, proposed to implement the EMU and WMU subdistricts, provide for a variety of single-family detached, single-family attached, accessory dwelling units, multifamily, cluster housing, duplexes, triplexes and quadplexes. (See OCMC 17.10.020 and 17.12.020.) Lot size averaging is permitted per OCMC 16.08.065. **The proposal is consistent with this Policy.**

Policy 1.7

Within the MEV, MS, WMU and EMU sub-districts, require master plans to ensure coordinated planning and excellent design for relatively large areas (e.g. 40 acres per master plan). Master plans are optional in the NEC due to the larger lot and campus industrial nature of the area.

Response: Master planning is permitted in all subdistricts as a discretionary review alternative. (OCMC 17.65.) Mandatory master planning is not proposed in light of state standards requiring clear and objective residential development standards and proposed amendments which address concerns generally reserved for Master Plans, such as required park acquisition. Since 2008 when the BRCP was developed, state law has been strengthened to require a clear and objective review option for all residential and mixed-use development to provide greater certainty for housing development. (ORS 197.303, 197.307.) Master planning provisions are generally discretionary, and so should not be made mandatory for residential or mixed-use areas. Many of the concept plan provisions, such as green streets and LID stormwater development, can be implemented by existing or proposed code standards and thereby meet the master planning intent. Master planning can provide an alternative review path, with incentives such as higher densities or modifications to base zone standards like minimum lot sizes. The City could also

require master planning as a condition of annexation or zone change. **The proposal is consistent with this Policy.**

Goal 2 Model of Sustainable Design

Be a model of sustainable design, development practices, planning, and innovative thinking.

Response: The greatest strength of the BRCP, as implemented by the proposed map and code changes, is the mix of uses that will support a vibrant, interconnected district. Much of the sustainable infrastructure planning, including LID stormwater and green street designs, was done with the BRCP and subsequent utility master planning, will can be implemented at the time of site development. Many of the zoning standards, particularly the expanded uses in the residential zones, support compact development, coupled with resource protection standards for sensitive environmental areas. The proposed code amendments include site-specific sustainable design features required in the NEC subdistrict through the implementing CI standards, and incentivized in the WMU subdistrict through the implementing R-2 standards in the form of a density bonus. Future implementation efforts will continue building partnerships with private and institutional stakeholders to further support sustainable development and economic development. **The proposal is consistent with this Goal.**

Policy 2.1

Implement the Sustainable Storm Water plan recommended in the Concept Plan. During site specific design, encourage innovative system design and require low impact development practices that manage water at the site, street and neighborhood scales.

Response: Since the BRCP was initially written in 2008, the City has adopted the Stormwater and Grading Design Standards (2015), emphasize low-impact development (LID) practices, source controls for higher pollutant generating activities, erosion prevention and sediment controls, and operation and maintenance practices designed to properly manage stormwater runoff and protect our water resources. Some of the LID techniques permitted include porous pavement, green roofs, filtration planters, infiltration planters, swales, and rain gardens. (See <https://www.orcity.org/publicworks/stormwater-and-grading-design-standards>) **The proposal is consistent with this Policy.**

Policy 2.2

Storm water facilities will be designed so they are amenities and integrated into the

overall community design.

Response: LID techniques such as green roofs, filtration planters, infiltration planters, swales, and rain gardens, consistent with the 2015 Stormwater and Grading Design Standards, will serve as amenities integrated into the community.

The proposal is consistent with this Policy.

Policy 2.3

Support public and private sector initiatives to promote sustainable design, development practices and programs, including but not limited to:

- Energy efficiency
- Water conservation
- Compact development
- Solar orientation
- Green streets/infrastructure
- Adaptive reuse of existing buildings/infrastructure
- Alternative transportation
- Pedestrian/Cyclist friendly developments
- Natural drainage systems
- Tree preservation and planting to “re-establish” a tree canopy
- Minimizing impervious surfaces
- Sustainability education (builder, residents, businesses and visitors)
- Collaboration with “local” institutional and economic partners, particularly Clackamas Community College and Oregon City High School
- Community based sustainable programs and activities

Response: Many of these initiatives are ongoing and involve multiple stakeholders, which the City will continue to support. The proposed map and code amendments will directly and indirectly support a number of them. The proposed residential standards in particular support compact development by allowing a variety of residential units at higher density than permitted density for single-family detached residential uses. The City has adopted green street standards with the 2013 Transportation System Plan and the low impact development stormwater and grading design standards that will be applied to all new development. Sidewalks and bicycle lanes will be built with new roadways at the time of development to

provide alternative transportation infrastructure, as well as off-street trails. Bicycle parking will be required in new developments per OCMC 17.52.040. Tree protection, preservation, removal and replanting is regulated per OCMC 17.41 to support tree preservation. Impervious surfaces can be minimized through application of the low impact development stormwater standards, and supported by recent reductions to off-street parking required for residential uses in OCMC 17.52 with the Amendments to the Oregon City Municipal Code (including the Equitable Housing Project recommendations). **The proposal is consistent with this Policy.**

Policy 2.4

Work with stakeholders and the community to develop LEED or equivalent green building standards and guidelines to apply in the Concept Plan area.

Response: As part of the proposed code amendments, industrial development in the NEC subdistrict will be required to incorporate sustainable design features; one option is to propose a LEED certified building. (See proposed OCMC 17.37.060.G.8.) Similarly, WMU development may elect to build to LEED standards as one option to qualify for a density bonus. (See proposed OCMC 17.12.060.D.12.) The existing site development standards in OCMC 17.62 that apply to all new development except low-density residential already include green building standards and guidelines that supports sustainability. For example, 15% site landscaping is required along with conservation of natural resource areas which, along with adopted LID stormwater standards, minimizes impervious surface and treats stormwater runoff. Mandatory green building standards for all development, beyond the sustainable features for industrial and high-density residential, are not recommended. Requiring compliance with a third-party set of standards, such as LEED, is inherently problematic because it outsources City decision-making to a third party, with standards that are updated more frequently than City code is updated. **The proposal is consistent with this Policy.**

Goal 3 Green Jobs

Attract “green” jobs that pay a living wage.

Response: The proposed map and code amendments lay the foundation for future “green” job and green industry recruitment by designating 135.1 net acres for industrial development under the CI standards, and permitting a wide range of industrial, research and development, and corporate headquarters uses. Further business recruitment efforts will be led by the City’s Economic Development department and community partners to promote the BRCP area, building off the existing Beaver Creek Employment Area efforts that already include a portion of the

BRCP area. (See <https://www.orcity.org/economicdevelopment/beavercreek-employment-area>) **The proposal is consistent with this Goal.**

Policy 3.1

Coordinate with county, regional and state economic development representatives to recruit green industry to the Concept Plan area.

Response: The proposed map and code amendments will support business recruitment efforts for the BRCP area that will be led by the City's Economic Development department and county, regional and state economic development representatives. The City can expand current partnerships such as the Beavercreek Employment Area Blue Ribbon Committee that include city, county and regional representatives. (See https://www.orcity.org/sites/default/files/fileattachments/economic_development/page/11230/beavercreek_employment_area_-_marketing_and_recruitment_strategy.pdf) The Committee was identified as a stakeholder in this implementation project and provided their input at a meeting held January 17, 2019. **The proposal is consistent with this Policy.**

Policy 3.2

Promote the Concept Plan area as a place for green industry.

Response: The proposed map and code amendments will support business promotion efforts for the BRCP area that will be led by the City's Economic Development department. The City can promote the BRCP area, building off the existing Beavercreek Employment Area efforts that already include a portion of the BRCP area. (See <https://www.orcity.org/economicdevelopment/beavercreek-employment-area>) **The proposal is consistent with this Policy.**

Policy 3.3

Work with Clackamas Community College to establish programs and education that will promote green development within the Concept Plan area.

Response: Clackamas Community College was identified as a stakeholder in this implementation project and interviewed early in the process to incorporate their ideas into the map and code amendments. The College has participated in the Beavercreek Employment Area efforts to date as a member of the Blue Ribbon Committee and the City will continue working with the College. **The proposal is consistent with this Policy.**

Goal 4 Sustainable Industries

Maximize opportunities for sustainable industries that serve markets beyond the

Portland region and are compatible with the site's unique characteristics.

Response: The proposed map and code amendments lay the foundation for sustainable industries by designating 135.1 net acres for industrial development under the CI standards, and permitting a wide range of industrial, research and development, and corporate headquarters uses. Further business recruitment efforts will be led by the City's Economic Development department and community partners to promote the BRCP area, building off the existing Beaver Creek Employment Area efforts that already include a portion of the BRCP area. (See <https://www.orcity.org/economicdevelopment/beavercreek-employment-area>)

The proposal is consistent with this Goal.

Policy 4.1

As master plans are approved, ensure there is no net loss of land designated North Employment Campus.

Response: The proposed map amendments designate 236.1 gross acres with an estimated 135.1 net acres with the Industrial comprehensive plan designation and CI zoning district. Any rezoning proposal will have to show compliance with the BRCP, including this policy, which will prevent any net loss of NEC land. Much of the NEC land is designated Industrial land consistent with Metro Title 4 regulations, and is further protected from conversion to non-industrial uses by Metro standards. (See https://www.orcity.org/sites/default/files/fileattachments/planning/page/12700/title_4_map_-_employment_and_industrial_land.pdf) **The proposal is consistent with this Policy.**

Policy 4.2

Coordinate with County, regional and state economic development representatives to recruit sustainable industries that serve markets beyond the Portland region.

Response: The proposed map and code amendments will support business recruitment efforts for the BRCP area that will be led by the City's Economic Development department and county, regional and state economic development representatives. The City can expand current partnerships such as the Beaver Creek Employment Area Blue Ribbon Committee that include city, county and regional representatives. (See https://www.orcity.org/sites/default/files/fileattachments/economic_development/page/11230/beavercreek_employment_area_-_marketing_and_recruitment_strategy.pdf) The Committee was identified as a stakeholder in this implementation project and provided their input at a meeting held January 17, 2019. **The proposal is consistent with this Policy.**

Goal 5 Natural Beauty

Incorporate the area's natural beauty into an ecologically compatible built environment.

Response: The proposed map and code amendments will protect natural resources within the future built environment of the district by requiring dedication of parkland to create the South-Central Open Space Network, requiring dedication of trail corridors identified in the BRCP, protecting trees per OCMC 17.41, and protecting riparian habitat and geologic hazard areas from development through application of the Natural Resources Overlay District in OCMC 17.49 and the Geologic Hazards Overlay Zone in OCMC 17.44. **The proposal is consistent with this Goal.**

Policy 5.1

Incorporate significant trees into master plans and site specific designs. Plant new trees to establish an extensive tree canopy as part of the creation of an urban community.

Response: All future development in the areas affected by this proposal will be required to comply with tree protection standards in OCMC 17.41, which include replanting standards with development. **The proposal is consistent with this Policy.**

Policy 5.2

Provide scenic viewpoints and public access along the east ridge.

Response: Under the proposed map and code amendment, the east ridge area will be zoned R-5. Proposed R-5 standards for the BRCP area in proposed OCMC 17.10.070 include view protection standards along the ridgeline requiring view corridors. (See proposed OCMC 17.10.070.C.) An additional viewpoint is incorporated in the South Central Open Space extent; those parklands will be required to be dedicated at the time of residential development. (See proposed OCMC 16.12.042.) The east ridge trail corridor as identified in the Trails Master Plan will be identified and reserved through the subdivision review process, ensuring public access. (See OCMC 16.08.025.E.) **The proposal is consistent with this Policy.**

Policy 5.3

Protect views of Mt Hood and locate trails and public areas so Mt Hood can be viewed within the community.

Response: Under the proposed map and code amendment, trails and public areas identified in the BRCP will be acquired by the City and protected from

development, which will protect views of Mt Hood from those facilities. Parkland within the South Central Open Space Network will be required to be dedicated at the time of residential development. (See proposed OCMC 16.12.042 and 17.62.058.) Trail corridors as identified in the Trails Master Plan will be identified and reserved through the development review process, including a 30-foot corridor through the powerline easement area identified in the BRCP as providing Mt Hood views. (See OCMC 16.08.025.E and proposed 17.37.060.F.) **The proposal is consistent with this Policy.**

Policy 5.4

Establish open space throughout the community consistent with the Open Space Framework Plan. Allow flexibility in site specific design of open space, with no net loss of total open space area.

Response: Under the proposed map and code amendment, open spaces identified in the BRCP will be protected from development and/or acquired by the City. Parkland within the South Central Open Space Network will be required to be dedicated at the time of residential development. (See proposed OCMC 16.12.042 and 17.62.058.) Trail corridors as identified in the Trails Master Plan will be identified and reserved through the development review process. (See OCMC 16.08.025.E.) Additional natural, undeveloped open space will be protected through application of the Natural Resources Overlay District in OCMC 17.49 and the Geologic Hazards Overlay Zone in OCMC 17.44 which restrict development in sensitive areas. **The proposal is consistent with this Policy.**

Policy 5.5

Protect steeply sloped and geologically sensitive areas along the east ridge from development.

Response: Through the proposed code amendments, the steeply sloped areas along the east ridge will be protected through the application of the Geologic Hazards Overlay Zone in OCMC 17.44, which limits development on slopes 25 to 35% and prohibits all development on slopes over 35%. The east ridge will be further protected through application of the proposed Low Impact Conservation Area standards, which limit development density and development area and require mitigation. (See proposed OCMC 17.10.070.C.) **The proposal is consistent with this Policy.**

Goal 6 Multi-modal Transportation

Provide multi-modal transportation links (such as bus routes, trails, bike- ways, etc.)

that are connected within the site as well as to the surrounding areas.

Response: The proposed map and code amendments will support the provision of multi-modal transportation links within the site and to surrounding areas at the time of development. The transportation network of major arterials and collectors within the BRCP area have been adopted in the City's Transportation System Plan (2013); the projects must be complete or completed by the developer at the time of development. Improvement of these major rights-of-way will meet green street standards with multimodal elements. The trails network, as part of the Trails Master Plan, will be required to be built prior to or as a condition of development as well. Bus routes will be planned with Tri-Met as part of ongoing coordination efforts. **The proposal is consistent with this Goal.**

Policy 6.1

Work with Tri-Met and stakeholders to provide bus service and other alternatives to the Concept Plan area.

Response: Bus service will be planned with Tri-Met as part of ongoing coordination efforts outside of the proposed map and code amendments. **The proposal is consistent with this Policy.**

Policy 6.2

As land use reviews and development occur prior to extension of bus service, ensure that the mix of land uses, density and design help retain transit as an attractive and feasible option in the future.

Response: The proposed map and code amendments support development of a mix of uses both across the district and within individual subdistricts that include employment, commercial and residential uses that can support future transit service. Minimum densities will be applied to residential development in the EMU and WMU subdistricts, at 7.0 units per acre and 17.4 units per acre respectively; any ground-floor residential uses in the MS subdistrict will also be required to meet a minimum density of 17.4 units per acre. Minimum FARs are also proposed for the MEV and MS subdistricts to guide intensive design supportive of future transit options. **The proposal is consistent with this Policy.**

Policy 6.3

Ensure that local street connectivity and off-street pedestrian routes link together into a highly connected pedestrian system that is safe, direct, convenient, and attractive to walking.

Response: The proposed map and code amendments will require local street connectivity and off-street pedestrian routes to be developed with all new development. OCMC 16.12, which applies to new subdivisions and site plan reviews, requires a maximum block length of 530 feet to maintain connectivity except in the CI zone, discourages cul-de-sacs and dead ends, and requires public off-street pedestrian and bicycle accessways when through streets cannot be provided; together these provisions provide for a highly connected pedestrian system. (See OCMC 16.12.025, 16.12.030, 16.12.032.) Additionally, development under the proposed map and code amendments will be required to reserve trail corridors supporting completion of the off-street trails network established in the Trails Master Plan. **The proposal is consistent with this Policy.**

Policy 6.4

The “walkability” of the Concept Plan area will be one of its distinctive qualities. The density of walking routes and connectivity should mirror the urban form – the higher the density and larger the building form, the “finer” the network of pedestrian connections.

Response: The proposed map and code amendments will require pedestrian connectivity that mirrors the urban form. A maximum block length of 530 feet applies in all proposed zones except the CI-zoned NEC subdistrict, where greater spacing between streets is appropriate for industrial campus development. (See OCMC 16.12.030.) Within the “finer” grained residential and mixed-use subdistricts, code standards to be applied through these proposed map amendments will also require provision of a well-marked, continuous and protected on-site pedestrian circulation system within development sites per OCMC 17.62.050.C. **The proposal is consistent with this Policy.**

Policy 6.5

Require trails to be provided consistent with the Concept Plan Circulation Framework.

Response: Development under the proposed map and code amendments will be required to reserve trail corridors supporting completion of the off-street trails network established in the Trails Master Plan. **The proposal is consistent with this Policy.**

Policy 6.6

Provide bike lanes on Beaver Creek Road and all collector streets, except for Main Street. The City may consider off-street multi-use paths and similar measures in meeting this policy. Bike routes will be coordinated with the trails shown on the

Circulation Framework.

Response: Streets, including Beaver Creek Road, will be built prior to or as a condition of development, and will be required to be constructed to the City's adopted green street standards that include bike lanes except on Glen Oak Road which will serve as the Main Street. Off-street multiuse paths may be developed along Center Parkway (Holly) within an expanded right-of-way as part of the South Central Open Space Network. **The proposal is consistent with this Policy.**

Goal 7 Safety Along Beaver Creek Road

Implement design solutions along Beaver Creek Road that promote pedestrian safety, control traffic speeds and access, and accommodate projected vehicular demand.

Response: The proposed map and code amendments will not affect the design of Beaver Creek Road, which will be built as planned in the BRCP and the adopted TSP. **The proposal is consistent with this Goal.**

Policy 7.1

Design Beaver Creek Road to be a green street boulevard that maximizes pedestrian safety.

Response: The proposed map and code amendments will not affect the design of Beaver Creek Road, which will be built as planned in the BRCP and the adopted TSP as a green street boulevard. **The proposal is consistent with this Policy.**

Policy 7.2

Work with the County and State to establish posted speeds that are safe for pedestrians and reinforce the pedestrian-oriented character of the area.

Response: Future coordination with the County and the State about the posted speeds is outside of the scope of the proposed map and code amendments. **The proposal is consistent with this Policy.**

Policy 7.3

Control access along the east side of Beaver Creek Road so that full access points are limited to the intersections shown on the Circulation Framework. Right in-Right-out access points may be considered as part of master plans or design review.

Response: The proposed map and code amendments will support limited access along the east side of Beaver Creek Road. At the time of development, driveway spacing and access limitations will be applied to individual lots including standards that require a minimum of 175 feet per driveway along an arterial like Beaver Creek Road, that limit access to one driveway per frontage, and that require access to be

provided from the lowest classification street. (See OCMC 16.12.035.) Requirements to develop an alley network in all subdistricts except the NEC will also limit access needs for individual lots. (See OCMC 16.12.025.) The City may adopt additional access limitations specific to Beaver Creek Road. **The proposal is consistent with this Policy.**

Goal 8 Oregon City High School and Clackamas Community College

Promote connections and relationships with Oregon City High School and Clackamas Community College.

Response: Both OCHS and CCC were identified as stakeholders in this implementation project, and engaged through initial interviews and invitations to all public meetings throughout the project; OCHS hosted two public open houses on January 29 and April 9, 2019. Future implementation efforts will continue to engage OCHS and CCC. **The proposal is consistent with this Goal.**

Policy 8.1

Coordinate with OCHS and CCC when recruiting businesses and promoting sustainability. Within one year of adoption of the Concept Plan, the City will convene dialogue with OCHS, CCC and other relevant partners to identify target industries and economic development strategies that are compatible with the vision for the Concept Plan. Encourage curricula that are synergistic with employment and sustainability in the Concept Plan area.

Response: Both OCHS and CCC are members of the Beaver Creek Employment Area Blue Ribbon Committee that includes city, county and regional representatives to discuss economic development strategies for the area incorporating the two institutions and portions of the BRCP area. (See https://www.orcity.org/sites/default/files/fileattachments/economic_development/page/11230/beaver_creek_employment_area_-_marketing_and_recruitment_strategy.pdf) Future implementation efforts will continue to engage OCHS and CCC. **The proposal is consistent with this Policy.**

Policy 8.2

Prior to application submittal, require applicants to contact OCHS and CCC to inform them and obtain early comment for master plans and design review applications.

Response: The City will develop internal policies to ensure that OCHS and CCC are engaged at the time of pre-application conferences required before all subdivision,

master plan, and site plan review applications are submitted, to inform OCHS and CCC and provide opportunity for early comment. **The proposal is consistent with this Policy.**

Policy 8.3

Improving the level-of-service and investing in the Highway 213 corridor improves the freight mobility along Highway 213, which provides access to Beaver Creek Road and the Concept Plan area. Protecting the corridor and intersections for freight furthers the City goal of providing living-wage employment opportunities in the educational, and research opportunities to be created with CCC and OCHS.

Response: Alternative Mobility Targets were adopted for Highway 213 in 2018, including the Highway 213 and Beaver Creek Road intersection, which will support freight mobility along Highway 213 to support employment opportunities in the BRCP area. OCHS and CC are encouraged to continue to implement TDM strategies. **The proposal is consistent with this Policy.**

Goal 9 Unique Sense of Place

Have a unique sense of place created by the mix of uses, human scale design, and commitment to sustainability.

Response: The essence of the BRCP area is the mix of uses both across the district as a whole and within individual subdistricts, which will be fully implemented by the proposed map and code amendments to create the five subdistricts including mixed-use zoning for the MEV and MS subdistricts. Design elements implemented through the proposed code amendments include maximum square footages for individual business establishments, minimum FARs, and maximum setbacks in the MS and MEV subdistricts; pedestrian connectivity within sites, subdistricts, the district and beyond; and building design standards, as discussed elsewhere in this narrative. Sustainability will be integrated into the fabric of the district as discussed in response to Goal 2 and related policies, including sustainable infrastructure, mix of uses, natural resources protection, and sustainable building and site design elements for industrial development and multifamily development in the R-2 zoned WMU zone. **The proposal is consistent with this Goal.**

Policy 9.1

Utilize master plans and design review to ensure detailed and coordinated design. Allow flexibility in development standards and the configuration of land uses when they are consistent with the comprehensive plan, development code, and vision to create a complete and sustainable community.

Response: Under the proposed map and code amendments, new development will be reviewed through site plan design review, subdivision, and/or master plans. Development standards can be modified through minor and major variances if they are consistent with the comprehensive plan including the BRCP vision. (See OCMC 17.60.) The configuration of land uses will be established by the proposed map amendments and can be modified through future map amendments consistent with OCMC 17.68, though the range of uses allowed in each subdistrict through the proposed code amendments is intended to be flexible and potentially reduce the need for map amendments, such as the R-2 standards for small-scale commercial and mixed-use in the primarily residential EMU subdistrict. **The proposal is consistent with this Policy.**

Policy 9.2

Implement human scale design through building orientation, attractive streetscapes, building form/architecture that is matched to the purpose of the sub-district, location of parking, and other techniques. The design qualities of the community should mirror the urban form – the higher the density and larger the buildings, the higher the expectation for urban amenities and architectural details.

Response: Design elements implemented through the proposed code amendments that support human-scale design include maximum square footages for individual business establishments, minimum FARs, and maximum setbacks in the MS and MEV subdistricts; pedestrian connectivity within sites, subdistricts, the district and beyond; and requirements for parking to be located at the rear of sites served by alley access. The proposed code amendments also apply the building design standards in OCMC 17.62.055 for all development, except industrial development, requiring quality building materials, siting of structures along the front property line, buildings oriented towards the street, entryways, façade modulation and articulation, and fenestration. The proposed code amendments will support attractive streetscapes through both design standards for private development along the street, such as maximum setbacks and provisions for pedestrian plazas and outdoor café seating within the setbacks, and the green street standards for the public right-of-way development. **The proposal is consistent with this Policy.**

Policy 9.3

Density should generally transition from highest on the west to lowest in the eastern part of the site.

Response: Generally, the proposed map and code amendments support graduated density across the district from west to east. Density transitions from highest in the west along Beaver Creek Road, with the R-2 zoning for the WMU subdistrict that

allows development up to 21.8 units an acre, transitioning to medium density at a maximum density of 8.7 units per acre for single-family detached homes in the east with the R-5 zoning for the EMU subdistrict. The density transitions to very low density on the eastern edge of the site within the Low Impact Conservation Area, limited to two units per acre. (See proposed OCMC 17.10.070.C.) **The proposal is consistent with this Policy.**

Policy 9.4

Promote compatibility with existing residential areas at the north and south end of the Concept Plan area. Transition to lower densities, setbacks, buffers and other techniques shall be used.

Response: The proposed code amendments support compatibility with existing residential areas to the north and south of the BRCP area by requiring buffers and setbacks. Under the proposed map and code amendments, the northern edge of the district is zoned CI and industrial development within the zone that is adjacent to residential is required to provide a 25-foot-wide buffer including landscaping, trees, berms, and fencing. (See proposed OCMC 17.37.060.D.) At the southern edge of the district, the proposed code requires a perimeter transition requiring larger 6,000 square foot lots restricted to single-family detached uses, a 40-foot setback from the edge of the district, and a combination of landscaping, trees and fencing. (See proposed OCMC 17.10.070.D.) **The proposal is consistent with this Policy.**

Goal 10 Ecological Health

Manage water resources on site to eliminate pollution to watersheds and lesson impact on municipal infrastructure by integrating ecological and man-made systems to maximize function, efficiency and health.

Response: The City has adopted the Stormwater and Grading Design Standards (2015) that emphasize low-impact development (LID) practices, which will be applied to new development within the BRCP area under the proposed map and code amendments. The Natural Resources Overlay District (NROD) in OCMC 17.49 will also be applied to stream corridors and riparian habitat through the proposed map and code amendments to protect water resources on site. **The proposal is consistent with this Goal.**

Policy 10.1

Utilize low impact development practices and stormwater system designs that mimic natural hydrologic processes, minimize impacts to natural resources and eliminate pollution to watersheds.

Response: Since the BRCP was initially written in 2008, the City has adopted the Stormwater and Grading Design Standards (2015), emphasize low-impact development (LID) practices, source controls for higher pollutant generating activities, erosion prevention and sediment controls, and operation and maintenance practices designed to properly manage stormwater runoff and protect our water resources. Some of the permitted LID techniques, some of which mimic natural hydrologic processes, include porous pavement, green roofs, filtration planters, infiltration planters, swales, and rain gardens. (See <https://www.orcity.org/publicworks/stormwater-and-grading-design-standards>) **The proposal is consistent with this Policy.**

Policy 10.2

Prepare the Environmentally Sensitive Resource Area overlay to protect, conserve and enhance natural areas identified on the Concept Plan. Apply low-density base zoning that allows property owners to cluster density outside the ESRA and transfer to other sites.

Response: Areas identified within the Environmentally Sensitive Resource Area will be protected by a variety of strategies through the proposed map and code amendments. Most importantly, the Natural Resources Overlay District (NROD) in OCMC 17.49 will be applied to stream corridors and riparian habitat, including Thimble Creek on the eastern edge of the site. The Geologic Hazards Overlay District will be applied to steep slopes per OCMC 17.44, limiting development on slopes 25 to 35% to two units per acre and prohibiting development on slopes above 35%. The key ESRAs identified on page 1 of the BRCP are generally protected through the combination of these two overlays, however, there are minor discrepancies in the extent of individual nodes. In 2008 when the BRCP was being drafted, there was discussion that upland habitat areas could be protected through the NROD as well, however, subsequent development of the NROD standards elected to exclude upland habitat areas because there is no mechanism for such in Metro's Title 13. The exclusion of the upland habitat areas slightly reduces the extent of some of the identified ESRA nodes, but the NROD and geologic hazard overlays together protect the core of each resource area. The NROD includes density transfer provisions in OCMC 17.49.240. **The proposal is consistent with this Policy.**



Oregon City Municipal Code Beavercreek Road Concept Plan Implementing Code June 7, 2019 Draft

Chapter 16.08, Land Divisions - Process and Standards

16.08.025 - Preliminary plat—Required information.

- A. Site Plan. A detailed site development plan drawn to scale by a licensed professional based on an existing conditions plan drawn by a licensed surveyor. The site plan shall include the location and dimensions of lots, streets, existing and proposed street names, pedestrian ways, transit stops, common areas, parks, trails and open space, building envelopes and setbacks, all existing and proposed utilities and improvements including sanitary sewer, stormwater and water facilities, total impervious surface created (including streets, sidewalks, etc.), all areas designated as being within an overlay district and an indication of existing and proposed land uses for the site. (...)

16.08.040 – Park and open space requirements.

Where a proposed park, open space, playground, public facility, or other public use shown in a plan adopted by the city is located in whole or in part in a land division, the City may require the dedication or reservation of this area on the final plat for the partition or subdivision.

16.08.042 - Additional Public Park Requirements in Beavercreek Road Concept Plan area.

- A. Each development within the Beavercreek Road Concept Plan area that includes residential development must provide for land for neighborhood parks which meets the requirements of this section.
- B. The minimum amount of land in acres dedicated for a park shall be calculated according to the following calculation: (2.6 persons per dwelling units) x (total number of dwelling units proposed in the development) x (8.0 acres) / (1,000 persons).
- C. The entire acreage must be dedicated prior to approval or as part of the final plat or site plan development approval for the first phase of development.
- D. If a larger area for a neighborhood park is proposed than is required based on the per-unit calculation described in subsection (A), the City must reimburse the applicant for the value of the amount of land that exceeds the required dedication based on the fee-in-lieu formula expressed in subsection (E)(1).

- E. The City may accept a fee-in-lieu as an alternative to this dedication at its discretion or may require a fee-in-lieu if a suitable site meeting the criteria described in subsection (F) of these provisions is not available with the development site. The calculation of the fee-in-lieu or other monetary contribution must meet the following standards.
 - 1. The amount of the fee in lieu or other monetary contribution is set in dollars per acre of required dedication and is equivalent to the appraised cost of land within the development, as provided by a certified appraiser chosen by the City and with the assumption that zoning and other land use entitlement are in place.
 - 2. The fee-in-lieu or other monetary contribution must be paid prior to approval of the final plat or development approval for each phase of development.
- F. Neighborhood park sites proposed for dedication must meet the following criteria.
 - 1. Located within the South Central Open Space Network as shown in Figure 16.08.042-1. *Figure 16.08.042-1 (To be provided, will show the South Central Open Space Network as mapped on the Development Constraints Map.)*
 - 2. Met either of the following standards:
 - a. Pearl standard. *(To be developed with Parks input.)*
 - b. String standard. *(To be developed with Parks input.)*

Chapter 17.10, R-5 Medium Density Residential District (East Mixed-Use Neighborhood subdistrict)

17.10.070 – Additional Standards for Beaver Creek Road Concept Plan Area

- A. Applicability. This section applies to all development in the R-5 district within the Beaver Creek Road Concept Plan area.
- B. Relationship of Standards. These standards apply in addition to and supersede the standards of the R-5 zone within the Beaver Creek Road Concept Plan area. In the event of a conflict, the standards of this section control.
- C. Low-Impact Conservation Area. Between the west edge of the designated Natural Resources Overlay District extent required along Thimble Creek extending east to the 490-foot elevation (MSL), additional standards apply to create a low-impact conservation area as depicted in Figure 17.10.070-1 and preserve views to adjacent natural areas.

Figure 17.10.070-1 Extent of Low-Impact Conservation Area (To be provided based on Concept Plan.)

- 1. The standards of this section apply in addition to the requirements of OCMC 17.44, US—Geologic Hazards, if applicable. In the event of a conflict, the more restrictive shall apply.
- 2. Development intensity shall be limited as follows:
 - a. The maximum residential density shall be limited to two dwelling units per acre;

1. For all lots adjacent to the southern boundary and within 20 feet of the southern boundary, uses shall be limited to single-family detached residential and parks, trails and open space.
2. For all lots adjacent to the southern boundary and within 20 feet of the southern boundary, minimum lot size for residential uses shall be 6,000 square feet.
3. All structures shall be set back a minimum of 40 feet from the southern boundary for all lots adjacent to the southern boundary and within 20 feet of the southern boundary.
4. Within the 40-foot wide setback, a combination of landscaping and screening shall be provided to buffer the perimeter. The landscaping and screening shall meet one of the two standards:
 - a. Utilize existing vegetation in compliance with OCMC 17.41 resulting in preservation or replanting of a minimum of 12 inches of tree diameter inches per lot with trees spaced an average of one tree for every 30 linear feet along the southern property line. These trees may be located on the residential lots or an abutting tract created for tree preservation consistent with OCMC 17.41.050.B or other similar landscaping or open space purpose.
 - b. Provide a combination of landscaping and screening to include:
 - (i) A minimum of 12 inches of tree diameter inches per lot, or a minimum of an average of one tree with minimum caliper of two inches DBH for every 30 linear feet along the southern property line, whichever is greater; and
 - (ii) A minimum six-foot tall, decorative, sight-obscuring fence or wall running parallel to the southern boundary. The fence or wall shall be constructed of wood, stone, rock, or brick. Other durable materials may be substituted with Planning Director's approval. Chainlink fencing with slats shall be not allowed to satisfy this standard.
5. An alternative southern perimeter transition may be proposed as part of a Master Plan per OCMC 17.65, provided it is consistent with the goals of the adopted Beaver Creek Road Concept Plan.

Chapter 17.12, R-2 High Density Residential District (West Mixed-Use Neighborhood subdistrict)

17.12.060 – Additional Standards for Beaver Creek Road Concept Plan Area

- A. Applicability. This section applies to all development in the R-2 district within the Beaver Creek Road Concept Plan area.
- B. Relationship of Standards. These standards apply in addition to and supersede the standards of the R-2 zone within the Beaver Creek Road Concept Plan area. In the event of a conflict, the standards of this section control.
- C. Uses.
 1. Live/work dwellings are a permitted use.
 2. As part of a master plan when authorized by and in accordance with the standards contained in OCMC 17.65, up to five thousand square feet of commercial space as a stand-alone building or part of a larger mixed-use building, to be used for:
 - a. Restaurants, eating and drinking establishments without a drive through;

- b. Services, including personal, professional, educational and financial services; laundry and dry-cleaning; or
 - c. Retail trade, including grocery, hardware and gift shops, bakeries, delicatessens, florists, pharmacies, specialty stores, and similar.
- D. Sustainability density bonus. The maximum net density allowed in 17.12.050.B may be increased by up to twenty percent, or a maximum net density of 26.2 du/acre, for projects incorporating the following sustainability features. For every feature provided below, net density may be increased by up to five percent, with a maximum twenty percent bonus available.
 - 1. A vegetated ecoroof for a minimum of thirty percent of the total roof surface.
 - 2. For a minimum of seventy-five percent of the total roof surface, a white roof with a Solar Reflectance Index (SRI) of 78 or higher if the roof has a 3/12 roof pitch or less, or SRI of 29 or higher if the roof has a roof pitch greater than 3/12.
 - 3. A system that collects rainwater for reuse on-site (e.g., site irrigation) designed to capture an amount of rainwater equivalent to the amount of stormwater anticipated to be generated by 50% of the total roof surface.
 - 4. An integrated solar panel system for a minimum of thirty percent of the total roof or building surface.
 - 5. Orientation of the long axis of the building within thirty degrees of the true east-west axis, with unobstructed solar access to the south wall and roof.
 - 6. Windows located to take advantage of passive solar collection and include architectural shading devices (such as window overhangs) that reduce summer heat gain while encouraging passive solar heating in the winter.
 - 7. Fifty percent or more of landscaped area covered by native plant species selected from the Oregon City Native Plant List.
 - 8. Provision of pedestal or wall-mounted Level 2, two hundred forty-volt electric vehicle chargers, or similar alternative fueling stations as approved by the planning director, at a minimum ratio of one station per fifty vehicle parking spaces up to a maximum of five such stations.
 - 9. Building energy efficiency measures that will reduce energy consumption by thirty percent based on HERS rating for building, including efficient lighting and appliances, efficient hot water systems, solar orientation or solar water heating, solar photovoltaic panels, geothermal, and offsetting energy consumption with alternative energy.
 - 10. Use of Forest Stewardship Council certified wood Reclaimed Wood for a minimum of thirty percent of wood products used in the site development.
 - 11. Permeable paving, which may include porous concrete, permeable pavers, or other pervious materials as approved by the city engineer, for a minimum of thirty percent of all paved surfaces.
 - 12. Buildings LEED-certified by the U.S. Green Building Council at any level shall be allowed to increase net density by the full twenty percent.
 - 13. Or an alternative the meets or exceeds the intent of the above code as approved by the Community Development Director through a Type II review.

Chapter 17.24, NC Neighborhood Commercial District (Main Street subdistrict)

17.24.050 – Additional Standards for Beaver Creek Road Concept Plan Area

- A. Applicability. This section applies to all development in the NC district within the Beaver Creek Road Concept Plan area.
- B. Relationship of Standards. These standards apply in addition to and supersede the standards of the NC zone within the Beaver Creek Road Concept Plan area. In the event of a conflict, the standards of this section control.
- C. Uses.
 - 1. All uses permitted per OCMC 17.24.020.A and B, including grocery stores, are limited to a maximum footprint for a stand alone building with a single store or multiple buildings with the same business not to exceed ten thousand square feet, unless otherwise restricted in this chapter.
 - 2. Residential uses are permitted subject to limitations in OCMC 17.24.050.E, and are not subject to OCMC 17.29.020.M, OCMC 17.29.020.N, and OCMC 17.24.020.D.
 - 3. Artisan and specialty goods production is permitted, constituting small-scale businesses that manufacture artisan goods or specialty foods and makes them available for purchase and/or consumption onsite, with an emphasis on direct sales rather than the wholesale market. Examples include: candy, fruit and vegetable preserving and specialty foods, bakeries and tortilla manufacturing; artisan leather, glass, cutlery, hand tools, wood, paper, ceramic, textile and yarn products; microbreweries, microdistilleries, and wineries. All uses shall provide either:
 - a. A public viewing area that includes windows or glass doors covering at least twenty-five percent of the front of the building face abutting the street or indoor wall, allowing direct views of manufacturing; or
 - b. A customer service space that includes a showroom, tasting room, restaurant, or retail space.
 - 4. Drive-throughs are prohibited.
 - 5. Gas stations are prohibited.
- D. Dimensional standards.
 - 1. Maximum building height shall be sixty feet or five stories, whichever is less.
 - 2. Minimum building height shall be twenty-five feet or two stories, whichever is less, except for accessory structures or buildings under one thousand square feet.
 - 3. Maximum corner side yard setback abutting a street shall be five feet.
 - 4. Minimum floor area ratio (FAR) shall be 0.5.
 - a. Required minimum FARs shall be calculated on a project-by-project basis and may include multiple contiguous blocks. In mixed-use developments, residential floor space will be included in the calculations of floor area ratio to determine conformance with minimum FAR.

1. Light industrial uses limited to the design, light manufacturing, processing, assembly, packaging, fabrication and treatment of products made from previously prepared or semi-finished materials are permitted.
 2. The following permitted uses, alone or in combination, shall not exceed twenty percent of the total gross floor area of all of the other permitted and conditional uses within the development site. The total gross floor area of two or more buildings may be used, even if the buildings are not all on the same parcel or owned by the same property owner, as long as they are part of the same development site, as determined by the community development director.
 - a. Restaurants, eating and drinking establishments;
 - b. Services, including personal, professional, educational and financial services; laundry and dry-cleaning;
 - c. Retail trade, including grocery, hardware and gift shops, bakeries, delicatessens, florists, pharmacies, specialty stores, marijuana, and similar, provided the maximum footprint for a stand-alone building with a single store does not exceed twenty thousand square feet; and
 - d. Grocery stores provided the maximum footprint for a stand-alone building does not exceed forty thousand square feet.
 3. Drive-throughs are prohibited.
 4. Gas stations are prohibited.
 5. Bed and breakfast and other lodging facilities for up to ten guests per night are a conditional use.
 6. Tax Lot 00800, located on Clackamas County Map #32E10C has a special provision to allow the multifamily residential use permitted as of (Ordinance effective date) as a permitted use. This property may only maintain and expand the current use.
- D. Dimensional standards.
1. Minimum floor area ratio (FAR) shall be 0.35.
 2. Maximum allowed setback for corner side yard abutting street shall be five feet.
- E. Residential uses. All residential uses, except live/work units, are limited to upper stories only, and may only be proposed as part of a single development application incorporating nonresidential uses allowed in the MUC-2 district on the ground floor.

Chapter 17.37, CI Campus Institutional District (North Employment Campus subdistrict)

17.37.060 – Additional Standards for Beaver Creek Road Concept Plan Area

- A. Applicability. This section applies to all development in the CI district within the Beaver Creek Road Concept Plan area.
- B. Relationship of Standards. These standards apply in addition to and supersede the standards of the CI zone within the Beaver Creek Road Concept Plan area. In the event of a conflict, the standards of this section control.

C. Uses.

1. The following permitted use supersedes the use allowed in OCMC 17.37.020.L. Retail sales and services, including but not limited to eating establishments for employees (i.e. a cafe or sandwich shop) or retail sales of marijuana pursuant to OCMC 17.54.110, located in a single building or in multiple buildings that are part of the same development shall be limited to a maximum of five thousand square feet in a single outlet or twenty thousand square feet in multiple outlets that are part of the same development project.
2. The following permitted use supersedes the use allowed in OCMC 17.37.020.M. Retail and professional services including but not limited to financial, insurance, real estate and legal offices limited to a maximum of five thousand square feet in a single outlet or twenty thousand square feet in multiple outlets that are part of the same development project. Financial institutions shall primarily serve the needs of businesses and employees within the development, and drive-throughs are prohibited.
3. Offices as an accessory to a permitted use are permitted.
4. Parks, trails, urban agriculture and community garden uses are permitted.
5. Distribution and warehousing are prohibited.
6. Tax Lots 00300, 00301, 00302, 00303, 00400 and 00401, located on Clackamas County Map #32E10C have a special provision to allow single-family detached residential use as a permitted use. This property may only maintain and expand the current use.

D. Buffer zone treatment required in OCMC 17.37.040.D shall include:

1. Landscaping shall be installed to provide screening of views of parking, loading and vehicle maneuvering areas, refuse/recycling collection areas, outdoor storage, and building façades. Buffer zone treatment may substitute for perimeter parking lot landscaping required per OCMC 17.52.060.C. Landscaping shall include:
 - a Trees a minimum of two caliper inches dbh planted on average 30 feet on center. Existing mature vegetation may be used to meet this standard if it achieves a similar level of screening as determined by the Planning Director.
 - b An evergreen hedge screen of thirty to forty-two inches high or shrubs spaced no more than 4 four feet apart on average.
 - c Ground cover plants, which includes grasses covering all landscaping areas. Mulch (as a ground cover) shall only be allowed underneath plants at full growth and within two feet of the base of a tree and is not a substitute for ground cover.
2. Buffer shall incorporate a berm no less than three feet in height above the existing grade, constructed with a slope no steeper than 3:1 on all sides. The berm shall be planted with plant materials to prevent erosion.
3. A minimum six-foot tall, decorative, sight-obscuring fence or wall. The fence or wall shall be constructed of materials commonly used in the construction of fences and walls, such as wood, stone, rock, brick, or other durable materials. Chainlink fencing with slats shall be not allowed to satisfy this standard.

E. Outdoor storage permitted per OCMC 17.37.050.D shall be limited to a maximum of twenty-five percent of the net developable area.

F. Power line corridors. A distinct feature of this district is the power line corridors north of Loder Road that define open corridors.

1. Within the power line corridors, a minimum 30-foot wide open space and public access easement shall be granted to the City. The easement shall run parallel to the power line corridor and align with easements on abutting properties to create a continuous corridor.
 2. The easement may be shown on the final plat or recorded as a separate easement document. In either case, the easement must be recorded prior to issuance of a certificate of occupancy.
 3. Open spaces within the power line corridors, including the open space easements, may be counted as landscaping satisfying the requirements of OCMC 17.62.050.A.
 4. Additional uses encouraged in the power line corridors include community gardens, urban agriculture, stormwater and water quality features, plant nurseries, and solar farms.
- G. Sustainability features. Each development must incorporate six of the following sustainability features.
1. A vegetated ecoroof for stormwater management. An ecoroof covering twenty to forty percent of the total roof area shall count as one feature, and a roof covering more than forty percent of the total roof area shall count as two features.
 2. A white roof with a Solar Reflectance Index (SRI) of 78 or higher if the roof has a 3/12 roof pitch or less, or SRI of 29 or higher if the roof has a roof pitch greater than 3/12 covering a minimum of seventy-five percent of the total roof area.
 3. A system that collects rainwater for reuse on-site (e.g., site irrigation) designed to capture an amount of rainwater equivalent to the amount of stormwater anticipated to be generated by 50% of the total roof surface.
 4. An integrated solar panel system mounted on the roof or anywhere on site. A solar system with surface area equivalent to a minimum of twenty to forty percent of the total roof area shall count as one feature, and a solar system with surface area equivalent to forty percent or more of the total roof area shall count as two features.
 5. Use of native plant species selected from the Oregon City Native Plant List. Native plantings that cover twenty to thirty percent of the total landscaped area shall count as one feature, and plantings that cover thirty percent or more of the total landscaped area shall count as two features.
 6. Provision of pedestal or wall-mounted Level 2, two hundred forty-volt electric vehicle chargers, or similar alternative fueling stations as approved by the planning director, at a minimum ratio of one station per fifty vehicle parking spaces up to a maximum of five such stations.
 7. Permeable paving, which may include porous concrete, permeable pavers, or other pervious materials as approved by the city engineer. Permeable paving totaling twenty to forty percent of all paved surfaces shall count as one feature, and permeable paving of forty percent or more of all paved surfaces shall count as two features.
 8. Buildings LEED-certified by the U.S. Green Building Council at any level shall be counted as three features.
 9. Or an alternative that meets or exceeds the intent of the above code as approved by the Community Development Director through a Type II review.

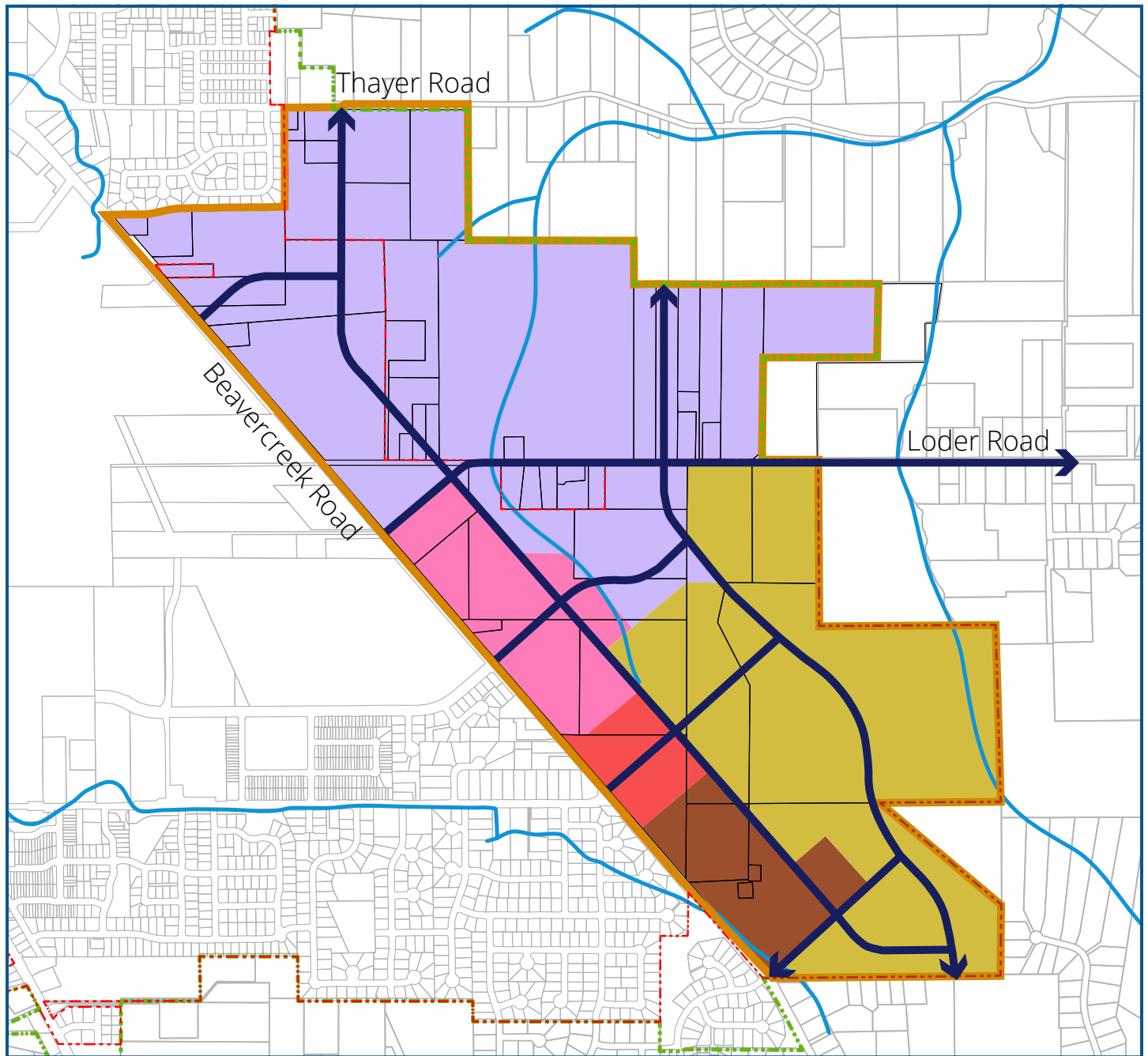
Chapter 17.62 Site Plan and Design Review

17.62.058 - Additional Public Park Requirements in Beavercreek Road Concept Plan area.

- A. Each development within the Beavercreek Road Concept Plan area that includes residential development must provide for land for neighborhood parks which meets the requirements of this section.
- B. The amount of land in acres dedicated for a park shall equal at least the following calculation: (2.6 persons per dwelling units) x (total number of dwelling units proposed in the development) x (8.0 acres) / (1,000 persons).
- C. The entire acreage must be dedicated prior to approval or as part of the site plan development approval for the first phase of development.
- D. If a larger area for a neighborhood park is proposed than is required based on the per-unit calculation described in subsection (A), the City must reimburse the applicant for the value of the amount of land that exceeds the required dedication based on the fee-in-lieu formula expressed in subsection (E)(1).
- E. The Planning Director may accept a fee-in-lieu as an alternative to this dedication at its discretion or may require a fee-in-lieu if a suitable site meeting the criteria described in subsection (F) of these provisions is not available with the development site. The calculation of the fee-in-lieu or other monetary contribution must meet the following standards.
 - 1. The amount of the fee in lieu or other monetary contribution is set in dollars per acre of required dedication and is equivalent to the appraised cost of land within the development site, as provided by a certified appraiser chosen by the City and with the assumption that zoning and other land use entitlement are in place.
 - 2. The fee-in-lieu or other monetary contribution must be paid prior to approval of the final development approval for each phase of development.
- F. Neighborhood park sites proposed for dedication must meet the following criteria.
 - 1. Located within the South Central Open Space Network as shown in Figure 16.08.042-1. Figure 17.62.058-1 (Same as proposed in OCMC 16.08.042.)
 - 2. Met either of the following standards:
 - a. Pearl standard. (To be developed.)
 - b. String standard. (To be developed.)

Beavercreek Road Concept Plan

Proposed Zoning and Comprehensive Plan Designations



Legend



BRCP Subdistrict	Comp Plan Designation	Zoning Designation	
West Mixed Use Neighborhood	High Density Residential	High Density Residential	R-2
East Mixed Use Neighborhood	Medium Density Residential	Medium Density Residential	R-5
Main Street	Mixed Use Corridor	Neighborhood Commercial	NC
Mixed Employment Village	Mixed Use Corridor	Mixed Use Corridor	MUC-2
North Employment Campus	Industrial	Campus Industrial	CI
		BRCP Boundary	
		Urban Growth Boundary	
		City Limits	
		Future Road Connections	
		Streams	

Proposed Zoning and Comprehensive Plan Designations





MEMO

Date: June 7, 2019
To: Laura Terway & Christina Robertson-Gardiner, City of Oregon City
From: Elizabeth Decker, JET Planning
Subject: Beaver Creek Road Concept Plan Implementing Zoning Code

Overview: Oregon City aims to further implementation of the Beaver Creek Road Concept Plan (BRCP) through comprehensive plan designation and zone mapping, and development code amendments, to complement the public vision, infrastructure, and economic development measures that have already been completed or planned east of Beaver Creek Road generally between Thayer Road and Old Acres Lane. Development of the 453-acre BRCP area is intended to create around 1,000 housing units and up to 5,000 family-wage jobs as part of a complete and sustainable community.

The overall strategy for implementing code is to use existing zones, rather than create a Beaver Creek Road area-specific overlay. The practice has been used to implement the City's other two concept plans. Several of the implementing zones proposed here were developed for concept plan areas, including the Neighborhood Commercial and the Residential Medium Density R-5 zone. Proposed zoning districts for each concept plan subdistrict include:

<i>Concept Plan Subdistrict</i>	<i>Zone</i>
North Employment Campus	Campus Institutional (CI)
Mixed Employment Village	Mixed-Use Corridor (MUC-2)
Main Street	Neighborhood Commercial (NC)
West Mixed-Use Neighborhood	High-Density Residential (R-2)
East Mixed-Use Neighborhood	Medium-Density Residential (R-5)
Environmentally Sensitive Restoration Area	Natural Resources Overlay District (NROD) Geological Hazard Overlay District (GHOD)

This memo provides a short introduction to the draft code amendments to implement the Concept Plan provisions. All of the base zone standards apply, in addition to the proposed code standards specific to each subdistrict described

below. Note that the proposed amendments incorporate the most recent code language from the Equitable Housing and other development code amendments currently under review by the City Commission.

OCMC 16.08, Land Divisions – Process and Standards

- Proposed code amendments include additional public park requirements or fee-in-lieu option to ensure land for the South Central Open Space Network is reserved and dedicated to the city at the time of residential subdivisions. This is expected to largely apply to development in the R-5 district.

OCMC 17.10, R-5 Medium Density Residential District (East Mixed-Use Neighborhood subdistrict)

- No changes are proposed to the mix of uses or dimensional standards in the zone beyond those proposed in the Equitable Housing code amendments.
- Standards for the Low-Impact Conservation Area implement the plan goals for the area upslope of Thimble Creek, on the eastern edge of the Beavercreek Road district. The proposed standards limit development to two units per acre, require open space preservation and restoration, and require view corridors to preserve views.
- A 40-foot perimeter buffer is proposed along the southern edge of the district including landscaping, setbacks and fencing, to manage the transition to lower-density residential development outside City limits along Old Acres Lane to the south.

OCMC 17.12, R-2 High Density Residential District (West Mixed-Use Neighborhood subdistrict)

- Allows additional uses consistent with the Concept Plan include live/work dwellings and limited commercial/mixed-use spaces.
- Provides up to a 20% density bonus for development incorporating sustainability features.
- Additional changes in 17.62 add requirement for additional public park dedication or fee-in-lieu, consistent with requirement for new subdivisions.

OCMC 17.24, MC Neighborhood Commercial District (Main Street subdistrict)

- Limits uses to a 10,000 SF building footprint to encourage pedestrian-scale, main street businesses. Limits residential uses to 50% of the project floor area, and prohibits ground-floor residential uses within 150 feet of Glen Oak Road (which will be the “main street.”) Adds a new use category for artisan and specialty goods production to allow limited manufacturing type uses.

- Increase dimensional standards to match scale proposed in the Concept Plan, including a five-story height limit and 0.5 FAR minimum.
- Improves building presence and interaction along the street by requiring parking to be located behind building facades.

OCMC 17.29, MUC Mixed-Use Corridor District (Mixed Employment Village subdistrict)

- Light industrial uses are permitted to implement the employment aspect of the vision for this subdistrict. Retail and service uses, including food service, are limited to 20% of a site to maintain the focus on employment uses generating family-wage jobs. Residential uses are limited to upper stories only.
- One parcel with an in-progress residential development is permitted outright, to avoid creating a nonconforming use.
- An additional dimensional standard implements a minimum 0.35 FAR for new development to ensure efficient use of land.

OCMC 17.31, CI Campus Institutional District (North Employment Campus subdistrict)

- Retail and professional service uses are limited consistent with Metro Title 4 requirements to preserve land for industrial uses. Offices are permitted consistent with uses outlined in the Concept Plan, whereas distribution and warehouse uses are prohibited because they create relatively few jobs per acre inconsistent with the plan goals.
- Several parcels with existing single-family residential development are permitted outright, to avoid creating nonconforming uses. (These parcels are outside of Title 4 lands, so there is no conflict with employment requirements.)
- Additional standards require landscaping, berms and fences within the required 25-foot transition area between industrial and residential uses.
- Outdoor storage is limited to a maximum of 25% of the developable area to avoid inefficient use of land that does not support employment plan goals.
- A minimum 30-foot open space and trail corridor is required along the powerline corridor. Additional parks, trails, urban agriculture and community garden uses are permitted consistent with the plan goals for uses within the powerline easement.
- Sustainable development features are required for all development to implement the plan's sustainability goals.

**OCMC 17.44, US – Geologic Hazards and OCMC 17.49 – Natural Resources
Overlay District**

- No changes are proposed to the geologic hazard or NROD standards for this district; resource areas within the concept plan area will be protected consistent with existing standards.

OCMC 17.62, Site Plan and Design Review

- Proposed code amendments include additional public park requirements or fee-in-lieu option to ensure land for the South Central Open Space Network is reserved and dedicated to the city at the time of residential subdivisions. This is intended to apply to any residential development in the R-2 or the mixed-use districts that does not get developed through subdivision.

To: Christina Robertson Gardiner, AICP
Planner
City of Oregon City
698 Warner Parrott Rd
Oregon City, Oregon 97045

From: Steve Faust, AICP
Project Manager

Date: June 7, 2019

Project Name:Beavercreek Road Concept Plan Implementation

Project No: 18510

RE: BRCP Land Use Map Changes

The City of Oregon City (City) has initiated a project to update the Oregon City Comprehensive Plan Map, Zoning Map and Municipal Code to allow planned housing and mixed-use development to occur in the 2008 Beavercreek Road Concept Plan (BRCP) area. Updates will apply zoning and map designations for properties within the BRCP area. The City, through a grant from the Oregon Department of Land Conservation and Development, has contracted with 3J Consulting to assist with this effort.

As part of the BRCP Implementation project, 3J Consulting has been tasked with applying and mapping zoning districts to implement the land use categories in the Concept Plan Map found on page 3 of the Beavercreek Road Concept Plan (Attachment A).

An initial Land Use Map approximating the lines on the 2008 Concept Plan Map was prepared on April 9, 2019 (Attachment B). This map was used as a starting point for making employment and dwelling unit projections for the BRCP area. Several modifications have been made to the June 7, 2019 Land Use Map to reflect taxlot and development realities while maintaining substantial compliance with the Concept Plan Map and the public comments heard to date. The following is a summary and justification of the changes made to the June 7, 2019 Land Use Map (Attachment C).

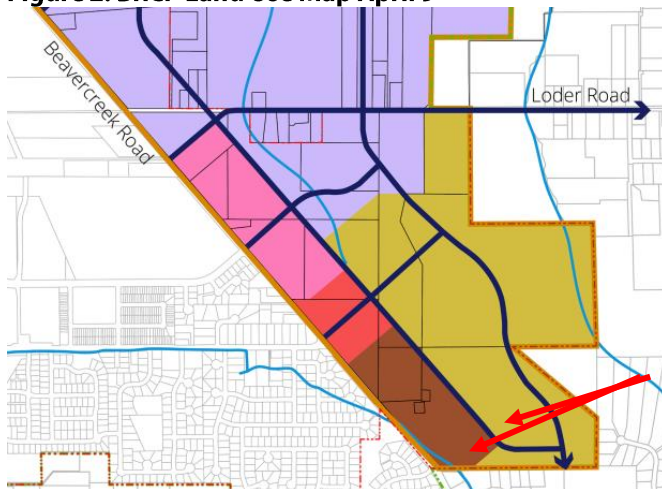


1. North of Old Acres Road – In response to concern from property owners about high-density residential development adjacent to Old Acres Road, the map is adjusted such that R-5 single family development is adjacent to that road. Additionally, some lands on the east edge of the R-2 district is extended across the street to allow for a "Neighborhood Focal Point" as identified in the plan.

Figure 1. BRCP Land Use Map Changes between April 9 and June 7, 2019



Figure 2. BRCP Land Use Map April 9

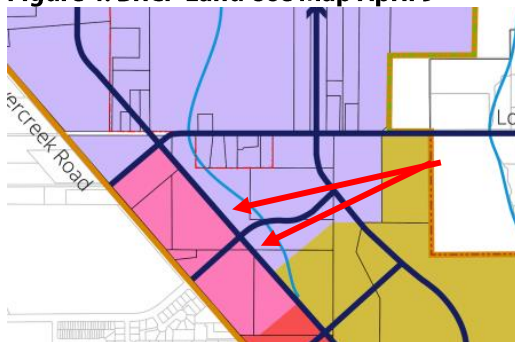


2. South of the Natural Resource Overlay District (NROD) in the South Central Open Space – the area north of the road parallel to Beaver Creek Road was originally zoned North Employment Campus (CI), but with the NROD and South Central Open Space overlays, there were two remnants that would be too small for industrial uses. The plan identifies this area as part of the Mixed-Employment district (MUC-2), so the boundaries are adjusted to make these remnants part of the MUC-2 district to better conform with the plan and avoid creating unusable lot remnants. Adjusted lines also conform with Title 4 identified lands to avoid conflict.

Figure 3. BRCP Land Use Map Changes between April 9 and June 7, 2019



Figure 4. BRCP Land Use Map April 9



3. South of Loder towards the eastern edge of the BRCP area – In response to concern from the public about the prevalence and location of industrial lands near residential areas, lands zoned CI south of Loder Road and northeast of the easternmost north-south connector are adjusted to R-5. There is a small area that is Title 4 identified lands and is not adjusted.

Figure 5. BRCP Land Use Map Changes between April 9 and June 7, 2019

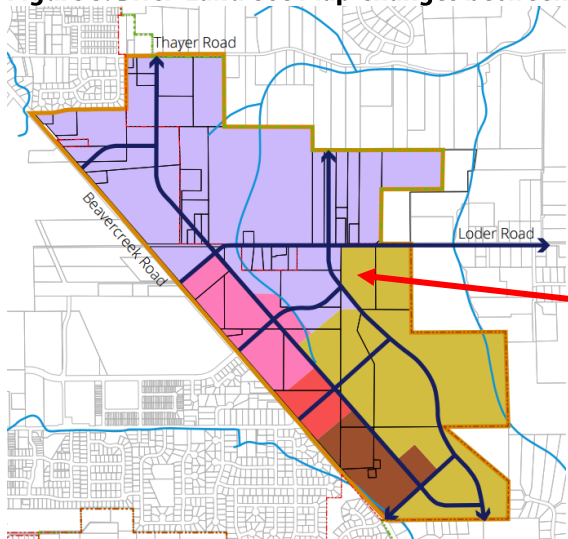
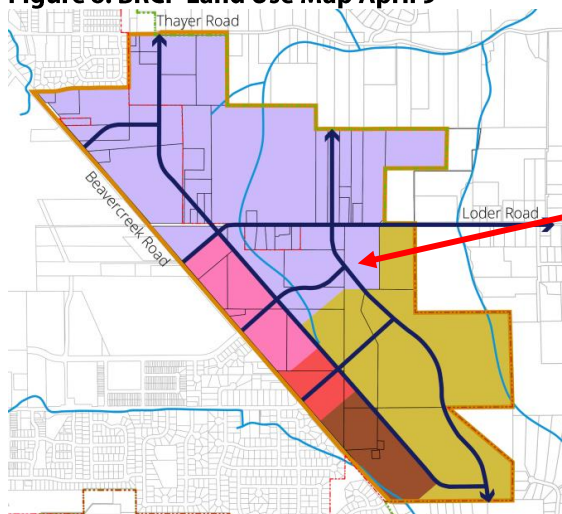


Figure 6. BRCP Land Use Map April 9



At the request of land owners with property north of Loder Road, 3J examined the possibility of changing zoning designations from employment to residential. Lands in the BRCP area north of Loder Road are designated as Metro Title 4 Industrial Lands (<https://www.oregonmetro.gov/industrial-and-employment-land>) which prohibit residential uses and thus this request could not be considered.

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Beavercreek Road Concept Plan Implementation Acreage Estimate June 28th, 2019

Purpose

This document outlines the revised land use acreage estimates for the Beavercreek Road Concept Plan Implementation.

Estimated Net Acreage and Residential Units

Land Use Category	Adj. Gross Ac¹	Net Ac	Units
West Mixed Use Neighborhood	13.3	12.1	264
East Mixed Use Neighborhood	69.6	64.5	645
Slopes 25-35% ² or Low Impact ³	16.9	15.9	32
Main Street	7.2	6.6	165
Mixed Employment Village	28.3	25.5	
North Employment Campus	150.6	132.1	
Slopes 25-35%	3.3	3.0	
<i>Subtotal</i>	<i>289.2</i>	<i>259.6</i>	
Other Land Uses			
Parks/Open Space ⁴	110.0	110.0	
Major and Minor ROW ⁵	49.4	79.0	
<i>Subtotal</i>	<i>159.4</i>	<i>189.0</i>	
Total	448.6	448.6	1105

¹ Adjusted gross acreage excludes Major right-of-way and parks/open space identified in the Beavercreek Concept Plan. The estimate also excludes existing right-of-way along Beavercreek Road, Thayer Road and Loder Road, except for a portion of Loder Road that will be vacated and available for development once the road is realigned.

² Development on slopes between 25-35% is limited to 2 units per acre.

³ The low-impact/conservation zone is limited to 2 units per acre and is thus consolidated with lands with slopes between 25-35%.

⁴ Parks/Open space includes NROD, 50% of the Powerline Corridor, lands with slopes greater than 35%, and parkland dedications calculated at 8 acres per 1,000 residents. Estimated residents is calculated by estimating the total number of units and multiplying that number by the median household size based on ACS 2013-2017 data.

⁵ Major right-of-way includes roadbeds identified in the BRCP Concept Plan. Minor right-of-way is calculated as an additional percentage of 10% for employment lands and 6% for lands with residential uses.

DATE: June 21, 2019
TO: Christina Robertson-Gardner, City of Oregon City; Steve Faust, 3J Consulting
FROM: Bob Parker and Matt Craigie, ECONorthwest
SUBJECT: Beavercreek Road Concept Plan - Zoned Capacity Analysis - REVISED

The City of Oregon City contracted ECONorthwest to review and verify previous analyses conducted for the Beavercreek Road Concept Plan. The purpose of the project is to determine if the Beavercreek Road Planning Area—as planned—will have the future zoned capacity to accommodate the Plan’s projected number of jobs. In its simplest terms, this analysis is about fit and capacity. The key question is whether the zoning regulations that are being put in place over the Planning Area will actually allow for the 5,000 estimated jobs to occupy future buildings in the area. This analysis does not account for current or projected future market trends; it is exclusively focused on the examination of land use regulations and their implications for job capacity.

Findings

Our analysis shows that the Beavercreek Road Planning Area will have sufficient zoned capacity to accommodate estimated future employment growth. Under current zoning standards, the Planning Area at full build-out will be able to accommodate between 5,700 and 11,700 jobs (Exhibit 1, Rounded). These capacity levels are 15% to 131% more than the targeted 5,000 jobs for the Planning Area. Economic conditions will determine how the area is eventually built out, but zoned capacity is adequate to allow for a range of future job numbers that are at or above desired employment levels as described in the Beavercreek Road Concept Plan.

Exhibit 1. Beavercreek Planning Area, Zoned Capacity.

Sub-District	Maximum Zoned Job Capacity	Zoned Job Capacity with Market Considerations
Main Street	727	352
Mixed Employment Village	2,827	1,399
North Employment Campus	8,169	3,983
Total	11,723	5,734

Source: ECONorthwest

Our zoned capacity model was built using Oregon City’s current zoning standards. Here we present two capacity estimates:

- First, **the maximum job capacity** for the area shows the total number of jobs that could fit in the area under current regulations.
- Second, the lower estimate—**Job Capacity with Market Considerations**—illustrates another interpretation of Oregon City’s zoning regulations. In this second scenario, we have further restricted the scale of allowable development by: (1) modeling an underbuilt of total development as a result of insufficient parking areas, and (2) dedicating a higher percentage of area on individual parcels to internal rights of way,

ingress/egress space, and private streets. This is intended to reflect potential market conditions that would reduce the amount of built space, and as a result, the number of employees.

The maximum zoned capacity scenario is a true maximum; meaning that this estimate is modeling the highest density of employment permissible by zoning regulations and standards, without any consideration for how employment areas generally get developed. For example, the maximum scenario assumes over 8,000 jobs in the North Employment Campus area. To accomplish this scale of development would require the development of acres upon acres of four-story office buildings that have relatively little parking area. Although permissible, this scenario is unlikely to occur and therefore is a poor estimate of the actual zoned capacity of the Planning Area.

The more restrictive scenario presents a situation where development scale is linked to our observations of the density of other similar industrial areas across the Portland region and therefore better reflects what one could expect to happen in the Beavercreek Planning Area. For this scenario, we have adapted parking ratios to those generally demanded in the marketplace and deducted some internal area of parcels for circulation space and other rights of way. The large size of some parcels, especially inside the North Employment Campus (NEC), would warrant these internal spaces dedicated to transportation flow and parking.

For example, many flex-industrial buildings—a desired development type for the NEC—are two story buildings with multiple tenants. These “flex” buildings are built to flexibly adapt to the needs of different tenants. They are built with adaptable internal build-outs (e.g. varying amounts of office and warehouse space) and feature enough parking for employees as well as truck loading/unloading, circulation, and outdoor storage. Therefore, it is common to see flex buildings with not just enough parking and circulation space for employees that are coming and going from work, but to accommodate a wider variety of truck space, outdoor storage space, and general circulation space. In our model, we reflect these common observations by both increasing the parking ratio and reducing the number of stories for buildings in the NEC. These changes bring the potential development scale for the NEC in line with the maximum build-out observed in other industrial areas of the region.

With these changes, the restrictive—and more realistic—scenario shows a zoned capacity of the Planning Area to be reduced from the maximum scenario (11,723 down to 5,734). Despite the reduction, there still is adequate space to accommodate the 5,000 projected jobs.

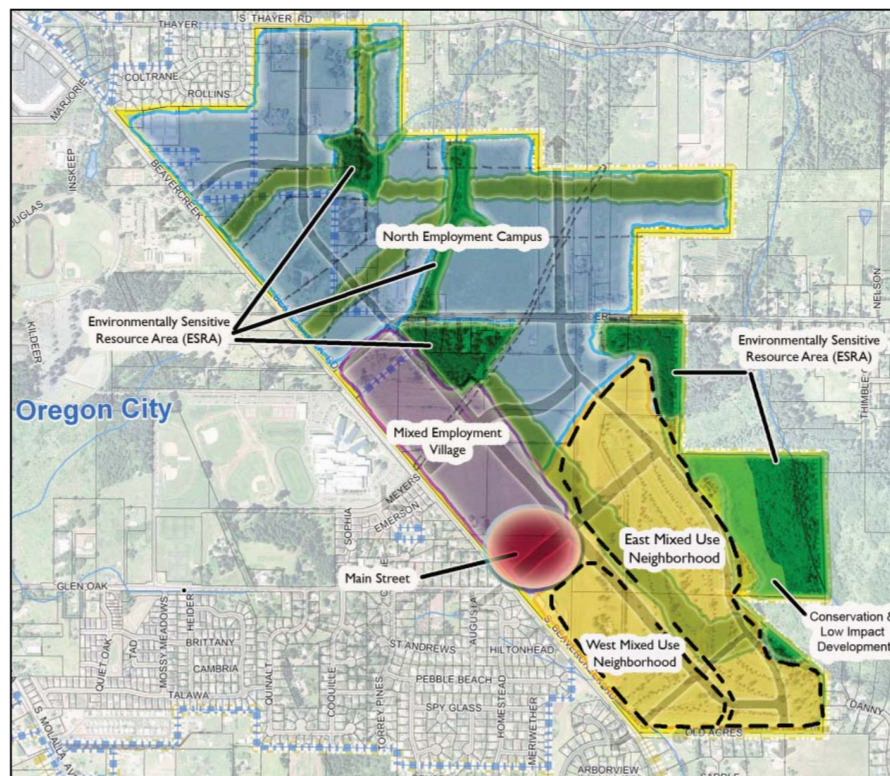
Economic and market trends will inform the type, scale, and demands of future development of the Beavercreek Planning Area. Whatever development does eventually get built in the area, our analysis shows that zoning regulations and standards will allow for enough developable space for the desired amount of employment.

Background

In 2008, Oregon City contracted the consulting firm Otak, in collaboration with several consultants (including ECONorthwest), to develop a concept plan¹ for a 453-acre site in the southeast area Oregon City. The Plan envisioned a diverse mix of uses, organized by five sub-districts (see Exhibit 2).

Exhibit 2. Land Use Sub-Districts for Beavercreek Road Concept Plan

Source: Beavercreek Road Concept Plan, Envision a Complete and Sustainable Community, 2008.



The five subareas are summarized as follows:

1. **North Employment Campus (NEC)** allows clean industries, offices servicing industrial needs, light industrial uses, research and development, and large corporate headquarters.
2. **Mixed Employment Village (MEV)** allows retail and offices (including civic and residential uses).
3. **Main Street (MS)** allows small scale commercial and mixed-use services.
4. **West Mixed-Use Neighborhood (WMU)** allows live/work units, mixed use buildings, limited commercial uses, and—to a larger extent—housing.

¹ Beavercreek Road Concept Plan, Envision a Complete and Sustainable Community, 2008.

5. East Mixed-Use Neighborhood (EMU) primarily allows housing.

At present, Oregon City is revisiting the concept plan as a step toward the Plan's implementation. The City has asked several consultants to review and analyze select parts of the concept plan to verify the veracity of its underlying analyses. A key aspect of this effort is to understand whether the Planning Area will have the zoned capacity to accommodate the Plan's stated number of future jobs. ECONorthwest was assigned this task. To answer this key question of zoned capacity, we reviewed the findings of the 2008 work and conducted additional analyses. Our approach and a description of our analysis is outlined in the next section.

Approach

Our approach to this analysis had a few steps. These included:

- **Collecting and verifying data.** The first step involved gathering applicable data from the Plan, from the City, and other sources. Employment projections come directly from The Plan. The Plan identified an estimated capacity for approximately 5,000 jobs (for reference, the output table from the Plan is presented in Appendix A).

We also compiled an organized list of Oregon City's development codes, standards, and regulations from the City's current municipal code. These regulatory standards were used to create our zoned capacity model.

- **Developing a zoned capacity model.** Using Oregon City's development code and standards, we generated a catalogue of zoning requirements and limitations for each zoning designation that comprises the five sub-districts of the Planning Area. With this information, we developed a model that calculates the maximum job capacity for each sub-district. To calibrate the model to likely future outcomes, we relied on planning and development assumptions taken from our observations of similar fully built-out areas around the Portland Metropolitan region.²
- **Reconciling zoned capacity model output with future employment projections.** This step formed the central part of our analysis. In this step, we used the output of the zoned capacity model—the job capacity for each subarea of the Planning Area—and matched those outputs to future employment projections.

A more detailed description of our analysis is presented in the next section.

² Key assumptions for this analysis, include: actual parking ratios, percent of parcels that achieve full build-out, common building to land ratios, among others.

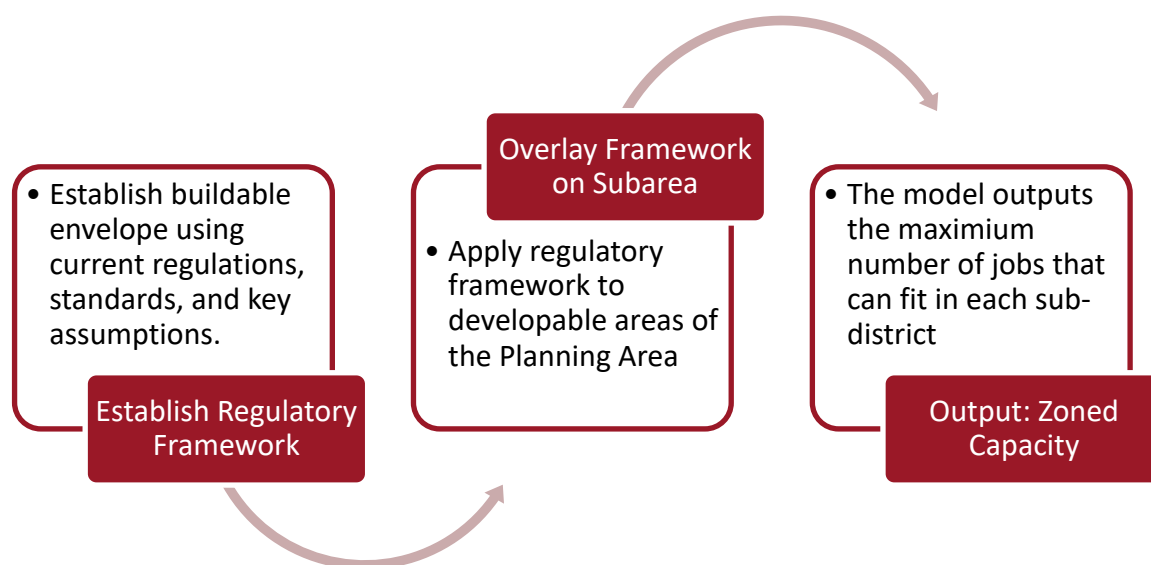
Description of Zoned Capacity Analysis

The Model

To understand the future capacity of jobs in the Beavercreek Road Planning Area, we built a model that mimics zoning regulations and standards for the expected land use zones to be applied to the Planning Area sub-districts. The model works by taking key inputs and assumptions about the regulatory framework that will govern land uses in the Planning Area and overlaying them across the developable land of the area. The output of the model is the maximum zoned capacity for jobs within the Planning Area (See Exhibit 3).

Exhibit 3: Zoned Capacity Model Process

Source: ECONorthwest.



Key Model Inputs and Assumptions

To arrive at an accurate understanding of the zoned capacity for jobs of any to-be-developed area requires a large set of inputs and assumptions. For this type of analysis, the type of inputs and assumptions are related to regulations and standards that will guide the development of new buildings and their supportive elements (e.g. parking). Some inputs are rigid and unlikely to change, such as maximum building heights or setbacks. Assumptions are more qualitative and require specialized knowledge about aspects of how real estate gets developed. Inputs and assumptions also have a varied impact on the output of the model. Some, like parking ratios, have a strong influence on the model's output. Others have less of an impact. Below we describe inputs and assumptions that have a major impact on the model's output.

-
- **Dimensional standards.** Dimensional standards define the maximum “box” that a building can fill on a parcel. These standards are determined through setbacks, maximum building heights, landscaping requirements, and other restrictions.

Source: City of Oregon City Development Code.

- **Employment density.** This assumption describes the relationship between build-area (area inside buildings) and the number of jobs that fill those spaces. This assumption is typically described as jobs per square feet of building area. This is a key metric for this analysis. The smaller the number, the higher the job density. Larger numbers mean fewer jobs per building area, and therefore fewer jobs overall.

Source: Metro Employment Density Study, ECONorthwest.

- **Parking ratios.** The amount of automobile parking that is available for a new development is a key factor in determining its viability. Whether capped by regulations or demanded by the market, new developments need a certain amount of parking to attract funding and become economically successful land uses. Most cities, Oregon City included, provide regulations about the minimum and maximum amount of parking for new developments. Sometimes these regulations are perceived to be out of sync with what the real estate market demands. This can happen when urban, transit served developments are required to have “too much” parking. Or when suburban areas with little accessibility do not have sufficient land for necessary parking to support new development.

In our observations of real estate development, one of the primary reasons that development projects get “under-built”, or do not achieve the building height or scale otherwise permissible by development regulations, is too little provision of on-site parking. For this analysis, we have used Oregon City’s parking regulations as a general guide for the amount of parking that will be required to accompany new developments in the Planning Area.

Source: City of Oregon City, ECONorthwest.

- **Parcel size and building to land ratios.** The Beavercreek Planning Area of tomorrow is expected to look remarkably different than it does today. As it develops, property owners will sell to developers who, in many cases, will aggregate several parcels of land to create a “developable parcel” for their specific desired land use. To understand what size these future parcels may be and to what extent they will be covered with a building footprint, we observed several areas of the Portland region that contain similar land uses to those proposed for the Planning Area. These observations, combined with our knowledge of specific types of development elsewhere, formed our assumptions for future parcels sizes and building to land ratios.

Source: ECONorthwest.

- **Maximum build-out and “under-build”.** Each developable piece of land has an invisible envelope or “box” that forms the vertical area in space that a building can

occupy. This box is determined by the zoning regulations and standards that govern the land use of that property. Building to full capacity would mean that this box is entirely filled with building area. Many times, developers “under-build” or chose to not fully take advantage of all of the vertical buildable space available to them. In an economic sense, it would be advantageous for a developer to build as much building area as she could lease or sell. If some of this building area does not contribute economically to her pro forma or if it is hard to lease or sell, she may choose to build a smaller building. As stated in the parking ratios description, we commonly observe that developers chose to under-build their properties when they are unable to secure access to a sufficient level of parking.

For this analysis, we have assumed that many of the future developable parcels will under-build for lack of parking or other reasons. This is in-line with our observations of developed areas that are similar to the Planning Area in other parts of the Portland region.

- **Source:** ECONorthwest

Key Data

This analysis is focused on one key question: Will the future regulatory environment of the Beavercreek Planning Area allow enough buildable area to accommodate the projected number of future jobs for this area. To answer this question, we relied upon data from the several sources. Key data to this analysis are as follows:

- **Projected Jobs for the Planning Area.** We have relied on the projected number of jobs for the Beavercreek Planning Area as stated in The Plan. The Plan identified an estimated capacity for approximately 5,000 jobs (for reference, the output table from the Plan is presented in Appendix A).

This number of jobs—5,000—is a key data point for this work. It is the number of jobs that we are trying to fit into the Beavercreek Planning Area.

- **Planning Area Size and Developable Acres.** The Planning Area is approximately 449 acres in total size (gross size). Per the Plan, of this 449, there are 241 net developable acres. The difference between 449 and 241 includes roads, easements, wetlands, and other undevelopable lands.

Together the (1) projected job numbers, and (2) the developable area within the Planning Area form the two key data points for this analysis. These data can be further divided by sub-district of the Planning Area (See Exhibit 4). This is an important point; each sub-district has its own employment projections and will have its own zoning regulations.

Exhibit 4. Beavercreek Planning Area Sub-Districts: Estimated Jobs and Net Areas (Acres)³⁴

Source: City of Oregon City, ECONorthwest.

Planning Area Sub-District	Estimated Jobs	Net Developable Acres
North Employment Campus (NEC)	3,678	132
Mixed Employment Village (MEV)	1,139	26
Main Street	219	7
West Mixed-Use Neighborhood	15	12
East Mixed-use Neighborhood	21	65
Totals	5,073	241

Findings

See the first page of this report for a discussion of our findings.

³ Rounding of numbers may result in approximate totals. *Note: The acreage estimates do not exactly align with those in Exhibit 6. Acreages in Exhibit 6 have been reevaluated since the time of The Plan. In our analysis, we are using the latest size estimates provided by the City of Oregon City.*

⁴ We concentrated our analyses on the three sub-districts with significant employment projections. The mixed-use neighborhoods have been excluded from our analyses.

Appendix A. Employment Estimates, 2008

The Beavercreek Road Concept plan estimated employment capacity at approximately 5,000 jobs (33 jobs per net acre).

Exhibit 5. Employment Estimates, Beavercreek Road Planning Area

Source: Beavercreek Road Concept Plan, Envision a Complete and Sustainable Community (pg. 42), 2008.

Land Use Category	Hybrid Gross Acres	Hybrid Net Acres*	FAR/Acre**	SF/Job**	# of Jobs***	Avg. Units/Acre	# of Units+
North Employment Campus (adjusted gross acreage)	149	127	0.3	450	3,678		
Mixed Employment Village	26	21	0.44	350	1,139		
Main Street****	10	8	0.44	350	219	25	100
West Mixed Use Neighborhood	22	18			15	22	387
East Mixed Use Neighborhood	77	62			21	8.7	536
Total # of Jobs					5,073		
Total # of Housing Units							1,023
Total Acres of Developed Land++	284	235					

*For Hybrid - Net acres equals gross acres minus 15% for local roads and easements in Employment. Mixed Employment, Mixed Use, and residential areas assume 20% for local roads and easements

**Based on Metro 2002-2022 Urban Growth Report: An Employment Land Need Analysis. Includes total on site employment (full and part time). Mixed Employment FAR and job density reflects a mix of office, tech/flex, and ground floor retail.

***Number of Jobs in Employment, Mixed Employment, Mixed Use calculated by multiplying total acres by the FAR; Converting to square feet; and dividing by number of jobs/square foot. Jobs in residential areas (Work at Home Jobs) estimated at 4% (potential could be as high as 15%).

**** Mixed Use land use assumes 50% of acreage devoted to commercial uses and the remaining 50% devoted to vertical mixed use.

+Number of units calculated by multiplying total net acres of residential land use by average units per acre

++Includes 50% of useable power line corridor (26 acres total) as part of developed land (included in Employment land area)

+++Does not include powerline corridor acreage as part of developed land



TECHNICAL MEMORANDUM

To: Christina Robertson-Gardiner, AICP
Oregon City Senior Planner

John M. Lewis
Oregon City Public Works Director

From: Aaron Murphy, P.E.
Steve Faust, AICP

Date: June 19, 2019

Project Name: Beaver Creek Road Concept Plan Implementation –
Zoning and Code Amendments
Project No: 18510.70
RE: Infrastructure Memo

The City of Oregon City (City) has initiated a project to update the Oregon City Comprehensive Plan Map, Zoning Map and Municipal Code to allow planned housing and mixed-use development to occur in the Beaver Creek Road Concept Plan (BRCP) area. Updates will apply zoning and map designations for properties within the BRCP area.

As part of the BRCP Implementation project, 3J Consulting has been tasked to review the City's water distribution, sanitary sewer and stormwater master plans and comment on the adequacy of current and planned infrastructure to support the number of new dwelling units and employees that are projected in the BRCP and will be formalized through the zone change.

Beaver Creek Road Master Plan

The Beaver Creek Road Concept Plan (BRCP) is a guide to the creation of a complete and sustainable neighborhood in southeast Oregon City. The plan, adopted in 2008 and again in 2016, provides a framework for urbanization of 453 acres within the urban growth boundary including a diverse mix of uses (an employment campus north of Loder Road, mixed use districts along Beaver Creek Road, and two mixed use neighborhoods), all woven together by open space, trails, a network of green streets, and sustainable development practices. The plan has been carefully crafted to create a multi-use community linking Clackamas Community College, Oregon City High School, and adjacent neighborhoods together.

The BRCP includes Housing and Employment Estimates for the various land use categories:

Land Use Category	Number of Jobs	Number of Dwelling Units
North Employment Campus	3,678	-----
Mixed Employment Village	1,139	-----
Main Street	219	100
West Mixed Use Neighborhood	15	387
East Mixed Use Neighborhood	21	536
Total	5,073	1,023

Updated projections based on land use maps developed for this project to implement the BRCP estimate the number of dwelling units at 1,105 and jobs at 5,734. We do not consider the change reflected in the revisions to be significant and therefore do not impact the findings of this memorandum.

Zone Change Criteria

The relevant criteria (17.68.020) for a zone change are set forth as follows:

B. That public facilities and services (water, sewer, storm drainage, transportation, schools, police and fire protection) are presently capable of supporting the uses allowed by the zone, or can be made available prior to issuing a certificate of occupancy. Service shall be sufficient to support the range of uses and development allowed by the zone.

This memorandum reflects a first look at the adequacy of current and planned infrastructure to meet the needs of future development. A more detailed look at existing conditions will be needed at the time of development to identify capital improvements needed to show consistency with the Master Plan.

Major Findings

The Sanitary Sewer (2014), Stormwater (2019 Draft) and Water Distribution (2012) Master Plans were all created subsequent to initial adoption of the Beavercreek Road Concept Plan (2008). Each master plan incorporates the BRCP area into future capital improvement projections, but methodologies vary among plans. This conclusion was confirmed through a conversation with Oregon City Public Works Director, John Lewis.

Sanitary Sewer Master Plan (SSMP)

Figure 5-8 on page 5-11 of the 2014 Sanitary Sewer Master Plan refers specifically to the projected Housing and Employment Estimates on page 42 of the BRCP.

Stormwater Master Plan (SWMP)

The Draft 2019 Oregon City Stormwater Master Plan includes the BRCP area, which is part of the Newell Creek Basin, but does not identify any capital improvement projects specifically related to the BRCP. The Plan states that the eventual layout of the stormwater conveyance systems and management facilities will be crafted through the preliminary and final design process for the BRCP area.

Water Distribution Master Plan (WDMP)

The 2019 Technical Memorandum - Oregon City Water Distribution System Capital Improvement Program Update was prepared to provide an update to the 2012 WDMP, including a list of capital improvements. Page 21 of the memo specifically discusses Beavercreek Road development and defines the City's pressure zones that encompass the BRCP.

Economic, Social, Environmental and Energy (ESEE) Analysis

The ESEE consequences that can occur within the proposed MUC, NC, CI, R-5 and R-2 zoning will not result in a greater conflict to the Goal 5 resource mapped on the site over the current FU-10 zoning. The change in zoning from FU-10 to MUC, NC, CI, R-5 and R-2 may result in lesser amounts of environmental and energy consequences; however, MUC, NC, CI, R-5 and R-2 has opportunity to provide increased economic and social benefits. Mixed use centers allow City residents to live near their work, which tends to reduce vehicle use, which minimizes potential air, water and energy quality impacts.

The Goal 5 resources mapped on the site is protected under Chapter 17.49 Natural Resource Overlay District of the City's code of ordinances, regardless of site zoning. Chapter 17.49 of Oregon City code is compliant with Metro's Title 3 and 13 lands and the Statewide Planning Goal 5. Therefore, the potential for increased levels of impervious surfaces and vegetation loss associated with MUC, NC, CI, R-5 and R-2 development activities will be protected and if necessary mitigated through local permitting compliant with Chapter 17.49.



Master Plan Summaries

Sanitary Sewer Master Plan

A Sanitary Sewer Master Plan (SSMP) was prepared by Brown & Caldwell in November 2014. Section 5.2.3.4 of the SSMP focuses on the BRCP area. Table 5-8 of the SSMP references land use designations and the associated gross areas of the BRCP area to calculate sanitary flows to ultimately size pipe diameters and slopes.

Table 5-9 of the SSMP identifies the BRCP area Estimated Improvement Costs for Capital Improvement Plan (CIP) projects is \$15,580,000. This amount includes a 50% allowance for construction contingencies.

The CIP list specifically related to the BRCP area includes:

- Gravity Sewer Extensions (8"-15")
- Two (2) pump stations and associated force mains (BR-1 & BR-2)

Since the SSMP was published, improvements have been completed according to an email provided by Bob Balgos from the City dated March 25, 2019. These improvements include:

- 12" sanitary sewer extension south along Beavercreek Road near the north-end of the Oregon City High School property boundary.

Also identified in the email, City staff have identified construction proposed in 2019-2020:

- 12" sanitary sewer extension in conjunction with the Villages at Beavercreek Development located opposite Meyers Road on the east side of Beavercreek Road. The extension will be completed from the north-end of the Oregon City High School through the entire frontage of Villages at Beavercreek.

Further assessment of the CIP project amount will be necessary to include:

- Completed infrastructure upgrades such as Capital Improvement Projects (CIP), development etc.
- Anticipated infrastructure upgrades such as CIP projects or development such as Villages at Beavercreek
- Inflation and construction cost increases to current dollars.

Stormwater Master Plan

Five (5) Stormwater Master Plans (SWMP) were reviewed:

- Drainage Master Plan, OTAK 1988
- South End Basin Master Plan, Kampe Associates, Inc. 1997
- Caulfield Basin Master Plan, Kampe Associates, Inc. 1997
- Park Place Basin Master Plan, Kampe Associates, Inc. 1997
- Draft Oregon City Stormwater Master Plan. Brown and Caldwell, 2019

The BRCP area largely falls within the Newell Creek Basin. The Draft 2019 SWMP does not specifically reference the BRCP area, but the overall assessment does include recommendations for improvements for the Newell Creek Basin. The City's stormwater treatment and detention methods apply for all current and future development of the BRCP area.

Page 2-7 references the Beaver Creek Road Concept Plan and states that the concept plan "outlines basic assumptions for the type and quantities of stormwater infrastructure that may be required to develop the planning area. These assumptions are useful for fiscal planning, but the eventual layout of the stormwater conveyance systems and management facilities will be crafted through the preliminary and final design process for [the BRCP] area."



Low Impact Development (LID) Green Streets are identified for the Beavercreek Road Concept Plan area. The City is currently working on creating green street standards that will be applicable for both the South End and Beavercreek Concept Plan areas. These standards will be based on the identified street sections found in the Concept Plans and are being designed to meet the standards of the draft Storm water Manual. Adoption of these standards will occur in Fall 2019.

Water Distribution Master Plan

A Water Distribution Master Plan (WDMP) was prepared by West Yost Associates in January 2012. Although the WDMP does not specifically reference the BRCP area, the overall assessment does include recommendations for improvements that includes the UGB boundary that encompasses BRCP.

A Technical Memorandum - Oregon City Water Distribution System Capital Improvement Program Update (TM) was prepared by Murraysmith in March 2019. The TM was prepared to provide an update to the WMP produced in 2012, including a list of capital improvements and updated costs from 2009 to 2018 dollars. Page 21 of the memo specifically discusses BRCP area development and defines the City's pressure zones that encompass this area as Upper Zone and Fairway Downs Zone.

Table 17 of the TM identifies the updated CIP list and cost estimate including the improvements required for the City's Upper and Fairway Downs Zones for the BRCP area. The total estimated cost for CIP projects specific to BRCP area total \$14,018,000.

The CIP project list includes:

- New Upper Zone distribution
- New Fairway Downs distribution
- New PRV between Fairway Downs and Upper Zone
- New Fairway Downs Reservoir
- New Fairway Downs Pump Station
- New Fairway Downs Transmission
- Transfer existing Henrici transmission to Fairway Downs transmission

The City and Clackamas River Water (CRW) share the need to serve current and future customers at adjoining service area boundaries within the BRCP area.

A Technical Memorandum – Clackamas River Water / City of Oregon City Joint Engineering Analysis Water Service Dual Interest Area Technical Analysis (TM2) was prepared by Murraysmith in June 2018. TM2 identifies opportunities for shared infrastructure partnerships which could ultimately provide a more cost-effective solution to both the City and CRW, see Table 3 of TM2.

The City is preparing a concurrent study to ensure the City can serve the BRCP area in the case that the City and CRW are not able to agree on a partnership to serve the area.

Economic, Social, Environmental and Energy (ESEE) Analysis

As part of a Zone Change analysis, the city requires substantial evidence that the possibility of land use development activities allowed under the new zoning (MUC, NC, CI, R-5 and R-2) will not result in a greater impact on the Goal 5 resources mapped on the site over the existing Future Urban (FU-10) land use development activities.

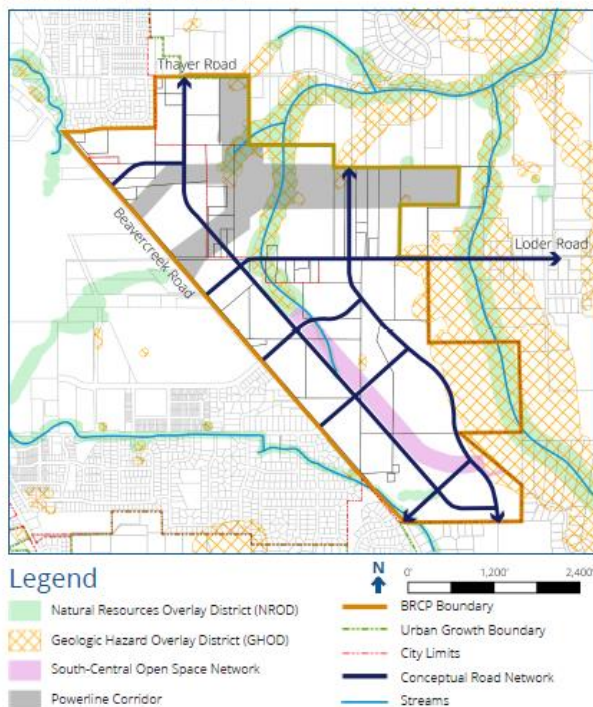
The ESEE analysis involves evaluating the potential tradeoffs associated with different levels of natural resource protection that could be established by the City. As required by the Goal 5 rule (OAR 660-015-0000(5)), the evaluation process involves identifying the consequences of allowing, limiting or prohibiting conflicting uses in areas containing significant natural resources. The rule requires that this analysis be completed before actions are taken to protect or not protect natural resources that are identified in inventory and determined to be significant. Specifically, the rule requires the following steps:



1. Identify conflicting uses – A conflicting use is a land use or activity that may negatively impact natural resources.
2. Determine impact area – The impact area represents the extent to which land uses or activities in areas adjacent to natural resources could negatively impact those resources. The impact area identifies the geographic limits within which to conduct the ESEE analysis.
3. Analyze the ESEE consequences – The ESEE analysis considers the consequences of a decision to either fully protect natural resources; fully allow conflicting uses; or limit the conflicting uses. The analysis looks at the consequences of these options for both development and natural resources.
4. Develop a program – The results of the ESEE analysis are used to generate recommendations or an “ESEE decision.” The ESEE decision sets the direction for how and under what circumstances the local program will protect significant natural resources.

Beavercreek Road Concept Plan

Development Constraints



Based on information provided in Exhibit 3 Economic, Social, Environmental and Energy (ESEE) Phase 1 Analysis of Metro's April 2005 UGB Growth Management Functional Plan ordinance, the section below describes the potential conflicting uses associated with the proposed zone designations could have the greater potential to have an adverse effect on the functions and values of the Goal 5 resource mapped on properties located within the Beavercreek Road Concept Plan area which include Thimble Creek and an unnamed tributary to Thimble Creek. Note the zoning themselves are not conflicting uses.

It is the development activities and other disturbances permitted under the zoning that potentially conflicts with the functions and values associated with the Goal 5 resource. The City of Oregon City developed their Chapter 17.49 Title 13 regulations based on Metro's UGB Management Function Plan. Therefore, the ESEE analysis provided below is consistent with Oregon City's Goal 5 ordinance.

Economic Consequences

FU-10 – May provide increased adjacent property value. Large Lots associated with FU 10 zoning will retain more vegetation and tree cover than the new zones associated with the Beavercreek Road Concept Plan activities; however, does not provide an overall economic value to the community.

R-5 & R-2- These medium density and high density zones can provide a response to the known regional problem of limited housing supply and skyrocketing housing prices affecting the Portland Metro Area and Oregon City. There is a mismatch between supply and demand of housing that is leading to limited availability and affordability challenges for many households. Looking at the latest census data, in Oregon City, 71% of residential units are single-family detached homes, dominating the housing market. All other housing types make up 29% of the housing options, combined, ranging from manufactured homes and floating homes to 20-unit apartment complexes.

Housing prices are increasingly unaffordable, which is typically defined as spending more than 35% of household income on housing. Almost 24% of homeowners with a mortgage have unaffordable costs, and over 40% of renters can't afford housing costs. Overall, one in four households are struggling to pay for housing. Single-family detached homes, a traditional free-standing house with a yard and space for 3.2 children, dominate the supply but comes at a high cost that is increasingly out of reach, leading to homelessness in some cases. With smaller households more and more common, the city's needs don't match the homes available. Additional housing choices that include duplexes, tri-plexes, townhomes, apartments and cluster housing can provide alternatives to the predominate single family housing model found in Oregon City.

MUC, NC and CI – Enhances the potential for local economic development. The zone change supports Metro's Growth Concept Plan underlying goals to provide employment, income, and related tax benefits to local community.

Summary: While FU-10 may result in less vegetation removal, the MUC, ND, CI, R-2 and R-5 land uses provides a greater economic benefit to the community through increased housing options, employment and educational opportunities and reduced transportation facilities and utilities. These zones promote more efficient use of land, minimizing urban sprawl.

Therefore, the conflicting uses associated with MUC, NC, CI, R-5 and R-2 development activities provides a greater economic benefit, outweighing the FU-10 conflicting uses.

Social Consequences

FU-10 —Goal 5 resource provides natural stress relief to employment occupants. The R-2, R-5, ND, CI and MUC-2 land uses may also provide potential public educational and recreational benefit though passive open space viewing and the ability to dedicate future park space as development occurs within the BRCP area; however, there is a potential to reduce the scenic value.

Summary- Change in conflicting use zoning from FU-10 may provide an increased social benefit to Oregon City.

Environmental Consequences

FU-10—Impacts to Goal 5 resources and associated Impact Area (buffer) for FU-10 development may require: removal of native vegetation; non-native landscaping; pesticide and fertilizer use; and pets which tend to degrade habitat and water quality.

MUC, NC, CI, R-5 and R-2 can create larger building footprints than FU-10 which may result in increased vegetation removal; however, MUC, NC and CI offer decreased VMT (vehicle miles traveled) which reduces overall water quality impacts in the local watershed. Minimal light and glare into Goal 5 resource and buffer. Provides overall moderate to high imperviousness, low infrastructure requirements, and low to moderate overall natural landcover.

Summary: Due to smaller development footprints, disturbance activities associated with FU-10 conflicting uses may provide a lesser degree of impact to the Goal 5 resource and associated buffer than MUC, NC, CI, R-5 and R-2 conflicting use development activities. However, MUC, NC, CI, R-5 and R-2 stricter water quality standards, providing potential for overall lesser amounts of impact to the local watershed.

Energy Consequences

FU-10- Tends to retain more trees than other zoning, reducing air quality and temperature impacts. However, tends to create more infrastructure (utilities and roads) and greater travel distances which can have a negative energy consequence.

MUC, NC, CI, R-5 and R-2 - Energy efficient zoning because it decreases VMT (vehicle miles traveled) and overall infrastructure requirements. Potential to reduces the amount of overall development through shared



parking. Shared parking areas have vegetated islands reducing imperviousness and negative energy consequences associated with temperature regulation.

Summary: MUC, NC, CI, R-5 and R-2 conflicting use development activities for energy consequences may result in lesser impact on the Goal 5 resource and associated buffer over FU-10 development activities.

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DRAFT MEMORANDUM

DATE: June 21, 2019

TO: Christina Robertson-Gardiner, City of Oregon City

FROM: Kevin Chewuk, DKS Associates
Amanda Deering, DKS Associates

SUBJECT: Oregon City Beaver Creek Land Use Review

P19082-001

This memorandum summarizes how the requirements of Oregon Administrative Rule (OAR) 660-012-0060, the Transportation Planning Rule (TPR), are met for the Beaver Creek Concept Plan area in Oregon City, Oregon. The study area comprises the adopted 2008 Beaver Creek Concept Plan area which established land use designations, design guidelines and future transportation infrastructure needs. The Beaver Creek Concept Plan area is roughly bounded by the Urban Growth Boundary to the east, Beaver Creek Road to the west, Old Acres Road to the south and Thayer Road to the north. The following sections describe the consistency of the Beaver Creek Concept Plan with the current Oregon City Transportation System Plan (TSP).

Land Use Assumptions

The Beaver Creek Concept Plan area includes about 5,700 new jobs and 1,100 new housing units. Table 1 describes the assumptions that were used. For the Oregon City TSP, vehicle trips within the Beaver Creek Concept Plan area were estimated based on around 1,639 new jobs and 355 new households. The Beaver Creek Concept Plan was held up in the Oregon Land Use Board of Appeals (LUBA) during the recent update to the Oregon City TSP, thus the zoning in the Beaver Creek Concept Plan area did not reflect the rezoned land resulting from the plan.

Land Use and Motor Vehicle Trip Generation Assumptions

The impact of the increased vehicle trip generation on the surrounding transportation system, as a result of the Beaver Creek Concept Plan, will be evaluated through the year 2035 (consistent with the horizon year of the current TSP).

For the current Oregon City TSP, vehicle trips were estimated based on the existing land use assumptions (see Table 1). These trips are included in the 2035 TSP Baseline scenario. For the TPR analysis, the Beaver Creek Concept Plan was estimated to accommodate 750 more housing units and 4,095 more employees than the current TSP.

Vehicle trips that would be generated by the increased housing units and employees were estimated by applying the Metro Regional Travel Forecast model trip generation rates by land use type. Overall, the Beavercreek Concept Plan is expected to generate about 2,584 motor vehicle trips during the p.m. peak hour, or 925 more than what was assumed in the current TSP.

Table 1: Land Use Assumptions			
Scenario	New Housing Units	New Employees	Forecasted Weekday PM Peak Hour Vehicle Trip End Growth
TSP Baseline (without Beavercreek Concept Plan)	355	1,639	1,659
Beavercreek Concept Plan	1,105	5,734	2,584
Change (With Beavercreek Concept Plan – Without Beavercreek Concept Plan)	+750	+4,095	+925

2035 Motor Vehicle Operations

Future p.m. peak hour traffic forecasts were prepared for two land use scenarios, including:

- **TSP Baseline (without Beavercreek Concept Plan)** – This scenario assumes the land use within the Beavercreek Concept Plan will be built out consistent with the prior TSP analysis. It includes the improvement projects listed in the “Baseline Transportation System Improvements” section.
- **Beavercreek Concept Plan** – This scenario assumes full buildout of Beavercreek Concept Plan area. It includes the improvement projects listed in the “Baseline Transportation System Improvements” section.

With each of these two land use scenarios, a sensitivity option was tested that assumed the planned segment of Holly Lane between Maple Lane Road and Thayer Road would not be completed. The forecast will include 2035 volumes to match the TSP horizon year.

Baseline Transportation System Improvements

The starting point for the future operations analysis relied on a list of street system improvement projects contained in the Oregon City TSP. These projects represent only those that are expected to be reasonably funded, and therefore can be included in the Baseline scenario. Many of the projects in the Beavercreek Concept Plan area will be constructed as private development occurs. Others will be

constructed as part of public infrastructure improvements or concurrent with adjacent private developments. The improvements assumed include:

- Roundabout installation at the **Beavercreek Road/Glen Oak Road** intersection (TSP Project D39)
- Roundabout installation at the **Beavercreek Road/Loder Road** intersection (TSP Project D44)
- **Meyers Road** extension from OR 213 to High School Avenue (TSP Project D46)
- **Meyers Road** extension from Beavercreek Road to the Meadow Lane Extension (TSP Project D47)
- **Clairmont Drive** extension from Beavercreek Road to the Holly Lane South Extension (TSP Project D54)
- **Glen Oak Road** extension from Beavercreek Road to the Meadow Lane Extension (TSP Project D55)
- **Timbersky Way** extension from Beavercreek Road to the Meadow Lane Extension (TSP Project D56)
- **Holly Lane** extension from Thayer Road to the Meadow Lane Extension (TSP Projects D58 and D59)
- **Meadow Lane** extension to the Urban Growth Boundary, north of Loder Road (TSP Projects D60 and D61)
- **Loder Road** extension from Beavercreek Road to Glen Oak Road (TSP Project D64)
- **Beavercreek Road** improvements from Clairmont Drive to the Urban Growth Boundary, south of Old Acres Lane (TSP Projects D81 and D82)
- **Loder Road** improvements from Beavercreek Road to the Urban Growth Boundary (TSP Project D85)

Intersection Operations

During the evening peak hour, all study intersections operate within adopted mobility targets under all scenarios after assuming the baseline transportation system improvements from the TSP. The traffic analysis results are summarized in a separate memorandum.

TPR Findings

Overall, the current TSP includes adequate transportation system projects for the Beavercreek Concept Plan area to comply with the Transportation Planning Rule (TPR). All transportation impacts as a result of the additional housing units and employees in the Beavercreek Concept Plan area are

addressed by current TSP projects. This includes the widening of Beaver Creek Road through the project area to a 3 or 5-lane cross-section (to be determined in separate memorandum) and intersection control improvements to the Loder Road and Glen Oak Road intersections with Beaver Creek Road (roundabout or traffic signals, to be determined in separate memorandum).



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DRAFT MEMORANDUM

DATE: August 6, 2019

TO: Christina Robertson-Gardiner, City of Oregon City

FROM: Kevin Chewuk, DKS Associates
Amanda Deering, DKS Associates

SUBJECT: Oregon City Beaver Creek Analysis

P19082-000

This memorandum summarizes a traffic study for the Oregon City Beaver Creek Road Concept Plan. The study area comprises the adopted 2008 Beaver Creek Road Concept Plan area. The objective of this traffic study is to:

1. Compare future development and infrastructure recommendations in the Beaver Creek Road Concept Plan to that of the 2013 Transportation System Plan (TSP) and Municipal Code
2. Ensure Transportation Planning Rule consistency
3. Provide responses to three questions asked by city staff in response to public comments during the public engagement phase of the Beaver Creek Road Concept Plan Zoning and Code amendments project. The responses contained in this memo address staff's questions from a transportation capacity and design lens. Additional legal, fiscal, construction, or maintenance factors may be part of the larger discussion and are not identified in this report

Staff Questions

1. **Holly Lane Connection.** How important is the Holly Lane connection to the transportation model? What if it does not connect for a very long time, or is removed?
2. **Intersection Control Analysis.** What is the optimal design for intersection control along the Beaver Creek Road Concept Plan boundary- traffic signals or roundabouts?
3. **Road Network Evaluation.** What is the optimal cross section for Beaver Creek Road?

Findings

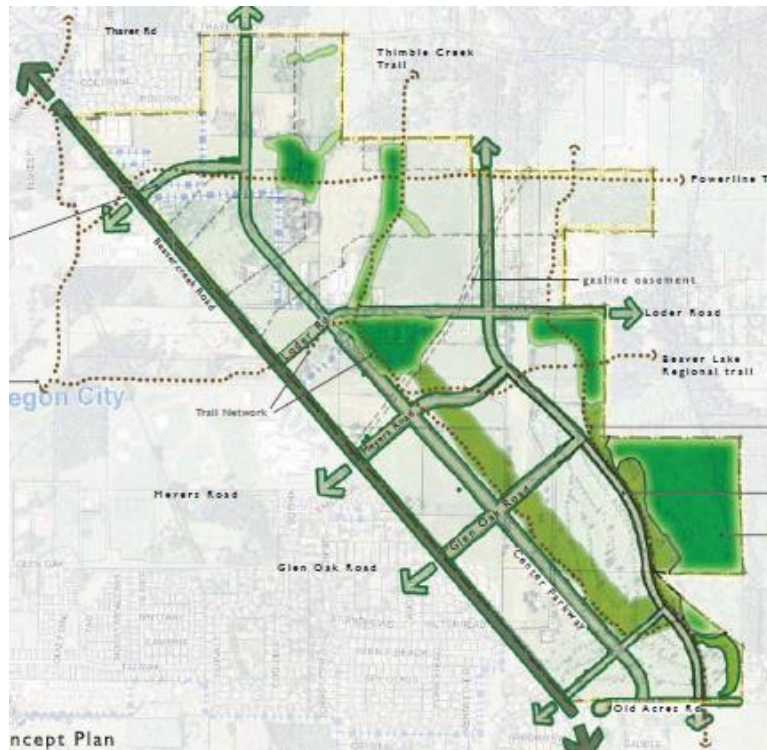
Overall, the current TSP includes adequate transportation system projects for the Beaver Creek Road Concept Plan area to comply with the Transportation Planning Rule (TPR) as adopted (3 lane section with roundabouts). All transportation impacts as a result of the projected 2019 housing units and employees in the Beaver Creek Road Concept Plan (5,700 new jobs and 1,100 new dwelling units) area are addressed by current TSP projects.

Likewise, a revised 5-lane cross-section and replacement of signals for roundabouts as intersection control also meets the TPR requirements. In addition, with the recommended intersection improvements, classifications and cross-sections listed later in this document, no additional provisions are needed beyond current TSP projects to accommodate potential growth in the Beavercreek Road Concept Plan area without the Holly Lane extension between Maple Lane Road to Thayer Road.

Study Area

The study area (see Figure 1) comprises the adopted 2008 Beavercreek Road Concept Plan area which established land use designations, design guidelines and future transportation infrastructure needs. The Beavercreek Road Concept Plan area is roughly bounded by the Urban Growth Boundary to the east, Beavercreek Road to the west, Old Acres Road to the south and Thayer Road to the north. The following list provides the study intersections with existing and future control, as applicable:

1. Highway 213 / Beavercreek Road (existing signalized intersection)
2. Beavercreek Road / Maple Lane Road (existing signalized intersection)
3. Beavercreek Road / Clairmont Drive (existing signalized intersection)
4. Beavercreek Road / Loder Road (existing unsignalized intersection; planned future roundabout)
5. Beavercreek Road / Meyers Road (existing signalized intersection)
6. Beavercreek Road / Glen Oak Road (existing unsignalized intersection; planned future roundabout)

Figure 1: Study Area

Land Use Assumptions

The Beaver Creek Road Concept Plan area includes about 5,700 new jobs and 1,100 new housing units based on the current analysis prepared by EcoNW and 3J Consulting (2019) as part of current zoning and code amendment project. These numbers are consistent with the initial 2008 Concept Plan projection of 5,000 jobs and 1,023 housing units. Table 1 describes the assumptions that were used.

For the Oregon City TSP, vehicle trips within the Beaver Creek Road Concept Plan area were estimated based on around 1,639 new jobs and 355 new households. The Beaver Creek Road Concept Plan was being litigated by the Oregon Land Use Board of Appeals (LUBA) during the 2013 update to the Oregon City TSP, thus the zoning in the Beaver Creek Road Concept Plan area reflected existing conditions and did not reflect the projected housing and jobs resulting from the plan. Once the Concept Plan was readopted in 2016, the regional transportation model was updated to include 2008 Beaver Creek Road Concept Plan jobs and housing projections (5,000 jobs and 1,023 housing units).

Land Use and Motor Vehicle Trip Generation Assumptions

The impact of the increased vehicle trip generation on the surrounding transportation system, as a result of the Beaver Creek Road Concept Plan, was evaluated through the year 2035 (consistent with the horizon year of the current TSP).

For the current Oregon City TSP, vehicle trips were estimated based on the existing land use assumptions (see Table 1). These trips are included in the 2035 TSP Baseline scenario. For the TPR analysis, the Beavercreek Road Concept Plan utilized the projected 2019 numbers which was estimated to accommodate 750 more housing units and 4,095 more employees than the current TSP.

Vehicle trips that would be generated by the increased housing units and employees were estimated by applying the Metro Regional Travel Forecast model trip generation rates by land use type. This model assumes development and redevelopment within Oregon City as well as throughout the region and thus accounts for consequences of development outside Oregon City. Overall, the Beavercreek Road Concept Plan is expected to generate about 2,584 motor vehicle trips during the p.m. peak hour, or 925 more than what was assumed in the current TSP.

Table 1: Land Use Assumptions

Scenario	New Housing Units	New Employees	Forecasted Weekday PM Peak Hour Vehicle Trip End Growth
TSP Baseline (without Beavercreek Road Concept Plan)	355	1,639	1,659
Beavercreek Road Concept Plan <i>2019 Code and Zoning Amendments Projection</i>	1,105	5,734	2,584
Change (With Beavercreek Road Concept Plan – Without Beavercreek Road Concept Plan)	+750	+4,095	+925

Traffic Forecasting

Future p.m. peak hour traffic forecasts were prepared for two land use scenarios, with and without the Beavercreek Road Concept Plan to provide a baseline for identifying new transportation improvement needs beyond those included in the TSP; these scenarios include:

- **TSP Baseline (without Beavercreek Road Concept Plan)** – This scenario assumes the land use within the Beavercreek Road Concept Plan will be built out consistent with the prior TSP analysis (1,639 new jobs and 355 new households). It includes the improvement projects listed in the “Baseline Transportation System Improvements” section as envisioned in the Beavercreek Road Concept Plan.
- **Beavercreek Road Concept Plan** – This scenario assumes full buildout of Beavercreek Road Concept Plan area (5,700 new jobs and 1,100 new housing units). It includes the improvement projects listed in the “Baseline Transportation System Improvements” section as envisioned in the Beavercreek Road Concept Plan.

With each of these two land use scenarios, a sensitivity option was tested that assumed the planned segment of Holly Lane between Maple Lane Road and Thayer Road would not be completed. The forecast will include 2035 volumes to match the TSP horizon year.

Baseline Transportation System Improvements

The starting point for the future operations analysis relied on a list of street system improvement projects contained in the Oregon City TSP. These projects represent only those that are expected to be reasonably funded, and therefore can be included in the Baseline scenario. Many of the projects in the Beavercreek Road Concept Plan area will be constructed as private development occurs. Others will be constructed as part of public infrastructure improvements or concurrent with adjacent private developments. The improvements assumed include:

- Roundabout installation at the **Beavercreek Road/Glen Oak Road** intersection (TSP Project D39)
- Roundabout installation at the **Beavercreek Road/Loder Road** intersection (TSP Project D44)
- **Meyers Road** extension from OR 213 to High School Avenue (TSP Project D46)
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- **Clairmont Drive** extension from Beavercreek Road to the Holly Lane South Extension (TSP Project D54)

- **Glen Oak Road** extension from Beaver Creek Road to the Meadow Lane Extension (TSP Project D55)
- **Timbersky Way** extension from Beaver Creek Road to the Meadow Lane Extension (TSP Project D56)
- **Holly Lane** extension from Thayer Road to the Meadow Lane Extension (TSP Projects D58 and D59)
- **Meadow Lane** extension to the Urban Growth Boundary, north of Loder Road (TSP Projects D60 and D61)
- **Loder Road** extension from Beaver Creek Road to Glen Oak Road (TSP Project D64)
- **Beaver Creek Road** improvements from Clairmont Drive to the Urban Growth Boundary, south of Old Acres Lane (TSP Projects D81 and D82)
- **Loder Road** improvements from Beaver Creek Road to the Urban Growth Boundary (TSP Project D85)
- Construct westbound right-turn merge lane at the **Highway 213 / Beaver Creek Road** intersection (Highway 213 Corridor Alternative Mobility Targets Study)

Estimating Driving Trips

Determining future street network needs requires the ability to forecast traffic volumes resulting from estimates of future population and employment for the Beaver Creek Road Concept Plan area, and the rest of the City and Metro region. The objective of the transportation planning process is to provide the information necessary for making decisions about how and where improvements should be made to create a safe and efficient transportation system that provides travel options.

Metro Regional Travel Demand Model

The travel demand forecasting process generally involves estimating travel patterns for new development based on the decisions and preferences demonstrated by existing residents, employers and institutions around the region. Travel demand models are mathematical tools that help us understand future commuter, school and recreational travel patterns including information about the length, mode and time of day a trip will be made. The latest travel models are suitable for motor vehicle and transit planning purposes, and can produce total volumes for autos, trucks and buses on each street and highway in the system.

Land use data for the entire Metro region is split into geographical areas called transportation analysis zones (TAZs), which represent the sources of vehicle trip generation in the Metro Regional Travel Forecast model. The TAZs extend beyond the current UGB and include land use assumptions

for the entire region and rural communities surrounding Oregon City. The Beavercreek Road Concept Plan area includes one TAZ, which was updated with land use data from Table 1. Vehicle trips that would be generated by the proposed land use was estimated by applying the Metro Regional Travel Forecast model trip generation rates by land use type. Model forecasts are refined by comparing outputs with observed counts and behaviors on the local system. This refinement step is completed before any evaluation of system performance is made. Once the traffic forecasting process is complete, the future volumes are used to determine the areas of the street network that are expected to be congested and that may need future investments to accommodate growth.

The modeling and volume forecasting performed for the previous 2013 TSP was based on the year 2010 (existing) and year 2035 (horizon) Metro models. The current Metro travel demand models are for years 2015 and 2040. These models have updated land uses that assume less growth than the previous 2010-2035 land use growth. In addition, the new Metro models have "peak spreading" built into them, which means the peak period of two hours is modeled, rather than just the single peak hour. When comparing the 2010 and 2015 base years, the 2010 model year shows higher volumes than the 2015 model. This is due to a correction that happened after the 2008 recession. The recent 2019 counts collected for this project more closely match the magnitude of the 2015 volumes. Due to this correction and the lower land use growth assumptions, the Metro 2040 model shows notably lower volumes along the Beavercreek Road corridor and the surrounding region. As a result, the new forecasted 2035 volumes are lower than the 2035 TSP volume set.

2035 Motor Vehicle Operations

Motor vehicle conditions were evaluated for each future scenario during the p.m. peak hour at the study intersections (see Table 2). The future conditions include the improvements summarized in the "Baseline Transportation System Improvements" section.

During the evening peak hour, a few study intersections are expected to exceed standards under each scenario, including the Beavercreek Road / Loder Road and Beavercreek Road / Glen Oak Road intersections. These intersections are currently unsignalized and the side street approach is over capacity given the limited gaps to turn onto Beavercreek Road in the future. Transportation solutions for these intersections are identified later in this report.

The Highway 213 / Beavercreek Road has an adopted alternative mobility target that changes the standard analysis parameters used or the time period to which the targets/standards apply from the

design hour¹ to an average weekday, which better represents traffic volumes experienced throughout the majority of the year. The intersection is expected to meet the alternative mobility target with the Beaver Creek Road Concept Plan.

Holly Lane Extension

The portion of the proposed Holly Lane extension project between Maple Lane Road and Thayer Road (TSP project D57) is blocked by existing development and therefore the proposed alignment must divert outside of the Urban Growth Boundary. To ensure the future roadway network can accommodate potential growth, the future volumes and study intersection operations under the 2035 Beaver Creek Road Concept Plan without this segment of the Holly Lane Extension scenario were reviewed.

As shown in Table 2, the re-routed traffic associated with removing the segment of the proposed Holly Lane extension is expected to have little impact on intersection operations when compared to the scenario with the segment. The greatest impact would be expected at the two existing unsignalized intersections, Loder Road and Glen Oak Road, since more traffic would be utilizing these intersections to enter and exit the Beaver Creek Road Concept Plan area without the segment of the Holly Lane extension. However, this issue is resolved once the recommended traffic signal is assumed at these intersections. Overall, with the recommended intersection improvements, classifications and cross-sections listed later in this document, no additional provisions are needed to accommodate potential growth in the Beaver Creek Road Concept Plan area without the Holly Lane extension between Maple Lane Road to Thayer Road. However, this segment of the Holly Lane extension project is still recommended long-term to provide an alternative route to Highway 213 and option for local motor vehicle, pedestrian and bicycle circulation.

¹ On state highways in Oregon City, the design hour volume generally occurs during the summer season when traffic volumes are higher than typical weekday peaks hours.

Table 2: Future Intersections Operations (2035 PM Peak Hour)

Intersection (traffic control)	Mobility Target	TSP Baseline (without Beaver Creek Road Concept Plan)	Beaver Creek Road Concept Plan (with Holly Lane Extension)	Beaver Creek Road Concept Plan (without Holly Lane Extension)
Highway 213 / Beaver Creek Road (signalized intersection)	1.00 v/c AWD	-	0.99 (AWD)	0.99 (AWD)
Beaver Creek Road / Maple Lane Road (signalized intersection)	0.99 v/c	0.80	0.94	0.95
Beaver Creek Road / Clairmont Drive (signalized intersection)	0.99 v/c	0.99	0.75	0.75
Beaver Creek Road / Loder Road (unsignalized intersection)	0.99 v/c	1.12	>2.00	>2.00
Beaver Creek Road / Meyers Road (signalized intersection)	0.99 v/c	1.05	0.80	0.82
Beaver Creek Road / Glen Oak Road (unsignalized intersection)	0.99 v/c	0.82	1.50	1.70
Bolded red values indicate intersection exceeding the mobility target				

Intersection Control Analysis

The traffic control at the Beaver Creek Road / Loder Road and Beaver Creek Road / Glen Oak Road intersections was assessed with a traffic signal and a roundabout. A signal warrant analysis was performed for these study intersections to determine if side-street volumes are high enough to justify (i.e. warrant) the construction of a traffic signal. For this analysis, ODOT's preliminary traffic signal warrants form² was utilized. This warrant is based on the MUTCD Signal Warrant 1, Case A and Case B, which deals primarily with high volumes on the intersecting minor roadway and high volumes on the major roadway. The result of the analysis found that a traffic signal would be warranted at both intersections by 2035.

These intersections are expected to meet mobility targets through 2035 with either a traffic signal or roundabout. Although both options would work, signals are recommended at these intersections. Existing intersections along the corridor surrounding Loder Road and Glen Oak Road are signalized,

² Analysis Procedures Manual, ODOT TPAU

including Clairmont Drive and Meyers Road. Installation of traffic signals at these two intersections would create for consistency along the corridor. The traffic signals could also be interconnected and timed to allow for traffic to flow smoothly along the corridor with minimal delay. Installation of a roundabout at one or both intersections would break up the flow of traffic and cause random arrivals of vehicles and more delay at the existing signalized intersections along the corridor.

If the cross-section of Beaver Creek Road was expanded to incorporate a 5-lane section the design of future intersections is easier with signals over roundabouts. Existing and future signalized intersections along a corridor could be designed to accommodate a 5-lane section without requiring the full roadway width to be constructed. A roadway can be built with a 3-lane section and widened later to a 5-lane section with only minor changes needed at the intersections. Conversely, a roundabout must be designed and constructed to the expected future width of the roadway to avoid having to rebuild the intersection. For example, if you build the roundabout to only accommodate 3-lanes and ultimately need 5-lanes in the future, the roundabout would have to be rebuilt. This is further complicated by portions of the west side of Beaver Creek Road near Glen Oak Road that are built out or not likely to be redeveloped any time soon.

A traffic signal also allows for flexibility in improving the intersection over time as adjacent parcels are developed. Each individual approach can be improved incrementally over time without any modifications to the other approaches to the intersection. The flexibility is lost when constructing a roundabout as the entire intersection must be built at once.

With the through volume of traffic forecasted to be over 1,500 vehicles during the peak hour, and with travel speeds up to 40 miles per hour along this segment of Beaver Creek Road, a traffic signal would provide a controlled pedestrian crossing opportunity for pedestrians and cyclists. A center median could provide refuge between the vehicle traffic lanes for those crossing with either a 3-lane or 5-lane section.

Pedestrians and cyclists must use an unsignalized crossing in a roundabout, however, they are designed for vehicles to travel at a slower rate of speed when compared to a signalized intersection. In a roundabout, crosswalks are set further back from vehicle traffic, allowing drivers more time to react to people in the roadway before merging into or out of the roundabout. Triangular islands between lanes of vehicle traffic give people moving through the roundabout a safe place to wait if they choose to cross only one direction of traffic at a time. People on bikes can choose to ride through the roundabout with traffic or walk their bicycles through the pedestrian crosswalks.

Roadway Network Evaluation

Streets in the plan area were sized based on future capacity needs with full buildout of the Beaver Creek Road Concept Plan. Forecasted volumes along Beaver Creek Road can be accommodated with a 3-lane or 5-lane section within the adopted 90-foot road right-of-way.

A 5-lane section provides more capacity but could draw more traffic to Beaver Creek Road from Highway 213 and reduce the benefit of the added capacity. This is referred to by the term induced demand. Whereby additional lane capacity is filled by drivers who previously chose to travel on different routes or at different times but changed their behavior upon the creation of new capacity on a specific road segment.

A 5-lane section would be supportive of more population growth beyond the planning horizon when compared to a 3-lane section. However, the timing of growth is uncertain. Alternatively, a 3-lane section is built to meet the needs of the adjacent development, provides less capacity for through traffic and helps keep more traffic with destinations outside of Oregon City on Highway 213.

A 3-lane section would encourage slower travel speeds, would be more inviting to pedestrians and cyclists and would reduce the crossing distance of Beaver Creek Road, especially for students traveling between the neighborhoods on the east side and the school on the west side. A 3-lane section could also allow for a larger buffer between the roadway and sidewalk and allow for wider travel lanes to better facilitate the large trucks expected at the northern end of the Concept Plan area.

Given the City's standards, the projection of traffic volumes on area streets, and overall circulation needs, the recommended TSP classifications and cross-sections are to be maintained, as follows:

- Maintain classification of Beaver Creek Road as a major arterial, provide three-lane cross-section with 90-feet of right-of-way
- Maintain classification of the Meyers Road extension as a minor arterial, provide three-lane cross-section
- Maintain classification of the Clairmont Drive extension as a collector, provide a three-lane cross-section
- Maintain classification of the Glen Oak Road extension as a collector, provide two-lane cross-section
- Maintain classification of the Timbersky Way extension as a collector, provide two-lane cross-section
- Maintain classification of the Holly Lane extension as a collector, provide three-lane cross-section

- Maintain classification of the Meadow Lane extension as a collector, provide two-lane cross-section
- Maintain classification of Loder Road as a collector, provide three-lane cross-section
- Classify all remaining streets in the Beaver Creek Road Concept Plan area as local streets

Recommended Improvements

The recommended improvements for the intersections that are expected to exceed mobility targets in the 2035 Beaver Creek Road Concept Plan scenarios can be seen in Table 3. Overall, the current TSP includes adequate transportation system projects for the Beaver Creek Road Concept Plan area to comply with the Transportation Planning Rule (TPR). All transportation impacts as a result of the additional housing units and employees in the Beaver Creek Road Concept Plan area are addressed by current TSP projects. This includes the widening of Beaver Creek Road through the project area to a 3-lane cross-section and intersection control improvements to the Loder Road and Glen Oak Road intersections with Beaver Creek Road.

If a 5-lane section is desired along a portion of Beaver Creek Road adjacent to the Concept Plan boundary, a logical transition point back to a 3-lane section could be the Loder Road intersection. This location will serve as a primary access point to the industrial employment and the associated heavy vehicle traffic at the northern end of the Beaver Creek Road Concept Plan area. South of this intersection, the land use transitions to a mixed use neighborhood. In any case, the City should design intersections and obtain right-of-way to accommodate the ultimate cross-section in the future.

Table 3: Operations with Beaver Creek Road Concept Plan and Recommended Improvements (2035 PM Peak Hour)

Intersection (traffic control)	Mobility Target	Beaver Creek Road Concept Plan (with Holly Lane Extension)	Beaver Creek Road Concept Plan (without Holly Lane Extension)	Recommended Improvements
Beaver Creek Road / Loder Road (unsignalized intersection)	0.99 v/c	0.89	0.89	Install a traffic signal
Beaver Creek Road / Glen Oak Road (unsignalized intersection)	0.99 v/c	0.71	0.72	Install a traffic signal

Bolded red values indicate intersection exceeds the mobility target

Appendix

Turning Movement Counts

Synchro HCM Reports

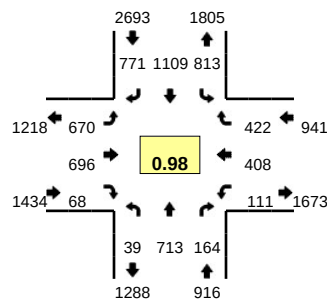
Sidra Reports

Preliminary Signal Warrants

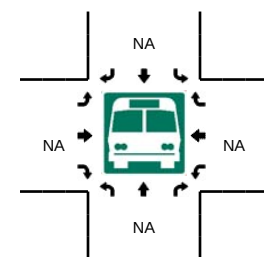
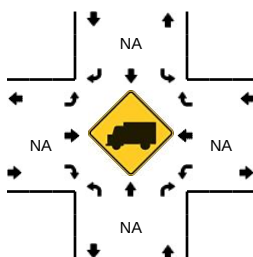
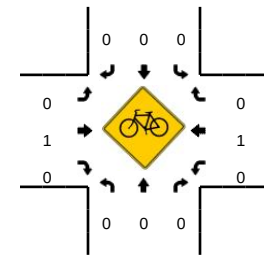
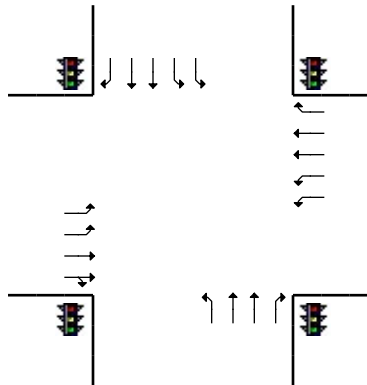
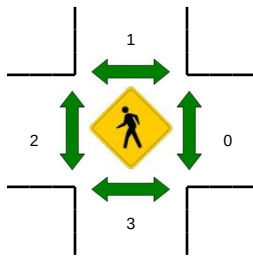
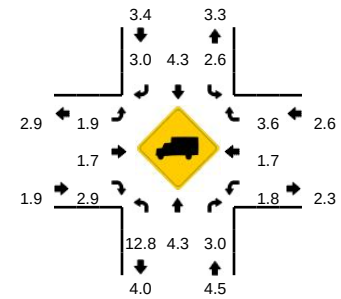
Turning Movement Counts

LOCATION: Cascade Hwy -- S Beavercreek Rd
CITY/STATE: Oregon City, OR

QC JOB #: 14414702
DATE: Tue, May 16 2017



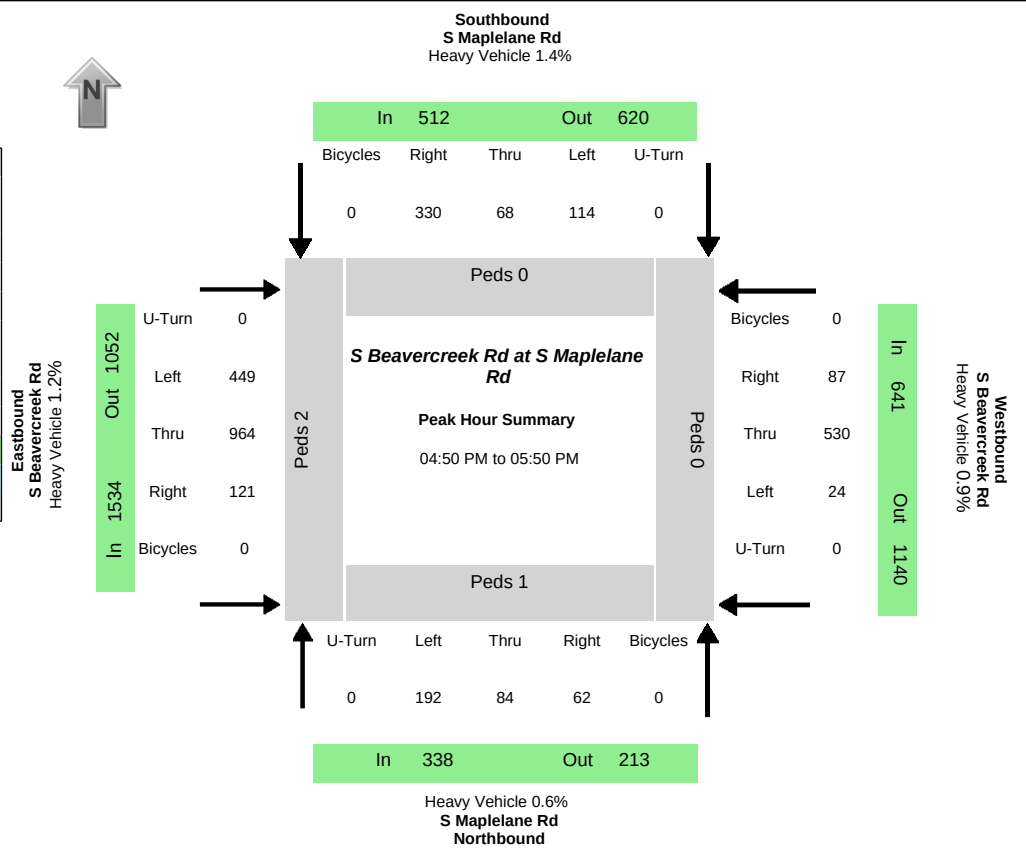
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:05 PM -- 5:20 PM



5-Min Count Period Beginning At	Cascade Hwy (Northbound)				Cascade Hwy (Southbound)				S Beavercreek Rd (Eastbound)				S Beavercreek Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	3	63	14	0	45	74	63	0	59	55	8	0	9	41	33	0	467	5599
4:05 PM	3	45	12	0	63	83	76	0	54	63	10	0	6	32	34	0	481	5635
4:10 PM	3	70	11	0	46	104	66	0	52	52	8	1	4	33	40	0	490	5692
4:15 PM	1	58	10	0	58	86	56	1	61	53	3	0	21	26	29	0	463	5702
4:20 PM	2	44	12	0	57	87	65	0	44	56	7	0	17	51	36	0	478	5719
4:25 PM	4	46	14	0	71	78	68	0	44	72	7	0	16	27	36	0	483	5724
4:30 PM	5	62	19	0	65	79	63	0	49	62	4	0	7	32	25	0	472	5735
4:35 PM	2	58	11	0	66	118	60	0	49	55	7	0	7	32	41	0	506	5801
4:40 PM	6	54	17	0	63	70	64	0	61	64	4	0	15	35	35	0	488	5761
4:45 PM	3	59	14	0	68	102	69	0	68	61	7	0	12	26	46	0	535	5842
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5:50 PM	4	71	15	0	56	93	57	0	35	53	5	0	6	28	27	0	450	5862
5:55 PM	6	45	11	0	61	70	51	0	47	54	5	0	11	30	24	0	415	5781
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
All Vehicles	24	720	172	0	820	1008	772	0	788	740	52	0	104	420	508	0	6128	
Heavy Trucks	0	36	4		24	60	20		0	8	0		4	12	12		180	
Pedestrians		8				0				4				0			12	
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0	
Railroad																		
Stopped Buses																		

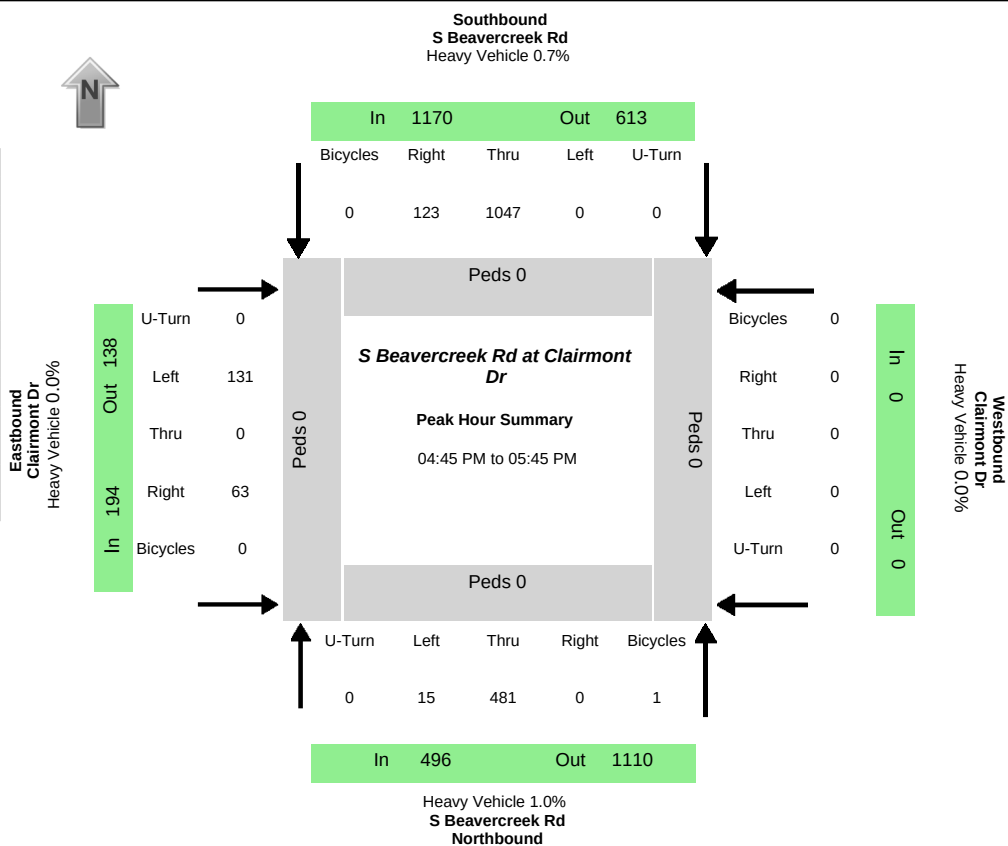
Comments:

Data Provided by K-D-N.com 503-594-4224	
N/S street	S Maplelane Rd
E/W street	S Beavercreek Rd
City, State	Oregon City OR
Site Notes	
Location	45.331096 - -122.572045
Start Date	Tuesday, April 23, 2019
Start Time	04:00:00 PM
Weather	
Study ID #	
Peak Hour Start	04:50:00 PM
Peak 15 Min Start	05:05:00 PM
PHF (15-Min Int)	0.96



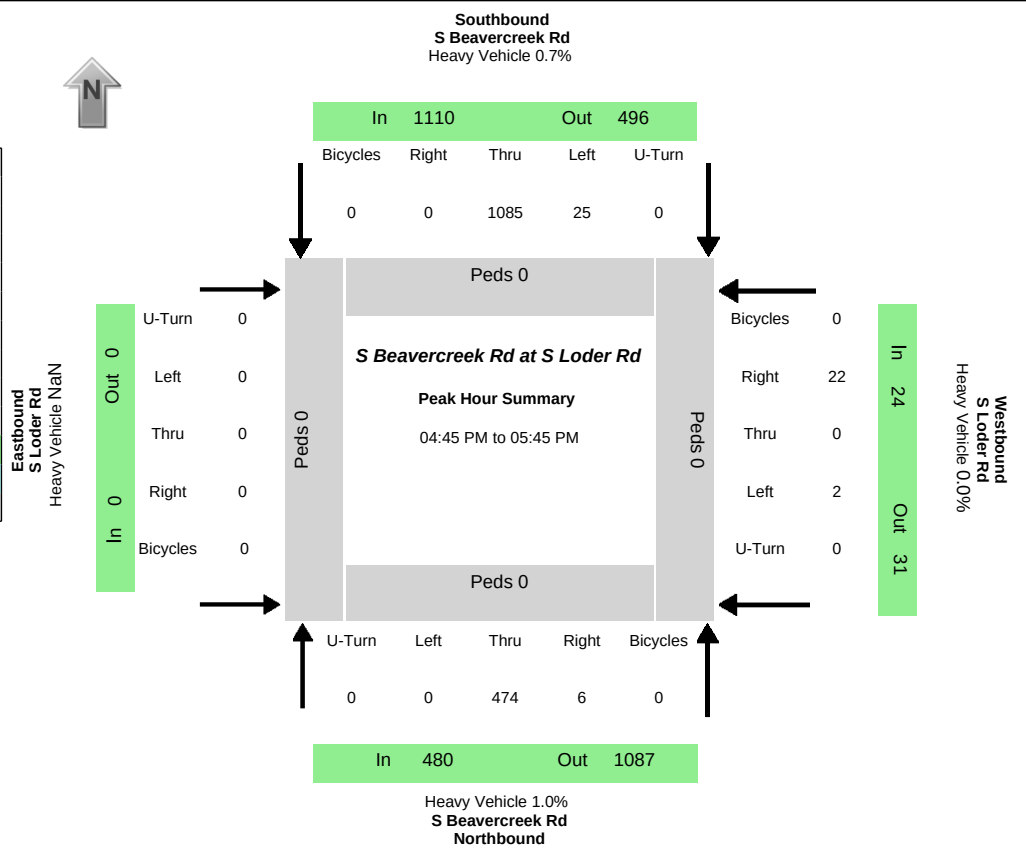
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Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
192	84	62	0	114	68	330	0	449	964	121	0	24	530	87	0	338	512	1534	641	213	620	1052	1140
Percent Heavy Vehicles																							
0.0%	1.2%	1.6%	0.0%	5.3%	0.0%	0.3%	0.0%	0.9%	1.3%	0.8%	0.0%	0.0%	1.1%	0.0%	0.0%	0.6%	1.4%	1.2%	0.9%	0.5%	0.8%	0.7%	1.8%
PHV- Bicycles																PHV - Pedestrians							
Northbound				Southbound				Eastbound				Westbound				Sum	in Crosswalk				Sum		
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn		NB	SB	EB	WB			
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	3		
All Vehicle Volumes																							
Time	Northbound S Maplelane Rd				Southbound S Maplelane Rd				Eastbound S Beavercreek Rd				Westbound S Beavercreek Rd				15 Min Sum	1 HR Sum					
	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn							
04:00:00 PM	13	1	2	0	7	5	22	0	36	93	11	0	2	46	6	0							
04:05:00 PM	23	5	3	0	8	6	19	0	26	58	9	0	5	38	8	0							
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Data Provided by K-D-N.com 503-594-4224	
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E/W street	Clairmont Dr
City, State	Oregon City OR
Site Notes	
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Study ID #	
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Peak 15 Min Start	04:45:00 PM
PHF (15-Min Int)	0.95



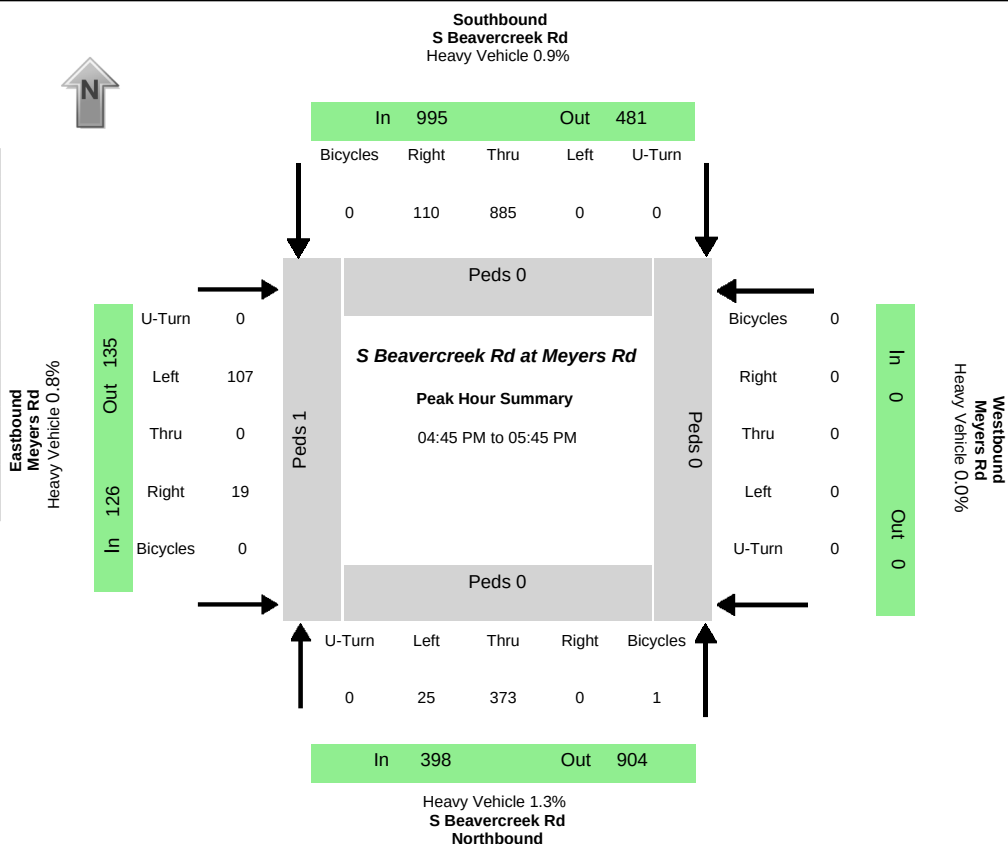
Peak-Hour Volumes (PHV)																							
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15	481	0	0	0	1047	123	0	131	0	63	0	0	0	0	0	496	1170	194	0	1110	612	138	0
Percent Heavy Vehicles																							
0.0%	1.0%	0.0%	0.0%	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	0.7%	0.0%	0.0%	0.7%	0.8%	0.0%	0.0%
PHV- Bicycles																PHV - Pedestrians							
Northbound				Southbound				Eastbound				Westbound					in Crosswalk						
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	NB	SB	EB	WB	Sum		
0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0		
All Vehicle Volumes																							
	Northbound S Beavercreek Rd				Southbound S Beavercreek Rd				Eastbound Clairmont Dr				Westbound Clairmont Dr				15 Min	1 HR					
Time	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum						
04:00:00 PM	3	43	0	0	0	74	7	0	8	0	7	0	0	0	0	0							
04:05:00 PM	2	33	0	0	0	87	8	0	14	0	4	0	0	0	0	0							
04:10:00 PM	2	43	0	0	0	99	5	0	6	0	2	0	0	0	0	0	447						
04:15:00 PM	1	36	0	0	0	66	13	0	4	0	1	0	0	0	0	0	426						
04:20:00 PM	1	39	0	0	0	78	6	0	6	0	4	0	0	0	0	0	412						
04:25:00 PM	1	30	0	0	0	76	8	0	2	0	3	0	0	0	0	0	375						
04:30:00 PM	1	45	0	0	0	74	7	0	9	0	4	0	0	0	0	0	394						
04:35:00 PM	1	32	0	0	0	78	4	0	18	0	1	0	0	0	0	0	394						
04:40:00 PM	3	42	0	0	0	88	8	0	8	0	5	0	0	0	0	0	428						
04:45:00 PM	0	47	0	0	0	96	13	0	11	0	6	0	0	0	0	0	461						
04:50:00 PM	2	51	0	0	0	93	12	0	8	0	9	0	0	0	0	0	502						
04:55:00 PM	0	31	0	0	0	85	4	0	14	0	6	0	0	0	0	0	488 1738						
05:00:00 PM	3	41	0	0	0	87	9	0	8	0	4	0	0	0	0	0	467 1748						
05:05:00 PM	0	42	0	0	0	70	10	0	31	0	3	0	0	0	0	0	448 1756						
05:10:00 PM	2	40	0	0	0	87	11	0	9	0	4	0	0	0	0	0	461 1752						
05:15:00 PM	1	38	0	0	0	90	8	0	7	0	4	0	0	0	0	0	457 1779						
05:20:00 PM	1	41	0	0	0	89	13	0	7	0	5	0	0	0	0	0	457 1801						
05:25:00 PM	1	31	0	0	0	88	4	0	9	0	3	0	0	0	0	0	440 1817						
05:30:00 PM	0	35	0	0	0	73	11	0	9	0	7	0	0	0	0	0	427 1812						
05:35:00 PM	1	42	0	0	0	87	9	0	6	0	3	0	0	0	0	0	419 1826						
05:40:00 PM	4	42	0	0	0	102	19	0	12	0	9	0	0	0	0	0	471 1860						
05:45:00 PM	2	36	0	0	0	87	13	0	4	0	3	0	0	0	0	0	481 1832						
05:50:00 PM	2	40	0	0	0	97	12	0	6	0	2	0	0	0	0	0	492 1816						
05:55:00 PM	6	36	0	0	0	71	11	0	8	0	3	0	0	0	0	0	439 1811						

Data Provided by K-D-N.com 503-594-4224	
N/S street	S Beavercreek Rd
E/W street	S Loder Rd
City, State	Oregon City OR
Site Notes	
Location	45.323869 - -122.562808
Start Date	Tuesday, April 23, 2019
Start Time	04:00:00 PM
Weather	
Study ID #	
Peak Hour Start	04:45:00 PM
Peak 15 Min Start	04:45:00 PM
PHF (15-Min Int)	0.94



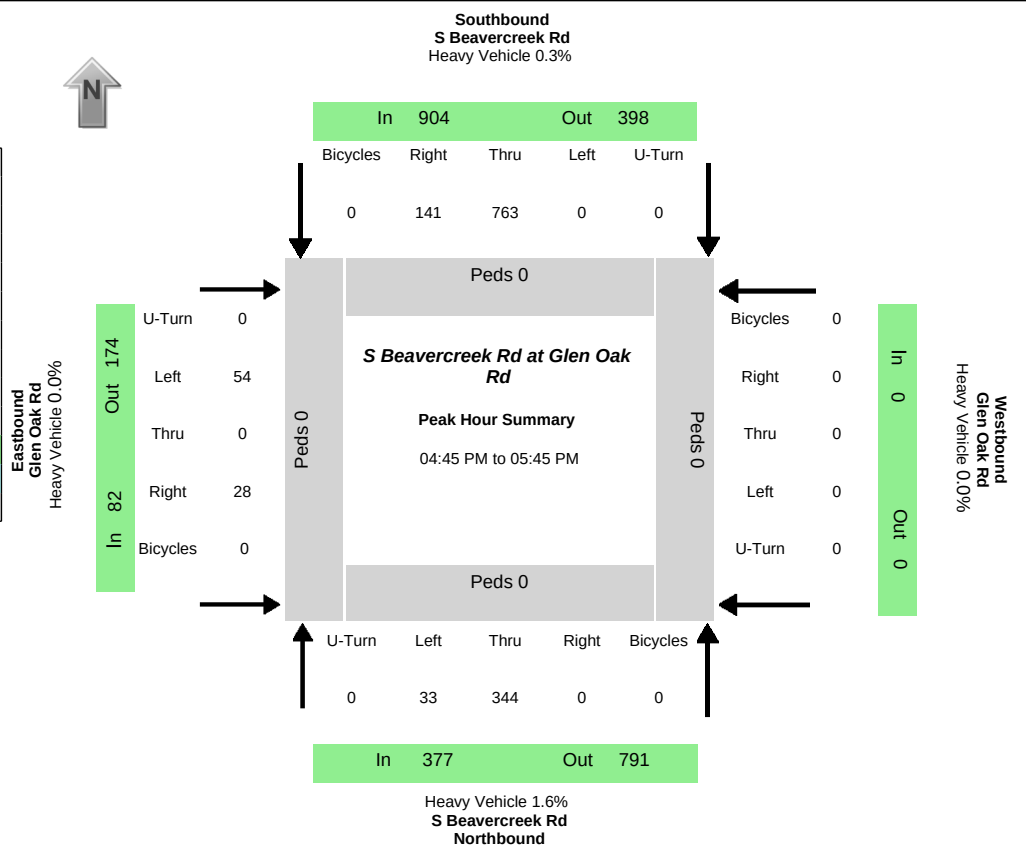
Peak-Hour Volumes (PHV)																							
Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
0	474	6	0	25	1085	0	0	0	0	0	0	2	0	22	0	480	1110	0	24	1087	496	0	31
Percent Heavy Vehicles																							
0.0%	1.1%	0.0%	0.0%	8.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.0%	0.7%	NaN	0.0%	0.6%	1.0%	NaN	6.5%
PHV- Bicycles																PHV - Pedestrians							
Northbound				Southbound				Eastbound				Westbound				Sum	in Crosswalk				Sum		
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn		NB	SB	EB	WB			
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
All Vehicle Volumes																							
Time	Northbound S Beavercreek Rd				Southbound S Beavercreek Rd				Eastbound S Loder Rd				Westbound S Loder Rd				15 Min	1 HR					
	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Sum	Sum					
04:00:00 PM	0	44	1	0	1	80	0	0	0	0	0	0	1	0	2	0							
04:05:00 PM	0	34	1	0	0	91	0	0	0	0	0	0	0	0	1	0							
04:10:00 PM	0	44	0	0	3	98	0	0	0	0	0	0	1	0	1	0	403						
04:15:00 PM	0	37	1	0	1	66	0	0	0	0	0	0	0	0	0	0	379						
04:20:00 PM	0	39	1	0	2	80	0	0	0	0	0	0	1	0	1	0	376						
04:25:00 PM	0	30	0	0	3	76	0	0	0	0	0	0	0	0	1	0	339						
04:30:00 PM	0	43	1	0	0	78	0	0	0	0	0	0	0	0	3	0	359						
04:35:00 PM	0	31	0	0	1	78	0	0	0	0	0	0	0	0	2	0	347						
04:40:00 PM	0	43	0	0	5	88	0	0	0	0	0	0	0	0	2	0	375						
04:45:00 PM	0	43	1	0	1	101	0	0	0	0	0	0	0	0	4	0	400						
04:50:00 PM	0	51	1	0	1	101	0	0	0	0	0	0	0	0	2	0	444						
04:55:00 PM	0	29	0	0	2	89	0	0	0	0	0	0	0	0	2	0	428	1545					
05:00:00 PM	0	42	1	0	2	89	0	0	0	0	0	0	0	0	2	0	414	1552					
05:05:00 PM	0	41	1	0	2	71	0	0	0	0	0	0	0	0	1	0	374	1541					
05:10:00 PM	0	41	0	0	1	90	0	0	0	0	0	0	0	0	1	0	385	1527					
05:15:00 PM	0	38	0	0	4	90	0	0	0	0	0	0	0	0	1	0	382	1555					
05:20:00 PM	0	41	1	0	1	93	0	0	0	0	0	0	0	0	1	0	403	1568					
05:25:00 PM	0	28	0	0	2	89	0	0	0	0	0	0	2	0	4	0	395	1583					
05:30:00 PM	0	33	1	0	3	77	0	0	0	0	0	0	0	0	2	0	378	1574					
05:35:00 PM	0	43	0	0	0	90	0	0	0	0	0	0	0	0	0	0	374	1595					
05:40:00 PM	0	44	0	0	6	105	0	0	0	0	0	0	0	0	2	0	406	1614					
05:45:00 PM	0	38	0	0	3	87	0	0	0	0	0	0	0	0	0	0	418	1592					
05:50:00 PM	0	39	0	0	3	96	0	0	0	0	0	0	0	0	3	0	426	1577					
05:55:00 PM	0	41	1	0	2	72	0	0	0	0	0	0	0	0	1	0	386	1572					

Data Provided by K-D-N.com 503-594-4224	
N/S street	S Beavercreek Rd
E/W street	Meyers Rd
City, State	Oregon City OR
Site Notes	
Location	45.319726 - -122.557943
Start Date	Tuesday, April 23, 2019
Start Time	04:00:00 PM
Weather	
Study ID #	
Peak Hour Start	04:45:00 PM
Peak 15 Min Start	04:45:00 PM
PHF (15-Min Int)	0.95



Peak-Hour Volumes (PHV)																							
Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
25	373	0	0	0	885	110	0	107	0	19	0	0	0	0	0	398	995	126	0	904	480	135	0
Percent Heavy Vehicles																							
8.0%	0.8%	0.0%	0.0%	0.0%	0.2%	6.4%	0.0%	0.0%	0.0%	5.3%	0.0%	0.0%	0.0%	0.0%	0.0%	1.3%	0.9%	0.8%	0.0%	0.3%	0.6%	6.7%	0.0%
PHV- Bicycles																PHV - Pedestrians							
Northbound				Southbound				Eastbound				Westbound				Sum	in Crosswalk				Sum		
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn		NB	SB	EB	WB			
0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0		1	0	0	1		0	1
All Vehicle Volumes																							
Time	Northbound S Beavercreek Rd				Southbound S Beavercreek Rd				Eastbound Meyers Rd				Westbound Meyers Rd				15 Min Sum	1 HR Sum					
	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn							
04:00:00 PM	1	35	0	0	0	63	13	0	11	0	4	0	0	0	0	0	0	0	0				
04:05:00 PM	0	18	0	0	0	74	12	0	14	0	0	0	0	0	0	0	0	0	0				
04:10:00 PM	1	29	0	0	0	79	12	0	11	0	2	0	0	0	0	0	0	0	0	379			
04:15:00 PM	0	30	0	0	0	67	5	0	8	0	2	0	0	0	0	0	0	0	0	364			
04:20:00 PM	0	25	0	0	0	70	9	0	5	0	1	0	0	0	0	0	0	0	0	356			
04:25:00 PM	2	25	0	0	0	64	12	0	9	0	4	0	0	0	0	0	0	0	0	338			
04:30:00 PM	2	33	0	0	0	66	7	0	10	0	0	0	0	0	0	0	0	0	0	344			
04:35:00 PM	2	28	0	0	0	70	15	0	8	0	0	0	0	0	0	0	0	0	0	357			
04:40:00 PM	0	38	0	0	0	57	15	0	4	0	0	0	0	0	0	0	0	0	0	355			
04:45:00 PM	2	45	0	0	0	78	8	0	8	0	0	0	0	0	0	0	0	0	0	378			
04:50:00 PM	7	36	0	0	0	74	10	0	6	0	3	0	0	0	0	0	0	0	0	391			
04:55:00 PM	4	20	0	0	0	73	14	0	10	0	2	0	0	0	0	0	0	0	0	400	1472		
05:00:00 PM	2	28	0	0	0	76	1	0	15	0	1	0	0	0	0	0	0	0	0	382	1468		
05:05:00 PM	0	34	0	0	0	49	15	0	8	0	1	0	0	0	0	0	0	0	0	353	1457		
05:10:00 PM	1	28	0	0	0	79	7	0	11	0	1	0	0	0	0	0	0	0	0	357	1450		
05:15:00 PM	3	31	0	0	0	75	10	0	5	0	1	0	0	0	0	0	0	0	0	359	1463		
05:20:00 PM	4	32	0	0	0	63	13	0	10	0	5	0	0	0	0	0	0	0	0	379	1480		
05:25:00 PM	0	28	0	0	0	89	7	0	3	0	0	0	0	0	0	0	0	0	0	379	1491		
05:30:00 PM	1	22	0	0	0	77	8	0	6	0	1	0	0	0	0	0	0	0	0	369	1488		
05:35:00 PM	1	35	0	0	0	57	8	0	14	0	2	0	0	0	0	0	0	0	0	359	1482		
05:40:00 PM	0	34	0	0	0	95	9	0	11	0	2	0	0	0	0	0	0	0	0	383	1519		
05:45:00 PM	2	22	0	0	0	69	13	0	10	0	0	0	0	0	0	0	0	0	0	384	1494		
05:50:00 PM	3	36	0	0	0	76	11	0	8	0	1	0	0	0	0	0	0	0	0	402	1493		
05:55:00 PM	3	32	0	0	0	61	9	0	8	0	0	0	0	0	0	0	0	0	0	364	1483		

Data Provided by K-D-N.com 503-594-4224	
N/S street	S Beavercreek Rd
E/W street	Glen Oak Rd
City, State	Oregon City OR
Site Notes	
Location	45.317037 - -122.554661
Start Date	Tuesday, April 23, 2019
Start Time	04:00:00 PM
Weather	
Study ID #	
Peak Hour Start	04:45:00 PM
Peak 15 Min Start	04:45:00 PM
PHF (15-Min Int)	0.95



Peak-Hour Volumes (PHV)																							
Northbound				Southbound				Eastbound				Westbound				Entering				Leaving			
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	NB	SB	EB	WB	NB	SB	EB	WB
33	344	0	0	0	763	141	0	54	0	28	0	0	0	0	0	377	904	82	0	791	398	174	0
Percent Heavy Vehicles																							
3.0%	1.5%	0.0%	0.0%	0.0%	0.3%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.6%	0.3%	0.0%	0.0%	0.3%	1.3%	1.1%	0.0%
PHV - Bicycles																PHV - Pedestrians							
Northbound				Southbound				Eastbound				Westbound				Sum	in Crosswalk				Sum		
Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn		NB	SB	EB	WB			
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
All Vehicle Volumes																							
Time	Northbound S Beavercreek Rd				Southbound S Beavercreek Rd				Eastbound Glen Oak Rd				Westbound Glen Oak Rd				15 Min Sum	1 HR Sum					
	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn	Left	Thru	Right	Uturn							
04:00:00 PM	3	34	0	0	0	55	12	0	2	0	1	0	0	0	0	0							
04:05:00 PM	4	18	0	0	0	63	11	0	0	0	5	0	0	0	0	0							
04:10:00 PM	1	26	0	0	0	69	12	0	4	0	1	0	0	0	0	0	321						
04:15:00 PM	4	26	0	0	0	61	8	0	4	0	3	0	0	0	0	0	320						
04:20:00 PM	2	20	0	0	0	59	12	0	5	0	1	0	0	0	0	0	318						
04:25:00 PM	5	26	0	0	0	63	5	0	1	0	0	0	0	0	0	0	305						
04:30:00 PM	1	32	0	0	0	57	9	0	3	0	1	0	0	0	0	0	302						
04:35:00 PM	3	28	0	0	0	63	7	0	2	0	0	0	0	0	0	0	306						
04:40:00 PM	2	32	0	0	0	50	7	0	6	0	2	0	0	0	0	0	305						
04:45:00 PM	2	34	0	0	0	56	22	0	13	0	1	0	0	0	0	0	330						
04:50:00 PM	2	41	0	0	0	66	11	0	2	0	2	0	0	0	0	0	351						
04:55:00 PM	3	22	0	0	0	63	12	0	2	0	3	0	0	0	0	0	357	1288					
05:00:00 PM	2	24	0	0	0	77	0	0	6	0	3	0	0	0	0	0	341	1293					
05:05:00 PM	3	30	0	0	0	37	13	0	4	0	3	0	0	0	0	0	307	1282					
05:10:00 PM	2	24	0	0	0	70	10	0	5	0	3	0	0	0	0	0	316	1283					
05:15:00 PM	3	29	0	0	0	66	10	0	5	0	2	0	0	0	0	0	319	1292					
05:20:00 PM	3	32	0	0	0	63	5	0	4	0	2	0	0	0	0	0	338	1302					
05:25:00 PM	1	25	0	0	0	71	18	0	3	0	4	0	0	0	0	0	346	1324					
05:30:00 PM	4	20	0	0	0	64	14	0	3	0	2	0	0	0	0	0	338	1328					
05:35:00 PM	3	30	0	0	0	46	13	0	6	0	2	0	0	0	0	0	329	1325					
05:40:00 PM	5	33	0	0	0	84	13	0	1	0	1	0	0	0	0	0	344	1363					
05:45:00 PM	0	22	0	0	0	55	14	0	2	0	3	0	0	0	0	0	333	1331					
05:50:00 PM	2	32	0	0	0	65	12	0	7	0	3	0	0	0	0	0	354	1328					
05:55:00 PM	4	30	0	0	0	56	5	0	5	0	0	0	0	0	0	0	317	1323					

Synchro HCM Reports

HCM Signalized Intersection Capacity Analysis

16: OR 213 & Beaver Creek Road

2035 TSP planned base -withHolly ext

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	490	950	70	110	665	535	65	765	130	980	1510	665
Future Volume (vph)	490	950	70	110	665	535	65	765	130	980	1510	665
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3495		3433	3539	1553	1597	3471	1568	3400	3471	1568
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3495		3433	3539	1553	1597	3471	1568	3400	3471	1568
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	500	969	71	112	679	546	66	781	133	1000	1541	679
RTOR Reduction (vph)	0	5	0	0	0	386	0	0	106	0	0	268
Lane Group Flow (vph)	500	1035	0	112	679	160	66	781	27	1000	1541	411
Confl. Peds. (#/hr)	1		3	3		1			2	2		
Confl. Bikes (#/hr)			1			1						
Heavy Vehicles (%)	2%	2%	3%	2%	2%	4%	13%	4%	3%	3%	4%	3%
Turn Type	Prot	NA		Prot	NA	Prot	Prot	NA	Prot	Prot	NA	Prot
Protected Phases	7	4		3	8	8	1	6	6	5	2	2
Permitted Phases												
Actuated Green, G (s)	14.7	31.1		4.1	20.5	20.5	4.0	20.8	20.8	32.5	49.3	49.3
Effective Green, g (s)	15.2	31.6		4.6	21.0	21.0	4.5	22.8	22.8	33.0	51.3	51.3
Actuated g/C Ratio	0.14	0.28		0.04	0.19	0.19	0.04	0.20	0.20	0.29	0.46	0.46
Clearance Time (s)	5.5	5.5		5.5	5.5	5.5	5.5	7.0	7.0	5.5	7.0	7.0
Vehicle Extension (s)	2.3	2.3		2.3	2.3	2.3	2.3	4.7	4.7	2.3	4.7	4.7
Lane Grp Cap (vph)	465	986		140	663	291	64	706	319	1001	1589	718
v/s Ratio Prot	0.15	c0.30		0.03	c0.19	0.10	0.04	c0.22	0.02	c0.29	0.44	0.26
v/s Ratio Perm												
v/c Ratio	1.08	1.05		0.80	1.02	0.55	1.03	1.11	0.08	1.00	0.97	0.57
Uniform Delay, d1	48.4	40.2		53.2	45.5	41.2	53.8	44.6	36.1	39.5	29.6	22.3
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	63.4	42.6		26.0	41.2	1.6	121.5	66.8	0.2	28.0	16.0	1.6
Delay (s)	111.8	82.8		79.3	86.7	42.8	175.2	111.4	36.4	67.5	45.6	23.9
Level of Service	F	F		E	F	D	F	F	D	E	D	C
Approach Delay (s)		92.2			68.2			105.5			47.8	
Approach LOS		F			E			F			D	
Intersection Summary												
HCM 2000 Control Delay			69.3									
HCM 2000 Volume to Capacity ratio			1.07									
Actuated Cycle Length (s)			112.0									
Intersection Capacity Utilization			98.1%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

17: Beaver Creek Road & Maple Lane Road

2035 TSP planned base -withHolly ext

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	475	1440	115	30	815	55	180	110	110	60	70	315
Future Volume (vph)	475	1440	115	30	815	55	180	110	110	60	70	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.99		1.00	0.99		1.00	0.93		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1787	3535		1805	3537		1805	1718		1717	1900	1615
Flt Permitted	0.95	1.00		0.95	1.00		0.46	1.00		0.45	1.00	1.00
Satd. Flow (perm)	1787	3535		1805	3537		882	1718		806	1900	1615
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	485	1469	117	31	832	56	184	112	112	61	71	321
RTOR Reduction (vph)	0	4	0	0	3	0	0	26	0	0	0	80
Lane Group Flow (vph)	485	1582	0	31	885	0	184	198	0	61	71	241
Confl. Peds. (#/hr)	1					1			2	2		
Heavy Vehicles (%)	1%	1%	1%	0%	1%	0%	0%	1%	2%	5%	0%	0%
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases							8			4		4
Actuated Green, G (s)	37.2	81.0		2.8	46.6		29.5	17.9		16.4	9.3	46.5
Effective Green, g (s)	37.2	81.5		2.8	47.1		30.0	18.4		17.4	9.8	46.5
Actuated g/C Ratio	0.29	0.65		0.02	0.37		0.24	0.15		0.14	0.08	0.37
Clearance Time (s)	4.0	4.5		4.0	4.5		4.5	4.5		4.5	4.5	4.0
Vehicle Extension (s)	2.5	4.0		2.5	4.0		2.5	2.5		2.5	2.5	2.5
Lane Grp Cap (vph)	526	2281		40	1319		327	250		165	147	594
v/s Ratio Prot	c0.27	c0.45		0.02	0.25		c0.07	c0.12		0.02	0.04	0.12
v/s Ratio Perm							0.06			0.03		0.03
v/c Ratio	0.92	0.69		0.78	0.67		0.56	0.79		0.37	0.48	0.41
Uniform Delay, d1	43.1	14.4		61.4	33.1		41.0	52.1		48.7	55.8	29.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	21.8	1.8		59.7	2.7		1.8	15.3		1.0	1.8	0.3
Delay (s)	64.9	16.2		121.1	35.8		42.8	67.4		49.7	57.6	30.0
Level of Service	E	B		F	D		D	E		D	E	C
Approach Delay (s)		27.6			38.7			56.3			37.0	
Approach LOS		C			D			E			D	
Intersection Summary												
HCM 2000 Control Delay			34.4				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			126.3				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			80.1%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

21: Beaver Creek Road & Glen Oak Road

2035 TSP planned base -withHolly ext

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	20	10	10	10	60	10	485	45	15	1145	125
Future Volume (vph)	60	20	10	10	10	60	10	485	45	15	1145	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95			0.90		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1805			1696		1752	1859		1805	1870	
Flt Permitted	0.69	1.00			0.96		0.10	1.00		0.44	1.00	
Satd. Flow (perm)	1306	1805			1639		190	1859		842	1870	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	61	20	10	10	10	61	10	495	46	15	1168	128
RTOR Reduction (vph)	0	9	0	0	55	0	0	2	0	0	3	0
Lane Group Flow (vph)	61	21	0	0	26	0	10	539	0	15	1293	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	1%	0%	0%	0%	1%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	7.8	7.8			7.8		66.8	66.8		66.8	66.8	
Effective Green, g (s)	7.8	7.8			7.8		66.8	66.8		66.8	66.8	
Actuated g/C Ratio	0.09	0.09			0.09		0.81	0.81		0.81	0.81	
Clearance Time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	123	170			154		153	1503		680	1512	
v/s Ratio Prot		0.01						0.29			c0.69	
v/s Ratio Perm	c0.05				0.02		0.05			0.02		
v/c Ratio	0.50	0.12			0.17		0.07	0.36		0.02	0.86	
Uniform Delay, d1	35.5	34.3			34.4		1.6	2.1		1.5	4.9	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.1	0.3			0.5		0.2	0.1		0.0	5.0	
Delay (s)	38.7	34.6			34.9		1.8	2.3		1.6	9.9	
Level of Service	D	C			C		A	A		A	A	
Approach Delay (s)		37.3			34.9			2.3			9.8	
Approach LOS		D			C			A			A	
Intersection Summary												
HCM 2000 Control Delay			10.0									
HCM 2000 Volume to Capacity ratio			0.82									
Actuated Cycle Length (s)			82.6									
Intersection Capacity Utilization			86.0%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

90: Clairmont Dr & Beaver Creek Road

2035 TSP planned base -withHolly ext

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	85	65	70	65	40	20	785	95	75	1350	190
Future Volume (vph)	190	85	65	70	65	40	20	785	95	75	1350	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.95	0.95			1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.94			0.97		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	0.99			0.98		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1715	1693			1805		1805	1849		1805	1881	1615
Flt Permitted	0.55	0.94			0.62		0.06	1.00		0.23	1.00	1.00
Satd. Flow (perm)	988	1608			1150		116	1849		432	1881	1615
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	194	87	66	71	66	41	20	801	97	77	1378	194
RTOR Reduction (vph)	0	24	0	0	12	0	0	5	0	0	0	28
Lane Group Flow (vph)	169	154	0	0	166	0	20	893	0	77	1378	166
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Turn Type	custom	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases					8			2			6	
Permitted Phases	4	4		8			2			6		6
Actuated Green, G (s)	16.7	16.7			16.7		65.5	65.5		65.5	65.5	65.5
Effective Green, g (s)	16.7	16.7			16.7		65.5	65.5		65.5	65.5	65.5
Actuated g/C Ratio	0.19	0.19			0.19		0.73	0.73		0.73	0.73	0.73
Clearance Time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	182	297			212		84	1342		313	1365	1172
v/s Ratio Prot								0.48			c0.73	
v/s Ratio Perm	c0.17	0.10			0.14		0.17			0.18		0.10
v/c Ratio	0.93	0.52			0.78		0.24	0.67		0.25	1.01	0.14
Uniform Delay, d1	36.2	33.1			35.0		4.1	6.5		4.1	12.4	3.8
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	46.1	1.5			16.9		1.5	1.3		0.4	26.7	0.1
Delay (s)	82.2	34.7			51.9		5.6	7.8		4.5	39.1	3.8
Level of Service	F	C			D		A	A		A	D	A
Approach Delay (s)		57.8			51.9			7.8			33.3	
Approach LOS		E			D			A			C	
Intersection Summary												
HCM 2000 Control Delay			29.5									C
HCM 2000 Volume to Capacity ratio			0.99									
Actuated Cycle Length (s)			90.2							8.0		
Intersection Capacity Utilization			100.3%							G		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

126: Beaver Creek Rd & Loder Rd

2035 TSP planned base -withHolly ext

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	105	80	10	110	60	45	780	20	50	1295	140
Future Volume (vph)	60	105	80	10	110	60	45	780	20	50	1295	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.96			0.95			1.00			0.99	
Flt Protected		0.99			1.00			1.00			1.00	
Satd. Flow (prot)		1794			1810			1872			1852	
Flt Permitted		0.75			0.97			0.86			0.95	
Satd. Flow (perm)		1368			1764			1608			1763	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	61	107	82	10	112	61	46	796	20	51	1321	143
RTOR Reduction (vph)	0	20	0	0	20	0	0	1	0	0	4	0
Lane Group Flow (vph)	0	230	0	0	163	0	0	861	0	0	1511	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	8%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		16.0			16.0			66.5			66.5	
Effective Green, g (s)		16.0			16.0			66.5			66.5	
Actuated g/C Ratio		0.18			0.18			0.73			0.73	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		241			311			1181			1295	
v/s Ratio Prot												
v/s Ratio Perm		c0.17			0.09			0.54			c0.86	
v/c Ratio		0.96			0.52			0.73			1.17	
Uniform Delay, d1		36.9			33.8			6.9			12.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		45.2			1.6			2.3			83.7	
Delay (s)		82.1			35.4			9.1			95.7	
Level of Service		F			D			A			F	
Approach Delay (s)		82.1			35.4			9.1			95.7	
Approach LOS		F			D			A			F	
Intersection Summary												
HCM 2000 Control Delay			64.0									E
HCM 2000 Volume to Capacity ratio			1.12									
Actuated Cycle Length (s)			90.5								8.0	
Intersection Capacity Utilization			126.5%								H	
ICU Level of Service												
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

129: Meyers Rd & Beavercreek Rd

2035 TSP planned base -withHolly ext

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	20	20	180	25	280	25	505	75	170	1085	130
Future Volume (vph)	110	20	20	180	25	280	25	505	75	170	1085	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93			0.92		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1715			1720		1671	1841		1803	1857	
Flt Permitted	0.37	1.00			0.86		0.06	1.00		0.37	1.00	
Satd. Flow (perm)	712	1715			1508		114	1841		706	1857	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	112	20	20	184	26	286	26	515	77	173	1107	133
RTOR Reduction (vph)	0	16	0	0	54	0	0	6	0	0	5	0
Lane Group Flow (vph)	112	24	0	0	442	0	26	586	0	173	1235	0
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	0%	5%	0%	0%	0%	8%	1%	0%	0%	0%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	20.0	20.0			20.0		62.0	62.0		62.0	62.0	
Effective Green, g (s)	20.0	20.0			20.0		62.0	62.0		62.0	62.0	
Actuated g/C Ratio	0.22	0.22			0.22		0.69	0.69		0.69	0.69	
Clearance Time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	158	381			335		78	1268		486	1279	
v/s Ratio Prot		0.01						0.32			c0.67	
v/s Ratio Perm	0.16				c0.29		0.23			0.25		
v/c Ratio	0.71	0.06			1.32		0.33	0.46		0.36	0.97	
Uniform Delay, d1	32.3	27.6			35.0		5.7	6.4		5.8	13.0	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	13.6	0.1			162.7		11.1	1.2		2.0	18.2	
Delay (s)	45.9	27.7			197.7		16.8	7.6		7.8	31.2	
Level of Service	D	C			F		B	A		A	C	
Approach Delay (s)		41.1			197.7			8.0			28.4	
Approach LOS		D			F			A			C	
Intersection Summary												
HCM 2000 Control Delay			55.7				HCM 2000 Level of Service			E		
HCM 2000 Volume to Capacity ratio			1.05									
Actuated Cycle Length (s)			90.0				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			113.5%				ICU Level of Service			H		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

16: OR 213 & Beaver Creek Road

07/30/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	735	825	80	165	585	730	40	695	170	855	1145	750
Future Volume (vph)	735	825	80	165	585	730	40	695	170	855	1145	750
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3482		3433	3539	1553	1597	3471	1568	3400	3471	1568
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3482		3433	3539	1553	1597	3471	1568	3400	3471	1568
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	750	842	82	168	597	745	41	709	173	872	1168	765
RTOR Reduction (vph)	0	6	0	0	0	385	0	0	135	0	0	277
Lane Group Flow (vph)	750	918	0	168	597	360	41	709	38	872	1168	488
Confl. Peds. (#/hr)	1		3	3		1			2	2		
Confl. Bikes (#/hr)			1			1						
Heavy Vehicles (%)	2%	2%	3%	2%	2%	4%	13%	4%	3%	3%	4%	3%
Turn Type	Prot	NA		Prot	NA	Prot	Prot	NA	Prot	Prot	NA	Prot
Protected Phases	7	4		3	8	8	1	6	6	5	2	2
Permitted Phases												
Actuated Green, G (s)	14.7	31.1		4.1	20.5	20.5	3.2	22.3	22.3	30.7	49.8	49.8
Effective Green, g (s)	15.2	31.6		4.6	21.0	21.0	3.7	24.3	24.3	31.2	51.8	51.8
Actuated g/C Ratio	0.14	0.28		0.04	0.19	0.19	0.03	0.22	0.22	0.28	0.46	0.46
Clearance Time (s)	5.5	5.5		5.5	5.5	5.5	5.5	7.0	7.0	5.5	7.0	7.0
Vehicle Extension (s)	2.3	2.3		2.3	2.3	2.3	2.3	4.7	4.7	2.3	4.7	4.7
Lane Grp Cap (vph)	467	985		141	665	291	52	755	341	949	1609	727
v/s Ratio Prot	c0.22	0.26		0.05	0.17	c0.23	0.03	c0.20	0.02	c0.26	0.34	0.31
v/s Ratio Perm												
v/c Ratio	1.61	0.93		1.19	0.90	1.24	0.79	0.94	0.11	0.92	0.73	0.67
Uniform Delay, d1	48.2	39.0		53.6	44.3	45.4	53.6	43.0	35.0	39.0	24.2	23.3
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	282.6	14.8		136.4	14.7	132.8	51.6	19.7	0.3	13.4	2.0	3.0
Delay (s)	330.8	53.8		189.9	59.0	178.2	105.2	62.7	35.3	52.4	26.2	26.3
Level of Service	F	D		F	E	F	F	E	D	D	C	C
Approach Delay (s)		177.9			132.3			59.4			34.4	
Approach LOS		F			F			E			C	
Intersection Summary												
HCM 2000 Control Delay			93.9									
HCM 2000 Volume to Capacity ratio			1.11									
Actuated Cycle Length (s)			111.7									
Intersection Capacity Utilization			98.0%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

17: Beaver Creek Road & Maple Lane Road

07/30/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	465	970	315	75	755	115	380	130	95	105	135	350
Future Volume (vph)	465	970	315	75	755	115	380	130	95	105	135	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.96		1.00	0.98		1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1787	3443		1805	3497		1805	1743		1717	1900	1615
Flt Permitted	0.95	1.00		0.95	1.00		0.31	1.00		0.41	1.00	1.00
Satd. Flow (perm)	1787	3443		1805	3497		594	1743		740	1900	1615
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	474	990	321	77	770	117	388	133	97	107	138	357
RTOR Reduction (vph)	0	21	0	0	8	0	0	18	0	0	0	29
Lane Group Flow (vph)	474	1290	0	77	879	0	388	212	0	107	138	328
Confl. Peds. (#/hr)	1					1			2	2		
Heavy Vehicles (%)	1%	1%	1%	0%	1%	0%	0%	1%	2%	5%	0%	0%
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases							8			4		4
Actuated Green, G (s)	38.7	79.6		5.0	45.9		37.8	21.9		25.7	14.3	53.0
Effective Green, g (s)	38.7	80.1		5.0	46.4		38.3	22.4		26.7	14.8	53.0
Actuated g/C Ratio	0.29	0.59		0.04	0.34		0.28	0.17		0.20	0.11	0.39
Clearance Time (s)	4.0	4.5		4.0	4.5		4.5	4.5		4.5	4.5	4.0
Vehicle Extension (s)	2.5	4.0		2.5	4.0		2.5	2.5		2.5	2.5	2.5
Lane Grp Cap (vph)	510	2036		66	1198		342	288		231	207	632
v/s Ratio Prot	c0.27	0.37		0.04	c0.25		c0.16	0.12		0.04	0.07	0.15
v/s Ratio Perm							c0.16			0.05		0.05
v/c Ratio	0.93	0.63		1.17	0.73		1.13	0.73		0.46	0.67	0.52
Uniform Delay, d1	47.0	18.1		65.2	39.1		44.9	53.7		46.6	57.9	31.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	23.4	1.5		162.9	4.0		90.3	8.8		1.1	7.1	0.5
Delay (s)	70.4	19.6		228.1	43.1		135.2	62.5		47.7	65.0	32.0
Level of Service	E	B		F	D		F	E		D	E	C
Approach Delay (s)		33.1			57.9			108.2			42.4	
Approach LOS		C			E			F			D	
Intersection Summary												
HCM 2000 Control Delay			52.2			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.94									
Actuated Cycle Length (s)			135.4			Sum of lost time (s)				16.0		
Intersection Capacity Utilization			91.8%			ICU Level of Service				F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th TWSC
21: Beaver Creek Road & Glen Oak Road

07/30/2019

Intersection												
Int Delay, s/veh	62.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	65	30	30	60	35	175	35	355	40	85	740	140
Future Vol, veh/h	65	30	30	60	35	175	35	355	40	85	740	140
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	-	-	115	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0	3	1	0	0	0	1
Mvmt Flow	66	31	31	61	36	179	36	362	41	87	755	143
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1563	1476	827	1487	1527	383	898	0	0	403	0	0
Stage 1	1001	1001	-	455	455	-	-	-	-	-	-	-
Stage 2	562	475	-	1032	1072	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.13	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.227	-	-	2.2	-	-
Pot Cap-1 Maneuver	92	127	375	104	119	669	752	-	-	1167	-	-
Stage 1	295	323	-	589	572	-	-	-	-	-	-	-
Stage 2	515	561	-	284	299	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 45	112	375	69	105	669	752	-	-	1167	-	-
Mov Cap-2 Maneuver	~ 45	112	-	69	105	-	-	-	-	-	-	-
Stage 1	281	299	-	561	545	-	-	-	-	-	-	-
Stage 2	336	534	-	217	277	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	249.5		296.8		0.8		0.7					
HCM LOS	F		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR			
Capacity (veh/h)	752	-	-	45	172	184	1167	-	-			
HCM Lane V/C Ratio	0.047	-	-	1.474	0.356	1.497	0.074	-	-			
HCM Control Delay (s)	10	-	-	\$ 445.5	37.1	296.8	8.3	-	-			
HCM Lane LOS	B	-	-	F	E	F	A	-	-			
HCM 95th %tile Q(veh)	0.1	-	-	6.5	1.5	17.4	0.2	-	-			
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

HCM Signalized Intersection Capacity Analysis

90: Clairmont Dr & Beaver Creek Road

07/30/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	10	75	70	10	155	65	800	35	70	985	140
Future Volume (vph)	125	10	75	70	10	155	65	800	35	70	985	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.95	0.95			1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.89			0.91		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.99			0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1715	1592			1705		1805	1868		1805	1881	1615
Flt Permitted	0.49	0.94			0.87		0.14	1.00		0.22	1.00	1.00
Satd. Flow (perm)	882	1511			1505		267	1868		427	1881	1615
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	128	10	77	71	10	158	66	816	36	71	1005	143
RTOR Reduction (vph)	0	61	0	0	76	0	0	2	0	0	0	34
Lane Group Flow (vph)	111	43	0	0	163	0	66	850	0	71	1005	109
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Turn Type	custom	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases					8			2			6	
Permitted Phases	4	4		8			2			6		6
Actuated Green, G (s)	13.2	13.2			13.2		42.9	42.9		42.9	42.9	42.9
Effective Green, g (s)	13.2	13.2			13.2		42.9	42.9		42.9	42.9	42.9
Actuated g/C Ratio	0.21	0.21			0.21		0.67	0.67		0.67	0.67	0.67
Clearance Time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	181	311			309		178	1250		285	1258	1080
v/s Ratio Prot								0.45			c0.53	
v/s Ratio Perm	c0.13	0.03			0.11		0.25			0.17		0.07
v/c Ratio	0.61	0.14			0.53		0.37	0.68		0.25	0.80	0.10
Uniform Delay, d1	23.1	20.8			22.7		4.7	6.4		4.2	7.5	3.8
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	6.0	0.2			1.6		1.3	1.5		0.5	3.6	0.0
Delay (s)	29.2	21.0			24.3		6.0	8.0		4.7	11.2	3.8
Level of Service	C	C			C		A	A		A	B	A
Approach Delay (s)		25.2			24.3			7.8			9.9	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM 2000 Control Delay			11.8				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			64.1				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			85.4%				ICU Level of Service			E		
Analysis Period (min)			15									

c Critical Lane Group

HCM 6th TWSC
126: Beaver Creek Rd & Loder Rd

07/30/2019

Intersection												
Int Delay, s/veh	645.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	35	30	50	25	180	30	695	40	90	1015	30
Future Vol, veh/h	25	35	30	50	25	180	30	695	40	90	1015	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	8	1	0
Mvmt Flow	26	36	31	51	26	184	31	709	41	92	1036	31
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2133	2048	1052	2061	2043	730	1067	0	0	750	0	0
Stage 1	1236	1236	-	792	792	-	-	-	-	-	-	-
Stage 2	897	812	-	1269	1251	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.18	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.272	-	-
Pot Cap-1 Maneuver	36	57	278	~ 41	57	426	661	-	-	833	-	-
Stage 1	218	250	-	385	404	-	-	-	-	-	-	-
Stage 2	337	395	-	208	246	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 7	38	278	~ 5	38	426	661	-	-	833	-	-
Mov Cap-2 Maneuver	~ 7	38	-	~ 5	38	-	-	-	-	-	-	-
Stage 1	200	182	-	354	371	-	-	-	-	-	-	-
Stage 2	164	363	-	108	179	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, \$ 2005.6			\$ 4968.2		0.4		0.8					
HCM LOS	F		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	661	-	-	20 23	833	-	-					
HCM Lane V/C Ratio	0.046	-	-	4.592 11.313	0.11	-	-					
HCM Control Delay (s)	10.7	0	\$ 2005.6	\$ 4968.2	9.9	0	-					
HCM Lane LOS	B	A	-	F F	A	A	-					
HCM 95th %tile Q(veh)	0.1	-	-	11.9 32.6	0.4	-	-					
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

HCM Signalized Intersection Capacity Analysis

129: Meyers Rd & Beaver Creek Rd

07/30/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	15	25	105	30	165	60	485	45	110	835	140
Future Volume (vph)	150	15	25	105	30	165	60	485	45	110	835	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.90			0.93		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1666			1729		1671	1855		1803	1843	
Flt Permitted	0.41	1.00			0.87		0.17	1.00		0.41	1.00	
Satd. Flow (perm)	784	1666			1526		293	1855		777	1843	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	153	15	26	107	31	168	61	495	46	112	852	143
RTOR Reduction (vph)	0	21	0	0	50	0	0	4	0	0	6	0
Lane Group Flow (vph)	153	20	0	0	256	0	61	537	0	112	989	0
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	0%	5%	0%	0%	0%	8%	1%	0%	0%	0%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	17.9	17.9			17.9		62.2	62.2		62.2	62.2	
Effective Green, g (s)	17.9	17.9			17.9		62.2	62.2		62.2	62.2	
Actuated g/C Ratio	0.20	0.20			0.20		0.71	0.71		0.71	0.71	
Clearance Time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	159	338			310		206	1309		548	1301	
v/s Ratio Prot		0.01						0.29			c0.54	
v/s Ratio Perm	c0.20				0.17		0.21			0.14		
v/c Ratio	0.96	0.06			0.83		0.30	0.41		0.20	0.76	
Uniform Delay, d1	34.8	28.3			33.6		4.8	5.4		4.4	8.2	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	59.8	0.1			16.2		3.6	1.0		0.8	4.2	
Delay (s)	94.5	28.4			49.8		8.4	6.3		5.3	12.4	
Level of Service	F	C			D		A	A		A	B	
Approach Delay (s)		80.6			49.8			6.5			11.7	
Approach LOS		F			D			A			B	
Intersection Summary												
HCM 2000 Control Delay			21.6									HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			88.1									Sum of lost time (s) 8.0
Intersection Capacity Utilization			90.0%									ICU Level of Service E
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

16: OR 213 & Beaver Creek Road

07/30/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	735	825	80	165	585	740	40	695	170	865	1140	750
Future Volume (vph)	735	825	80	165	585	740	40	695	170	865	1140	750
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3482		3433	3539	1553	1597	3471	1568	3400	3471	1568
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3482		3433	3539	1553	1597	3471	1568	3400	3471	1568
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	750	842	82	168	597	755	41	709	173	883	1163	765
RTOR Reduction (vph)	0	6	0	0	0	385	0	0	136	0	0	276
Lane Group Flow (vph)	750	918	0	168	597	370	41	709	37	883	1163	489
Confl. Peds. (#/hr)	1		3	3		1			2	2		
Confl. Bikes (#/hr)			1			1						
Heavy Vehicles (%)	2%	2%	3%	2%	2%	4%	13%	4%	3%	3%	4%	3%
Turn Type	Prot	NA		Prot	NA	Prot	Prot	NA	Prot	Prot	NA	Prot
Protected Phases	7	4		3	8	8	1	6	6	5	2	2
Permitted Phases												
Actuated Green, G (s)	14.7	31.1		4.1	20.5	20.5	3.2	22.2	22.2	30.9	49.9	49.9
Effective Green, g (s)	15.2	31.6		4.6	21.0	21.0	3.7	24.2	24.2	31.4	51.9	51.9
Actuated g/C Ratio	0.14	0.28		0.04	0.19	0.19	0.03	0.22	0.22	0.28	0.46	0.46
Clearance Time (s)	5.5	5.5		5.5	5.5	5.5	5.5	7.0	7.0	5.5	7.0	7.0
Vehicle Extension (s)	2.3	2.3		2.3	2.3	2.3	2.3	4.7	4.7	2.3	4.7	4.7
Lane Grp Cap (vph)	466	984		141	664	291	52	751	339	954	1611	727
v/s Ratio Prot	c0.22	0.26		0.05	0.17	c0.24	0.03	c0.20	0.02	c0.26	0.34	0.31
v/s Ratio Perm												
v/c Ratio	1.61	0.93		1.19	0.90	1.27	0.79	0.94	0.11	0.93	0.72	0.67
Uniform Delay, d1	48.3	39.1		53.6	44.4	45.4	53.7	43.1	35.2	39.1	24.1	23.3
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	284.1	14.9		136.4	14.8	146.4	51.6	20.7	0.3	14.2	1.9	3.0
Delay (s)	332.4	54.0		190.0	59.2	191.8	105.3	63.8	35.4	53.3	26.0	26.3
Level of Service	F	D		F	E	F	F	E	D	D	C	C
Approach Delay (s)		178.7			139.5			60.4			34.7	
Approach LOS		F			F			E			C	
Intersection Summary												
HCM 2000 Control Delay			95.9									
HCM 2000 Volume to Capacity ratio			1.12									
Actuated Cycle Length (s)			111.8									
Intersection Capacity Utilization			98.6%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

17: Beaver Creek Road & Maple Lane Road

07/30/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	475	970	305	75	775	125	365	130	95	105	140	360
Future Volume (vph)	475	970	305	75	775	125	365	130	95	105	140	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.96		1.00	0.98		1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1787	3446		1805	3493		1805	1743		1717	1900	1615
Flt Permitted	0.95	1.00		0.95	1.00		0.30	1.00		0.41	1.00	1.00
Satd. Flow (perm)	1787	3446		1805	3493		576	1743		747	1900	1615
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	485	990	311	77	791	128	372	133	97	107	143	367
RTOR Reduction (vph)	0	20	0	0	9	0	0	18	0	0	0	28
Lane Group Flow (vph)	485	1281	0	77	910	0	372	212	0	107	143	339
Confl. Peds. (#/hr)	1					1			2	2		
Heavy Vehicles (%)	1%	1%	1%	0%	1%	0%	0%	1%	2%	5%	0%	0%
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases							8			4		4
Actuated Green, G (s)	39.2	79.6		5.0	45.4		38.1	22.2		26.0	14.6	53.8
Effective Green, g (s)	39.2	80.1		5.0	45.9		38.6	22.7		27.0	15.1	53.8
Actuated g/C Ratio	0.29	0.59		0.04	0.34		0.28	0.17		0.20	0.11	0.40
Clearance Time (s)	4.0	4.5		4.0	4.5		4.5	4.5		4.5	4.5	4.0
Vehicle Extension (s)	2.5	4.0		2.5	4.0		2.5	2.5		2.5	2.5	2.5
Lane Grp Cap (vph)	516	2034		66	1181		340	291		233	211	640
v/s Ratio Prot	c0.27	0.37		0.04	c0.26		c0.16	0.12		0.04	0.08	0.15
v/s Ratio Perm							c0.15			0.05		0.06
v/c Ratio	0.94	0.63		1.17	0.77		1.09	0.73		0.46	0.68	0.53
Uniform Delay, d1	47.1	18.1		65.3	40.2		44.8	53.6		46.5	58.0	31.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	25.1	1.5		162.9	4.9		76.4	8.2		1.0	7.6	0.6
Delay (s)	72.2	19.6		228.2	45.1		121.3	61.8		47.6	65.6	31.9
Level of Service	E	B		F	D		F	E		D	E	C
Approach Delay (s)		33.9			59.2			98.5			42.4	
Approach LOS		C			E			F			D	
Intersection Summary												
HCM 2000 Control Delay			51.2			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.95									
Actuated Cycle Length (s)			135.7			Sum of lost time (s)				16.0		
Intersection Capacity Utilization			92.7%			ICU Level of Service				F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM 6th TWSC
21: Beaver Creek Road & Glen Oak Road

07/30/2019

Intersection												
Int Delay, s/veh	78.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	65	30	30	60	35	190	35	355	40	100	750	145
Future Vol, veh/h	65	30	30	60	35	190	35	355	40	100	750	145
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	-	-	115	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0	3	1	0	0	0	1
Mvmt Flow	66	31	31	61	36	194	36	362	41	102	765	148
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1613	1518	839	1529	1572	383	913	0	0	403	0	0
Stage 1	1043	1043	-	455	455	-	-	-	-	-	-	-
Stage 2	570	475	-	1074	1117	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.13	-	-	4.1	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.227	-	-	2.2	-	-
Pot Cap-1 Maneuver	85	120	369	97	111	669	742	-	-	1167	-	-
Stage 1	280	309	-	589	572	-	-	-	-	-	-	-
Stage 2	510	561	-	269	285	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 39	104	369	62	96	669	742	-	-	1167	-	-
Mov Cap-2 Maneuver	~ 39	104	-	62	96	-	-	-	-	-	-	-
Stage 1	266	282	-	560	544	-	-	-	-	-	-	-
Stage 2	322	534	-	201	260	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s\$	312.5		\$ 364		0.8		0.8					
HCM LOS	F		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR			
Capacity (veh/h)	742	-	-	39	162	176	1167	-	-			
HCM Lane V/C Ratio	0.048	-	-	1.701	0.378	1.652	0.087	-	-			
HCM Control Delay (s)	10.1	-	-	\$ 564	40.1	\$ 364	8.4	-	-			
HCM Lane LOS	B	-	-	F	E	F	A	-	-			
HCM 95th %tile Q(veh)	0.2	-	-	7	1.6	19.8	0.3	-	-			
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

HCM Signalized Intersection Capacity Analysis

90: Clairmont Dr & Beaver Creek Road

07/30/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	5	70	70	10	155	65	820	35	70	990	140
Future Volume (vph)	125	5	70	70	10	155	65	820	35	70	990	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.95	0.95			1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.89			0.91		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.99			0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1715	1592			1705		1805	1869		1805	1881	1615
Flt Permitted	0.48	0.90			0.87		0.14	1.00		0.22	1.00	1.00
Satd. Flow (perm)	873	1449			1506		269	1869		411	1881	1615
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	128	5	71	71	10	158	66	837	36	71	1010	143
RTOR Reduction (vph)	0	57	0	0	77	0	0	2	0	0	0	33
Lane Group Flow (vph)	105	42	0	0	162	0	66	871	0	71	1010	110
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Turn Type	custom	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases					8			2			6	
Permitted Phases	4	4		8			2			6		6
Actuated Green, G (s)	12.8	12.8			12.8		43.0	43.0		43.0	43.0	43.0
Effective Green, g (s)	12.8	12.8			12.8		43.0	43.0		43.0	43.0	43.0
Actuated g/C Ratio	0.20	0.20			0.20		0.67	0.67		0.67	0.67	0.67
Clearance Time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	175	290			302		181	1259		277	1267	1088
v/s Ratio Prot								0.47			c0.54	
v/s Ratio Perm	c0.12	0.03			0.11		0.25			0.17		0.07
v/c Ratio	0.60	0.15			0.54		0.36	0.69		0.26	0.80	0.10
Uniform Delay, d1	23.2	21.0			22.8		4.5	6.4		4.1	7.3	3.6
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	5.5	0.2			1.8		1.3	1.7		0.5	3.6	0.0
Delay (s)	28.6	21.2			24.7		5.7	8.0		4.6	10.9	3.7
Level of Service	C	C			C		A	A		A	B	A
Approach Delay (s)		25.0			24.7			7.9			9.7	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM 2000 Control Delay			11.6				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			63.8				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			85.4%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

Intersection												
Int Delay, s/veh	432.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	30	25	50	25	175	30	720	40	90	1015	30
Future Vol, veh/h	25	30	25	50	25	175	30	720	40	90	1015	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	0	0	0	0	0	0	0	1	0	8	1	0
Mvmt Flow	26	31	26	51	26	179	31	735	41	92	1036	31
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2156	2074	1052	2082	2069	756	1067	0	0	776	0	0
Stage 1	1236	1236	-	818	818	-	-	-	-	-	-	-
Stage 2	920	838	-	1264	1251	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.18	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.272	-	-
Pot Cap-1 Maneuver	35	54	278	~ 40	55	411	661	-	-	814	-	-
Stage 1	218	250	-	373	393	-	-	-	-	-	-	-
Stage 2	327	384	-	210	246	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 6	36	278	~ 8	36	411	661	-	-	814	-	-
Mov Cap-2 Maneuver	~ 6	36	-	~ 8	36	-	-	-	-	-	-	-
Stage 1	200	180	-	342	360	-	-	-	-	-	-	-
Stage 2	158	352	-	114	177	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, \$	2322.8		\$ 3154.7		0.4		0.8					
HCM LOS	F		F									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	661	-	-	16	34	814	-	-				
HCM Lane V/C Ratio	0.046	-	-	5.102	7.503	0.113	-	-				
HCM Control Delay (s)	10.7	0	\$ 2322.8	\$ 3154.7	10	0	-					
HCM Lane LOS	B	A	-	F	F	A	A	-				
HCM 95th %tile Q(veh)	0.1	-	-	11	30.7	0.4	-	-				
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon			

HCM Signalized Intersection Capacity Analysis

129: Meyers Rd & Beavercreek Rd

07/30/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	15	25	115	30	175	55	505	45	110	855	140
Future Volume (vph)	155	15	25	115	30	175	55	505	45	110	855	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.90			0.93		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1666			1729		1671	1856		1803	1844	
Flt Permitted	0.41	1.00			0.86		0.15	1.00		0.39	1.00	
Satd. Flow (perm)	779	1666			1522		266	1856		750	1844	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	158	15	26	117	31	179	56	515	46	112	872	143
RTOR Reduction (vph)	0	21	0	0	49	0	0	3	0	0	6	0
Lane Group Flow (vph)	158	20	0	0	278	0	56	558	0	112	1009	0
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	0%	5%	0%	0%	0%	8%	1%	0%	0%	0%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	18.6	18.6			18.6		62.0	62.0		62.0	62.0	
Effective Green, g (s)	18.6	18.6			18.6		62.0	62.0		62.0	62.0	
Actuated g/C Ratio	0.21	0.21			0.21		0.70	0.70		0.70	0.70	
Clearance Time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	163	349			319		186	1298		524	1290	
v/s Ratio Prot		0.01						0.30			c0.55	
v/s Ratio Perm	c0.20				0.18		0.21			0.15		
v/c Ratio	0.97	0.06			0.87		0.30	0.43		0.21	0.78	
Uniform Delay, d1	34.7	28.0			33.8		5.1	5.7		4.7	8.8	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	60.6	0.1			22.0		4.1	1.0		0.9	4.8	
Delay (s)	95.3	28.1			55.8		9.2	6.8		5.6	13.6	
Level of Service	F	C			E		A	A		A	B	
Approach Delay (s)		81.5			55.8			7.0			12.8	
Approach LOS		F			E			A			B	
Intersection Summary												
HCM 2000 Control Delay			23.4				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.82									
Actuated Cycle Length (s)			88.6				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			92.2%				ICU Level of Service			F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

16: OR 213 & Beaver Creek Road

see alternate
mobility target
option

08/01/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	735	825	80	165	585	740	40	695	170	865	1140	750
Future Volume (vph)	735	825	80	165	585	740	40	695	170	865	1140	750
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	3.5	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3482		3433	3539	1533	1597	3471	1568	3400	3471	1568
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3482		3433	3539	1533	1597	3471	1568	3400	3471	1568
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	750	842	82	168	597	755	41	709	173	883	1163	765
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	135	0	0	275
Lane Group Flow (vph)	750	918	0	168	597	755	41	709	38	883	1163	490
Confl. Peds. (#/hr)	1		3	3		1			2	2		
Confl. Bikes (#/hr)			1			1						
Heavy Vehicles (%)	2%	2%	3%	2%	2%	4%	13%	4%	3%	3%	4%	3%
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Prot	Prot	NA	Prot
Protected Phases	7	4		3	8		1	6	6	5	2	2
Permitted Phases						Free						
Actuated Green, G (s)	14.7	30.6		4.1	20.0	111.2	3.1	22.2	22.2	30.8	49.9	49.9
Effective Green, g (s)	15.2	31.1		4.6	20.5	111.2	3.6	24.2	24.2	31.3	51.9	51.9
Actuated g/C Ratio	0.14	0.28		0.04	0.18	1.00	0.03	0.22	0.22	0.28	0.47	0.47
Clearance Time (s)	5.5	5.5		5.5	5.5		5.5	7.0	7.0	5.5	7.0	7.0
Vehicle Extension (s)	2.3	2.3		2.3	2.3		2.3	4.7	4.7	2.3	4.7	4.7
Lane Grp Cap (vph)	469	973		142	652	1533	51	755	341	957	1620	731
v/s Ratio Prot	c0.22	c0.26		0.05	c0.17		0.03	c0.20	0.02	c0.26	0.34	0.31
v/s Ratio Perm						0.49						
v/c Ratio	1.60	0.94		1.18	0.92	0.49	0.80	0.94	0.11	0.92	0.72	0.67
Uniform Delay, d1	48.0	39.2		53.3	44.5	0.0	53.4	42.8	34.9	38.8	23.8	23.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	279.5	16.7		133.1	17.4	1.1	57.2	19.7	0.3	13.9	1.8	3.0
Delay (s)	327.5	55.9		186.4	61.9	1.1	110.7	62.5	35.1	52.7	25.6	26.0
Level of Service	F	E		F	E	A	F	E	D	D	C	C
Approach Delay (s)		177.6			45.5			59.5			34.2	
Approach LOS		F			D			E			C	
Intersection Summary												
HCM 2000 Control Delay			74.7			HCM 2000 Level of Service			E			
HCM 2000 Volume to Capacity ratio			1.04									
Actuated Cycle Length (s)			111.2			Sum of lost time (s)			20.0			
Intersection Capacity Utilization			97.7%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

17: Beaver Creek Road & Maple Lane Road

08/01/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	475	970	305	75	775	125	365	130	95	105	140	360
Future Volume (vph)	475	970	305	75	775	125	365	130	95	105	140	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.96		1.00	0.98		1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1787	3446		1805	3493		1805	1743		1716	1900	1615
Flt Permitted	0.95	1.00		0.95	1.00		0.30	1.00		0.62	1.00	1.00
Satd. Flow (perm)	1787	3446		1805	3493		566	1743		1111	1900	1615
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	485	990	311	77	791	128	372	133	97	107	143	367
RTOR Reduction (vph)	0	20	0	0	9	0	0	18	0	0	0	50
Lane Group Flow (vph)	485	1281	0	77	910	0	372	212	0	107	143	317
Confl. Peds. (#/hr)	1					1			2	2		
Heavy Vehicles (%)	1%	1%	1%	0%	1%	0%	0%	1%	2%	5%	0%	0%
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases							8			4		4
Actuated Green, G (s)	38.7	70.4		8.5	40.2		43.2	27.7		25.3	14.3	53.0
Effective Green, g (s)	38.7	70.9		8.5	40.7		43.7	28.2		26.3	14.8	53.0
Actuated g/C Ratio	0.29	0.52		0.06	0.30		0.32	0.21		0.19	0.11	0.39
Clearance Time (s)	4.0	4.5		4.0	4.5		4.5	4.5		4.5	4.5	4.0
Vehicle Extension (s)	2.5	4.0		2.5	4.0		2.5	2.5		2.5	2.5	2.5
Lane Grp Cap (vph)	511	1808		113	1052		411	363		267	208	633
v/s Ratio Prot	c0.27	0.37		0.04	c0.26		c0.17	0.12		0.03	0.08	0.14
v/s Ratio Perm							c0.13			0.04		0.05
v/c Ratio	0.95	0.71		0.68	0.86		0.91	0.58		0.40	0.69	0.50
Uniform Delay, d1	47.2	24.3		62.0	44.6		39.5	48.2		46.7	57.9	31.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	27.2	2.4		14.4	9.5		22.9	2.0		0.7	8.3	0.5
Delay (s)	74.4	26.7		76.3	54.1		62.4	50.1		47.4	66.3	31.5
Level of Service	E	C		E	D		E	D		D	E	C
Approach Delay (s)		39.6			55.8			57.7			42.3	
Approach LOS		D			E			E			D	
Intersection Summary												
HCM 2000 Control Delay			46.8			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.93									
Actuated Cycle Length (s)			135.1			Sum of lost time (s)				16.0		
Intersection Capacity Utilization			92.7%			ICU Level of Service				F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

21: Beaver Creek Road & Glen Oak Road

08/01/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	30	30	60	35	190	35	355	40	100	750	145
Future Volume (vph)	65	30	30	60	35	190	35	355	40	100	750	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93			0.91		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1758			1711		1752	1854		1805	1851	
Flt Permitted	0.42	1.00			0.92		0.17	1.00		0.50	1.00	
Satd. Flow (perm)	801	1758			1592		322	1854		944	1851	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	66	31	31	61	36	194	36	362	41	102	765	148
RTOR Reduction (vph)	0	24	0	0	80	0	0	5	0	0	9	0
Lane Group Flow (vph)	66	38	0	0	211	0	36	398	0	102	904	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	1%	0%	0%	0%	1%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	12.8	12.8			12.8		37.3	37.3		37.3	37.3	
Effective Green, g (s)	12.8	12.8			12.8		37.3	37.3		37.3	37.3	
Actuated g/C Ratio	0.22	0.22			0.22		0.64	0.64		0.64	0.64	
Clearance Time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	176	387			350		206	1190		606	1188	
v/s Ratio Prot		0.02						0.21			c0.49	
v/s Ratio Perm	0.08				c0.13		0.11			0.11		
v/c Ratio	0.38	0.10			0.60		0.17	0.33		0.17	0.76	
Uniform Delay, d1	19.3	18.0			20.4		4.2	4.7		4.2	7.3	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.3	0.1			2.9		0.4	0.2		0.1	2.9	
Delay (s)	20.6	18.2			23.3		4.6	4.9		4.3	10.2	
Level of Service	C	B			C		A	A		A	B	
Approach Delay (s)		19.4			23.3			4.9			9.6	
Approach LOS		B			C			A			A	
Intersection Summary												
HCM 2000 Control Delay			11.3				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.72									
Actuated Cycle Length (s)			58.1				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			85.1%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

90: Clairmont Dr & Beaver Creek Road

08/01/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	5	70	70	10	155	65	820	35	70	990	140
Future Volume (vph)	125	5	70	70	10	155	65	820	35	70	990	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.95	0.95			1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.89			0.91		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.99			0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1715	1592			1705		1805	1869		1805	1881	1615
Flt Permitted	0.49	0.91			0.87		0.13	1.00		0.21	1.00	1.00
Satd. Flow (perm)	887	1463			1510		256	1869		400	1881	1615
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	128	5	71	71	10	158	66	837	36	71	1010	143
RTOR Reduction (vph)	0	56	0	0	76	0	0	2	0	0	0	34
Lane Group Flow (vph)	105	43	0	0	163	0	66	871	0	71	1010	109
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Turn Type	custom	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases					8			2			6	
Permitted Phases	4	4		8			2			6		6
Actuated Green, G (s)	13.8	13.8			13.8		43.5	43.5		43.5	43.5	43.5
Effective Green, g (s)	13.8	13.8			13.8		43.5	43.5		43.5	43.5	43.5
Actuated g/C Ratio	0.21	0.21			0.21		0.67	0.67		0.67	0.67	0.67
Clearance Time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	187	309			319		170	1245		266	1253	1075
v/s Ratio Prot								0.47			c0.54	
v/s Ratio Perm	c0.12	0.03			0.11		0.26			0.18		0.07
v/c Ratio	0.56	0.14			0.51		0.39	0.70		0.27	0.81	0.10
Uniform Delay, d1	23.0	20.9			22.8		4.9	6.8		4.4	7.9	3.9
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	3.8	0.2			1.4		1.5	1.7		0.5	3.9	0.0
Delay (s)	26.9	21.1			24.2		6.4	8.6		5.0	11.7	3.9
Level of Service	C	C			C		A	A		A	B	A
Approach Delay (s)		24.1			24.2			8.4			10.4	
Approach LOS		C			C			A			B	
Intersection Summary												
HCM 2000 Control Delay			12.0				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			65.3				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			85.4%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

126: Beaver Creek Rd & Loder Rd

08/01/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	30	25	50	25	175	30	720	40	90	1015	30
Future Volume (vph)	25	30	25	50	25	175	30	720	40	90	1015	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.96			0.91			0.99			1.00	
Flt Protected		0.98			0.99			1.00			1.00	
Satd. Flow (prot)		1792			1704			1866			1857	
Flt Permitted		0.67			0.93			0.94			0.88	
Satd. Flow (perm)		1216			1597			1750			1648	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	26	31	26	51	26	179	31	735	41	92	1036	31
RTOR Reduction (vph)	0	19	0	0	96	0	0	2	0	0	1	0
Lane Group Flow (vph)	0	64	0	0	160	0	0	805	0	0	1158	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	8%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		12.2			12.2			63.0			63.0	
Effective Green, g (s)		12.2			12.2			63.0			63.0	
Actuated g/C Ratio		0.15			0.15			0.76			0.76	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		178			234			1325			1247	
v/s Ratio Prot												
v/s Ratio Perm		0.05			0.10			0.46			0.70	
v/c Ratio		0.36			0.68			0.61			0.93	
Uniform Delay, d1		32.0			33.7			4.5			8.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.3			7.9			0.8			11.9	
Delay (s)		33.2			41.6			5.3			20.2	
Level of Service		C			D			A			C	
Approach Delay (s)		33.2			41.6			5.3			20.2	
Approach LOS		C			D			A			C	
Intersection Summary												
HCM 2000 Control Delay		17.8										
HCM 2000 Volume to Capacity ratio		0.89										
Actuated Cycle Length (s)		83.2										
Intersection Capacity Utilization		115.7%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

129: Meyers Rd & Beaver Creek Rd

08/01/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	15	25	115	30	175	55	505	45	110	855	140
Future Volume (vph)	155	15	25	115	30	175	55	505	45	110	855	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.90			0.93		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1666			1729		1671	1856		1803	1844	
Flt Permitted	0.41	1.00			0.86		0.15	1.00		0.39	1.00	
Satd. Flow (perm)	786	1666			1522		262	1856		747	1844	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	158	15	26	117	31	179	56	515	46	112	872	143
RTOR Reduction (vph)	0	20	0	0	49	0	0	3	0	0	6	0
Lane Group Flow (vph)	158	21	0	0	278	0	56	558	0	112	1009	0
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	0%	5%	0%	0%	0%	8%	1%	0%	0%	0%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	19.0	19.0			19.0		62.0	62.0		62.0	62.0	
Effective Green, g (s)	19.0	19.0			19.0		62.0	62.0		62.0	62.0	
Actuated g/C Ratio	0.21	0.21			0.21		0.70	0.70		0.70	0.70	
Clearance Time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	167	355			324		182	1292		520	1284	
v/s Ratio Prot		0.01						0.30			c0.55	
v/s Ratio Perm	c0.20				0.18		0.21			0.15		
v/c Ratio	0.95	0.06			0.86		0.31	0.43		0.22	0.79	
Uniform Delay, d1	34.5	27.9			33.7		5.2	5.9		4.8	9.0	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	53.4	0.1			19.6		4.3	1.1		0.9	4.9	
Delay (s)	87.9	27.9			53.3		9.5	6.9		5.8	13.9	
Level of Service	F	C			D		A	A		A	B	
Approach Delay (s)		75.6			53.3			7.1			13.1	
Approach LOS		E			D			A			B	
Intersection Summary												
HCM 2000 Control Delay			22.8				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.82									
Actuated Cycle Length (s)			89.0				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			92.2%				ICU Level of Service			F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

16: OR 213 & Beaver Creek Road

see alternate
mobility target
option

08/02/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	735	825	80	165	585	730	40	695	170	855	1145	750
Future Volume (vph)	735	825	80	165	585	730	40	695	170	855	1145	750
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	3.5	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3482		3433	3539	1533	1597	3471	1568	3400	3471	1568
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3482		3433	3539	1533	1597	3471	1568	3400	3471	1568
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	750	842	82	168	597	745	41	709	173	872	1168	765
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	135	0	0	275
Lane Group Flow (vph)	750	918	0	168	597	745	41	709	38	872	1168	490
Confl. Peds. (#/hr)	1		3	3		1			2	2		
Confl. Bikes (#/hr)			1			1						
Heavy Vehicles (%)	2%	2%	3%	2%	2%	4%	13%	4%	3%	3%	4%	3%
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Prot	Prot	NA	Prot
Protected Phases	7	4		3	8		1	6	6	5	2	2
Permitted Phases						Free						
Actuated Green, G (s)	14.8	30.6		4.1	19.9	111.1	3.1	22.3	22.3	30.6	49.8	49.8
Effective Green, g (s)	15.3	31.1		4.6	20.4	111.1	3.6	24.3	24.3	31.1	51.8	51.8
Actuated g/C Ratio	0.14	0.28		0.04	0.18	1.00	0.03	0.22	0.22	0.28	0.47	0.47
Clearance Time (s)	5.5	5.5		5.5	5.5		5.5	7.0	7.0	5.5	7.0	7.0
Vehicle Extension (s)	2.3	2.3		2.3	2.3		2.3	4.7	4.7	2.3	4.7	4.7
Lane Grp Cap (vph)	472	974		142	649	1533	51	759	342	951	1618	731
v/s Ratio Prot	c0.22	c0.26		0.05	c0.17		0.03	c0.20	0.02	c0.26	0.34	0.31
v/s Ratio Perm						0.49						
v/c Ratio	1.59	0.94		1.18	0.92	0.49	0.80	0.93	0.11	0.92	0.72	0.67
Uniform Delay, d1	47.9	39.1		53.2	44.5	0.0	53.4	42.6	34.7	38.7	23.9	23.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	275.0	16.5		133.1	18.0	1.1	57.2	18.9	0.3	13.1	1.9	2.9
Delay (s)	322.9	55.6		186.3	62.6	1.1	110.6	61.5	35.0	51.9	25.8	25.9
Level of Service	F	E		F	E	A	F	E	D	D	C	C
Approach Delay (s)		175.4			46.0			58.7			33.9	
Approach LOS		F			D			E			C	
Intersection Summary												
HCM 2000 Control Delay			74.1			HCM 2000 Level of Service			E			
HCM 2000 Volume to Capacity ratio			1.04									
Actuated Cycle Length (s)			111.1			Sum of lost time (s)			20.0			
Intersection Capacity Utilization			97.4%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

17: Beaver Creek Road & Maple Lane Road

08/02/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	465	970	315	75	755	115	380	130	95	105	135	350
Future Volume (vph)	465	970	315	75	755	115	380	130	95	105	135	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.96		1.00	0.98		1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1787	3443		1805	3497		1805	1743		1716	1900	1615
Flt Permitted	0.95	1.00		0.95	1.00		0.31	1.00		0.62	1.00	1.00
Satd. Flow (perm)	1787	3443		1805	3497		586	1743		1111	1900	1615
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	474	990	321	77	770	117	388	133	97	107	138	357
RTOR Reduction (vph)	0	21	0	0	8	0	0	18	0	0	0	50
Lane Group Flow (vph)	474	1290	0	77	879	0	388	212	0	107	138	307
Confl. Peds. (#/hr)	1					1			2	2		
Heavy Vehicles (%)	1%	1%	1%	0%	1%	0%	0%	1%	2%	5%	0%	0%
Turn Type	Prot	NA		Prot	NA		pm+pt	NA		pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases							8			4		4
Actuated Green, G (s)	38.2	70.4		8.5	40.7		43.4	27.9		25.1	14.1	52.3
Effective Green, g (s)	38.2	70.9		8.5	41.2		43.9	28.4		26.1	14.6	52.3
Actuated g/C Ratio	0.28	0.52		0.06	0.30		0.32	0.21		0.19	0.11	0.39
Clearance Time (s)	4.0	4.5		4.0	4.5		4.5	4.5		4.5	4.5	4.0
Vehicle Extension (s)	2.5	4.0		2.5	4.0		2.5	2.5		2.5	2.5	2.5
Lane Grp Cap (vph)	504	1804		113	1064		418	365		265	205	624
v/s Ratio Prot	c0.27	0.37		0.04	c0.25		c0.17	0.12		0.03	0.07	0.14
v/s Ratio Perm							c0.13			0.04		0.05
v/c Ratio	0.94	0.71		0.68	0.83		0.93	0.58		0.40	0.67	0.49
Uniform Delay, d1	47.4	24.5		62.1	43.7		39.9	48.1		47.0	58.1	31.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	25.9	2.5		14.4	7.3		26.6	1.9		0.7	7.7	0.4
Delay (s)	73.4	27.0		76.4	51.0		66.5	50.0		47.7	65.7	31.9
Level of Service	E	C		E	D		E	D		D	E	C
Approach Delay (s)		39.3			53.1			60.4			42.5	
Approach LOS		D			D			E			D	
Intersection Summary												
HCM 2000 Control Delay			46.4			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.92									
Actuated Cycle Length (s)			135.3			Sum of lost time (s)				16.0		
Intersection Capacity Utilization			91.8%			ICU Level of Service				F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

21: Beaver Creek Road & Glen Oak Road

08/02/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	30	30	60	35	175	35	355	40	85	740	140
Future Volume (vph)	65	30	30	60	35	175	35	355	40	85	740	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93			0.91		1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1758			1715		1752	1854		1805	1852	
Flt Permitted	0.45	1.00			0.92		0.18	1.00		0.50	1.00	
Satd. Flow (perm)	858	1758			1589		332	1854		944	1852	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	66	31	31	61	36	179	36	362	41	87	755	143
RTOR Reduction (vph)	0	24	0	0	74	0	0	5	0	0	9	0
Lane Group Flow (vph)	66	38	0	0	202	0	36	398	0	87	889	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	3%	1%	0%	0%	0%	1%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	12.5	12.5			12.5		35.9	35.9		35.9	35.9	
Effective Green, g (s)	12.5	12.5			12.5		35.9	35.9		35.9	35.9	
Actuated g/C Ratio	0.22	0.22			0.22		0.64	0.64		0.64	0.64	
Clearance Time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	190	389			352		211	1180		600	1178	
v/s Ratio Prot		0.02						0.21			c0.48	
v/s Ratio Perm	0.08				c0.13		0.11			0.09		
v/c Ratio	0.35	0.10			0.57		0.17	0.34		0.14	0.75	
Uniform Delay, d1	18.5	17.5			19.6		4.2	4.7		4.1	7.2	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.1	0.1			2.3		0.4	0.2		0.1	2.8	
Delay (s)	19.6	17.6			21.8		4.6	4.9		4.2	10.0	
Level of Service	B	B			C		A	A		A	A	
Approach Delay (s)		18.6			21.8			4.9			9.5	
Approach LOS		B			C			A			A	
Intersection Summary												
HCM 2000 Control Delay			10.9			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			56.4			Sum of lost time (s)				8.0		
Intersection Capacity Utilization			83.4%			ICU Level of Service				E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

90: Clairmont Dr & Beaver Creek Road

08/02/2019

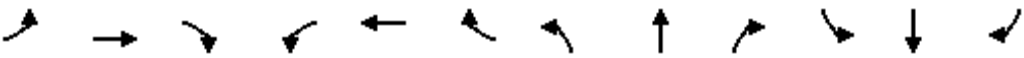
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	10	75	70	10	155	65	800	35	70	985	140
Future Volume (vph)	125	10	75	70	10	155	65	800	35	70	985	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.95	0.95			1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.89			0.91		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.99			0.99		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1715	1592			1705		1805	1868		1805	1881	1615
Flt Permitted	0.50	0.95			0.87		0.13	1.00		0.22	1.00	1.00
Satd. Flow (perm)	898	1519			1510		250	1868		413	1881	1615
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	128	10	77	71	10	158	66	816	36	71	1005	143
RTOR Reduction (vph)	0	60	0	0	75	0	0	2	0	0	0	35
Lane Group Flow (vph)	111	44	0	0	164	0	66	850	0	71	1005	108
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	1%	0%
Turn Type	custom	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases					8			2			6	
Permitted Phases	4	4		8			2			6		6
Actuated Green, G (s)	14.5	14.5			14.5		43.6	43.6		43.6	43.6	43.6
Effective Green, g (s)	14.5	14.5			14.5		43.6	43.6		43.6	43.6	43.6
Actuated g/C Ratio	0.22	0.22			0.22		0.66	0.66		0.66	0.66	0.66
Clearance Time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	196	333			331		164	1232		272	1240	1065
v/s Ratio Prot								0.45			c0.53	
v/s Ratio Perm	c0.12	0.03			0.11		0.26			0.17		0.07
v/c Ratio	0.57	0.13			0.50		0.40	0.69		0.26	0.81	0.10
Uniform Delay, d1	23.0	20.7			22.6		5.2	7.0		4.6	8.2	4.1
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	3.7	0.2			1.2		1.6	1.6		0.5	4.1	0.0
Delay (s)	26.7	20.9			23.8		6.8	8.7		5.1	12.3	4.1
Level of Service	C	C			C		A	A		A	B	A
Approach Delay (s)		23.9			23.8			8.5			11.0	
Approach LOS		C			C			A			B	
Intersection Summary												
HCM 2000 Control Delay			12.4				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			66.1				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			85.4%				ICU Level of Service			E		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

126: Beaver Creek Rd & Loder Rd

08/02/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	25	35	30	50	25	180	30	695	40	90	1015	30
Future Volume (vph)	25	35	30	50	25	180	30	695	40	90	1015	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.95			0.90			0.99			1.00	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1789			1703			1866			1857	
Flt Permitted		0.69			0.92			0.93			0.89	
Satd. Flow (perm)		1252			1587			1746			1655	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	26	36	31	51	26	184	31	709	41	92	1036	31
RTOR Reduction (vph)	0	20	0	0	99	0	0	2	0	0	1	0
Lane Group Flow (vph)	0	73	0	0	162	0	0	779	0	0	1158	0
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	1%	0%	8%	1%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		12.3			12.3			62.2			62.2	
Effective Green, g (s)		12.3			12.3			62.2			62.2	
Actuated g/C Ratio		0.15			0.15			0.75			0.75	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		186			236			1316			1247	
v/s Ratio Prot												
v/s Ratio Perm		0.06			0.10			0.45			0.70	
v/c Ratio		0.39			0.69			0.59			0.93	
Uniform Delay, d1		31.7			33.3			4.5			8.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.4			8.1			0.7			11.9	
Delay (s)		33.1			41.3			5.2			20.3	
Level of Service		C			D			A			C	
Approach Delay (s)		33.1			41.3			5.2			20.3	
Approach LOS		C			D			A			C	
Intersection Summary												
HCM 2000 Control Delay		18.1										
HCM 2000 Volume to Capacity ratio		0.89										
Actuated Cycle Length (s)		82.5										
Intersection Capacity Utilization		116.0%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

129: Meyers Rd & Beavercreek Rd

08/02/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	15	25	105	30	165	60	485	45	110	835	140
Future Volume (vph)	150	15	25	105	30	165	60	485	45	110	835	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.90			0.93		1.00	0.99		1.00	0.98	
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1805	1666			1729		1671	1855		1803	1843	
Flt Permitted	0.42	1.00			0.87		0.16	1.00		0.41	1.00	
Satd. Flow (perm)	799	1666			1526		284	1855		772	1843	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	153	15	26	107	31	168	61	495	46	112	852	143
RTOR Reduction (vph)	0	21	0	0	50	0	0	4	0	0	7	0
Lane Group Flow (vph)	153	20	0	0	256	0	61	537	0	112	988	0
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	0%	0%	5%	0%	0%	0%	8%	1%	0%	0%	0%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	18.7	18.7			18.7		62.1	62.1		62.1	62.1	
Effective Green, g (s)	18.7	18.7			18.7		62.1	62.1		62.1	62.1	
Actuated g/C Ratio	0.21	0.21			0.21		0.70	0.70		0.70	0.70	
Clearance Time (s)	4.0	4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	168	350			321		198	1297		539	1288	
v/s Ratio Prot		0.01						0.29			c0.54	
v/s Ratio Perm	c0.19				0.17		0.21			0.15		
v/c Ratio	0.91	0.06			0.80		0.31	0.41		0.21	0.77	
Uniform Delay, d1	34.2	28.0			33.3		5.1	5.7		4.7	8.7	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	44.4	0.1			12.9		4.0	1.0		0.9	4.4	
Delay (s)	78.7	28.1			46.2		9.1	6.6		5.6	13.1	
Level of Service	E	C			D		A	A		A	B	
Approach Delay (s)		68.0			46.2			6.9			12.3	
Approach LOS		E			D			A			B	
Intersection Summary												
HCM 2000 Control Delay			20.4									C
HCM 2000 Volume to Capacity ratio			0.80									
Actuated Cycle Length (s)			88.8							8.0		
Intersection Capacity Utilization			90.0%								E	
ICU Level of Service												
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

16: OR 213 & Beaver Creek Road

alternate
mobility target
option

08/02/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	715	800	80	60	565	720	40	675	165	840	1105	730
Future Volume (vph)	715	800	80	60	565	720	40	675	165	840	1105	730
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	3.5	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3481		3433	3539	1533	1597	3471	1568	3400	3471	1568
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3481		3433	3539	1533	1597	3471	1568	3400	3471	1568
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	715	800	80	60	565	720	40	675	165	840	1105	730
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	129	0	0	281
Lane Group Flow (vph)	715	874	0	60	565	720	40	675	36	840	1105	449
Confl. Peds. (#/hr)	1		3	3		1			2	2		
Confl. Bikes (#/hr)			1			1						
Heavy Vehicles (%)	2%	2%	3%	2%	2%	4%	13%	4%	3%	3%	4%	3%
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Prot	Prot	NA	Prot
Protected Phases	7	4		3	8		1	6	6	5	2	2
Permitted Phases						Free						
Actuated Green, G (s)	16.0	32.3		3.2	19.5	111.1	3.1	22.3	22.3	29.8	49.0	49.0
Effective Green, g (s)	16.5	32.8		3.7	20.0	111.1	3.6	24.3	24.3	30.3	51.0	51.0
Actuated g/C Ratio	0.15	0.30		0.03	0.18	1.00	0.03	0.22	0.22	0.27	0.46	0.46
Clearance Time (s)	5.5	5.5		5.5	5.5		5.5	7.0	7.0	5.5	7.0	7.0
Vehicle Extension (s)	2.3	2.3		2.3	2.3		2.3	4.7	4.7	2.3	4.7	4.7
Lane Grp Cap (vph)	509	1027		114	637	1533	51	759	342	927	1593	719
v/s Ratio Prot	c0.21	0.25		0.02	c0.16		0.03	c0.19	0.02	c0.25	0.32	0.29
v/s Ratio Perm						0.47						
v/c Ratio	1.40	0.85		0.53	0.89	0.47	0.78	0.89	0.11	0.91	0.69	0.62
Uniform Delay, d1	47.3	36.8		52.8	44.4	0.0	53.4	42.1	34.7	39.0	23.9	22.8
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	193.7	6.7		2.8	13.9	1.0	51.7	13.0	0.3	12.1	1.6	2.3
Delay (s)	241.0	43.6		55.6	58.3	1.0	105.0	55.1	35.0	51.1	25.4	25.0
Level of Service	F	D		E	E	A	F	E	C	D	C	C
Approach Delay (s)		132.1			27.5			53.6			33.4	
Approach LOS		F			C			D			C	
Intersection Summary												
HCM 2000 Control Delay			59.2			HCM 2000 Level of Service			E			
HCM 2000 Volume to Capacity ratio			0.99									
Actuated Cycle Length (s)			111.1			Sum of lost time (s)			20.0			
Intersection Capacity Utilization			95.3%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

16: OR 213 & Beaver Creek Road

alternate
mobility target
option

07/30/2019

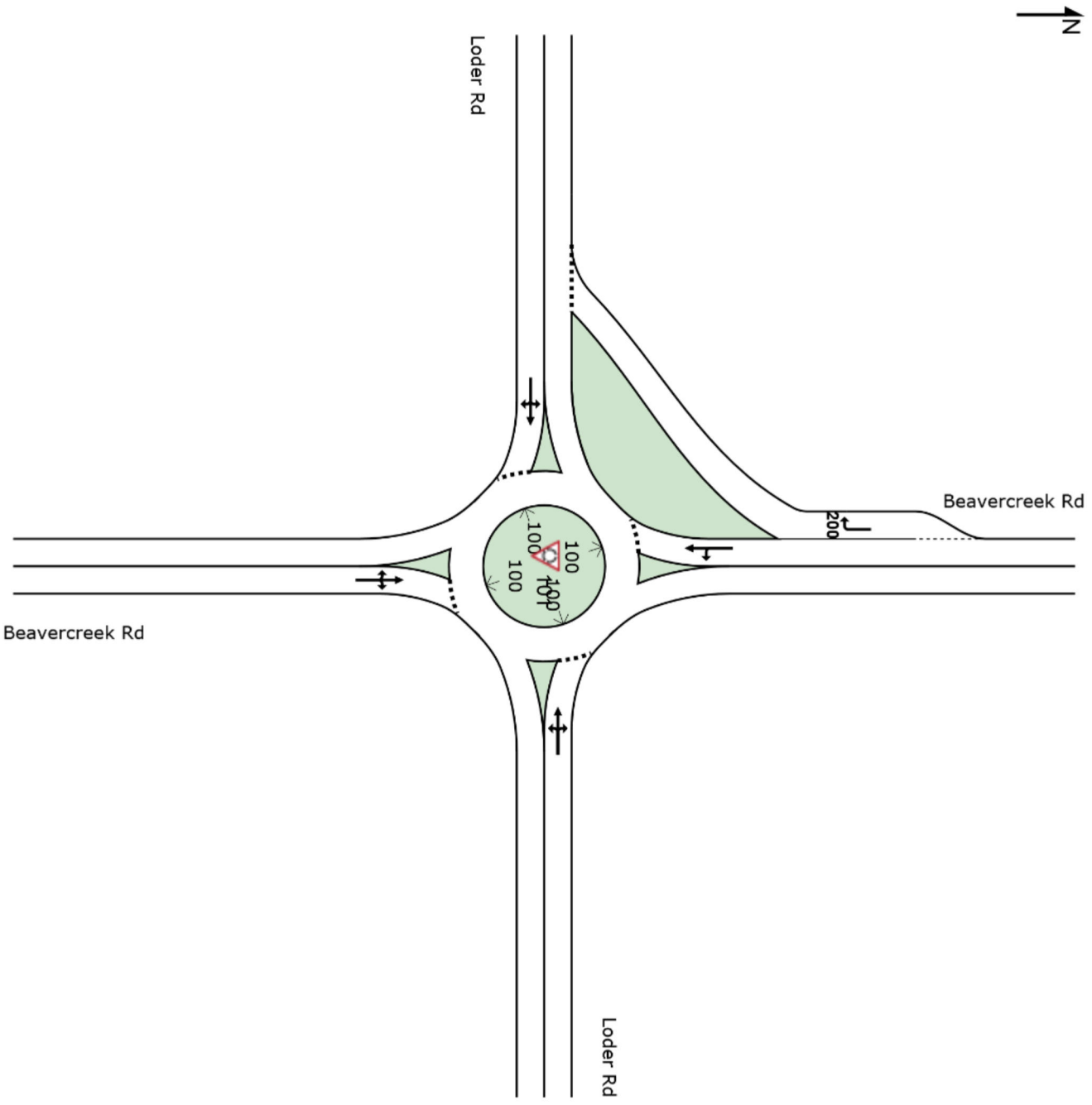
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	715	800	80	160	565	710	40	675	165	830	1110	730
Future Volume (vph)	715	800	80	160	565	710	40	675	165	830	1110	730
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0		5.0	5.0	3.5	5.0	5.0	5.0	5.0	5.0	5.0
Lane Util. Factor	0.97	0.95		0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	3481		3433	3539	1533	1597	3471	1568	3400	3471	1568
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	3481		3433	3539	1533	1597	3471	1568	3400	3471	1568
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	715	800	80	160	565	710	40	675	165	830	1110	730
RTOR Reduction (vph)	0	6	0	0	0	0	0	0	128	0	0	278
Lane Group Flow (vph)	715	874	0	160	565	710	40	675	37	830	1110	452
Confl. Peds. (#/hr)	1		3	3		1			2	2		
Confl. Bikes (#/hr)			1			1						
Heavy Vehicles (%)	2%	2%	3%	2%	2%	4%	13%	4%	3%	3%	4%	3%
Turn Type	Prot	NA		Prot	NA	Free	Prot	NA	Prot	Prot	NA	Prot
Protected Phases	7	4		3	8		1	6	6	5	2	2
Permitted Phases						Free						
Actuated Green, G (s)	14.7	30.1		4.1	19.5	109.7	3.1	22.5	22.5	29.5	48.9	48.9
Effective Green, g (s)	15.2	30.6		4.6	20.0	109.7	3.6	24.5	24.5	30.0	50.9	50.9
Actuated g/C Ratio	0.14	0.28		0.04	0.18	1.00	0.03	0.22	0.22	0.27	0.46	0.46
Clearance Time (s)	5.5	5.5		5.5	5.5		5.5	7.0	7.0	5.5	7.0	7.0
Vehicle Extension (s)	2.3	2.3		2.3	2.3		2.3	4.7	4.7	2.3	4.7	4.7
Lane Grp Cap (vph)	475	970		143	645	1533	52	775	350	929	1610	727
v/s Ratio Prot	c0.21	c0.25		0.05	c0.16		0.03	c0.19	0.02	c0.24	0.32	0.29
v/s Ratio Perm						0.46						
v/c Ratio	1.51	0.90		1.12	0.88	0.46	0.77	0.87	0.11	0.89	0.69	0.62
Uniform Delay, d1	47.2	38.1		52.6	43.6	0.0	52.6	41.1	33.9	38.3	23.2	22.1
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	238.1	11.2		110.7	12.5	1.0	46.4	11.2	0.2	10.8	1.5	2.2
Delay (s)	285.4	49.3		163.3	56.2	1.0	99.0	52.3	34.1	49.1	24.7	24.3
Level of Service	F	D		F	E	A	F	D	C	D	C	C
Approach Delay (s)		155.1			40.8			51.0			32.2	
Approach LOS		F			D			D			C	
Intersection Summary												
HCM 2000 Control Delay			66.4			HCM 2000 Level of Service			E			
HCM 2000 Volume to Capacity ratio			0.99									
Actuated Cycle Length (s)			109.7			Sum of lost time (s)			20.0			
Intersection Capacity Utilization			95.0%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

Sidra Reports

SITE LAYOUT

 **Site: 101 [Beavercreek and Loder]**

Site Category: (None)
Roundabout



MOVEMENT SUMMARY

 **Site: 101 [Beavercreek and Loder]**

Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Beavercreek Rd												
3	L2	30	2.0	0.708	13.8	LOS B	8.5	215.1	0.69	0.51	0.76	31.0
8	T1	745	2.0	0.708	13.8	LOS B	8.5	215.1	0.69	0.51	0.76	30.9
18	R2	40	2.0	0.708	13.8	LOS B	8.5	215.1	0.69	0.51	0.76	30.1
Approach		815	2.0	0.708	13.8	LOS B	8.5	215.1	0.69	0.51	0.76	30.9
East: Loder Rd												
1	L2	55	2.0	0.459	13.5	LOS B	2.6	64.8	0.75	0.85	1.06	30.6
6	T1	25	2.0	0.459	13.5	LOS B	2.6	64.8	0.75	0.85	1.06	30.6
16	R2	190	2.0	0.459	13.5	LOS B	2.6	64.8	0.75	0.85	1.06	29.8
Approach		270	2.0	0.459	13.5	LOS B	2.6	64.8	0.75	0.85	1.06	30.0
North: Beavercreek Rd												
7	L2	95	2.0	0.943	31.8	LOS D	47.9	1216.3	1.00	1.01	1.60	24.8
4	T1	1090	2.0	0.943	31.8	LOS D	47.9	1216.3	1.00	1.01	1.60	24.8
14	R2	30	2.0	0.023	2.9	LOS A	0.1	2.2	0.15	0.05	0.15	35.3
Approach		1215	2.0	0.943	31.1	LOS D	47.9	1216.3	0.98	0.98	1.56	25.0
West: Loder Rd												
5	L2	25	2.0	0.242	13.9	LOS B	0.9	22.2	0.78	0.78	0.78	30.4
2	T1	35	2.0	0.242	13.9	LOS B	0.9	22.2	0.78	0.78	0.78	30.3
12	R2	30	2.0	0.242	13.9	LOS B	0.9	22.2	0.78	0.78	0.78	29.5
Approach		90	2.0	0.242	13.9	LOS B	0.9	22.2	0.78	0.78	0.78	30.1
All Vehicles		2390	2.0	0.943	22.6	LOS C	47.9	1216.3	0.85	0.80	1.20	27.5

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

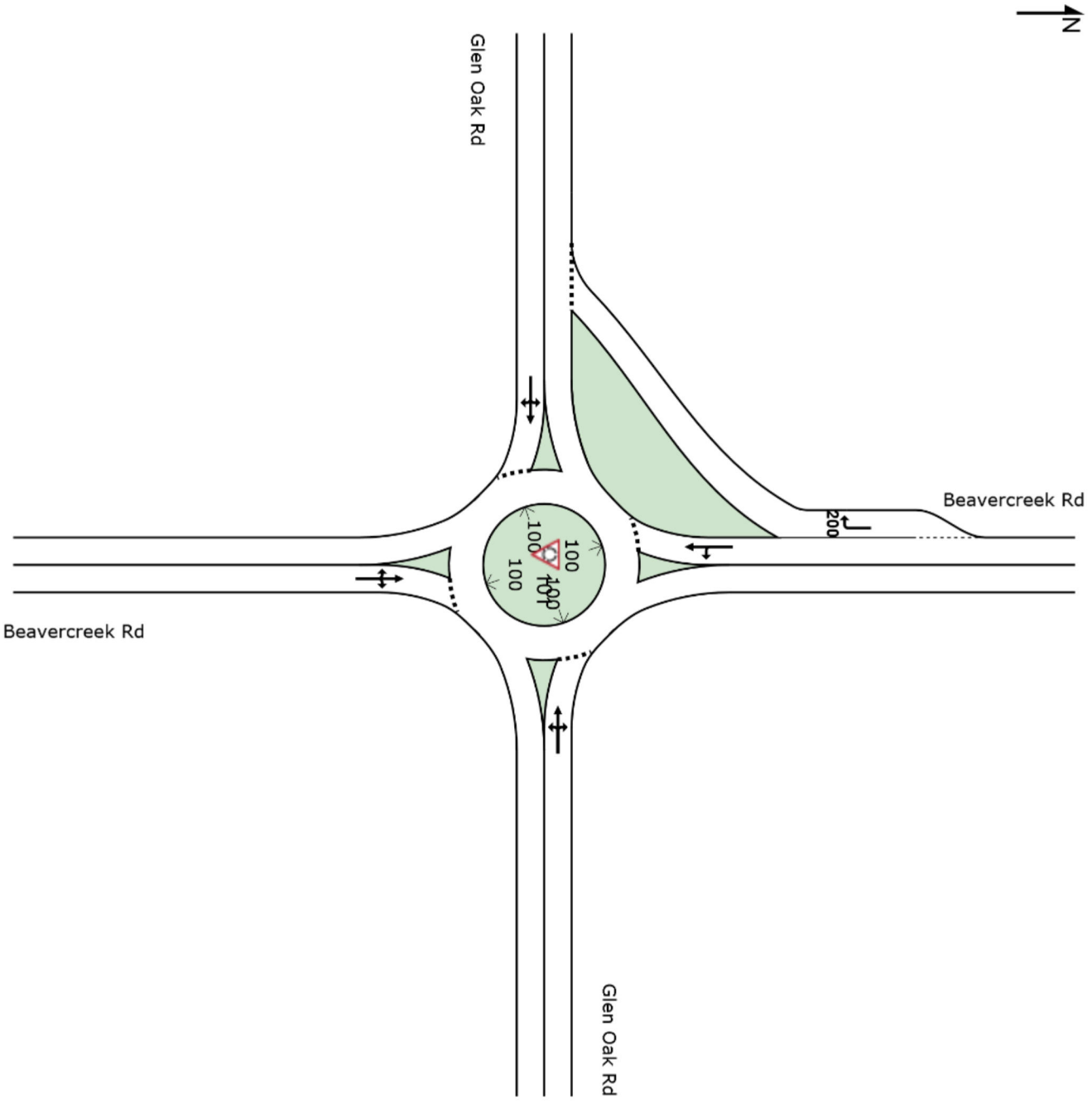
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Organisation: DKS ASSOCIATES | Processed: Tuesday, July 30, 2019 5:29:37 PM

Project: X:\Projects\2019\P19082-000 (Oregon City Beavercreek CP Analysis)\Analysis\Sidra\2040 Metro with Holly ext RABs NEW LU.sip8

 Site: 101 [Beavercreek and Glen Oak]

Site Categorization Roundabout



MOVEMENT SUMMARY

 Site: 101 [Beavercreek and Glen Oak]

Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Total veh/h	Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Beavercreek Rd												
3	L2	35	2.0	0.437	7.9	LOS A	2.7	68.4	0.49	0.34	0.49	33.6
8	T1	380	2.0	0.437	7.9	LOS A	2.7	68.4	0.49	0.34	0.49	33.5
18	R2	70	2.0	0.437	7.9	LOS A	2.7	68.4	0.49	0.34	0.49	32.6
Approach		485	2.0	0.437	7.9	LOS A	2.7	68.4	0.49	0.34	0.49	33.4
East: Glen Oak Rd												
1	L2	60	2.0	0.349	8.5	LOS A	1.7	42.6	0.63	0.60	0.63	32.9
6	T1	40	2.0	0.349	8.5	LOS A	1.7	42.6	0.63	0.60	0.63	32.8
16	R2	185	2.0	0.349	8.5	LOS A	1.7	42.6	0.63	0.60	0.63	31.9
Approach		285	2.0	0.349	8.5	LOS A	1.7	42.6	0.63	0.60	0.63	32.2
North: Beavercreek Rd												
7	L2	90	2.0	0.721	13.7	LOS B	7.1	180.9	0.63	0.41	0.63	30.9
4	T1	795	2.0	0.721	13.7	LOS B	7.1	180.9	0.63	0.41	0.63	30.9
14	R2	150	2.0	0.116	3.7	LOS A	0.5	12.3	0.19	0.08	0.19	34.8
Approach		1035	2.0	0.721	12.2	LOS B	7.1	180.9	0.57	0.36	0.57	31.4
West: Glen Oak Rd												
5	L2	70	2.0	0.257	10.8	LOS B	1.0	25.5	0.70	0.70	0.70	31.1
2	T1	30	2.0	0.257	10.8	LOS B	1.0	25.5	0.70	0.70	0.70	31.0
12	R2	30	2.0	0.257	10.8	LOS B	1.0	25.5	0.70	0.70	0.70	30.2
Approach		130	2.0	0.257	10.8	LOS B	1.0	25.5	0.70	0.70	0.70	30.8
All Vehicles		1935	2.0	0.721	10.5	LOS B	7.1	180.9	0.57	0.41	0.57	31.9

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).

Roundabout LOS Method: Same as Sign Control.

Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.

LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).

Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).

Roundabout Capacity Model: US HCM 6.

HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Gap-Acceptance Capacity: Traditional M1.

HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Preliminary Signal Warrants

Oregon Department of Transportation Transportation Development Branch Transportation Planning Analysis Unit					
Preliminary Traffic Signal Warrant Analysis ¹					
Major Street: Beavercreek Rd			Minor Street: Glen Oak Rd		
Project: Beavercreek Concept Plan			City/County: Oregon City		
Year: 2040			Alternative: Metro model w Holly ext		
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 100	70	Percent of standard warrants 100	70
Case A: Minimum Vehicular Traffic					
1	1	8850	6200	2650	1850
2 or more	1	10600	7400	2650	1850
2 or more	2 or more	10600	7400	3550	2500
1	2 or more	8850	6200	3550	2500
Case B: Interruption of Continuous Traffic					
1	1	13300	9300	1350	950
2 or more	1	15900	11100	1350	950
2 or more	2 or more	15900	11100	1750	1250
1	2 or more	13300	9300	1750	1250
X	100 percent of standard warrants				
	70 percent of standard warrants ²				
Preliminary Signal Warrant Calculation					
	Street	Number of Lanes	Warrant Volumes	Approach Volumes	Warrant Met
Case A	Major	1	8850	15200	Y
	Minor	1	2650	2900	
Case B	Major	1	13300	15200	Y
	Minor	1	1350	2900	
Analyst and Date:			Reviewer and Date:		

¹ Meeting preliminary signal warrants does **not** guarantee that a signal will be installed. When preliminary signal warrants are met, project analysts need to coordinate with Region Traffic to initiate the traffic signal engineering investigation as outlined in the Traffic Manual. Before a signal can be installed, the engineering investigation must be conducted or reviewed by the Region Traffic Manager who will forward signal recommendations to headquarters. 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.

Oregon Department of Transportation Transportation Development Branch Transportation Planning Analysis Unit					
Preliminary Traffic Signal Warrant Analysis ¹					
Major Street: Beavercreek Rd			Minor Street: Loder Rd		
Project: Beavercreek Concept Plan			City/County: Oregon City		
Year: 2040			Alternative: Metro model w Holly ext		
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 100	70	Percent of standard warrants 100	70
Case A: Minimum Vehicular Traffic					
1	1	8850	6200	2650	1850
2 or more	1	10600	7400	2650	1850
2 or more	2 or more	10600	7400	3550	2500
1	2 or more	8850	6200	3550	2500
Case B: Interruption of Continuous Traffic					
1	1	13300	9300	1350	950
2 or more	1	15900	11100	1350	950
2 or more	2 or more	15900	11100	1750	1250
1	2 or more	13300	9300	1750	1250
X	100 percent of standard warrants				
	70 percent of standard warrants ²				
Preliminary Signal Warrant Calculation					
	Street	Number of Lanes	Warrant Volumes	Approach Volumes	Warrant Met
Case A	Major	1	8850	20300	N
	Minor	1	2650	1434	
Case B	Major	1	13300	20300	Y
	Minor	1	1350	1434	
Analyst and Date:			Reviewer and Date:		

Beavercreek Road Concept Plan - Zoning and Code Amendments

Consolidated Comment Tracker January 2019-June 2019

Transportation	
Ensure that traffic flow is efficient and safe around the BRCP area (roundabouts or traffic signals), considering school drop off/pickup, different uses (e.g. Industrial-type traffic near residential areas) and trips generated outside the study area. Concern about emergency access to the area.	Currently preparing an assessment of transportation facilities and will present preliminary findings on road capacity and traffic control at the June 10 public meeting.
If Beavercreek Road is widened, will it be expanded to the east?	Efforts are made to expand equally in each direction from the road center line, assuming street rights-of-way allow for it.
How many road connections will be made to Beavercreek Road?	Currently the only road connections will be at existing intersections (Loder Road, Meyers Road and Glen
Require transportation infrastructure improvements before development begins.	We are considering the timing of infrastructure as development comes online. Development applications are required to build infrastructure to support their development. There are state and local land use requirements that look at the proportionality a project has to the city's infrastructure network both on and offsite of a development proposal. In some cases, development can be required to provide an offsite improvement as a condition of development, other times, they pay system development fees that help pay for larger capital improvement projects. The city is also looking at ways we can apply for grants, or work with developers to create local improvement districts or advance finance districts to better coordinate the timing of infrastructure.
Meyer Road or Glen Oak as the main street? Meyer is the bigger street and closer to CCC and high school.	Will explore Main Street options and provide an opportunity for further discussion at the April 9 public meeting.
Ensure that there is adequate parking to accommodate uses without congestion, especially around residential areas, but this should be balanced with creating pedestrian-friendly environments, especially around the MUC. Will the City pursue or require structured parking in the Main Street or Mixed Use areas?	Oregon City Development Code OCMC 17.52 requires minimum and maximum parking standards per use. It is not anticipated that this project will recommend any revisions to those requirements. All new development in Oregon City requires parking to be located to the side or rear of commercial uses. The project team is currently looking at how to encourage or require parking to be located to the rear of the commercial uses in the Glen Oak Mixed Use Center to better add in the pedestrian feel of the street and strategies for customers to minimize customers using the on-street parking in nearby neighborhoods.
Pursue adequate transit service in the BRCP will require coordination between jurisdictions to properly plan and secure funding.	City participates in ongoing conversations with TriMet, Clackamas County, Clackamas Community College, and Public Works about transit service. Ultimately, mass transit service is driven by population/jobs demand, though shuttle services can be more flexible.
Ensure adequate infrastructure and amenities to support safe bike and pedestrian movement within the BRCP, especially crossings of Beavercreek Road.	Concept Plan includes provisions for multi-modal transportation options which will be implemented through this Zoning and Code Amendments process. Certain streets will contain on-street or off-street bike paths and connect with a larger bicycle system as identified in the Transportation System Plan. Commercial and multi-family uses will also have bike parking requirements.
Parks, Trails and Open Space	
BRCP should ensure safe and aesthetic walking paths and trails to support pedestrians, especially school children.	Concept Plan includes provisions for sidewalks and off-street pathways which will be implemented through the Zoning and Code Amendments process. The design of Beavercreek Road and zoning should consider the proximity to the high school and potentially a future school south of the plan area.
Adequate green spaces, open spaces, and recreational areas, especially in the industrial area, are desirable.	Provisions will be made for open spaces, parks and trails throughout the Concept Plan area. The plan calls for parks and existing requirements in the code identify buffers around streams and wetlands and steep slopes.
When will proposed parks and trails be developed?	Land acquisition for parks will occur as part of development reviews. The construction of the parks is based on the Community Services (Parks Department) Capital Construction timeline/prioritization.
Residential	
Prioritize residential before other types of development.	Once the area had been rezoned, the timing and location of development will be left to the market and property owner to decide when to develop their property. The City will not do any development of homes or businesses. However, any development is required to make sure the proper infrastructure is in place to support proposed development.
Residents would like to see high-quality and well-designed residential units with sufficient open space and street trees and a maximum height of 3 stories.	The design team are looking at design standards, open space, landscaping and building height limits which will be addressed through this Zoning and Code Amendments process.
Support a broad variety of housing types, denser in the West Mixed Use area.	The plan envisions a higher density in the West Mixed Use area. Project staff is looking at code amendments to implement a mix of commercial and residential uses.
Non-residential uses in the residential area should have impacts on the surrounding neighborhood that are consistent with the zone. These impacts are lower in residential-only areas and increase when approaching non-residential zones. Prefer live/work and home occupations.	The design team is looking at identifying an appropriate type of non-residential uses and ways to mitigate their impacts.
Include affordable housing and alternative housing options in the BRCP.	Affordable housing is housing which is deemed affordable to those with a median household income or below as rated by the national or local recognized housing affordability index. Affordable housing development is generally done through cooperation with government and non-profit funding to subsidize the rental or ownership cost of a unit. The zoning code regulates uses and does not regulate the pricing of the housing. What zoning codes can do, is allow multiple types of housing to be allowed in a zone such as duplexes, cluster housing and row housing which can offer more option to the consumer than just a single family house. The City Commission is currently considering adding these types of uses to residential zones citywide. Visit https://www.orcity.org/planning/housing-and-other-development-and-zoning-code-amendments to learn more about this process. The plan will consider a variety of housing types which may have less expensive housing options.
Prefer sidewalks over alleys. Alleys create more burdens than benefits.	In areas where alleys are required by current city code-sidewalk are also required in the front of the properties. The City Commission is currently considering if existing alley requirements should remain.
There should be a gradual tapering of density at the edge of residential areas. Buffers with surrounding areas should primarily be setbacks or open space, not a physical wall or barrier.	Increased buffering and screening requirements are currently being looked at for development at the edge of the Beavercreek Road Concept Plan boundary when abutting residential uses. Requiring a tapering of density at the edge of a project is often more difficult and initially envisioned through a clear and objective code process and still meet the other required city goals of block length, lot size and street connectivity. The Concept plan zones identify a general tapering of densities.
There should be more than 25 feet between residential and industrial uses.	
What types of barriers/screening between industrial and residential uses are allowed? Cyclone fencing? Concrete wall? Trees along the wall? A rotating park? Maintain row of trees that run east-west along the edge of the golf course.	
Consider integrating a bike/pedestrian trail into the landscaping setback along the southern perimeter to make better use of the space and keep it active.	
Concern about compatibility of R-2 development along the BRCP southern boundary. Especially in regards to natural resources/stormwater/flooding.	In response to comments during the public process, the revised June Zoning Map slightly shifted the multi family portions near the south border. The total number of projected housing units remain the same.

Cottage Industries. New homes in BRCP area might be too small to incorporate square footage for cottage industries, like a large shop. Concerns about noise impacts from more industrial-type uses, such as woodworking. Consider whether potential impacts from cottage industries, like on-street parking and traffic are compatible with residential uses. Cottage industry uses might be better located in mixed-use and industrial areas. Maintain access to Old Acres Lane for existing residents to use. Access should not be shared with BRCP area development.	Through the public engagement process, we heard from many folks that were concerned about allowing additional uses in the home occupation code for the Beavercreek Concept Plan Area, though there was some support for the concept. The Concept Plan calls for allowing job creation in residential zones. During the 2016 re-adoption of the Concept Plan, the City Commission made a finding that the existing city-wide home occupation code allows for a breath of opportunities for people to start starter businesses in their residences. As part of the hearings process, staff will look for additional guidance from the Planning and City commission on this topic. Old Acre Road is a private driveway that can restrict public access- No part of the Concept Plan area will connect to Old Acres Road.
Mixed Use Center	
The MUC should consist of small, easily accessible shops with residential on the 2nd and 3rd floors if the market allows it.	The MUC zone allows for this type of use, but also allows properties to be developed as exclusively residential or commercial. The project team is currently looking at the balance of how much minimum commercial or residential to require for these area to ensure that the code does not over or underregulate the vision.
Smaller scale development. Do not require retail. Permit ground floor residential.	The MUC zone allows for this type of use, but also allows properties to be developed as exclusively residential or commercial. The project team is currently looking at the balance of how much minimum commercial or residential to require for these area to ensure that the code does not over or underregulate the vision.
Street design in the MUC should use landscaping, lighting, to ensure a pleasant pedestrian environment.	The project team is looking at what type of dimensional standards and enhanced landscape requirements, beyond what is already required city-wide, will be needed to ensure a pedestrian-friendly, walkable commercial node. The concept plan identifies some street design.
10,000 square foot limit seems appropriate for anchor retail spaces or stand-alone buildings. Square footage limit should be large enough to accommodate a non-big box grocery store (Trader Joes, Zupans). Consider a 6,000 to 8,000 square foot range for the other tenant spaces.	The city has generally not prescribed that level of detail between varying permitted uses. The proposed code looks at minimizing the size of each building to ensure that the massing of the neighborhood commercial area is complementary to and compatibly with the neighboring residential uses. The NC zones proposes the following language: All uses permitted per OCMC 17.24.020.A and B, including grocery stores, are limited to a maximum footprint for a standalone building with a single store or multiple buildings with the same business not to exceed ten thousand square feet, unless otherwise restricted in this chapter.
Upper-level residential should be allowed. In addition to traditional apartments, incorporate affordable units for underserved populations (transitional housing, micro housing/dormitory housing.)	Upper level residential is allowed in the MUE and NC Zones when coupled with commercial development.
Provide parking lots near the Main Street area to support local businesses. Ensure parking for a grocery store doesn't occupy all available parking.	Development applications will be required to provide for their own off-street parking per their specific use. The Plan and city encourages shared lots for ease of access but each use must be accounted for.
People will not walk or take shuttles from the Industrial area to the Main Street area if there is ample parking.	As part of the public engagement process, staff and the project consultant team looked at the possibility of moving the Main Street area to the Meyers Road intersection to bringing it closer to employment locations. However, there was a pre-existing multi-family project located at the intersection of Meyers Road and Beavercreek Road that is currently in the Building Permit review process. This limited the ability to move the Main Street area of the Concept Plan.
Industrial	
Uses in the Industrial area should minimize impacts on adjacent residential areas through uses that are quiet, clean, and minimize pollution. There should be adequate buffers and transitions to other zones.	The project team is looking at ensuring uses with outside components be required to obtain a conditional use permit or be limited in scope and ensure adequate landscape buffering from abutting residential uses.
Focusing residential and mixed-use zoning south of Loder Rd and employment/business zoning north of Loder. There are many physical barriers to development south of Loder Road.	We have heard from some property owners south of Loder Road that this is a concern coupled with the location of the existing lot lines and proposed street locations and natural features. There may be an opportunity to slightly tweak the proposed zoning map to address these concerns, but the final proposed zoning map will need to show compliance with the goals of the Concept Plan and projected housing and job targets. We are working with the owners on this issue and will provide more updates at the April 9, 2019 public meeting.
Avoid allowing marijuana-related activity in the industrial area, due to the nearby schools and family housing.	This project does not anticipate revising the existing city-wide marijuana regulation, which can be found at the following link https://www.orcity.org/planning/marijuana-regulation-oregon-city .
Can the areas under the power lines be developed? How many acres of the total are subject to power line restrictions?	No new buildings can be constructed under the powerlines. Outdoor storage, pedestrian accessways and parking are all allowed under the easements.
Do not make the area comfortable for transients. Specifically, how to address area behind golf course to back of Thayer and Loder roads.	This is not a concern that can be addressed through the zoning process. Oregon City has, however, created a homeless liaison officer position. This position works with residents, homeowners, and business
What are the goals and restrictions for targeting certain industries? Define targeted jobs clearly; what type of business and give examples. Do not restrict industries yet. Target jobs to high school kids transitioning to the work force.	While the Beavercreek Road Concept Plan envisions green or green technology type of businesses as the optimal tenant, the zoning code is not really the tool to regulate specific sectors of businesses or number of employees. Planning staff and the consultant team worked to create general zoning designation that are consistent with existing city-wide zoning use designations. If the city wants to encourage green
Do not place size limitations. Focus on design. Use clear, easy-to-find and understand design standards.	The project team is looking at proposing a code that touches on uses, sizes and some design aspects. Our goal is to not underregulate nor overregulate the product. Please stay involved and let us know if you think the proposed zoning code amendments achieved this goal or if it should be further amended.
25% is pretty restrictive for what can be stored outside.	One of the major goals of the Concept Plan is to bring jobs to Oregon City. Large outdoor storage areas (not parking lots) can greatly reduce the jobs/acre projections. Utilizing 25% of the building square footage as a ratio for outdoor storage seemed to be a reasonable compromise.
Is trucking allowed? How will freight to the industrial area be accommodated?	Freight needs, freight hours and freight turning radii needs will be included in the final street designs and
Is live/work space allowable in the Industrial area?	
Where will employees park?	Development applications will be required to provide for their own off-street parking per their specific use. The Plan and city encourages shared lots for ease of access but each use must be accounted for.
Economic Development	
Commercial uses, including professional services and services that allow workers and students to meet their daily needs.	The existing MUE and MUC zones allow professional services.
Desire for small businesses/employment and building footprints, but balance with attracting larger employers. Target local businesses in mixed use area, but anchor stores should be national chains that people are familiar with and that are well-received (Chipotle, Trader Joes, etc.)	We have heard a need for a mix of sizing of commercial and industrial uses. Some of these goals can be minimally achieved by the zoning code. Others, are more aligned with economic development goals and programs that City Commission may employ to work collaboratively with property owners to achieve this mix.

Proactive and effective economic development to ensure vibrant economic activity and growth within the BRCP.	While this is a zoning code amendments process, any comments that relate to a need for larger city involvement in the development of the Concept Plan area will be forwarded to the Planning and City Commission through this comment matrix and any public comments that arise through the public hearing process later this summer. The Economic Development department has been working on a nearby Beavercreek Employment Area with a variety of stakeholders.
Land Use and Infrastructure	
What role do residents have in approving the Concept Plan or future development?	The Concept Plan was adopted as an ancillary document to the city's comprehensive plan by the City Commission at a Public Hearing in 2008 and readopted through a public hearing in 2016. These Beavercreek Road code amendments will need to show consistency with the adopted Concept Plan and will be adopted through a noticed public hearing before the Planning and City Commissions later this year. Once adopted, all new development will be processed through the city's land use process depending on the type of development requested: https://library.municode.com/or/oregon_city/codes/code_of_ordinances?nodeId=TIT17ZO_CH17.50ADP_R_17.50.030SUDEKIPR
Use a fast permitting process, ensure infrastructure is readily available to serve development areas, and barriers to development are minimized.	The design team is considering which process development is subject to and the Public Works and Economic Development departments will be working together to consider larger infrastructure. Generally developers install infrastructure needed to serve their development.
Analyze electricity capacity to serve new development since existing neighborhoods in the area already experience "brown-outs".	Coordination with private utilities occurs during the private development review process. Private utility providers such as power, phone and cable have been sent notice of this application.
Zone designations should be separated by streets, not individual property lines. What do the property owners of those properties think?	Street location provide general direction and are finalized at time of development. Staff tried to find a balance of utilizing existing property lines and anticipated road locations.
The East Mixed Use Neighborhood should be more of a square rather than strung out along Beavercreek Road itself. Move it further north and center it around the mixed-use areas including Main Street and the industrial	While that sounds like an intriguing idea, staff felt that it was too divergent from the adopted plan. Staff's direction was to implement the adopted plan and only amend as needed to implement the intent of the
Education	
The anticipated extension of Clackamas Community College provides significant opportunity for professional training and economic development.	We agree and encourage all property owners to work with Clackamas Community College and the city's Economic Development Department to look for opportunities to partner to help transition students to full time work. The uses allowed in the area will take this into consideration.
Ensure proper siting and ease of permitting for future schools.	In the 2008 Concept Plan process, the Oregon City School District determined that they did not need additional land within the concept plan boundaries. They do have a parcel of land located just south of the concept plan boundary, near Old Acres Road but is not being considered for construction in the short term. Development in the concept plan area will provide an opportunity for future connections with the school property.
Miscellaneous	
Be clear about what is meant by "conceptual" in terms of roadways and district boundaries. Consider changing it from a "plan" to a "guide".	Final roadway design will be addressed at the development application stage and will need to be consistent with the concept plan maps or provide an alternate design that meets or exceeds the intent of the adopted street map. The design team will make an effort to set the correct expectations.
The plan should include a mix of uses and amenities - they would be helpful to reduce traffic and in case of disaster.	We have heard a need for a mix of commercial uses. Some of these goals can be achieved by the zoning code. Others, are more aligned with economic development goals and programs that City Commission may employ to work collaboratively with property owners to achieve this mix.
Like Lake Oswego development.	We assume that this comment translates to "make it look nice". Zoning code and design standards can provide a template for how a private development could look. However, too detailed of standards can stifle creativity and sensitivity to a specific private parcel's market needs. The project team is trying to create a balance of not under or over-regulating the urban layout of the concept plan areas. We are identifying the major design goals of the Concept Plan and are trying to create code that requires these elements. As the draft code is released this spring and through the public hearing process, please let us know if this balance was achieved, or if you think there should be a different balance.
How to limit connections to a private street to the south.	Old Acres Road, located at the southern boundary of the Concept Plan, is a private road and new development in the Concept Plan area will not be able to utilize this connection unless previously allowed by the private property owners.
Manage density.	The density outlined in the Concept Plan is regulated by Title 11 which governs the Urban Growth Boundary process. This code ensures cities efficiently use land brought into the Urban Growth Boundary, which reduces the need to expand the growth boundary earlier than predicted. The density of dwelling units in the approved Beavercreek Road Concept Plan has been set to fall between 1,000 and 1,600 dwelling units. A dwelling unit is defined as one single-family house, a townhouse unit, or an apartment unit in a multi-family building. It does not differentiate between the number of bedrooms. Development of these units will be completed over time through the subdivision (single-family or townhomes) or Site Plan and Design Review process (multi-family) based on the market and property owner direction. The goal of the code amendment process is to adopt zoning codes that can ensure that the area develops dwelling units over time that fall within the adopted 1,200-1,600 threshold. <u>The placement of the densities and design will help create a community people like while minimizing</u>
Include art.	Public art is not a goal or requirement of the concept plan, and therefore does not align with the aims of this zoning amendments project (provide zoning code amendments to allow private development to build within the Concept Plan boundary). However, as development moves forward, there may be opportunities to partner with local art organizations such as the Clackamas County Art Alliance https://clackamasartsalliance.org/ for public art in city open spaces or in private development.



To: Planning Commission
From: Christina Robertson-Gardiner, Senior Planner
RE: LEG 19-0003-Beavercreek Road Concept Plan Zoning and Code Amendments – Draft Planning Commission Recommendations
Date: February 3, 2020

Background

The Planning Commission reviewed the zoning and code amendments for the Beavercreek Road Concept Plan (BRCP) over multiple meetings during the fall and winter of 2019/2020. Each meeting was broken into 2-3 topics to allow the Planning Commission, staff, and the public time to focus their energies. Planning Commission comments and direction, as well as public comments, were tracked throughout the hearings, and topics were added to future meetings if new items were identified or issues have not been resolved.

The purpose of this memo is to consolidate and document the Planning Commission recommendations/direction on all items discussed during the hearings process from August 2019 to November 25, 2019 based on the original applicant's submittal attached to the August 12, 2019 Planning Commission Agenda. Outstanding items will be revised as they are deliberated, and further direction is given to staff. A final version of this memo will be forwarded to the City Commission as part of the Legislative package.

More detailed background can be found in the staff memo attached to the referenced Planning Commission Hearing for each item discussed below.

Unresolved Items

Bike Lanes on Collector Streets

At the January 13, 2020 Planning Commission meeting, the Planning Commission directed staff to review the adopted street sections in the Beavercreek Road Concept Plan to see if the proposed bike infrastructure meets the goals of a green bikeable neighborhood.

The three main ways that people will travel through the neighborhood on bikes are:

1. Local Streets: Typical neighborhood streets where bikes share the travel lanes with cars. In the concept plan area, the recommendation is to reduce the speed limit to 20 mph.
2. Shared Use Path: A wide path, separated from traffic, is proposed along the linear park on the east side of Center Parkway. The path would be wide to allow comfortable bike travel.
3. **Collector Streets**: There are a few higher traffic volume streets in the concept plan boundary which include bike lanes.

The adopted bike lane width for collector streets in the Concept Plan (below) area appears to include a 5-foot wide bike lane. This was a standard dimension in 2006 when the plan was designed, but best practices today recommend a wider bike lane for more comfortable and safer experience. This would require the need for additional land to be devoted to the street or a reduction in something else planned within the street (like landscaping or sidewalk) to maintain the adopted street width.

The adopted collector street in the concept plan includes:

- 5-foot sidewalk (both sides of the street)
- 7.5-foot wide planter strip (both sides of the street)
- On-street parking (both sides of the street)
- 5-foot wide bike lane (both sides of the street)
- vehicle travel lane (one in each direction)
- 10 foot wide landscaped center median

The center medium and the planter strip between the sidewalk and the street are the areas which could potentially be reduced in order to allow for more space to be dedicated to safer bike travel. Best practices call for protected or buffered bike lanes. [Protected Bike Lanes](#) are defined as a bike lane with vertical elements that separate the bicyclist from the vehicular travel lane (this could be a planter, a curb or parked car). [Buffered Bikes Lanes](#) provide more of a painted buffer between the bike lane and the travel lane/parked cars. Either option has maintenance and construction considerations and both can be installed over time in the concept plan area. Protected bike lanes generally need a minimum of 8 feet (5-foot travel lane and 3-foot buffer/vertical element) and buffered bike lanes need 9.5 feet (5-foot bike lane and a 3 foot and 1.5-foot buffer area to account for open doors of parked cars). The exact design does not need to be decided now, both approaches can move forward as bike lane options. What does need to be decided now is if the street needs to be wider or if we should fit the solution within the previously adopted street width.

Wider roads can be more expensive to build and maintain, can be more challenging to cross, and can reduce the neighborhood feel of a place. Conversely, tree canopy both in wider planter strips and planted mediums provides shade and cools the streets for stormwater that flow into streams. Bigger trees over time also improve property values and help create a sense of community. A survey was sent out to eblast contact list and shared on Oregon city's social media. The survey closes Monday, February 10, 2020 and the final results will be shared with the Planning Commission Hearing that evening.

Staff recommendation: As the center medium was identified in the concept plan for this street section, staff general supports an approach that keeps the medium, though a combination of reduced planter strip width and increased Right-of-Way.

Planning Commission: Staff is requesting Planning Commission guidance on this topic at the February 10, 2020 Hearing.

Resolved Items

Home Occupation/Cottage Manufacturing

September 9th, September 23rd, November 18th Planning Commission Hearings

As part of the 2016 re-adoption of the plan, the City Commission recommended that as during the process to create implementing code and zoning for the BRCP, staff should further analyze the issue of allowing expanded home occupation uses, also known as cottage manufacturing/industry within the mixed-use and residential areas. This item was discussed during the two open houses at Oregon City High School and through an online survey in the fall of 2019. The Planning Commission provided staff clear direction that they supported expanded opportunities for home-based businesses within the concept plan area. Staff worked with the Planning Commission on options creating new opportunities for home-based business in Oregon City. At the November 18, 2019 Meeting, staff received direction on commercial vehicles and hours of operation for employees and sales and type of sales onsite at the November 18, 2019 Planning Commission Meeting. Those changes are reflected in the revised code attached to the January 13, 2020 agenda packet.

Staff recommendation: As there was no clear direction given during the public outreach meetings this spring and there are existing provisions for many types of home occupation allowed city-wide, staff did not recommend any changes to the Home Occupation code for the Beavercreek Concept Plan area.

Planning Commission: Planning Commission directed staff to create specific cottage industry home occupation business license criteria to implement the Beavercreek Road Concept Plan vision to encourages job creation in this district.

Upland Habitat regulation under OCMC 17.49 Natural Resource Overlay District (NROD).

September 23, 2019 Planning Commission Hearing

Staff has reviewed the 2008 Beavercreek Road Site Inventory Map and has identified some small areas that are not currently regulated under OCMC 17.49- Natural Resources Overlay District or OCMC 17.44 Geologic Hazards. Staff has determined that a sufficient amount of land identified as habitat is being protected through the city's existing code to show substantial compliance with the goals and policies of the Beavercreek Road Concept Plan. Additional regulation could be adopted to address these areas but would not be required.

Staff presented this analysis to the Natural Resource Committee on October 9, 2019 and November 13, 2019. The Natural Resource Committee submitted a letter with a keyed map into the record requesting the Planning Commission create code to regulate and protect upland habitat areas 3 and 4 as they are of specific interest to the committee and are contiguous to large habitat areas. They support additional protection in Area 2 in locations that abut the identified and protected stream. Area 1 merits additional protection if analysis can show enough tree area located outside of the Natural Resource Overlay District exists. Staff is looking for further direction from the Planning Commission on this issue. If the Planning Commission supports additional regulation, staff recommends adding code to either OCMC Chapter 17.49 Natural Resource Overlay District or OCMC 17.41 Tree Protection, Preservation, Removal and Replanting Standards and return at a future meeting with proposed code.

Staff recommendation: Staff does not recommend any revisions to the proposed code amendments unless given further direction from the Planning Commission..

Planning Commission recommendation: Planning Commission did not recommend any revisions to the proposed code amendments at the September 23, 2019 Planning Commission Meeting and discussed the NRC's recommendation at the January 13, 2019 Planning Commission Meeting. After further deliberation, the Planning Commission retained their initial direction to staff to not pursue additional code amendments for Upland Habitat.

Parks Acquisition Code Amendments

October 14, 2019, November 18, 2019, January 13, 2020 Planning Commission Hearings

The BRCP prioritizes an open space network that preserves identified environmental resource areas, parks, trails, and viewpoints, including the South-Central Open Space Network and the Low Impact Conservation Area upslope areas of Thimble Creek on the eastern edge of the district. The proposed code amendments will create the South-Central Open Space Network and Low Impact Conservation Area through required parkland dedication at the time of development and protect trail corridors throughout the district's open space system by also requiring the dedication of easements at the time of development. This code is not for the construction of these elements, only for the dedication of land and potentially some interim surface preparation and use. System Developments Fees would be used for the substantial construction of parkland acquired by this code.

Staff met with the Parks and Rec Advisory Committee (PRAC) on August 29, 2019 and September 26, 2019 to discuss the two park concepts. PRAC was supportive of the approach and requested that staff return at a later date with draft park details for the committee to review and make their formal recommendation to the Planning Commission. Staff is working with Don Robertson, Interim Community Services Manager, to get on the next PRAC agenda. In the interim period, staff worked with previous Community Services Manager Phil Lewis on creating minimum and maximum park dimensions, which will be available for Planning Commission review at the January 213, 2020 Planning Commission Meeting.

Planning staff also reviewed the South-Central Open Space-Neighborhood Park dedication formula for residential development created this summer and found that the formula was not correctly or proportionately allocating dedication based on the number of dwelling units. The original formula was $2.6 \text{ persons per dwelling units} \times (\text{total number of dwelling units proposed in the development}) \times (8 \text{ acres}) / (1,000 \text{ persons})$. This would require a 10.4-acre dedication for a 400 lot/dwelling unit development application. If the goal is a formula that requires all development to contribute proportionally to the proposed impacts of their development, the original calculation would not be considered proportional.

The Beavercreek Road Concept Plan anticipates 1100 new dwelling units. This means that the first large development application would be required to site and dedicate the full South-Central Open Space-Neighborhood Park. Based on the proposed minimum park size of 10 acres and the projected residential zoning for 1100 dwelling units, staff recommends a more proportional formula of $2.6 \text{ persons per dwelling units} \times (\text{total number of dwelling units proposed in the development}) \times (4 \text{ acres}) / (1,000 \text{ persons})$. This would require the same 400 dwelling unit development proposal to dedicate 4.2 acres.

Finally, staff heard from the Planning Commission that nonresidential development should also contribute to the acquisition and interim development of parks spaces above and beyond the required Parks SDCs. Staff recommends that this fee should be set for 1,000 dollars per each new 5,000 square feet of non-residential development. A new 50,000 square foot Industrial building would be required to pay \$10,000.

Planning staff presented these proposed changes to the Parks and Rec Advisory Committee on January 23, 2020. PRAC supported the amendments with three suggested minor revisions 1. Remove the minimum number of park pearls. 2. Require the first platted park pearl to be a minimum of 3 acres 3. Ensure at least one of the viewpoint of the conservation area to be viewable from a vehicle. These changes have been incorporated into the final revised code attached to the February 10, 2020 agenda.

Staff recommendation: Staff recommends that the Planning and City Commission adopt the proposed revised parks acquisition language and recommends that both parks be added to the Parks Master Plan and the proposed Trail System be added to the Transportation System Plan (TSP) and Trails Master Plan as needed.

Planning Commission recommendation: Planning Commission supported the proposed code presented to the PRAC in January and should let staff know if they disagree with the three minor revisions suggested by PRAC.

Setbacks Differentiation Between the Northern Concept Plan Boundary and the Southern Concept Plan Boundary.

September 9, 2019 Planning Commission Hearing

The northern boundary is zoned CI and has buffering requirements for residential properties. The purpose of the zoning language is to provide a visual buffer for residential uses while maximizing the development area for campus industrial properties. The additional buffer requirements found in the Beavercreek CI zone allow for a smaller setback than the residential buffer to the south. The exchange for quality of the buffer over quantity is often applied in non-residential zones as the landscaping installation and maintenance are easier to enforce than with a single-family residence. Moreover, the Campus Industrial Zone is envisioned to attract businesses that contain their uses inside buildings. The off-hour impact would also be substantially less compared to a single-family residence. The southern concept plan boundary along Old Acres Lane is will be zoned R-5 and has the following proposed code language. The purpose of the increased setback of 40 feet is to protect the existing grove of trees at the southern property line. Staff identified two additional revisions for clarification purposes.

Staff Recommendation: Staff recommends revising 17.37.040 -Dimensional standards to account for the following items in the southern buffering requirements.

- Timbersky/Beavercreek intersection. There may be a connection to Beavercreek Road at the Timbersky intersection that could be a right in/right out approach; therefore a road may need to be allowed within the 20 feet of the southern boundary
- The addition of the clarification for the 40-foot setback at the southern boundary to primary structures indicates that accessory structures would be allowed in the 40-foot setback.

Planning Commission recommendation: Planning Commission recommends revising OCMC 17.37.040 - Dimensional standards as proposed by staff. The Planning Commission did not provide any additional code amendment for the northern buffering requirements.

Definition of Warehousing

September 9, 2019 Planning Commission Hearing

Distribution/warehousing is prohibited in the Beavercreek Road Concept Plan CI zone. There was some concern that ancillary warehousing and distribution would not be allowed. Oregon City views the storage and distribution of materials that are constructed or assembled onsite to be part of the permitted use. No changes to the code are recommended.

Staff recommendation: Staff response was informational only.

Planning Commission recommendation: Planning Commission did not recommend any revisions to the proposed code amendments.

Map Change Request

September 9, 2019 Planning Commission Hearing

At the August 12, 2019 Planning Commission Hearing, Paul Edgar requested that the Planning Commission work with Metro to revise the Title 4 Industrial maps to remove a CI zoned parcel owned by Terry Emmert (identified by a red star on the map below) to allow construction of housing for homeless veterans onsite. Portions of the CI area in the BRCP are identified as Title 4 Industrial areas. Any change to the title 4 Map must be adopted by Metro and would need to be completed before the Code amendments are adopted by the City to remain consistent with Title 4.

Staff recommendation: Staff does not recommend amending the proposed zoning map or the Title 4 Map as it is not consistent with the vision of the Beavercreek Road Concept Plan.

Planning Commission recommendation: Planning Commission did not recommend any revisions to the proposed zoning map.

Geologic Hazards

September 23, 2019 Planning Commission Hearing

At the request of the Planning Commission, Josh Wheeler, Assistant City Engineer, provided a presentation on the Geologic Hazards Overlay District. Northwest Clackamas County is more susceptible to landslides than many other locations in the Portland-Metro area. Slides are commonly triggered by heavy rain, rapid snowmelt, earthquakes, grading/removing material from the bottom of the slope or adding loads to the top of the slope, or concentrating water onto a slope (for example, from landscape irrigation, roof downspouts, or broken water/sewer lines). Slides generally occur on moderate to steep slopes, especially in weak soil. The City of Oregon City has a [digital mapping program](#); once there, you can access the City's GIS mapping program, OCWebMaps, which includes Oregon City and outlying areas. Oregon City regulates and limits tree removal, grading, and development in areas with steep slopes or historic landslides; more information can be found in [Chapter 17.44 of the Oregon City Municipal Code](#).

Staff recommendation: Staff response was informational only.

Planning Commission recommendation: Planning Commission did not recommend any revisions to the proposed code amendments.

Master Planning Requirement- Clear and Objective Standards for Housing

September 23, 2019 Planning Commission Hearing

Senate Bill 1051, passed in 2017, requires jurisdictions to provide clear and objective standards for housing. Clear and objective standards are metric based and rely on analysis using measurable standards such as height, setback, material selection, window transparency, and other architectural features that can be measured. The 2008 Beaver Creek Concept Plan looked at implementation through a more subjective Master Plan process that requires applicants to show how their proposed development is consistent with the adopted plan. This would occur through a Type III Master Plan application reviewed by the Planning Commission at a public hearing. The proposed Beaver Creek Road Concept Plan code amendment package was written to be clear and objective to show consistency and compliance with SB 1051. The other way to address compliance with SB 1051 will be to amend the Beaver Creek Road Concept Plan and remove the master planning requirement from the text.

Staff recommendation: Staff recommends amending the Beaver Creek Road Concept Plan text to no longer require implementation through the Master Plan process. Needed text amendments will be added at the time of formal adoption.

Planning Commission recommendation: Planning Commission recommends amending the Beaver Creek Road Concept Plan text to no longer require implementation through the Master Plan process.

Concept Plan Renaming

October 14, 2019 Planning Commission Hearing

One issue that came up over and over again in public outreach conversations and public comments in 2019 was a concern that the name of the concept plan area was geographically confusing and was being confused with the Hamlet of Beaver Creek. One way to lessen this concern is to potentially begin referring to the area with a new name as part of the code amendment project. Ideally, the new name should not be geographically confusing. Additional names provided during the public outreach during the spring of 2019 were: Thimble Creek, East Caulfield, Loder Road, SE Industrial (Oregon City), Two Creeks, and Thayer Greens. Most of the property is on the Andrew Hood Donation Land Claim. Until the golf course was built, the area was mainly farm fields for people who lived at Maple Lane or lived in the city and kept farms nearby. When the golf course was established, the newspaper reported it going in at "Maple Lane." A survey map for "Skypark" which was the airfield was identified west of the golf course. Google maps show it today as Fairways Airfield. None of the references above create a unique geographic name. As Thimble Creek runs through the site, is not very long and empties into Abernethy Creek soon after it leaves the site, staff found it to be the best alternative name option.

Staff recommendation: Staff recommends that if the Planning Commission wishes to rename the Concept Plan as part of this process, Thimble Creek Concept Plan is the best option. Needed text amendments will be added at the time of formal adoption.

Planning Commission Recommendation: The Planning Commission felt that a renaming of the plan name was warranted and directed staff to ensure that the needed text revisions are included in the final Legislative package adopted by the City Commission.

Beaver Creek Road Concept Plan- Transportation Analysis

November 25, 2019 Planning Commission Hearing

The Beaver Creek Road Zone and Code Amendments project will also rezone properties located within the city limits and Concept Plan boundary. An approval criterion for rezoning property is a facilities analysis. For the transportation system, this is usually done by completing a Transportation Analysis (TA). It was reviewed by John Replinger, the city's contract Transportation Engineer. Once properties are rezoned, additional project-specific analysis will occur during any future development review onsite and specific and proportional conditions of approval for transportation system upgrades, such as abutting street improvements or signal installations will be required as part of a development's approval.

The focus of the analysis was to demonstrate that the requirements of [Oregon Administrative Rule \(OAR\) 660-012-0060](#), the [Transportation Planning Rule \(TPR\)](#), are met for the Beaver Creek Road Concept Plan. Mr. Replinger found that the proposal provides an adequate basis upon which the impacts of the development

can be assessed. The TA provides documentation that the key intersections will meet adopted mobility standards and that the proposed changes comply with the TPR. He also concurs with DKS's findings that all study area intersections meet operational standards regardless of whether Holly Lane was included or excluded in the system and that Beavercreek Road would meet mobility standards with the 3-lane configuration specified in the TSP. Additionally, the mobility standards would also be met if Beavercreek Road were to widened to five lanes in sections where three lanes had been specified.

Staff Recommendation: Staff concurs with the transportation analysis performed by DKS. No action is needed.

Planning Commission Recommendation: The Planning Commission did not request any additional information on the transportation analysis and concurred with staff's transportation analysis findings.

Speed Zones within the Concept Plan

November 25, 2019 Planning Commission Hearing

At the request of the Planning Commission, staff presented information on new legislation that allows the city to set lower speed limits on local roads. [Senate Bill 558](#)-Allows all cities and counties the authority to establish, by ordinance, a designated speed for a right of ways under their jurisdiction. The measure specifies that the designated speed must be five miles per hour slower than the statutory speed, the road is located in a residential district and not an arterial street, and that the city provides appropriate signage of the designated speed. Senate Bill 558 passed the Legislature and was signed by the Governor on June 27, 2019. It goes into effect on January 1, 2020. If the Planning Commission wishes to pursue 20 miles per hour signage on local residential streets in the Beavercreek Road Concept Plan boundary and the Glen Oak Commercial Main Street, they should include it in the formal recommendation to the City Commission. Implementation would occur at the time of road construction. The City Commission could adopt the support for reduced speeds in the implementing Ordinance or adopt a separate resolution at the time of code adoption.

Staff Recommendation: The Beavercreek Road Concept Plan is an ideal area to test the new option for reduced speed limits. Staff would support a Planning Commission recommendation for speed reduction in this area.

Planning Commission Recommendation: The Planning Commission found that the Concept Plan envisions strong pedestrian and bike connections to adjacent jobs centers and Clackamas Community College/Oregon City High School; and as the area will be built as a brand new neighborhood, this area would benefit as a test case for reduced vehicular speeds limits on local streets.

Beavercreek Road Design

November 25, 2019 Planning Commission Hearing

At the November 12, 2019 City Commission Worksession, staff [presented additional information](#) on [potential design options](#) for Beavercreek Road and looked for broad direction from the City Commission. Staff also shared the results of the [Public Survey](#). The purpose for holding the City Commission work session during the Planning Commission Hearings process is to provide the City Commission the ability to provide their initial direction on the design of Beavercreek Road, which allows the Planning Commission an opportunity to review the recommendation and provide comments to the City Commission on this topic as the full code amendment package moves forward to City Commission Hearings. If the Planning Commission has a different recommendation than the City Commission on the following questions, it can be included in the formal recommendation to the City Commission. The City Commission provided direction on the following questions:

How many lanes should Beavercreek Road be within the Concept Plan corridor? A transitional section extending the existing 5-lane section near Maple Lane and transitioning to a 3-lane section after the Meyers Road intersection.

What type of intersections should Beavercreek Road have within the Concept Plan corridor? Traffic signals
Should the City renegotiate with ODOT to revise the Alternate Mobility Standard by removing Holly Lane connection projects from the Transportation System Plan (TSP)? No

Should Beavercreek Road along the Concept Plan corridor be constructed by developers incrementally as development is built or pursued as a capital improvement project all at once? The city should investigate if a

city-lead capital improvement project is feasible. Staff should return to a future meeting to review funding opportunities.

Staff Recommendation: Staff will be incorporating the City Commission recommended Beaver Creek Road Design into the code amendment package unless a different direction is given from the Planning Commission. Text amendments to the Transportation System Plan (TSP) and Beaver Creek Road Concept Plan describing the revised design to Beaver Creek Road will be added at the time of formal adoption.

Planning Commission Recommendation: The Planning Commission did not have a different recommendation than the City Commission on the design of Beaver Creek.

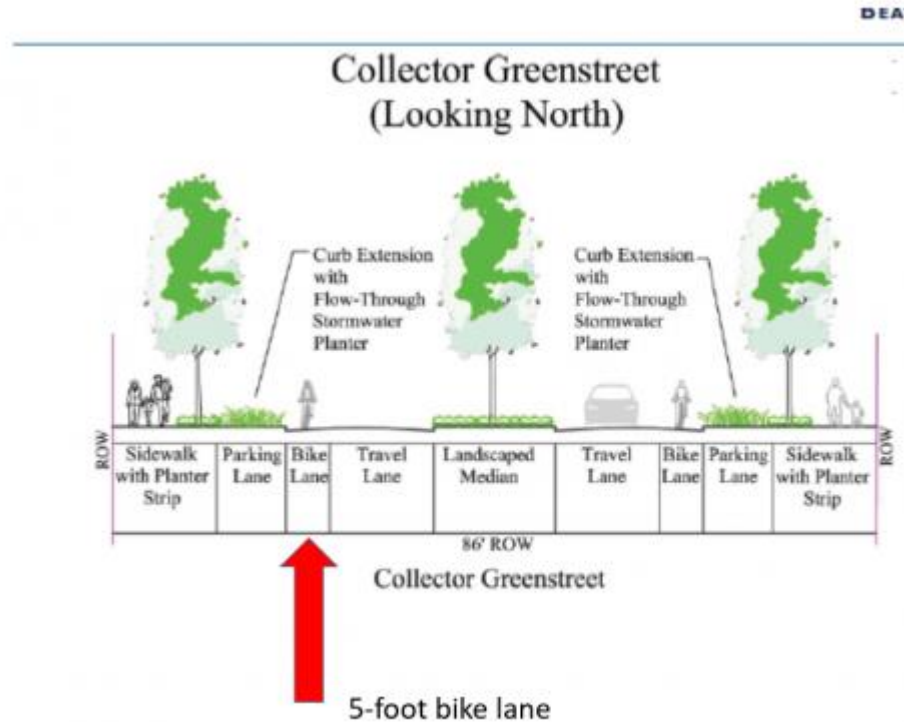
Beavercreek Road Concept Plan

Zoning and Code Amendments

February 10, 2020



Sample Adopted Street Section

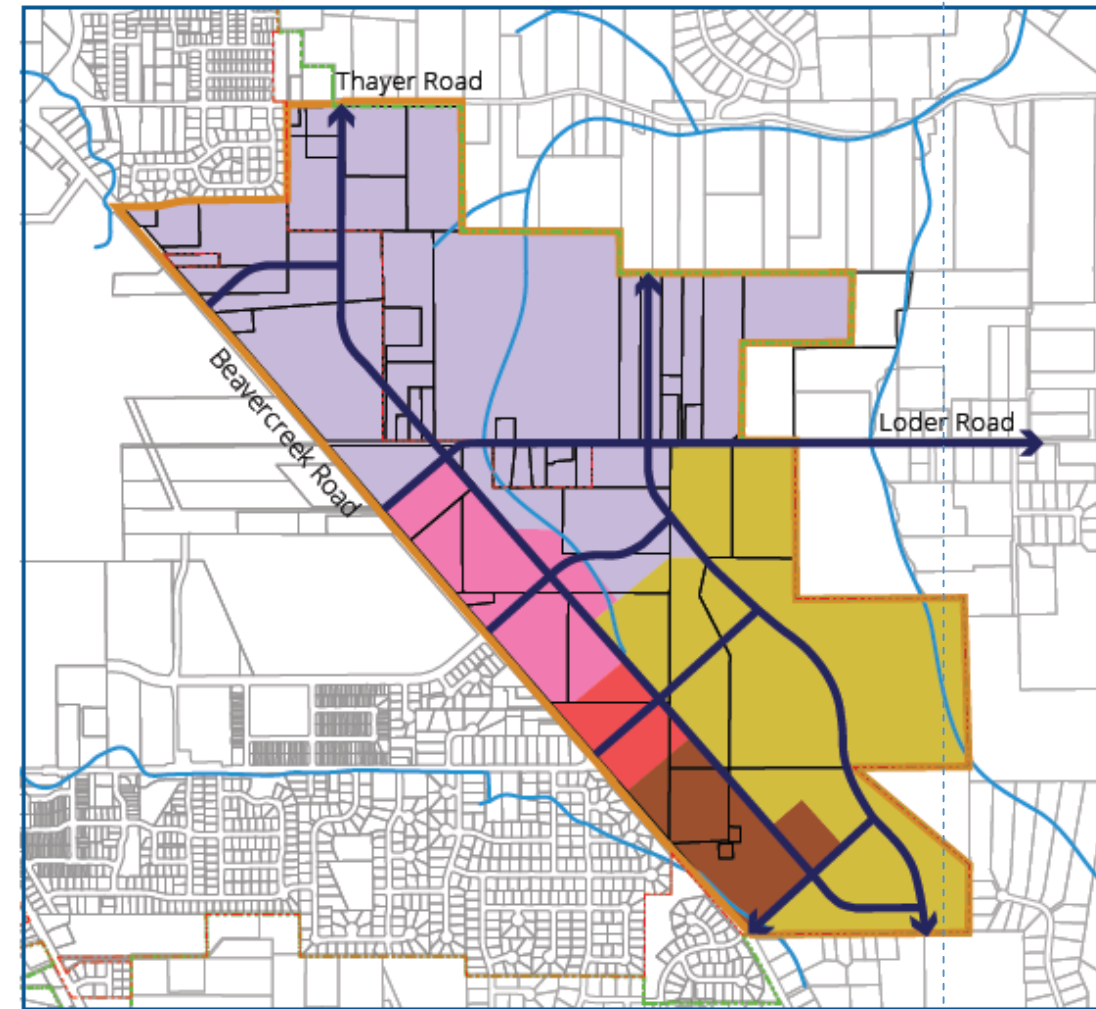


The adopted collector street in the concept plan include:

- sidewalk (both sides of the street)
- 7.5-foot-wide planter strip (both sides of the street)
- On-street parking (both sides of the street)
- 5-foot-wide bike lane (both sides of the street)
- vehicle travel lane (one in each direction)
- 10-foot-wide landscaped center median

Adopted Collector Streets (Blue)

Proposed Zoning and Comprehensive Plan Designations



Legend

BRCP Subdistrict	Comp Plan Designation	Zoning Designation	
West Mixed Use Neighborhood	High Density Residential	High Density Residential R-2	BRCP Boundary
East Mixed Use Neighborhood	Medium Density Residential	Medium Density Residential R-5	Urban Growth Boundary
Main Street	Mixed Use Corridor	Neighborhood Commercial NC	City Limits
Mixed Employment Village	Mixed Use Corridor	Mixed Use Corridor MUC-2	Future Road Connections
North Employment Campus	Industrial	Campus Industrial CI	Streams

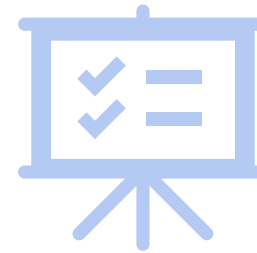
Outreach



Presented to the Transportation Advisory Committee (TAC)

February 18, 2020

TAC supported wider and safer bike lanes



Created Survey – looks at prioritizing ROW elements

*Sent to 185 members of Concept Plan E-blast list

*Shared on Social Media

Survey Results Collector Width

How should the design of Collector Streets be revised to account for the need for wider/safer bike lanes?

Survey Results Febraury 10, 2010

(76 respondences)

Expand the width of the street to accommodate safer bike lanes- no change to the planter strip and medium width	14
Fit the safer bike lanes into the existing street width by reducing the widths of the planter strip and medium.	25
Fit the safer bike lanes into the street through a combination of reducing the width of the planter strip and medium and also increasing the street width.	15
Keep the existing street section and smaller bike lanes- no change to the widths of the planter strip and medium.	22

Next Steps

Tonight

- Planning Commission -Provide staff direction on approach for Collector Street

February 24, 2020 Planning Commission Meeting

- Staff will work with Public Works staff on revised ROW cross section and include recommend revision in adoption package.
- Upland Habitat: Natural Resource Committee did not meet in February. No presentation planned.
- Staff Report Findings
 - Revised Zoning Code
 - Zoning Map & Comprehensive Plan Map
 - Amendments to Concept Plan
 - Amendments to Ancillary Documents of the Comprehensive Plan





Bike Infrastructure in the Beavercreek Road Concept Plan

February 10, 2020 Survey Results

How should the design of Collector Streets be revised to account for the need for wider/safer bike lanes?

Expand the width of the street to accommodate safer bike lanes- no change to the planter strip and medium width	14
Fit the safer bike lanes into the existing street width by reducing the widths of the planter strip and medium.	25
Fit the safer bike lanes into the street through a combination of reducing the width of the planter strip and medium and also increasing the street width.	15
Keep the existing street section and smaller bike lanes- no change to the widths of the planter strip and medium.	22

Tell us some information about you (click all that apply).

I am a resident of Oregon City	65
I am a resident of Clackamas County	55
I am a resident of the Caufield Neighborhood	15
I have a child enrolled in the Oregon City School District	

Can You Let Us Know What Factors Led to Your Decision?

Less maintenance of planter strips and more width for bike lanes.

Narrow streets are important for pedestrians.

Smaller landscape strips will compromise the health of the tree roots. Planting trees in urban areas is tough as it is, so providing the most amount of space possible will help the trees thrive; which will contribute to the beautification and character of the Concept Plan area. Also, if the landscape areas are meant to serve as stormwater collection areas, limiting the width will limit the amount of treatment area.

The best way to make streets safer for bicycles is get them further away from cars and put a physical barrier between them. I'd rather see a car hit a curb or shrub than hit a wobbly child on a bicycle.

Trees in the median can interfere with line of sight for traffic.

Lack of enough bike traffic to justify major changes.

Not enough bikes riding Oregon City to warrant big changes to the road ways!
I am a cyclist and don't feel safe on most of the streets in Oregon City.

Most proficient use of budget to get a safe bike lane

I bike daily for transportation in Oregon City. I want the adopted 5-foot bike lanes upgraded to safer protected bike lanes. Buffered bike lanes do not feel safe enough. Since I value the shade that trees provide and seeing trees, I do not want the planter strip and median width reduced. I support expanding the width of the street to preserve the widths of the planter strip and median.

I prefer to keep the amount of concrete to the minimum. We are already covering a huge expanse of land with more concrete and asphalt, lets not add more. I want a dedicated bike lane in the linear park area for riders. Most of the bike riders in this area are doing it for exercise and recreation. I do not see a large amount of bike traffic as it is elsewhere. If done properly, we could make sure that the park area and the string/pearl concept would be a better option to provide for the majority of the riders.

A wide planter strip along the side can lead to creating blind spots for drivers. Pedestrians and bikers would be safer if planter strips along the sides of the road were kept to a minimum. A planted median, however, can be used as a safe haven for pedestrians who may need more time to cross both lanes of traffic.

My experience as a bike commuter.

Bicycle and automobile traffic should NOT mix. It is a death sentence for cyclists. Do whatever possible to keep bikes out of traffic lanes. Build a bike path for 2 way bike traffic OFF the roadway.

Use what you have as cost could be higher as you have to expand into virgin land

Making the street even bigger would not be a good idea because it would increase the amount of pavement people need to cross. Decreasing the center median from 10 to 8ft and the planting strips from 7.5 to 7-6.5ft would be acceptable.

Transportation structures should be moving towards alternative forms of transportation and away from cars planter strip seem to get smaller- needs to stay wide to provide a buffer

It's a reasonable compromise for all. Maintains safety of motorists, pedestrians, and those on bicycles, while also beautifying our city and a main thoroughfare.

- a. Wider bike lanes are very valuable. Biking as a mode of transport should be encouraged.
- b. Collector streets are to facilitate transport. They are not important as a landscaping element.
- c. If used, median strips need only be wide enough to accommodate bushes. Large trees are unnecessary. Planted medians are a waste of space. Use the space to separate fast moving cars from bikes, parking, pedestrians.
- d. BTW, hard to believe trees in the medium reduce runoff temperature by the time it reaches a stream.

I was considering the cost of building and the difficulty and expense in acquiring more land.

as a biker and car driver I know bikes do not need the amount of space given to them. to make the bike lanes safer, BIKERS need to get over their entitlement of the road. I grew up with a respect for cars and still ride with respect for them, not like many that bike now. we have a lot of trucks and trailers on our roads and they need space so I say we give it to them.

This is a RURAL area and it makes no sense and is of no benefit to pretend that cramming bike lanes into our streets would in any way encourage the use of bikes. This crap of attempted social engineering by government officials HAS TO STOP!
Less costly. Some areas have already been laid out.

If you go with a narrower overall width, you may not be able to expand in the future. Can't go wrong with more real estate from the start.

keep the bikes off beaver creek there useless and think they own the road
Want the roads wider because trucks take up more than 1/2 the road on streets like upper highland rd and Beaver creek. Maybe if the streets were a little wider the truck would not come over the center line.

I ride a bike. The 9.5 foot bike lane is better.

Do not add the parking strips outside the bike lane. With the new Oregon law that allows cyclist to roll through a stop sign and red flashing light intersections the cyclist will be harder to see. The cyclist will also not have good visibility of traffic. This new law will also be causing more cyclist to use this thought process to proceed through a stop lighted intersection. Even though that was not the intention; those less informed will think this is okay.

1. City maintenance of planted median strips requires additional staff, equipment and resources, while, potentially, partially blocking traffic.

2. Median areas are the high point in street design, and vehicle alignment is designed to run correctly on streets that drain to the outside edge, therefore, using the center median area for storm water retention would require extensive design effort. Further, street surface condition is highly dependent on the amount of subsurface water under the pavement. The more water captured there, the shorter the life of the pavement before corrective work is required.

3. Due to the general location of street lights, the farther apart facilities that need night time lighting are, the more lighting, electrical infrastructure, and energy is needed to provide that safe level of lighting, and the more expensive it is to provide it, both in first costs and in maintenance costs.

THE WIDTH & LOCATION OF THE BIKE LANE BETWEEN PARKED CARS & PLANTER STRIP.

People do not ride bikes throughout the city due to the large hills. This is an unnecessary accommodation

The catering to bikes is out of hand and causing unnecessary injury and death. If it is not acceptable for these lanes to be used by other transportation devices (segways, skateboards) then they need to be done away with. Stop wasting taxpayers money.

It just seems like taking 3 feet from the medium and planter strip will still leave plenty of room for trees. I don't think the expense is worth building wider roads.

Don't like the Portland model. Invites too much bike traffic

Taking away from porous land to make giant roads in order to accommodate a road, bike lanes, etc., seems ridiculous. The land is going to come from home owners, therefore putting their homes closer to the street. The vegetation in the planter strip is confined to such a small area, gets choked out over time. Who is to take care of the planting strip? Who replaces the vegetation when it gets run over, vandalized or just dies? Creating a huge planting strip is a waste of space.

Planter strips and medium can be maintenance issues. With that, reduce the size of them and add a bike lane. Don't make the road width bigger. Doing that will create more speed from vehicle traffic.. This option, I believe, you're accomplishing two positive things.

Why do all the streets have to be modified to accommodate bikes? Bicyclists don't have to pay annual fees or get a license - and they should. They are some of the rudest people in the roadways and have the attitude that they can do anything. Ridiculous!

Best balance for all traffic. Bike traffic frequently uses pedestrian sidewalks in any case.

I am a bicyclist and a motorist and believe we all deserve the right to safe travels
From my experience cycling over 100,000 miles on roads. Oregon City's bike infrastructure has greatly improved since my family moved to OC in 1996. Keep up the good work and don't compromise on making a street that's use is only going to increase over the next 50 years. The planter strips have greatly improved the appearance of OC as well.

Expense and less new concrete surfacing. I think sidewalks and bike lanes are vital for the livability of Oregon City. I chose a hybrid to give the city the option to what is needed to make the adjustment. My first choice is use what is there and then in situations where you cannot, expand.

Personally, I think you should focus on maintaining existing roads and not focus on bikes. It rains too much here and hardly anyone uses bikes for a work commute. In utopia it might be great but it's really just a waste of money.

Cost and safety

The city is not known for Bike use. If the city had many more transit stops added and increased ridership maybe wider bike lanes. But money put into bike-able areas in parks and under the power lines would be my preference.

Long term safety and aesthetics.

Bike lanes are SUPER important to me, as are planters for beautification and safety. I drive a car but wish I didn't have to. The more we can accommodate alternate modes of transportation like walking and biking, the healthier our community will be.

This area of OC is not appropriate for biking. That road is going to have enough traffic as it is without making a bike lane that won't be utilized.

Avid cyclist and don't want to take any more space than necessary

Would help keep the costs down.

I rarely see bicycles on Beaver Creek.

Trees are very important for our environment. But don't want to add any more asphalt than we need to.

A 10-foot median seems overkill & just move some of the planter strip to buffer the bike lane.

Cost

Option 2 seems like the best solution if the speed limit is to be over 25 mph. If the speed limit is to be 25 or under, please see my comment below.

Do You Have Any Additional Comments/Ideas/Concerns That Should Be Part Of The Discussion?

I realize this is not the question that is being asked, but widening the sidewalks will improve the street environment and the pedestrian experience. A 5' wide sidewalk is quite narrow for two people to walk side by side. Providing 6'-8' unobstructed width would be ideal. Metro has design guidelines for designing livable streets, that might be helpful in your design: <https://www.oregonmetro.gov/tools-partners/guides-and-tools/guidelines-designing-livable-streets-and-trails>

Thank you for the opportunity to participate!

Thank you for the effort.

Could you take away or significantly minimize the landscaped median and leave the landscaped planter strips intact? Trees there shade everyone. Median trees shade mostly cars and sometimes interfere with sight lines.

Will these plans apply to existing streets, like Meyers on the south side of the high school? It would have to be changed to comply.

The street cross sections do not show intersection design. Protected bike lanes are not enough to keep cyclists safe. You need to protect cyclists through the intersections. Protected bike intersections need to be constructed with the protected bike lanes. How do you plan to protect cyclists through the intersections?

Please consider the inclusion of protected bike intersections with the protected bike lanes.

Require all cyclists to purchase a license, and a registration sticker for their bikes. Use the money for bicycle infrastructure. Stop forcing the entire population to subsidize cycling.

Keep bikes safe but also don't limit vehicle traffic as we accommodate for more bikes. Let's not be Portland

I like the idea of protected bike lanes on Beavercreek because of the fast moving cars.

Bike lanes and intersections should be given maximum protection

It is essential for us to continue investing in making our city more walkable, bikable, and friendly to those taking steps to reduce their carbon footprint, as well as those seeking a healthier lifestyle.

Not at this time.

THIS IS NOT PORTLAND AND NO ONE EXCEPT THE BUREAUCRATS WANTS IT TO BE!!! Stop trying to get people out of their cars. Never going to happen. We neither want nor need bike lanes in a rural residential community.

Also would like underground electric cables as when trees fall on the wires power goes out. We are not a priority for PGE. So we sit in the cold dark house every time the power goes out.

I appreciate your interest in giving the city a nice bike path experience.

Who pays for the maintenance on the planter strips including watering. I'm not for any planter strips if it increases cost to the city. What was put in down by the OC Shopping center would work fine.

The so-called "protected" bike lanes scare the hell out of me. They are usually way too restricted, people opening doors into the lane, pedestrians too close and careless, horrible sight lines approaching intersections. If my lane is "protected" how do I escape from it when intrusions occur? I would feel a whole lot safer to just have a wide bike lane at street level with no barriers to changing lanes in an emergency.

Where are cars supposed to go in emergencies? Into a planter or tree lined median? Having such a busy road with plants and trees is going to cause issues. How are drivers supposed to see a person crossing the street when trees and bushes are hiding them? This is a waste of resources.

The 8-foot bike lane example is nice. I think the 9 1/2 foot example is a little bit too much.

I would be all for bike lanes as soon as bicycles have to be licensed and pay an annual fee for upkeep/maintenance of bike lanes on OUR roadways.

Please make this happen! Sidewalks and bike paths are vital for pedestrian safety and for the livability of our city!

I really like the ruralness of the area and to jame up Beavercreek road (which was just paved) with traffic while the 213 traffic is already ridiculous seems like adding fuel to the fire.

Please do not put trees or bushes in the planter strips that will impede vision for drivers. This is problematic around the city - by the HS for instance. It's easy to miss a pedestrian until its too late. In fact, do we have even need the planter medium? If you remove this, you would have a larger bike lane

and wider street for cars, safer for everyone involved. Keep the planter trip on the sides but see my first comment.

We're not Portland.

We live on a big hill why would we need more bike lanes

If the speed limit on the collector streets is to be 25 mph or less, I might lean more toward option 4, i.e., keep the existing street, bike lane, and planter widths.

What has led the city to think that if they did this people would actually ride bikes?

REsul

They are doing the same thing in West Linn. I don't think people are going to ride bikes around here no matter how safe the bike lanes. There are too many hills, too much rain and too much distance between point a and point B. People ride bikes in areas where it's flat dryer and towns and neighborhoods are not so spread out. I dont think anyone really cares whether or not we need it, or whether or not it will get used. It's just a popular trendy "green" thing to be doing to make your city look good. Why don't we put our money and our energy into some "green" things that will actually help our environment?

From: [Mike Mitchell](#)
To: [Christina Robertson-Gardiner](#); [Laura Terway](#)
Subject: comments on LEG19-00003 Beaver Creek Road CP
Date: Friday, February 7, 2020 9:07:21 AM

Christina or Dilia,na,

I am not able to attend Monday's PC meeting. Please add these comments on LEG19-00003 to the record and provide them to the commissioners.

Thanks,
Mike

1. collector street section: I agree with the staff recommendation to maintain the existing recommended center median, and provide the space for a protected bike lane through a combination of narrower parking strips and increased ROW. Note: I am strongly in favor of protected bike lanes on the collector streets. I also would prefer any separation method other than parked car. (I think parked car is the least desirable method of separation.)
2. upland habitat protection: My memory may be faulty, but I believe that at our last meeting, the commissioners agreed with my suggestion that we ask the NRC for additional info (maybe a presentation from them) related to their suggestion of added protected areas before the PC makes its recommendation on the issue.



To: Planning Commission
From: Christina Robertson-Gardiner, Senior Planner
RE: LEG 19-0003-Beavercreek Road Concept Plan Zoning and Code Amendments – Draft Planning Commission Recommendations
Date: January 6, 2020

Background

The Planning Commission reviewed the zoning and code amendments for the Beavercreek Road Concept Plan (BRCP) over multiple meetings during the fall and winter of 2019/2020. Each meeting was broken into 2-3 topics to allow the Planning Commission, staff, and the public time to focus their energies. Planning Commission comments and direction, as well as public comments, were tracked throughout the hearings, and topics were added to future meetings if new items were identified or issues have not been resolved.

The purpose of this memo is to consolidate and document the Planning Commission recommendations/direction on all items discussed during the hearings process from August 2019 to November 25, 2019 based on the original applicant's submittal attached to the August 12, 2019 Planning Commission Agenda. Outstanding items will be revised as they are deliberated, and further direction is given to staff. A final version of this memo will be forwarded to the City Commission as part of the Legislative package.

More detailed background can be found in the staff memo attached to the referenced Planning Commission Hearing for each item discussed below.

Unresolved Items

Home Occupation/Cottage Manufacturing

September 9th, September 23rd, November 18th Planning Commission Hearings

As part of the 2016 re-adoption of the plan, the City Commission recommended that as during the process to create implementing code and zoning for the BRCP, staff should further analyze the issue of allowing expanded home occupation uses, also known as cottage manufacturing/industry within the mixed-use and residential areas. This item was discussed during the two open houses at Oregon City High School and through an online survey in the fall of 2019. The Planning Commission provided staff clear direction that they supported expanded opportunities for home-based businesses within the concept plan area. Staff worked with the Planning Commission on options creating new opportunities for home-based business in Oregon City. At the November 18, 2019 Meeting, staff received direction on commercial vehicles and hours of operation for employees and sales and type of sales onsite at the November 18, 2019 Planning Commission Meeting. Those changes are reflected in the revised code attached to the January 13, 2020 agenda packet.

Staff recommendation: As there was no clear direction given during the public outreach meetings this spring and there are existing provisions for many types of home occupation allowed city-wide, staff did not recommend any changes to the Home Occupation code for the Beavercreek Concept Plan area.

Planning Commission: Planning Commission directed staff to create specific cottage industry home occupation business license criteria to implement the Beavercreek Road Concept Plan vision to encourages job creation in this district.

Upland Habitat regulation under OCMC 17.49 Natural Resource Overlay District (NROD).

September 23, 2019 Planning Commission Hearing

Staff has reviewed the 2008 Beavercreek Road Site Inventory Map and has identified some small areas that are not currently regulated under OCMC 17.49- Natural Resources Overlay District or OCMC 17.44 Geologic Hazards. Staff has determined that a sufficient amount of land identified as habitat is being protected through the city's existing code to show substantial compliance with the goals and policies of the Beavercreek Road Concept Plan. Additional regulation could be adopted to address these areas but would not be required.

Staff presented this analysis to the Natural Resource Committee on October 9, 2019 and November 13, 2019. The Natural Resource Committee submitted a letter with a keyed map into the record requesting the Planning Commission create code to regulate and protect upland habitat areas 3 and 4 as they are of specific interest to the committee and are contiguous to large habitat areas. They support additional protection in Area 2 in locations that abut the identified and protected stream. Area 1 merits additional protection if analysis can show enough tree area located outside of the Natural Resource Overlay District exists. Staff is looking for further direction from the Planning Commission on this issue. If the Planning Commission supports additional regulation, staff recommends adding code to either OCMC Chapter 17.49 Natural Resource Overlay District or OCMC 17.41 Tree Protection, Preservation, Removal and Replanting Standards and return at a future meeting with proposed code.

Staff recommendation: Staff does not recommend any revisions to the proposed code amendments.

Planning Commission recommendation: Planning Commission did not recommend any revisions to the proposed code amendments at the September 23, 2019 Planning Commission Meeting and will be discussing the NRC's recommendation at the January 13, 2019 Planning Commission Meeting.

Parks Acquisition Code Amendments

October 14, 2019, November 18, 2019 Planning Commission Hearings

The BRCP prioritizes an open space network that preserves identified environmental resource areas, parks, trails, and viewpoints, including the South-Central Open Space Network and the Low Impact Conservation Area upslope areas of Thimble Creek on the eastern edge of the district. The proposed code amendments will create the South-Central Open Space Network and Low Impact Conservation Area through required parkland dedication at the time of development and protect trail corridors throughout the district's open space system by also requiring the dedication of easements at the time of development. This code is not for the construction of these elements, only for the dedication of land and potentially some interim surface preparation and use. System Developments Fees would be used for the substantial construction of parkland acquired by this code.

Staff met with the Parks and Rec Advisory Committee (PRAC) on August 29, 2019 and September 26, 2019 to discuss the two park concepts. PRAC was supportive of the approach and requested that staff return at a later date with draft park details for the committee to review and make their formal recommendation to the Planning Commission. Staff is working with Don Robertson, Interim Community Services Manager, to get on the next PRAC agenda. In the interim period, staff worked with previous Community Services Manager Phil Lewis on creating minimum and maximum park dimensions, which will be available for Planning Commission review at the January 213, 2020 Planning Commission Meeting.

Planning staff also reviewed the South-Central Open Space-Neighborhood Park dedication formula for residential development created this summer and found that the formula was not correctly or proportionately allocating dedication based on the number of dwelling units. The original formula was *2.6 persons per dwelling units) x (total number of dwelling units proposed in the development) x (8 acres) / (1,000 persons)*. This would

require a 10.4-acre dedication for a 400 lot/dwelling unit development application. If the goal is a formula that requires all development to contribute proportionally to the proposed impacts of their development, the original calculation would not be considered proportional.

The Beaver Creek Road Concept Plan anticipates 1100 new dwelling units. This means that the first large development application would be required to site and dedicate the full South-Central Open Space-Neighborhood Park. Based on the proposed minimum park size of 10 acres and the projected residential zoning for 1100 dwelling units, staff recommends a more proportional formula of $2.6 \text{ persons per dwelling units} \times (\text{total number of dwelling units proposed in the development}) \times (4 \text{ acres}) / (1,000 \text{ persons})$. This would require the same 400 dwelling unit development proposal to dedicate 4.2 acres.

Finally, staff heard from the Planning Commission that nonresidential development should also contribute to the acquisition and interim development of parks spaces above and beyond the required Parks SDCs. Staff recommends that this fee should be set for 1,000 dollars per each new 5,000 square feet of non-residential development. A new 50,000 square foot Industrial building would be required to pay \$10,000.

Staff recommendation: Staff recommends that the Planning and City Commission continue to work with the Parks and Rec Advisory Committee to ensure the park details meet the vision and need for the community. Staff also recommends adopting revised language that provides additional description of the South-Central Open Space Network /Linear Park and the Low Impact Conservation Area into the proposed parks acquisition language and recommends that both parks be added to the Parks Master Plan and the proposed Trail System be added to the Transportation System Plan (TSP) and Trails Master Plan as needed.

Planning Commission recommendation: Planning Commission will provide additional direction at the January 15, 2020 Planning Commission meeting

Resolved Items

Setbacks Differentiation Between the Northern Concept Plan Boundary and the Southern Concept Plan Boundary.

September 9, 2019 Planning Commission Hearing

The northern boundary is zoned CI and has buffering requirements for residential properties. The purpose of the zoning language is to provide a visual buffer for residential uses while maximizing the development area for campus industrial properties. The additional buffer requirements found in the Beaver Creek CI zone allow for a smaller setback than the residential buffer to the south. The exchange for quality of the buffer over quantity is often applied in non-residential zones as the landscaping installation and maintenance are easier to enforce than with a single-family residence. Moreover, the Campus Industrial Zone is envisioned to attract businesses that contain their uses inside buildings. The off-hour impact would also be substantially less compared to a single-family residence. The southern concept plan boundary along Old Acres Lane is will be zoned R-5 and has the following proposed code language. The purpose of the increased setback of 40 feet is to protect the existing grove of trees at the southern property line. Staff identified two additional revisions for clarification purposes.

Staff Recommendation: Staff recommends revising 17.37.040 -*Dimensional standards to account for the following items in the southern buffering requirements.*

- Timbersky/Beaver Creek intersection. There may be a connection to Beaver Creek Road at the Timbersky intersection that could be a right in/right out approach; therefore a road may need to be allowed within the 20 feet of the southern boundary
- The addition of the clarification for the 40-foot setback at the southern boundary to primary structures indicates that accessory structures would be allowed in the 40-foot setback.

Planning Commission recommendation: Planning Commission recommends revising OCMC 17.37.040 - Dimensional standards as proposed by staff. The Planning Commission did not provide any additional code amendment for the northern buffering requirements.

Definition of Warehousing

September 9, 2019 Planning Commission Hearing

Distribution/warehousing is prohibited in the Beavercreek Road Concept Plan CI zone. There was some concern that ancillary warehousing and distribution would not be allowed. Oregon City views the storage and distribution of materials that are constructed or assembled onsite to be part of the permitted use. No changes to the code are recommended.

Staff recommendation: Staff response was informational only.

Planning Commission recommendation: Planning Commission did not recommend any revisions to the proposed code amendments.

Map Change Request

September 9, 2019 Planning Commission Hearing

At the August 12, 2019 Planning Commission Hearing, Paul Edgar requested that the Planning Commission work with Metro to revise the Title 4 Industrial maps to remove a CI zoned parcel owned by Terry Emmert (identified by a red star on the map below) to allow construction of housing for homeless veterans onsite. Portions of the CI area in the BRCP are identified as Title 4 Industrial areas. Any change to the title 4 Map must be adopted by Metro and would need to be completed before the Code amendments are adopted by the City to remain consistent with Title 4.

Staff recommendation: Staff does not recommend amending the proposed zoning map or the Title 4 Map as it is not consistent with the vision of the Beavercreek Road Concept Plan.

Planning Commission recommendation: Planning Commission did not recommend any revisions to the proposed zoning map.

Geologic Hazards

September 23, 2019 Planning Commission Hearing

At the request of the Planning Commission, Josh Wheeler, Assistant City Engineer, provided a presentation on the Geologic Hazards Overlay District. Northwest Clackamas County is more susceptible to landslides than many other locations in the Portland-Metro area. Slides are commonly triggered by heavy rain, rapid snowmelt, earthquakes, grading/removing material from the bottom of the slope or adding loads to the top of the slope, or concentrating water onto a slope (for example, from landscape irrigation, roof downspouts, or broken water/sewer lines). Slides generally occur on moderate to steep slopes, especially in weak soil. The City of Oregon City has a [digital mapping program](#); once there, you can access the City's GIS mapping program, OCWebMaps, which includes Oregon City and outlying areas. Oregon City regulates and limits tree removal, grading, and development in areas with steep slopes or historic landslides; more information can be found in [Chapter 17.44 of the Oregon City Municipal Code](#).

Staff recommendation: Staff response was informational only.

Planning Commission recommendation: Planning Commission did not recommend any revisions to the proposed code amendments.

Master Planning Requirement- Clear and Objective Standards for Housing

September 23, 2019 Planning Commission Hearing

Senate Bill 1051, passed in 2017, requires jurisdictions to provide clear and objective standards for housing. Clear and objective standards are metric based and rely on analysis using measurable standards such as height, setback, material selection, window transparency, and other architectural features that can be measured. The 2008 Beavercreek Concept Plan looked at implementation through a more subjective Master Plan process that

requires applicants to show how their proposed development is consistent with the adopted plan. This would occur through a Type III Master Plan application reviewed by the Planning Commission at a public hearing. The proposed Beaver Creek Road Concept Plan code amendment package was written to be clear and objective to show consistency and compliance with SP 1051. The other way to address compliance with SB 1051 will be to amend the Beaver Creek Road Concept Plan and remove the master planning requirement from the text

Staff recommendation: Staff recommends amending the Beaver Creek Road Concept Plan text to no longer require implementation through the Master Plan process. Needed text amendments will be added at the time of formal adoption.

Planning Commission recommendation: Planning Commission recommends amending the Beaver Creek Road Concept Plan text to no longer require implementation through the Master Plan process.

Concept Plan Renaming

October 14, 2019 Planning Commission Hearing

One issue that came up over and over again in public outreach conversations and public comments in 2019 was a concern that the name of the concept plan area was geographically confusing and was being confused with the Hamlet of Beaver Creek. One way to lessen this concern is to potentially begin referring to the area with a new name as part of the code amendment project. Ideally, the new name should not be geographically confusing. Additional names provided during the public outreach during the spring of 2019 were: Thimble Creek, East Caulfield, Loder Road, SE Industrial (Oregon City), Two Creeks, and Thayer Greens. Most of the property is on the Andrew Hood Donation Land Claim. Until the golf course was built, the area was mainly farm fields for people who lived at Maple Lane or lived in the city and kept farms nearby. When the golf course was established, the newspaper reported it going in at "Maple Lane." A survey map for "Skypark" which was the airfield was identified west of the golf course. Google maps show it today as Fairways Airfield. None of the references above create a unique geographic name. As Thimble Creek runs through the site, is not very long and empties into Abernethy Creek soon after it leaves the site, staff found it to be the best alternative name option.

Staff recommendation: Staff recommends that if the Planning Commission wishes to rename the Concept Plan as part of this process, Thimble Creek Concept Plan is the best option. Needed text amendments will be added at the time of formal adoption.

Planning Commission Recommendation: The Planning Commission felt that a renaming of the plan name was warranted and directed staff to ensure that the needed text revisions are included in the final Legislative package adopted by the City Commission.

Beaver Creek Road Concept Plan- Transportation Analysis

November 25, 2019 Planning Commission Hearing

The Beaver Creek Road Zone and Code Amendments project will also rezone properties located within the city limits and Concept Plan boundary. An approval criterion for rezoning property is a facilities analysis. For the transportation system, this is usually done by completing a Transportation Analysis (TA). It was reviewed by John Replinger, the city's contract Transportation Engineer. Once properties are rezoned, additional project-specific analysis will occur during any future development review onsite and specific and proportional conditions of approval for transportation system upgrades, such as abutting street improvements or signal installations will be required as part of a development's approval.

The focus of the analysis was to demonstrate that the requirements of [Oregon Administrative Rule \(OAR\) 660-012-0060](#), the [Transportation Planning Rule \(TPR\)](#), are met for the Beaver Creek Road Concept Plan.

Mr. Replinger found that the proposal provides an adequate basis upon which the impacts of the development can be assessed. The TA provides documentation that the key intersections will meet adopted mobility standards and that the proposed changes comply with the TPR. He also concurs with DKS's findings that all study area intersections meet operational standards regardless of whether Holly Lane was included or excluded in the system and that Beaver Creek Road would meet mobility standards with the 3-lane configuration

specified in the TSP. Additionally, the mobility standards would also be met if Beaver Creek Road were to be widened to five lanes in sections where three lanes had been specified.

Staff Recommendation: Staff concurs with the transportation analysis performed by DKS. No action is needed.

Planning Commission Recommendation: The Planning Commission did not request any additional information on the transportation analysis and concurred with staff's transportation analysis findings.

Speed Zones within the Concept Plan

November 25, 2019 Planning Commission Hearing

At the request of the Planning Commission, staff presented information on new legislation that allows the city to set lower speed limits on local roads. [Senate Bill 558](#)-Allows all cities and counties the authority to establish, by ordinance, a designated speed for a right of ways under their jurisdiction. The measure specifies that the designated speed must be five miles per hour slower than the statutory speed, the road is located in a residential district and not an arterial street, and that the city provides appropriate signage of the designated speed. Senate Bill 558 passed the Legislature and was signed by the Governor on June 27, 2019. It goes into effect on January 1, 2020. If the Planning Commission wishes to pursue 20 miles per hour signage on local residential streets in the Beaver Creek Road Concept Plan boundary and the Glen Oak Commercial Main Street, they should include it in the formal recommendation to the City Commission. Implementation would occur at the time of road construction. The City Commission could adopt the support for reduced speeds in the implementing Ordinance or adopt a separate resolution at the time of code adoption.

Staff Recommendation: The Beaver Creek Road Concept Plan is an ideal area to test the new option for reduced speed limits. Staff would support a Planning Commission recommendation for speed reduction in this area.

Planning Commission Recommendation: The Planning Commission found that the Concept Plan envisions strong pedestrian and bike connections to adjacent jobs centers and Clackamas Community College/Oregon City High School; and as the area will be built as a brand new neighborhood, this area would benefit as a test case for reduced vehicular speeds limits on local streets.

Beaver Creek Road Design

November 25, 2019 Planning Commission Hearing

At the November 12, 2019 City Commission Worksession, staff [presented additional information](#) on [potential design options](#) for Beaver Creek Road and looked for broad direction from the City Commission. Staff also shared the results of the [Public Survey](#). The purpose for holding the City Commission worksession during the Planning Commission Hearings process is to provide the City Commission the ability to provide their initial direction on the design of Beaver Creek Road, which allows the Planning Commission an opportunity to review the recommendation and provide comments to the City Commission on this topic as the full code amendment package moves forward to City Commission Hearings. If the Planning Commission has a different recommendation than the City Commission on the following questions, it can be included in the formal recommendation to the City Commission. The City Commission provided direction on the following questions:

How many lanes should Beaver Creek Road be within the Concept Plan corridor? A transitional section extending the existing 5-lane section near Maple Lane and transitioning to a 3-lane section after the Meyers Road intersection.

What type of intersections should Beaver Creek Road have within the Concept Plan corridor? Traffic signals
Should the City renegotiate with ODOT to revise the Alternate Mobility Standard by removing Holly Lane connection projects from the Transportation System Plan (TSP)? No

Should Beaver Creek Road along the Concept Plan corridor be constructed by developers incrementally as development is built or pursued as a capital improvement project all at once? The city should investigate if a city-lead capital improvement project is feasible. Staff should return to a future meeting to review funding opportunities.

Staff Recommendation: Staff will be incorporating the City Commission recommended Beaver Creek Road Design into the code amendment package unless a different direction is given from the Planning Commission.

Text amendments to the Transportation System Plan (TSP) and Beavercreek Road Concept Plan describing the revised design to Beavercreek Road will be added at the time of formal adoption.

Planning Commission Recommendation: The Planning Commission did not have a different recommendation than the City Commission on the design of Beavercreek.

LEG 19-0003

BEAVERCREEK ROAD CONCEPT PLAN ZONING AND CODE AMENDMENTS

TOPIC: PARKS, EXPANDED HOME
OCCUPATION/COTTAGE
INDUSTRY, UPLAND HABITAT

JANUARY 13, 2020 PLANNING
COMMISSION MEETING

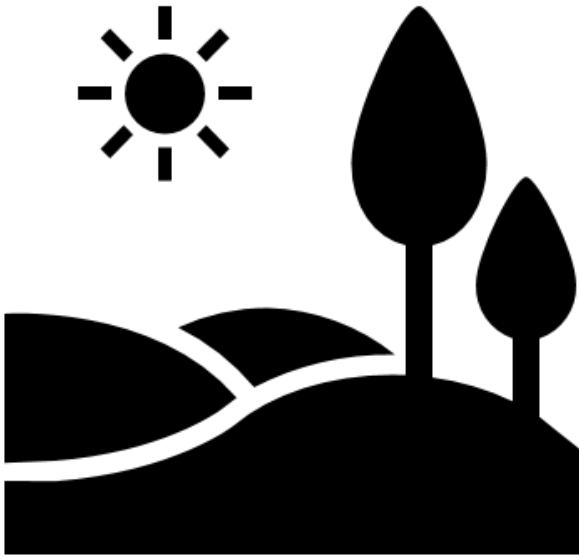




The following topics were identified either by public comment or the Planning Commission for the January 13, 2020 Hearing. Staff will provide background on the issue and offer a recommendation if warranted.

Staff is looking for direction from the Planning Commission on each item discussed this evening.

Enter into record: Letter from Todd Mobley- collector status of roads in Concept Plan. Need for flexibility.



PARKS ACQUISITION CODE

1. DIMENSIONAL DETAILS
2. REVISED RESIDENTIAL CALCULATION
3. NON-RESIDENTIAL CONTRIBUTION
4. PARKS AND RECREATION ADVISORY COMMITTEE (PRAC) REVIEW

LINEAR PARK ELEMENTS

- 30 foot ped/bikeway string along the east side of Holly Lane extension to be located in the right of way and will not be considered part of a pearl.
- 3-4 pearls of various sizes spread along the open space network
- Min and maximum sizes pearls: 2 acres minimum and 5 acres maximum
- Min combined size of all pearls: 10 acres
- Min average width: 200 feet
- Min average depth: 200 feet
- At least 5 acres to be developed with active recreation components

Linear Park: Pearl and String Approach

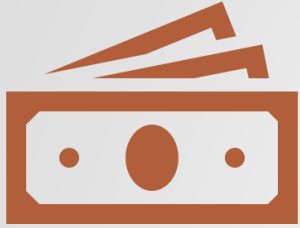


THIMBLE CREEK CONSERVATION AREA ELEMENTS

- $\frac{1}{2}$ of area between the Thimble Creek stream buffer and the 490-foot elevation ridgeline to be open space (approximately 7 acres)
- 700-foot non-interrupted view corridor along open space along east edge of Ridge Parkway
- Two public viewpoints separated by at least 400 feet with a minimum size of .35 acre at less than 10% slope for each viewpoint.
- Provide a forest trail from one viewpoint to another along the Ridge Parkway
- Staff and Parks and Recreation Advisory Board recommendation is to indicate that this area is a public open space amendment to Parks Master Plan

East Ridge – Thimble Creek Conservation Area





Nonresidential Contribution

Proposed fee \$1,000 per 5,000 square feet of new commercial space

Example- 35,000 square foot industrial development=\$7,000

Anticipated new employment space = 500,000 square feet.



Revised Residential Calculation

The minimum amount of land in acres dedicated for South-Central Open Space-Neighborhood Park shall be calculated according to the following calculation: (2.6 persons per dwelling units) x (total number of dwelling units proposed in the development) x (4 acres) / (1,000 persons).

Example- 350 lot subdivision: $(2.6) \times (350) \times 4 / 1,000 = 3.64$ acres

Anticipated # of dwelling units in concept plan area = 1,100 new dwelling units

PARKS AND RECREATION ADVISORY COMMITTEE

- January 23, 2020
 - Looking for further direction on proposed redlines to park dimension
 - Confirmation that proposed parks meets PRAC goals for this area of the city. Requesting recommendation of support



HOME OCCUPATION/COTTAGE HOUSING

HOME OCCUPATION- OUTSTANDING ITEMS



HOURS OF OPERATION –
RETAIL AND EMPLOYEES



COMMERCIAL VEHICLE
ALLOWANCES



Construction Work Hours

All work in the right-of-way and work on improvements to be dedicated to the City (i.e. roads, sewers, watermain, stormwater management areas) shall only occur during the following hours unless a request has been made and then approved by the Right-of-Way and Construction Manager or his/her designee

Monday - Friday	7 AM to 6 PM
Saturday	9 AM to 6 PM
Sundays and all City Holidays	None

PROPOSED CODE

17.54.120 -Home Occupations/Cottage Industry- Thimble Creek Concept Plan Area

Home occupations and Cottage Industries within the Thimble Creek Concept Plan Area are allowed an expanded level of uses to support job creation in Oregon City and shall comply with all of the following:

- A. Up to 3 offsite employees are allowed to work at the residence. Offsite employees may work onsite Monday-Friday 7:00 am 6:00 pm and Saturday 9:00 am to 5:00 pm;*
- B. All business conducted on-site shall be conducted within the home or accessory structure;*
- C. No outdoor storage of materials associated with the business shall occur on-site;*
- D. Not more than one-half of the square footage of the primary dwelling is devoted to such use;*
- E. One commercial vehicle associated with the business that has no more than 15 seats and does not require a commercial driver's license and one trailer associated with the business no more than 20 feet in total length may be stored onsite outside of an accessory building. No commercial vehicles or trailers associated with the business may be stored in the Right of Way;*
- F. Any dedicated retail space located within the residence may be no larger than 300 square feet. Retail hours may not exceed Monday-Friday 7:00 am- 6:00 pm and Saturday 9:00 am to 5:00 pm; The following retail uses are not allowed in this district: food, beverage, and/or marijuana sales.*



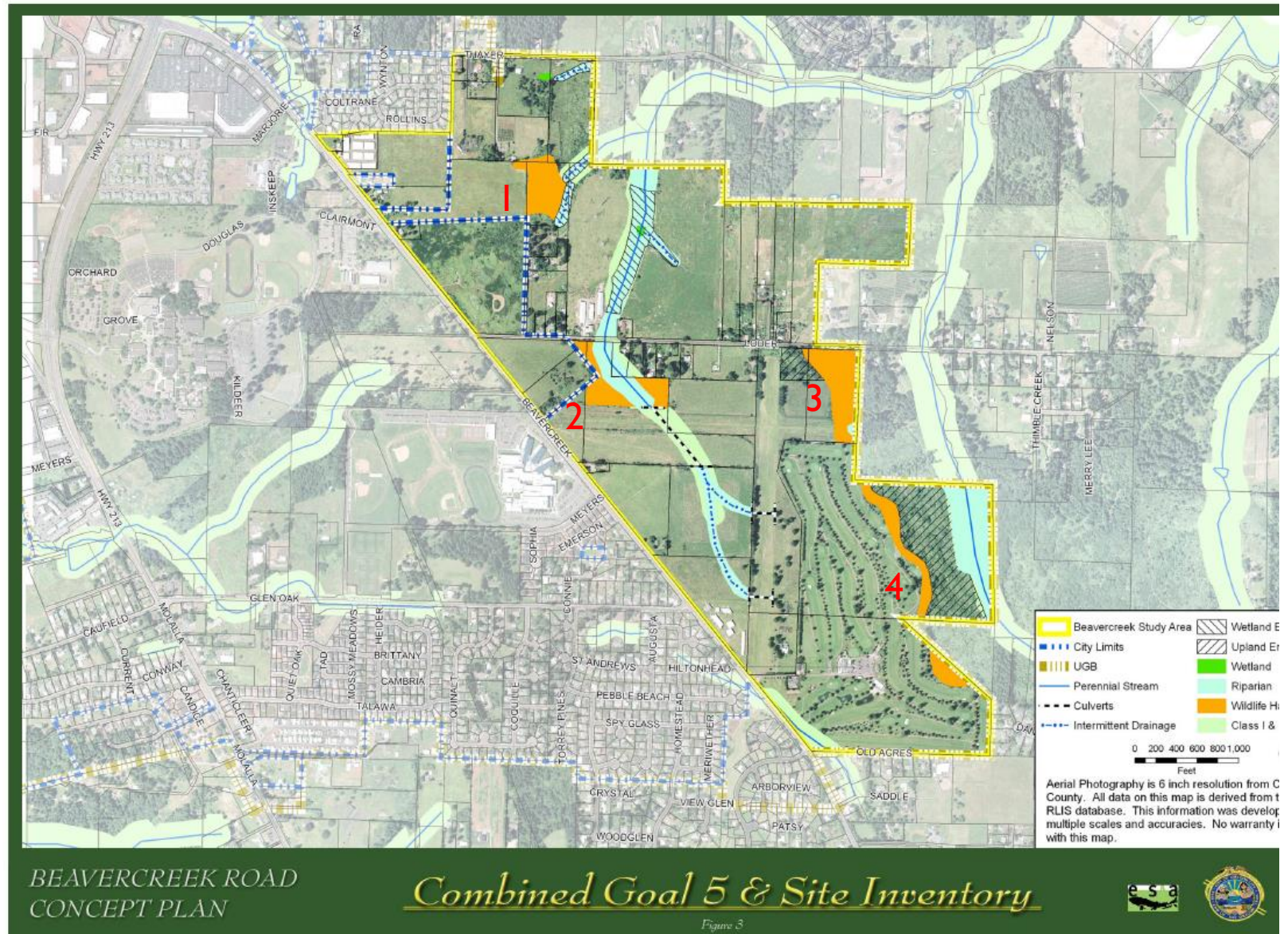
UPLAND HABITAT

UPLAND HABITAT

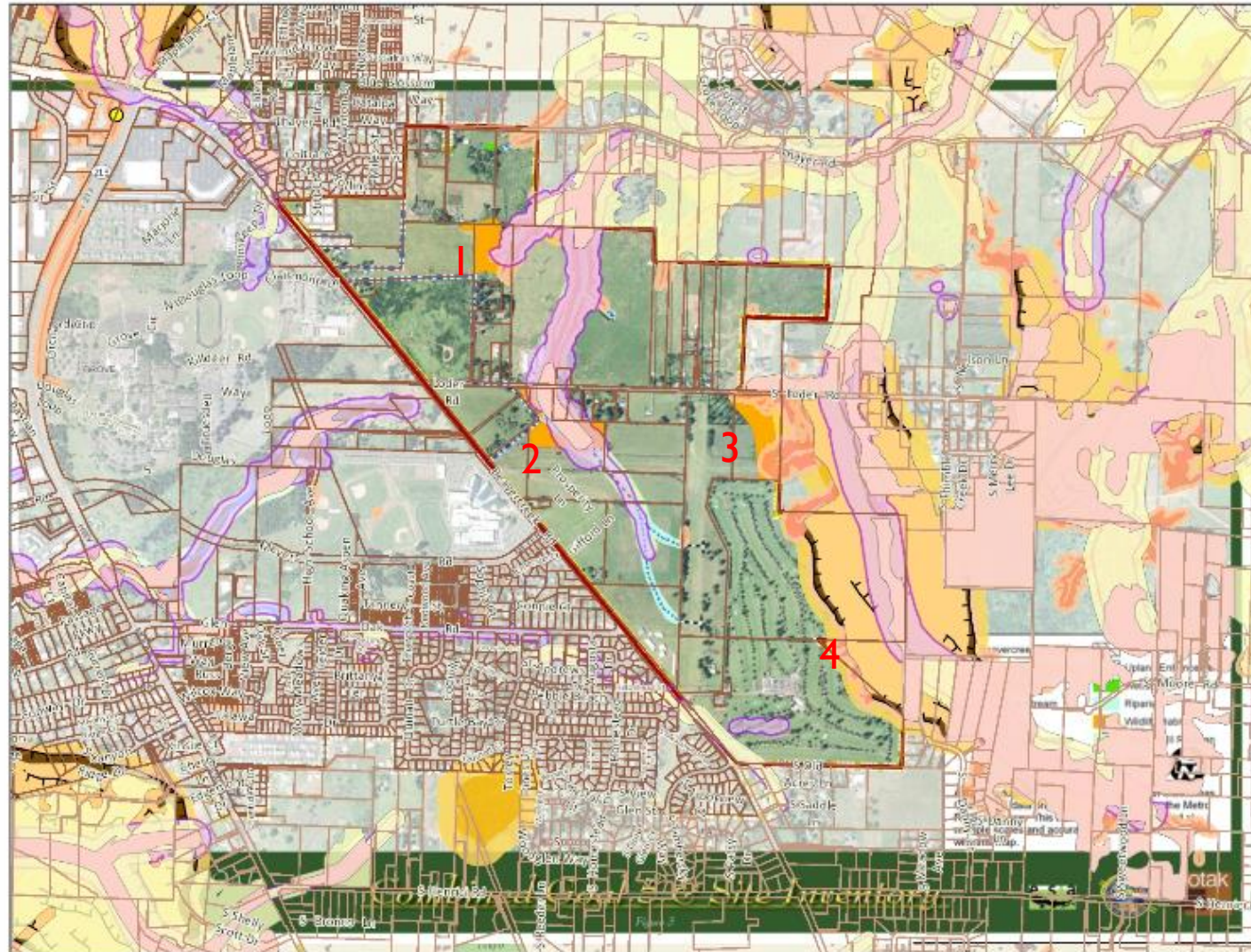
September 2019 Planning Commission Direction:
Existing code provides adequate protection.

December 2019 Natural Resource Committee: Support for additional upland habitat protection when located outside of existing overlay districts.

Staff: Looking for further direction on this item.



Oregon City GIS Map



Legend

Street Names

- Taxlots
- Taxlots Outside UGB
- Unimproved ROW
- Park Place Concept Plan
- Beaver Creek Road Planning Area Bound
- Beaver Creek Road (Combined Goal 5)
- Red: Band_1
- Green: Band_2
- Blue: Band_3
- South End Planning Area Boundary
- NROD - HCA (High Only)
- NROD - HCA (High - Moderate)
- NROD - Natural Resource Overlay Dist
- Title 3 - Streams
- Title 3 - Wetlands
- Landslides (SLIDO) - Historic Landslide
- Landslides (SLIDO) - Scarps

Notes

Overview Map



The City of Oregon City makes no representations, express or implied, as to the accuracy, completeness and timeliness of the information displayed. This map is not suitable for legal, engineering, surveying or navigation purposes. Notification of any errors is appreciated.

Map created 1/13/2020



0 1,600 3,200 Feet

1: 19,200

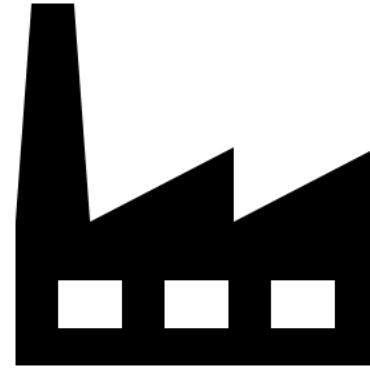
City of Oregon City
PO Box 3040
625 Center St
Oregon City
OR 97045
(503) 657-0891
www.oregoncity.org



PLANNING COMMISSION OPTIONS

- Recommend no revisions to code- make findings that the existing code substantially implements plan vision.
- Recommend revision to code-
 - Include **all identified** Beaver Creek Road Concept Plan Upland Habitat into the **OCMC 17.49 Natural Resource Overlay District** boundary.
 - Include **some** Beaver Creek Road Concept Plan Upland Habitat into the **OCMC 17.49 Natural Resource Overlay District** boundary.
 - Not include in the Natural Resource Overlay District- but further discourage development through **additional/higher tree protection/mitigation requirements** through **OCMC 17.41 Tree Protection, Preservation, Removal, and Replanting Standards**.

Staff recommendation: Existing code substantially implements plan vision. If Planning Commission wishes to see additional protection- revise OCMC 17.41 Tree Protection code.



February 10, 2020 Planning Commission Meeting

Topic: Formal Planning Commission Recommendation

To: Planning Commission

From: Natural Resources Committee

RE: Beaver Creek Road Concept Plan Implementation Upland Habitat

Date: November 13, 2019

The Natural Resources Committee reviewed a presentation by Christina Robertson-Gardiner, Senior Planner at the October 9, 2019, NRC meeting, which provided background on upland habitat areas in the adopted Beaver Creek Road Concept Plan.

While a fair amount of the area identified as upland habitat in the adopted plan is already protected by OCMC 17.49 Natural Resources Overlay District, OCMC 17.44 Geologic Hazards and OCMC 17.41 Tree protection, we feel that there is a need for additional protection to retain high-value habitat directly abutting protected water features. The Natural Resources Committee believes that new code should be created to address these areas as part of the Beaver Creek Road Concept Plan Zoning and Code Amendments.



Areas 3 and 4 as identified in the city map below are of specific interest to this committee as they are contiguous to large habitat areas. We support additional protection in Area 2 in locations that abut the identified and protected stream. Area 1 may merit additional protection if analysis shows enough tree area located outside of the Natural Resource Overlay District.

We look forward to working with city staff on any proposed code amendments.

17.54.120 -Home Occupations/Cottage Industry- Thimble Creek Concept Plan Area

Home occupations and Cottage Industries within the Thimble Creek Concept Plan Area are allowed an expanded level of uses to support job creation in Oregon City and shall comply with all of the following:

A. Up to 3 offsite employees are allowed to work at the residence. Offsite employees may work onsite Monday-Friday 7:00 am-6:00 pm and Saturday 9:00 am to 5:00 pm;

B. All business conducted on-site shall be conducted within the home or accessory structure;

C. No outdoor storage of materials associated with the business shall occur on-site;

D. Not more than one-half of the square footage of the primary dwelling is devoted to such use;

E. One commercial vehicle associated with the business that has no more than 15 seats and does not require a commercial driver's license and one trailer associated with the business no more than 20 feet in length may be stored onsite outside of an accessory building. No commercial vehicles or trailers associated with the business may be stored in the Right of Way;

F. Any dedicated retail space located within the residence may be no larger than 300 square feet. Retail hours may not exceed Monday-Friday 7:00 am-6:00 pm and Saturday 9:00 am to 5:00 pm; The following retail uses are not allowed in this district: food, beverage, and/or marijuana sales.

16.08.042 (&17.62.058) - Additional Public Park and Open Space Requirements in Beavercreek Road Concept Plan area for non-residential development.

1. New non-residential development creating new commercial or industrial space will contribute to the creation of the parks and open space within the Beavercreek Road Concept Plan area during a development application. Each non-residential development creating new commercial or industrial space will provide a fee in lieu to the city to proportionally support the acquisition and interim use of needed park and open space land within the Concept Plan boundary.

a. The fee in lieu will be set by the City Commission and adopted yearly in the city's fee schedule. The fee shall only be used by the city for park, trail and open space acquisition and interim site development. [proposed fee \$1,000 per 5,000 square feet of new commercial space]

b. The fee-in-lieu or other monetary contribution must be paid prior to approval of the Certificate of Occupancy.

16.08.043 (&17.62.059 Additional Public Park and Open Space Requirements in Beavercreek Road Concept Plan area for Residential development.

1. Each development within the Beavercreek Road Concept Plan area that includes residential development must provide for land for neighborhood parks and open space during a development application which meets the requirements of this section.

Ba. The minimum amount of land in acres dedicated for South-Central Open Space-Neighborhood Park shall be calculated according to the following calculation: (2.6 persons per dwelling units) x (total number of dwelling units proposed in the development) x (8-4 acres) / (1,000 persons).

Cb. The minimum amount of land in acres dedicated for the East Ridge- Thimble Creek Conservation Area shall be 7.5 acres.

Dc. The entire acreage must be dedicated prior to approval or as part of the final plat or site plan development approval for the first phase of development.

Ed. If a larger area for a neighborhood park or open space is proposed than is required based on the per-unit calculation described in subsection (A), the City must reimburse the applicant for the value of the amount of land that exceeds the required dedication based on the fee-in-lieu formula expressed in subsection (E)(1).

Fe. The City may accept a fee-in-lieu as an alternative to this dedication at its discretion or may require a fee-in-lieu if a suitable site meeting the criteria described in subsection (F) of these provisions is not available with in the development site. The calculation of the fee-in-lieu or other monetary contribution must meet the following standards.

1i. The amount of the fee in lieu or other monetary contribution is set in dollars per acre of required dedication and is equivalent to the appraised cost of land within the development, as provided by a certified appraiser chosen by the City and with the assumption that zoning and other land use entitlement are in place.

ii2. The fee-in-lieu or other monetary contribution must be paid prior to approval of the final plat or development approval for each phase of development.

- Gf. Neighborhood park and open space sites proposed for dedication must be located within the South Central Open Space Network as shown in Figure 16.08.042- or the East Ridge- Thimble Creek Conservation Area 16.08.042-2, and meet the following standards:

Figure 16.08.042-1 & 2 (To be provided, will show the South Central Open Space Network & East Ridge- Thimble Creek Conservation Area as mapped on the Development Constraints Map.)

- a. South Central Open Space-Neighborhood Park
 - i. 30 foot ped/bikeway string along the east side of Holly Lane extension to be located in the right of way and will not be considered part of a pearl.
 - ii. 3-4 pearls of various sizes spread along the open space network
 - iii. Min and maximum sizes pearls: 2 acres minimum and 5 acres maximum
 - iv. Min combined size of all pearls: 10 acres
 - v. Min average width: 200 feet
 - vi. Min average depth: 200 feet
 - vii. At least 5 acres to be developed with active recreation components
- b. East Ridge- Thimble Creek Conservation Area
 - i. ½ of area between the Thimble Creek stream buffer and the 490-foot elevation ridgeline to be open space
 - ii. Two public viewpoints separated by at least 400 feet with a minimum size of .35 acre at -less than 10% slope for each viewpoint.
 - iii. 700-foot non-interrupted view corridor along open space from east edge of Ridge Parkway
 - iv. Provide a pedestrian oriented forest trail from one view-point to another along the Ridge Parkway

From: [Todd Mobley](#)
To: [Christina Robertson-Gardiner](#)
Subject: Beavercreek Road Concept Plan: Collector Streets
Date: Monday, January 13, 2020 2:11:17 PM
Attachments: [BRCP Collectors Memo.pdf](#)

Hi Christina,

I wanted to follow up regarding the attached document that was submitted to the Planning Commission at an earlier meeting. For the sake of the new neighborhoods within the plan area, particularly in the southern portion, we feel it will be important to right-size the neighborhood streets to promote livability, encourage safe and pedestrian and bicycle trips, and still provide sufficient automobile mobility.

Depending on how the plan area develops, the number of collector-designated roadways may be excessive and we would recommend some flexibility in street designs as the plan area develops.

Thank you,

-Todd

Todd E. Mobley, PE

Principal



[321 SW 4th Avenue, Suite 400 | Portland, OR 97204](#)

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Website: lancastermobley.com

Offices: Portland, OR | Bend, OR

Memorandum



**LANCASTER
ENGINEERING**

To: Oregon City Planning Commission
From: Todd E. Mobley, PE
Date: November 25, 2019
Subject: Beaver Creek Concept Plan Implementation: Street Classification

321 SW 4th Ave., Suite 400
Portland, OR 97204
phone: 503.248.0313
fax: 503.248.9251
lancasterengineering.com

This memorandum is written to provide comments regarding the planned street system within the Beaver Creek Concept Plan area, specifically, the number of streets slated for designation as collector within the plan area.

Collector Function

In the hierarchy of streets, collectors take people from local streets, “collect” them, and bring them to higher-order streets such as minor and major arterials. In the vicinity of the concept plan area, streets such as Glen Oak Road and Loder Road are collectors. Meyers Road is a minor arterial and Beaver Creek Road is a major arterial. Figure 1 below is an excerpt from the Transportation System Plan (TSP) that shows street functional classifications in and around the plan area.

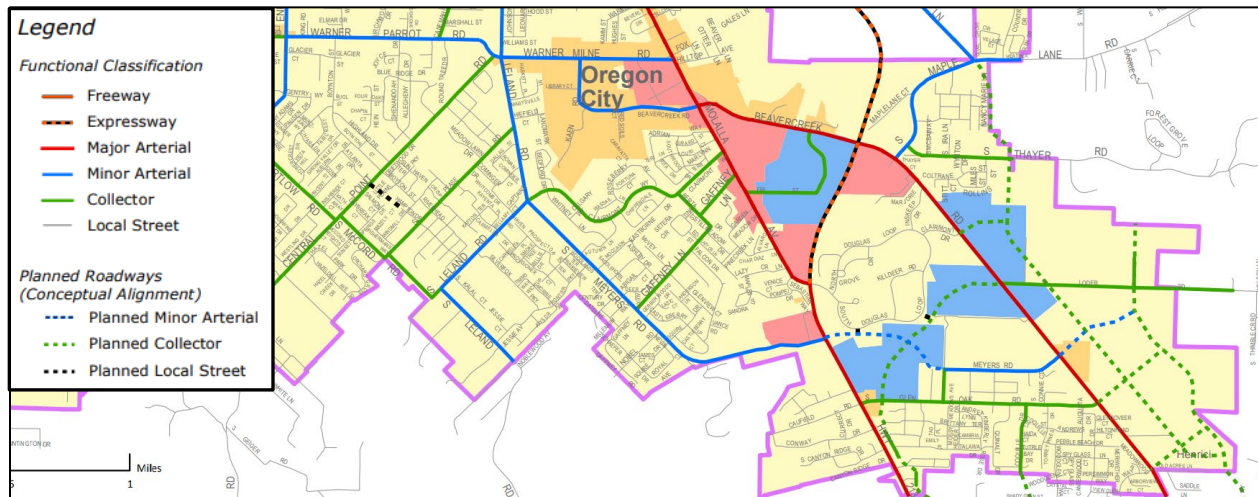


Figure 1 - Excerpt from Figure 8 in the Transportation System Plan

Planned Density

The current proposal for implementation of the Beaver Creek Concept Plan includes a mix of industrial, commercial, mixed-use, and residential zones. The northern end of the plan area is primarily industrial,



November 25, 2019

Page 2 of 3

transitioning to mixed use and residential zones to the south. The higher intensity uses such as commercial and high density residential are near Beaver Creek Road and lower density residential to the south and east, away from Beaver Creek Road. In addition, the Oregon City School District has long-term plans to construct a new elementary school south of the plan area, adjacent to the southeast corner of the plan boundary.

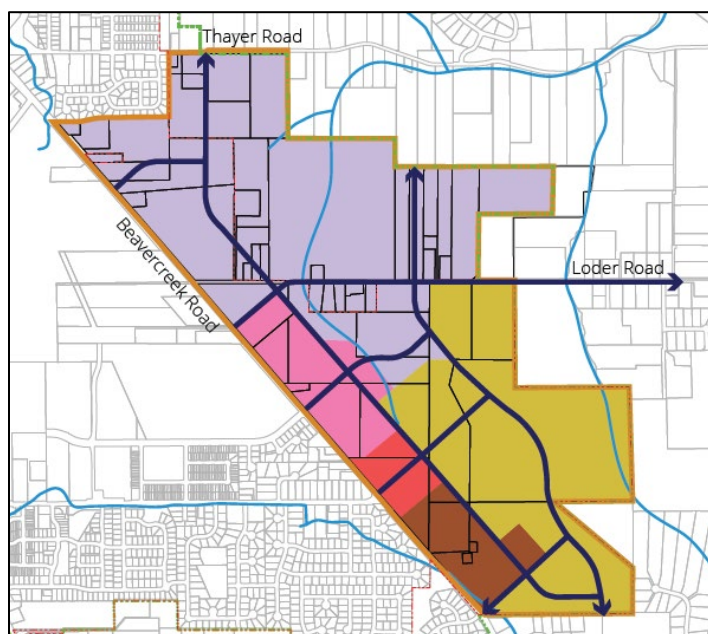


Figure 2 - Proposed Zoning

An exhibit showing the proposed zoning and comprehensive plan designations is attached to this memo, with an excerpt shown in Figure 2 for reference. The blue lines in the Figure 2 are all planned collector-level roadways. On the north end of the plan area, the collectors have a wider spacing. As those same streets extend south, the plan area narrows, and the spacing of collectors becomes much tighter. The street layout is logical, but as explained below, closer examination of residential densities and developable area shows that some of the streets slated for collector status will very likely not carry more traffic than local streets and will not warrant designation as a collector.

With land uses that have the highest trip intensity situated closest to Beaver Creek Road, some of the streets, particularly to the south and east, will naturally carry lower traffic volumes. The proposed R5 zoning designation to the south and east result in lower density and correspondingly low trip intensity. That combined with the closer collector spacing, results in a collector roadway density that is higher than necessary.

Effect of Left Turn Restrictions

The concept plan includes restricting left turn movements along Beaver Creek Road, except at intersections controlled by either a traffic signal or a roundabout. The intersection of Glen Oak Road at Beaver Creek Road is the southernmost intersection along Beaver Creek Road within the Urban Growth Boundary that is planned for either a traffic signal or a roundabout. All new street intersection south of Glen Oak Road will be limited to right turns in and out, including the major arterial/collector intersection of Beaver Creek Road at D56/Timbersky Way. See Figure 3 for a reference to the future street labeled D56.

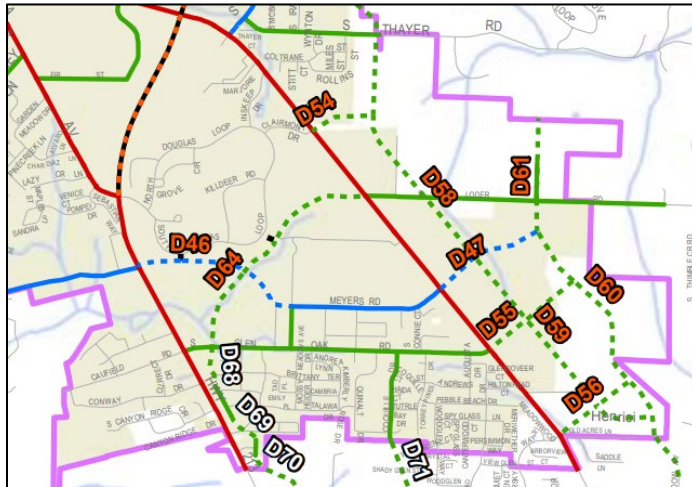


Figure 3 - Excerpt from TSP with New Street Labels

These turn restrictions further diminish the future traffic volumes on some of the streets within the plan area. For example, most trips, particularly in the southern area, are expected to be to and from the north. Exiting trips will have convenient access to Beaver Creek Road to make a right turn and travel north, but incoming trips will need to make a left turn from Beaver Creek Road at Glen Oak Road and use the internal street network. This results in decreased traffic volumes on streets such as D56, which is shown in Figure 3.

Does it Matter?

Sizing and classifying streets appropriately results in the most efficient use of the land available within the plan area. Perhaps more importantly, ensuring that streets are not overbuilt results in increased safety and neighborhood livability. By design, collector streets typically have wider lanes and higher travel speeds than local streets. Keeping street designs slow and safe is critical to ensuring that neighborhoods are comfortable for all users.

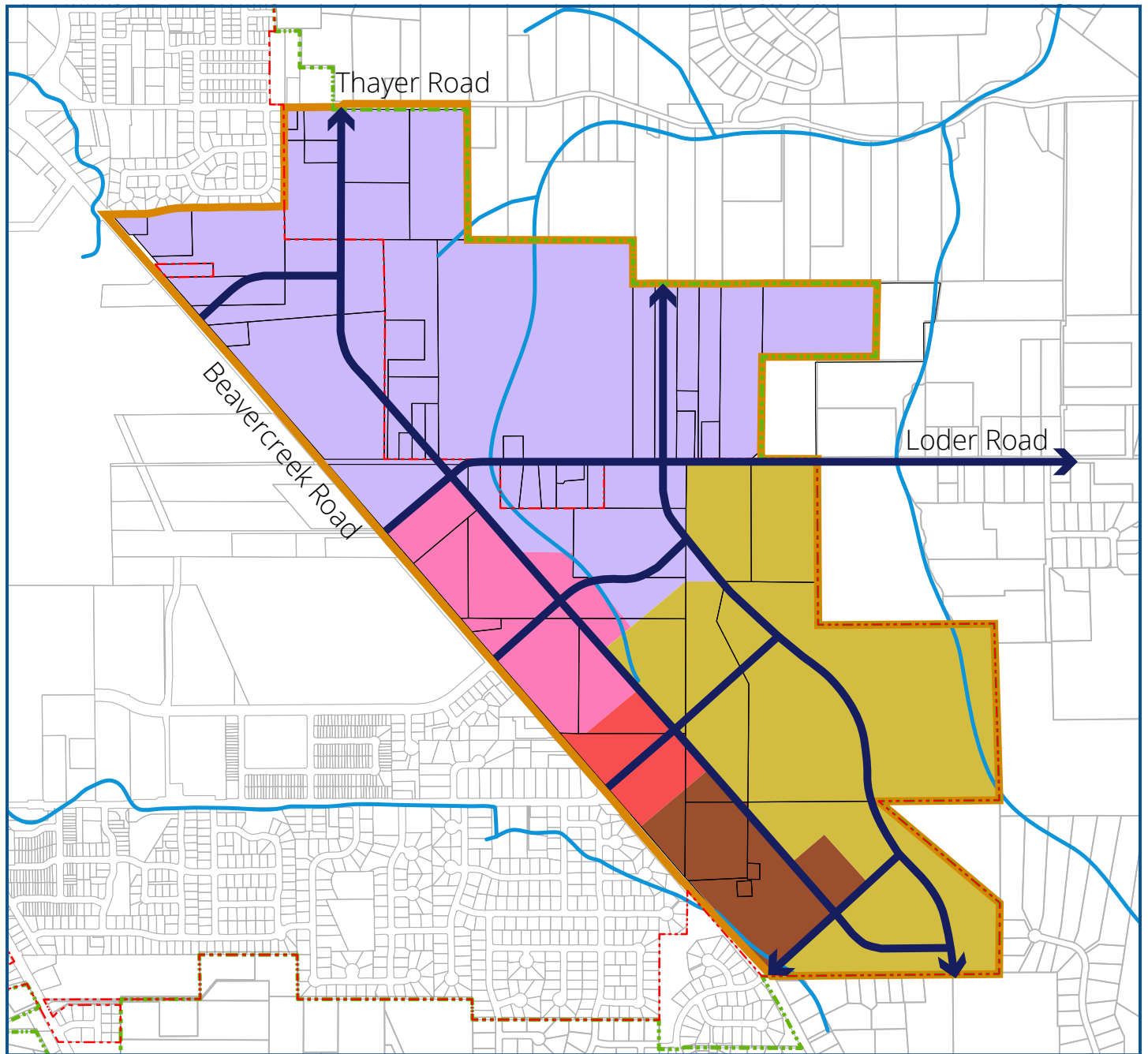
Summary & Conclusions

The streets contained in the current Beaver Creek Concept Plan create a logical network that will serve the diverse range of land uses in the plan area. However, as the plan area narrows to the south and zoning districts get lower in both density and trip intensity, the result is a system of too-closely spaced collector streets.

It is recommended that with the implementation of the concept plan, that flexibility be retained with respect to internal street classifications, particularly in the southern portion of the plan area. This will allow the creation of new, vibrant neighborhoods, where the emphasis is on the people, the neighborhoods, the land uses, and the parks, with lower emphasis on the streets that connect them.

Beavercreek Road Concept Plan

Proposed Zoning and Comprehensive Plan Designations

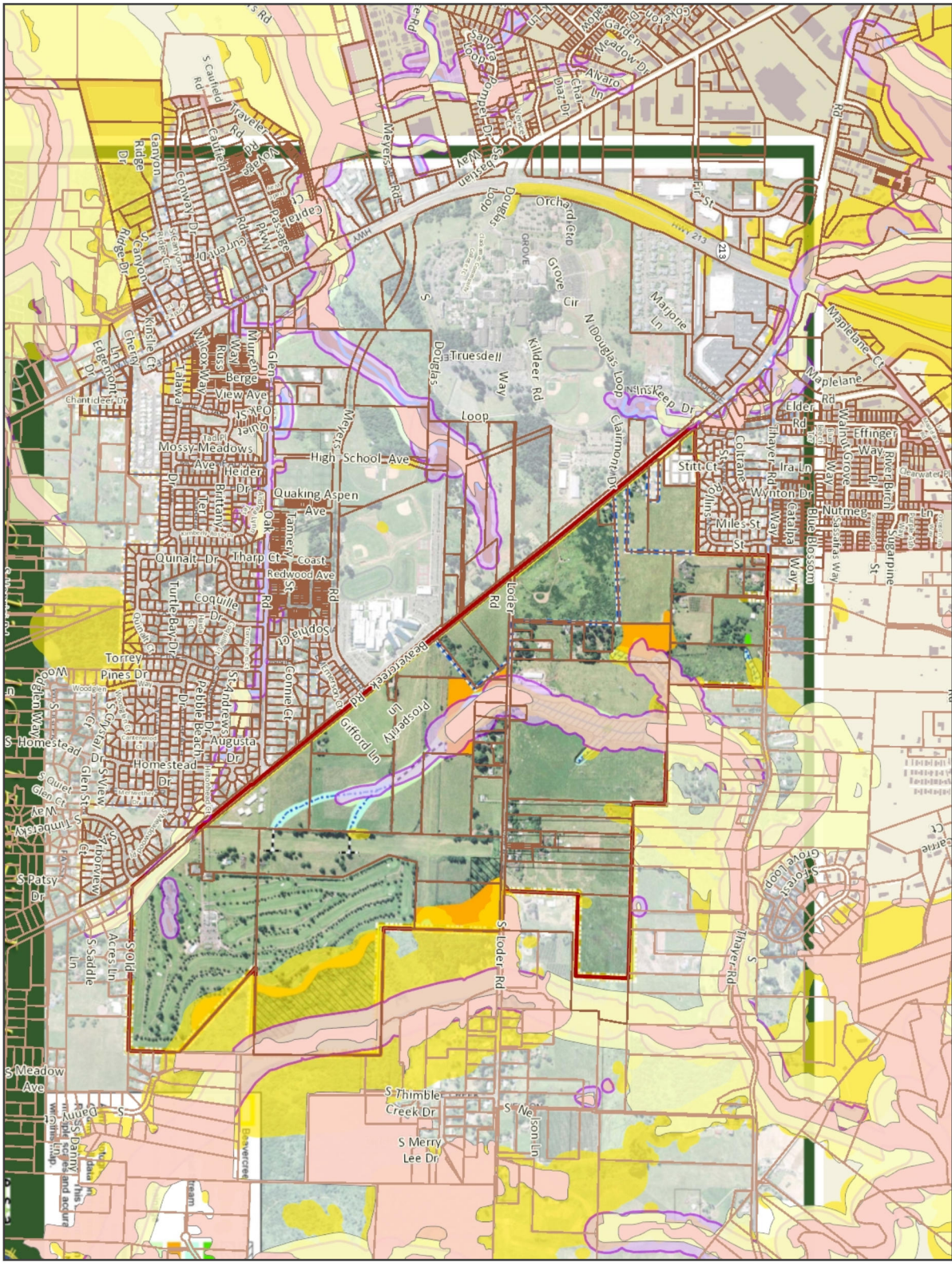


Legend



BRCP Subdistrict	Comp Plan Designation	Zoning Designation	
West Mixed Use Neighborhood	High Density Residential	High Density Residential	R-2
East Mixed Use Neighborhood	Medium Density Residential	Medium Density Residential	R-5
Main Street	Mixed Use Corridor	Neighborhood Commercial	NC
Mixed Employment Village	Mixed Use Corridor	Mixed Use Corridor	MUC-2
North Employment Campus	Industrial	Campus Industrial	CI
			BRCP Boundary
			Urban Growth Boundary
			City Limits
			Future Road Connections
			Streams

Oregon City GIS Map

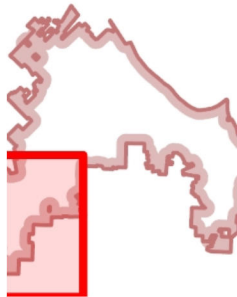


Legend

- Street Names
- Taxlots
- Taxlots Outside UGB
- Unimproved ROW
- Park Place Concept Plan
- Beavercreek Road Planning Area Bour
- Beavercreek Road (Combined Goal 5 & 6)
- Red: Band 1
- Green: Band 2
- Blue: Band 3
- NROD - HCA (High Only)
- NROD - HCA (High - Moderate)
- NROD - Natural Resource Overlay Dist
- Title 3 - Streams
- Title 3 - Wetlands
- Geologic Hazards - All
- City Limits
- UGB

Notes

Overview Map



The City of Oregon City makes no representations, express or implied, as to the accuracy, completeness and timeliness of the information displayed. This map is not suitable for legal, engineering, surveying or navigation purposes. Notification of any errors is appreciated.

Map created 1/9/2020



0 1,600 3,200 Feet

1: 19,200

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To: Planning Commission
From: Christina Robertson-Gardiner, Senior Planner
RE: LEG 19-0003-Beavercreek Road Concept Plan Zoning and Code Amendments
Date: November 18, 2019

Background

The Planning Commission is reviewing the zoning and code amendments for the Beavercreek Road Concept Plan (BRCP) over multiple meetings during the late summer and fall of 2019. Each meeting will be broken into 2-3 topics to allow the Planning Commission, staff, and the public time to focus their energies. Planning Commission comments and direction, as well as public comments, will be tracked throughout the hearings, and topics may be added to future meetings if new items are identified or issues have not been resolved. Please refer to the updated calendar attached to each Planning Commission packet for meeting topics.

The following topics were identified either by public comment or the Planning Commission for the November 25, 2019 Hearing.

Beavercreek Road Design

At the November 12, 2019 City Commission work session, staff **presented additional information** on **potential design options** for Beavercreek Road and looked for broad direction from the City Commission. Staff also shared the results of the **Public Survey**.

The purpose for holding the City Commission work session during the Planning Commission hearings process is to provide the City Commission the ability to provide their initial direction on the design of Beavercreek Road, which allows the Planning Commission an opportunity to incorporate that into the full code amendment package.

How many lanes should Beavercreek Road be within the Concept Plan corridor?

A transitional section extending the existing 5-lane section near Maple Lane and transitioning to a 3-lane section after the Meyers Road intersection.

What type of intersections should Beavercreek Road have within the Concept Plan corridor?

Traffic signals

Should the City renegotiate with ODOT to revise the Alternate Mobility Standard by removing Holly Lane connection projects from the Transportation System Plan (TSP)?

No

Should Beaver Creek Road along the Concept Plan corridor be constructed by developers incrementally as development is built or pursued as a capital improvement project all at once?

The city should investigate if a city-lead capital improvement project is feasible. Staff should return to a future meeting to review funding opportunities.

Staff Recommendation: Staff concurs with the transportation analysis performed by DKS and will be incorporating the City Commission recommended Beaver Creek Road Design into the code amendment package unless a different direction is given from the Planning Commission.

Beaver Creek Road Concept Plan- Transportation Analysis

The Beaver Creek Road Zone and Code Amendments project will also rezone properties located within the city limits and Concept Plan boundary. An approval criterion for rezoning property is a facilities analysis. For the transportation system, this is usually done by completing a Transportation Analysis (TA). The TA, dated June 21, 2019, was prepared under the direction of Kevin Chewuk and Amanda Deering of DKS Associates. It was reviewed by John Replinger, the city's contract Transportation Engineer. Both exhibits are attached to the November 25, 2019 Planning Commission agenda.

17.68.020 -Zone Change Criteria.

The criteria for a zone change are set forth as follows:

17.B. That public facilities and services (water, sewer, storm drainage, transportation, schools, police and fire protection) are presently capable of supporting the uses allowed by the zone, or can be made available prior to issuing a certificate of occupancy. Service shall be sufficient to support the range of uses and development allowed by the zone.

C. The land uses authorized by the proposal are consistent with the existing or planned function, capacity and level of service of the transportation system serving the proposed zoning district.

The focus of the analysis was to demonstrate that the requirements of [Oregon Administrative Rule \(OAR\) 660-012-0060](#), the [Transportation Planning Rule \(TPR\)](#), are met for the Beaver Creek Concept Plan area in Oregon City, Oregon. The Transportation Analysis (TA) shows adequacy of the current Oregon City Transportation System Plan (TSP) to accommodate development anticipated with the buildout of the Beaver Creek Concept Plan. The TA provides documentation that the key intersections will meet adopted mobility standards and that the proposed changes comply with the TPR.

He also concurs with DKS's findings that all study area intersections meet operational standards regardless of whether Holly Lane was included or excluded in the system and that Beaver Creek Road would meet mobility standards with the 3-lane configuration specified in the TSP. Additionally, the mobility standards would also be met if Beaver Creek Road were to be widened to five lanes in sections where three lanes had been specified.

Oregon Department of Transportation (ODOT)

Seth Brumley, Development Review Planner in a November 18, 2019 letter submitted comments concurring with DKS's findings that the proposal met the Transportation Planning Rule and reiterated that removal of Holly Lane connection projects from the Transportation System Plan (TSP) would necessitate the renegotiation of the alternate mobility targets for the Highway 213/Beaver Creek Intersection. This

was also discussed in this previous letter submitted November 4, 2019 which is also attached to the agenda packet..

“ODOT concurs with the conclusion that: “Overall, the current TSP includes adequate transportation system projects for the Beavercreek Concept Plan area to comply with the Transportation Planning Rule (TPR)” ODOT would like to emphasize that the City is able to make this finding based on the alternative mobility targets adopted by the City and the Oregon Transportation Commission, which includes the Holly Lane segment between Maple Lane Road and Thayer Road.”

Once properties are rezoned, additional project specific analysis will occur during any future development review onsite and specific and proportional conditions of approval for transportation system upgrades, such as abutting street improvements or signal installations will be required as part of a development’s approval.

Staff Recommendation: Staff concurs with the transportation analysis performed by DKS. No action is needed.

Speed Zones within the Concept Plan

Current law allows the City of Portland to designate the speed for a right of way under the City’s jurisdiction that is five miles per hour lower than the statutory speeds if the right of way is located in a residential district. All other cities and counties are required to have road authorities and make a formal request to the Department of Transportation.

Cities, other than Portland, with a state highway within city limits which have the road authority may a request to the Department’s Highway Division for a speed zone change. The request is forwarded to either the District Manager, Regional Manager or State Traffic-Roadway Engineer to conduct a speed zone investigation and make a recommendation to grant or deny the request. The recommendation is sent to the Traffic-Roadway Section for approval. The local road authority is notified of the decision. A speed zone order is issued if the local road authority concurs. If they do not concur, the case is sent to the Speed Zone Review Panel which will issue a final decision. Business districts can be signed as 20 miles per hour by statute and do not require a speed study.

Effective January 1, 2020, [Senate Bill 558](#) allows all cities and counties the authority to establish, by ordinance, a designated speed for a right of ways under their jurisdiction. The measure specifies that the designated speed must be five miles per hour lower than the statutory speed, the road be located in a residential district and not an arterial street, and that the city provide appropriate signage of the designated speed. Senate Bill 558 passed the Legislature and was signed by the Governor on June 27, 2019.

If the Planning Commission wishes to pursue 20 miles per hour signage on local residential streets in the Beavercreek Road Concept Plan boundary and the Glen Oak Main Street, they should include it in the formal recommendation to the City Commission.

Staff Recommendation: The Beavercreek Road Concept Plan is an ideal area to test the new option for reduced speed limits. Staff would support a Planning Commission recommendation for speed reduction in this area.

LEG 19-0003

Beavercreek Road Concept Plan Zoning and Code Amendments

Topic: Beavercreek Road Design,
Transportation analysis, Speed Zones

November 25, 2019 Planning Commission
Meeting



Hearing Topics



1. Beavercreek Road Design



2. Beavercreek Road Concept Plan- Transportation Analysis



3. Speed Zones within the Concept Plan

A thin vertical black line is positioned to the left of the text.

Beavercreek Road Design

Beavercreek Background



Project Purpose- Implement the Beavercreek Concept Plan by adopting new Zoning and Comprehensive Plan Maps and creating development code to implement vision of the plan



Grant- Department of Land Conservation and Development (DLCD)



Build upon existing public process that adopted the Concept plan in 2008 and readopted in 2016



Public Comments Spring 2019- 11 years later a fresh look may be needed to see if the adopted 3-lane design of Beavercreek Road reflected the community vision

August 13, 2019 City Commission Worksession

1

Presented initial findings

- DKS Associates-all potential road configurations met the requirements for rezoning, including the Transportation Planning Rule (TPR)

2

City Commission asked for additional information on Holly Lane Extension projects, roundabout design and lane costs

3

Staff reached out to the public with Beaver Creek Road Design Survey and mailed information to abutting property owners

4

Staff presented additional information-requested broad direction on design approach.

What We Learned



COST IMPLICATIONS



NEIGHBOR IMPACT



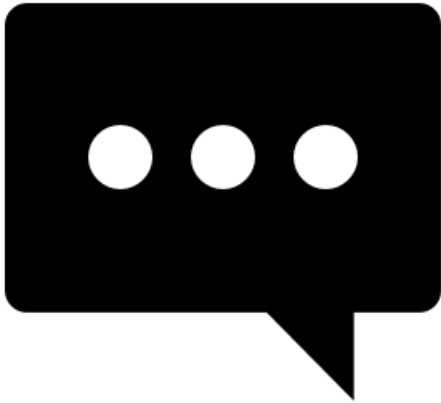
PROCESS TO BUILD

Survey Results

**October 24, 2019 to November
11, 2019**

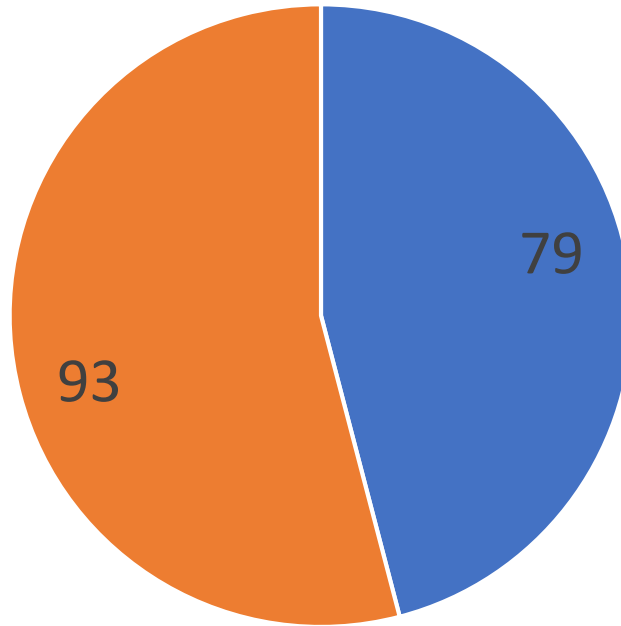


Selected Comments



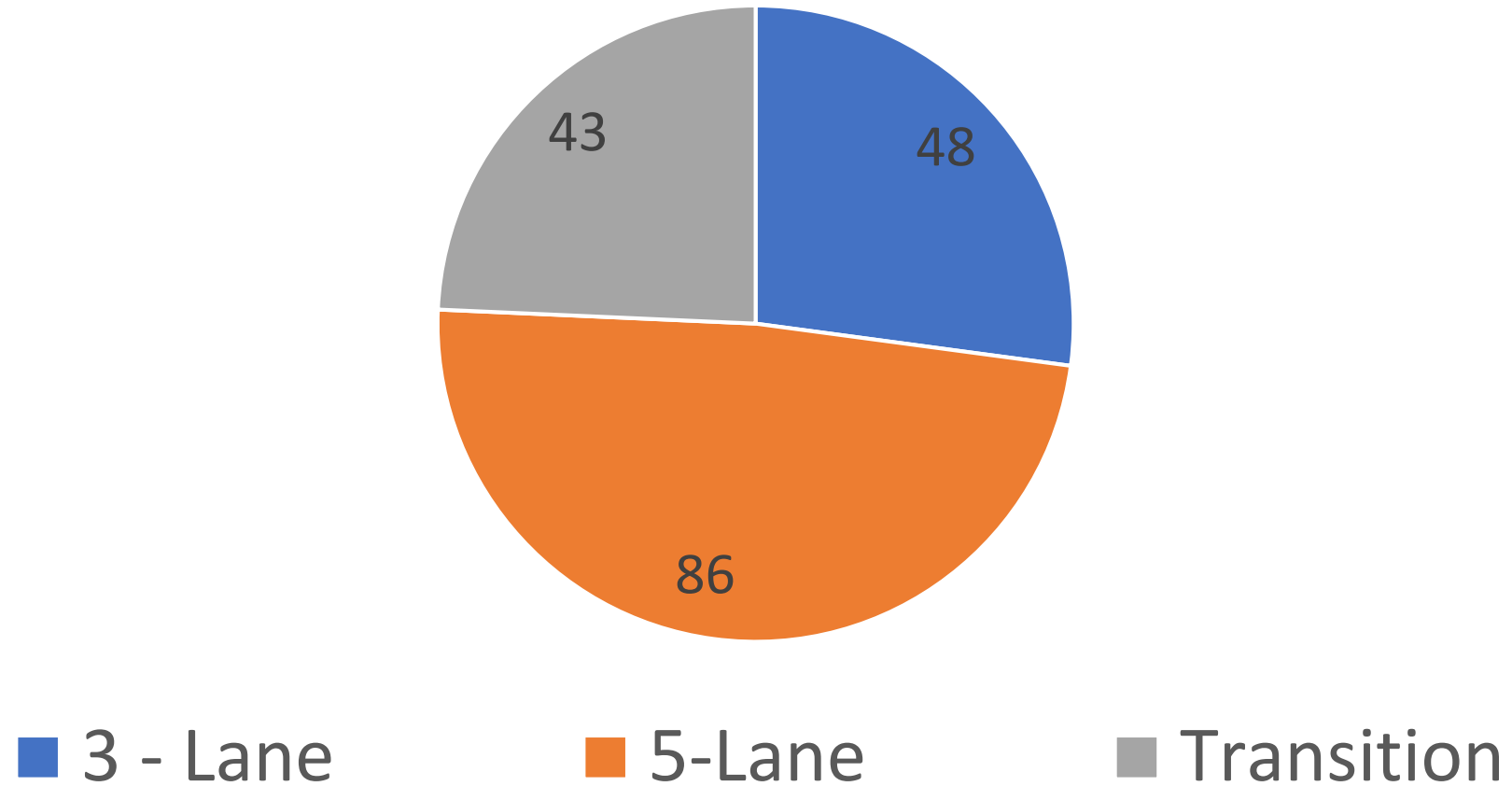
- “Move the traffic and make it happen. Roundabouts work great, people just need a little time to figure them out.”
- “Traffic signals will allow for safer pedestrian and bicycle traffic. Will also allow for safer methods to cross Beavercreek Rd. especially in the school zone at the high school.”
- “OC is not going to stop future growth along BC Rd. There are no other access roads to get to 213 from Beavercreek due to topography and existing housing. This road will only get busier. Build it out for the future, not just for today.”
- “It sounds as if the traffic studies completed do not recommend a 5-lane cross section. This seems overkill, especially given the future transportation projects mentioned above. I do feel that the posted 20 mph speed limit during 7-5 p.m. on school days is one of the major causes of congestion.”
- “Mostly DON'T want a transition from 5 to 3 lane since it creates such a bottleneck and as a resident of the area already have to deal with that on 213 which is most unpleasant.”

Would you prefer using roundabouts or traffic signals along this section of Beavercreek Road?



■ Traffic signals ■ Roundabouts

Would you prefer seeing a 3-lane section, 5-lane section or a transition from 5-lanes to 3 lanes along this section of Beaver Creek Road?

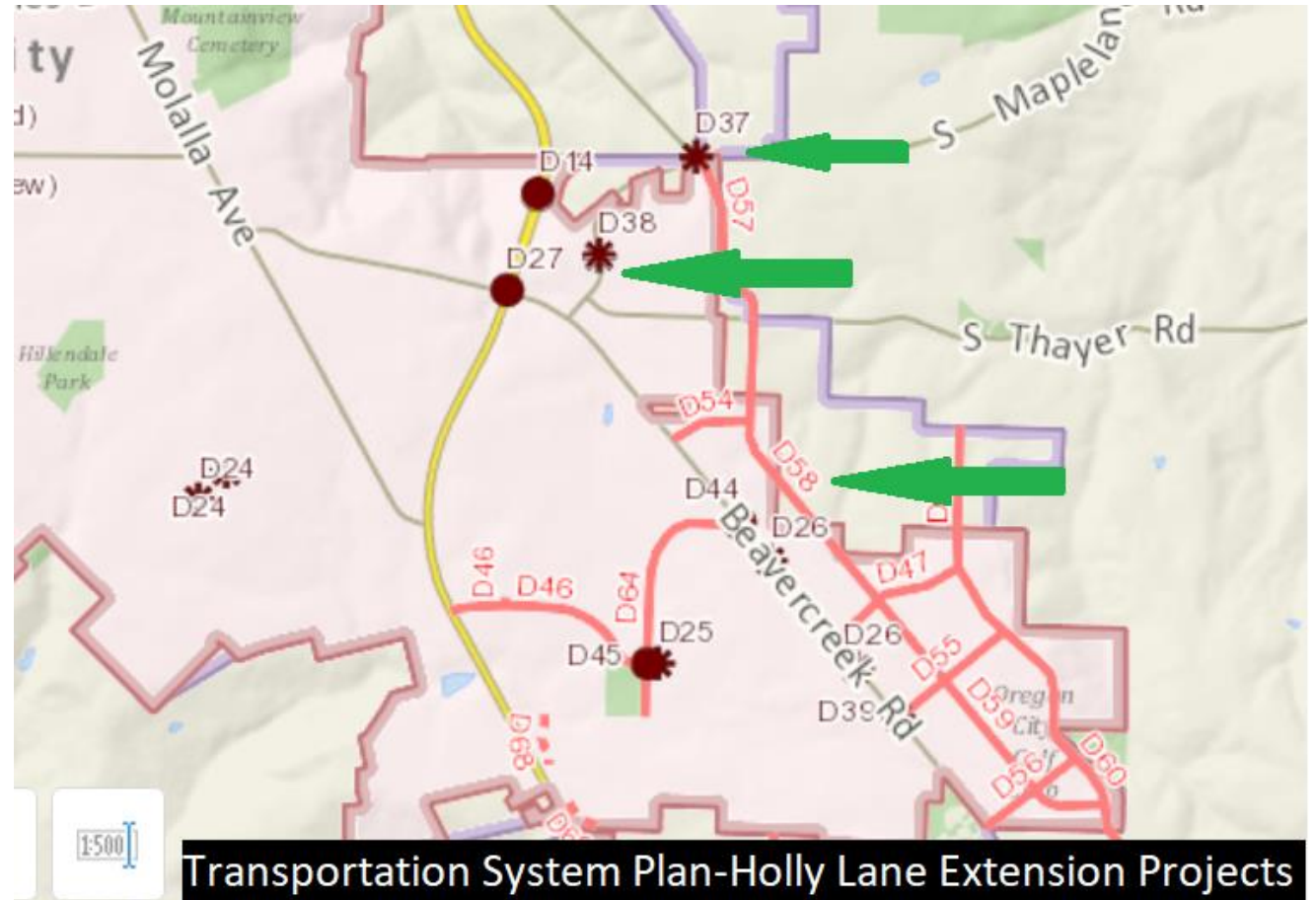


Transportation decisions often involve tradeoffs, knowing that price may be a limiting factor, what elements of Beaver Creek Road are important to you?

	Very Import	Somewhat Important	Important	Not Important	Not Important At All
Pedestrian safety	106	20	32	4	3
Bike safety	77	30	37	11	8
Aesthetics/creating a sense of place	36	36	51	30	6
Reducing vehicle congestion	121	31	15	3	1
Ease of long-term maintenance	54	44	56	10	2
Ease of crossing Beaver Creek Road	70	39	37	12	4

Holly Lane Extension- Alternate Mobility

- Removing Holly Lane extension projects from the TSP would require the City to revise the alternate mobility target and provide an alternate project that meets or exceeds the benefit of the Holly Lane extension.
- Staff is currently unable to identify an alternate project which is affordable and has not allocated funding or staff time towards the creation of such an alternative.
- The city must continue work with Clackamas County on the implementation of the Holly Lane connection and believes that the project is an important alternate route to the system to ease congestion in this area.



D37- roundabout at Maple Lane and Holly Lane

D83- Holly Lane -improve cross-section from Redland Road to Maple Lane
(joint County TSP project)

D57 & D58 new collector road

Conceptual Cost Estimates

Beavercreek Road Options	Adopted 3- Lane 90 feet wide ROW	Optimal 3-Lane Roadway 76 feet wide ROW	Optimal 5-Lane Roadway 100 feet wide ROW
Signals	\$26M	\$22M	\$34M
Roundabouts	\$32M	\$29M	\$48M

City Commission Direction

November 12, 2019 City Commission Work Session

How many lanes should Beaver Creek Road be within the Concept Plan corridor?

- A transition from 5 lane to 3 lanes at Meyers Road

What type of intersections should Beaver Creek Road have within the Concept Plan corridor?

- Traffic signals

City Commission Direction

November 12, 2019 City Commission Work Session

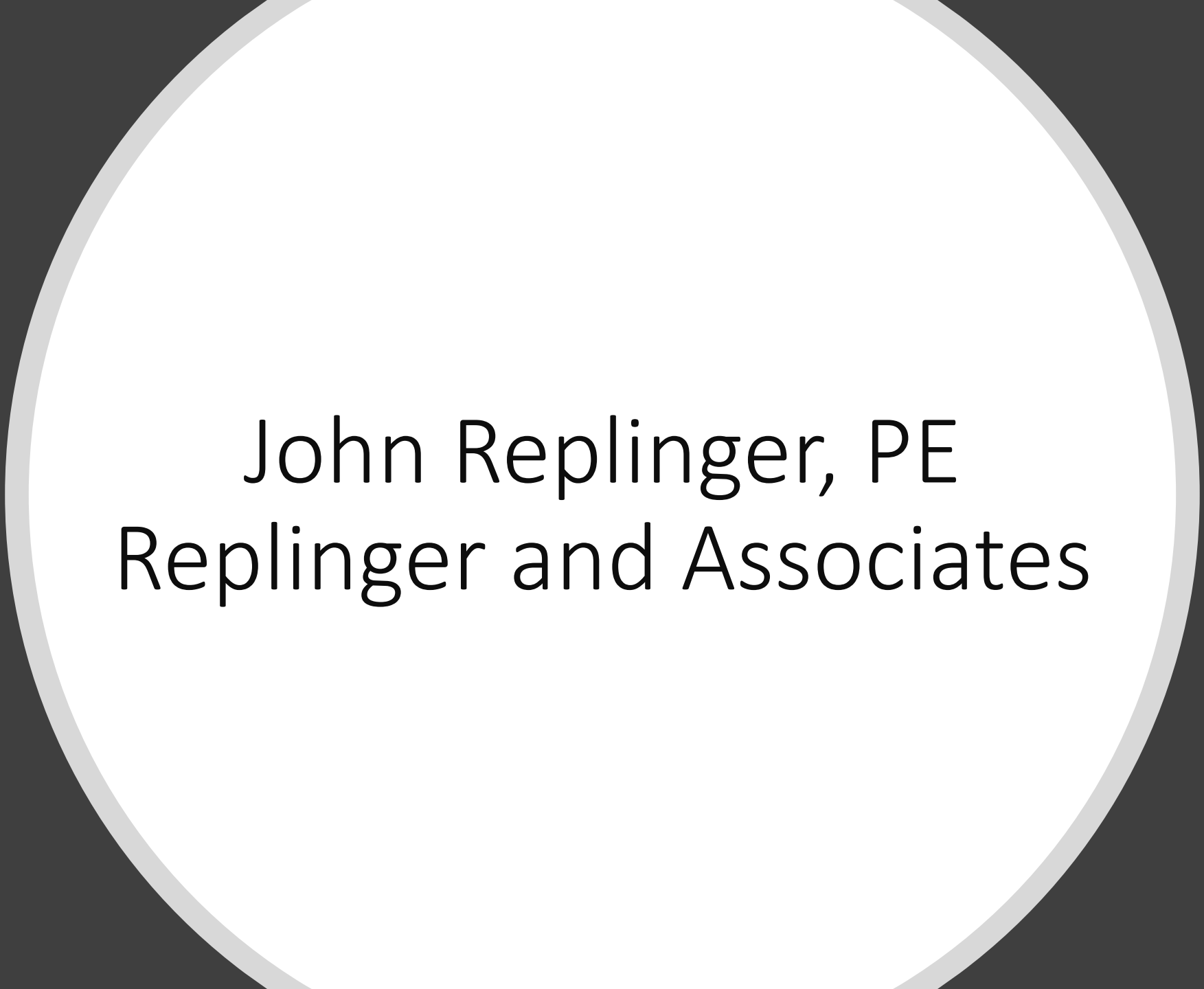
Should the City renegotiate with ODOT to revise the Alternate Mobility Standard by removing Holly Lane connection projects from the Transportation System Plan (TSP)?

- No

Should Beaver Creek Road along the Concept Plan corridor be constructed by developers incrementally as development is built or pursued as a capital improvement project all at once?

- The city should investigate if a city-lead capital improvement project is feasible. Staff should return to a future meeting to review funding opportunities.

Beavercreek Road Concept Plan- Transportation Analysis



John Replinger, PE
Replinger and Associates

When Transportation Analysis Are Performed



Plan amendments and zone changes



Specific developments, including individual buildings and subdivisions

Transportation Analyses for Plan Amendments and Zone Changes



Focus on long-range impacts (matching the planning horizon of the Transportation system Plan)



Must address the Transportation Planning Rule (state law)

DKS Analysis for the Beavercreek Concept Plan Area



Updates prior analyses
undertaken earlier



Focuses on the difference between development assumptions
from the TSP (2013) and Beavercreek Concept Plan (2008, 2016)

(750 additional housing units and 4,095 additional employees)

Conclusions of DKS Analysis



The projects in the Transportation System Plan will provide adequate capacity/meet mobility standards to accommodate development in the Beavercreek Concept Plan area.



Adding more lanes on Beavercreek Road or using roundabouts or signals also meets the transportation zone change requirements.

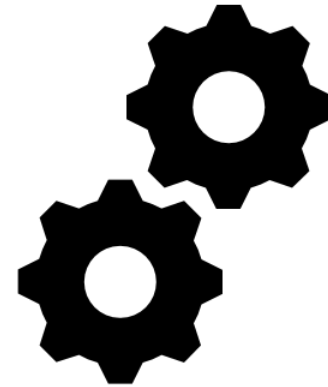
DKS Transportation Study Review

ODOT

CITY'S
TRANSPORTATION
CONSULTANT

Future Actions

Development occurring within the Beavercreek Concept Plan area will still need to comply with transportation analysis requirements with project specific studies at the time of each development.



Speed Zones within the Concept Plan

Senate Bill 558



Allows all cities and counties the authority to establish, by ordinance, a designated speed for a right of ways under their jurisdiction.



Specifies that the designated speed must be five miles per hour lower than the statutory speed



Located in a residential district and not an arterial street,



Provide appropriate signage of the designated speed.



Senate Bill 558 passed the Legislature and was signed by the Governor on June 27, 2019. It goes into effect January 1, 2020.

HIT BY A VEHICLE
TRAVELING AT:

20
MPH



9 out of 10 pedestrians survive

HIT BY A VEHICLE
TRAVELING AT:

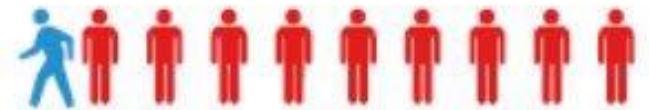
30
MPH



5 out of 10 pedestrians survive

HIT BY A VEHICLE
TRAVELING AT:

40
MPH



Only 1 out of 10 pedestrians survives

Planning Commission Recommendation

If the Planning Commission wishes to pursue 20 miles per hour signage on local residential streets in the Beavercreek Road Concept Plan boundary and the Glen Oak Main Street, they should include it in the formal recommendation to the City Commission.



Planning Commission Direction

Questions for Staff



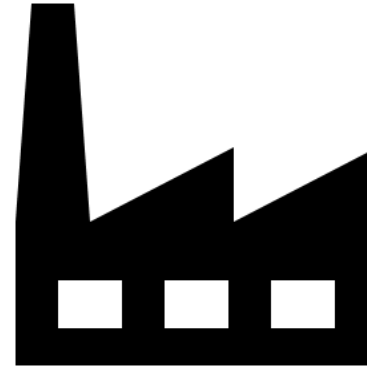
1. Beavercreek Road Design



2. Beavercreek Road Concept Plan- Transportation Analysis



3. Speed Zones within the Concept Plan



November 25, 2019

Planning Commission Meeting

Topic: Transportation

December 16, 2019

Planning Commission Meeting
Occupation/Cottage Industry

Topic: Initial Planning Commission Recommendation, Parks, Upland Habitat, Home

January 13th or 27th, 2020

Planning Commission Meeting

Topic: Formal Planning Commission Recommendation

FREQUENTLY ASKED QUESTIONS ABOUT SECTION 0060 OF THE TRANSPORTATION PLANNING RULE

What is Section 0060 of the Transportation Planning Rule?

Section 0060 of the Transportation Planning Rule (TPR) is a statewide planning requirement that directs cities and counties to assess whether proposed plan amendments and zone changes will have a significant effect on the transportation system. In essence, this means that before approving plan or zone changes, cities and counties must determine whether existing transportation facilities and planned improvements will provide adequate capacity to support the new development that would be allowed by the proposed land use changes.

If there is not adequate planned capacity, a “significant effect” occurs. When a city or county finds there is a significant effect, it must take steps to put land use and transportation in balance. Ways to do this include: adding planned transportation facilities or improvements, limiting land use or modifying performance standards to tolerate additional congestion. Section 0060 outlines the process and standards for deciding whether a plan amendment or zone change has a significant effect, and appropriate remedies.

What is the purpose of Section 0060?

Section 0060 is intended to assure that when new land uses are allowed by plan or zone changes that there is adequate planned transportation capacity, usually roadway capacity, to serve the planned land uses. The potential for traffic and congestion from new development is a major concern in communities around the state. Section 0060 is a tool to help communities understand the traffic impacts of plan and zone changes and assure that growth is adequately planned for and does not result in excessive traffic congestion. Amendments to Section 0060 adopted in 2005 also help communities address whether funding plans and strategies for needed improvements are in place before plans or zoning are changed to allow more development.

What is the legal basis for Section 0060?

State law (ORS 197.646) requires that local governments comply with statewide planning goals and rules adopted to implement them when they consider plan amendments. The TPR implements Statewide Planning Goal 12 (Transportation) which requires local governments to plan for a safe, convenient, and adequate transportation system.

What decisions does TPR Section 0060 apply to?

This portion of the TPR applies to local plan and land use regulation amendments. These include plan and zoning map changes as well as changes to the list of allowed land uses in a zone or other provisions of a zoning district.

Does Section 0060 apply to building permits, subdivisions or conditional use permits or similar authorizations?

No. As described above, Section 0060 only applies where a plan amendment or zone change of some sort is involved. Approvals that are made under the terms of existing city and county plans and zoning ordinances are not subject to Section 0060. However, in some situations local governments may have adopted local standards that are equivalent to the TPR Section 0060 that do apply during site plan review.

Does Section 0060 affect all plan amendments and zone changes?

In practice, the TPR affects relatively few plan amendments and zone changes. Most plan amendments don't affect expected traffic one way or another; and those that do are often adequately served by existing or planned roadway improvements.

Do changes to land use regulation amendments other than zone changes need to be reviewed for compliance with Section 0060?

Yes. While most changes to zoning or development codes do not affect the transportation system, some relatively minor changes may allow new or expanded uses that would have a significant effect. For example, adding "sales of building materials" as an allowed use in an industrial zoning district could have the effect of allowing a large format retail use into an industrial zoning district that would generate much more traffic than allowed industrial development. Local governments need to evaluate each land use regulation amendment and assess whether or not it would allow uses that would generate more traffic than that generated by uses currently allowed in the zone.

Section 0060 is *part* of the Transportation Planning Rule. What are the other parts of the TPR?

The Transportation Planning Rule or TPR is an administrative rule adopted by the Land Conservation and Development Commission. The rule implements Statewide Planning Goal 12 (Transportation) and other statewide planning goals that provide guidance to local governments about how they conduct transportation planning. The major requirement in the TPR is that cities and counties adopt transportation system plans (TSPs) that include plan for future streets and roadway improvements and other transportation facilities and services needed to support future land use plans. The TPR was adopted in 1991. Since that time most of the cities and counties in the state have adopted TSPs to carry out the rule. Further information about the TPR including the full text of the rule is available on the DLCDC website. Information about TSPs is available from the respective city and county planning departments.

My city and county have adopted transportation plans (TSPs). Is additional review of plan amendments and zone changes for compliance with 0060 still required?

Yes. Generally, TSPs include planned facilities that are adequate to serve uses anticipated based on existing planning and zoning. Changes to comprehensive plans and zoning can create the need for additional street or roadway improvements. Section 0060 requires cities and counties to assess whether a plan amendment or zone change would create more traffic than the plan anticipates or that facilities called for in the plan are designed to handle. In many cases, local governments find that improvements called for in TSPs will be

adequate to support the planned land use change. Where this is the case, the requirements of 0060 are met. However, where expected new traffic would exceed the capacity of planned facilities, additional planning must be done to figure out how the traffic will be handled, usually by amending the TSP to account for the additional traffic.

How is Section 0060 applied?

Local governments considering plan or land use regulation amendments evaluate whether the proposed plan amendment or zoning change would "significantly effect" the planned transportation system. Most local governments ask applicants to address this in their application. The evaluation involves reviewing applicable city, county or state transportation plans and assessing whether the proposed plan or zone change will have a significant effect on the transportation system.

What is the standard for deciding whether a plan amendment or zone change has a "significant effect"?

The standards for determining whether or not a plan or land use regulation amendment has a significant effect are set out in OAR 660-012-0060(1).¹ In most situations, an 0060 "significant effect" occurs because the plan amendment or zone change would allow uses that would result in a level traffic that exceeds the adopted performance standards for a local street or state highway. (This is the standard in 0060(1) (B): where a plan amendment or zone change reduces "...the performance of an existing or planned transportation facility below the minimum acceptable performance standard identified in the TSP or comprehensive plan.")

Local governments determine whether there is a significant effect by:

- Assessing how much new traffic would be generated by the proposed plan or zone change
- Adding the potential new traffic to traffic that is otherwise expected to occur
- Assessing whether this additional traffic will cause roadways in the vicinity of the plan amendment to exceed adopted performance standards

How do local governments determine whether or not a plan amendment or zone results in a "significant effect"?

Typically some sort of traffic analysis or traffic impact study is prepared. In either case, the analysis compares traffic allowed under the existing and proposed plan or zoning designations. A proposed plan amendment or zone change has a "significant effect" if:
(1) it generates more traffic than allowed by existing plan and zoning AND

¹ There are three other circumstances where a plan amendment could trigger a "significant effect":

- Changes to the functional classification of an existing or planned transportation facility – an example would be where a local plan designation for a planned street is changed from a "minor arterial" to a "major collector".

- Changes to standards implementing a functional classification system. Examples of this type of change would include amendments to driveway or street spacing requirements.

- Allowing types or levels of uses which would result in levels of travel or access that are inconsistent with the functional classification of a transportation facility; or

(2) planned transportation improvements do not provide adequate capacity to support the allowed land uses.

Are there some simple guidelines for assessing whether a plan amendment is likely to trigger a significant effect?

Yes. In most cases the key question is whether the proposed plan designation or zoning will result in more traffic than is allowed by current zoning.

If the proposed plan amendment or zone change would generate the same or less traffic than is allowed by the current plan and zone designations, it generally is considered *not* to have a "significant effect" on the transportation system. In essence, the rule requires further review of transportation impacts only where a plan amendment or zone change would yield more traffic than is allowed by current zoning.

If a plan amendment would result in more traffic being allowed is it automatically considered to have a "significant effect" under the TPR?

No. The local government would first need to evaluate whether planned transportation facilities will be adequate to handle the additional traffic. If they are adequate, then there would not be a significant effect.

Is the evaluation of significant effect based on the applicants proposed use or other uses allowed by the proposed plan or zone change?

Generally speaking the evaluation of whether there is a significant effect must consider the range of uses allowed by the proposed plan and zoning changes, not just the particular use proposed by the applicant. This is because the resulting plan amendment or zone change, once approved, would allow any of the uses listed in the zoning district without further review for compliance with the TPR. Typically, plan amendments and zone changes do not prevent an applicant (or subsequent property owners) from pursuing more intense development than is contemplated in the original application.

As explained below, an applicant or local government can modify or limit the proposed plan or zone change to reduce its traffic generating impacts and possibly avoid triggering a significant effect. Where the application or approval is limited to specific uses or a particular level of traffic generation, it is possible to limit the scope of the analysis. In many situations this is adequate to avoid triggering a significant effect.

What happens when a local government concludes there is a "significant effect"? Can the plan amendment or zone change still be approved?

A finding of "significant effect" does not prevent approval of a plan amendment or zone change. It does trigger the requirement for local governments to take steps to put land use and transportation "in balance"; by assuring that planned land uses are consistent with the planned transportation system. Local governments have four options for putting land use and transportation "in balance" including one or a combination of the following:

- Adding planned transportation facilities or improvements
- Limiting allowed land uses to fit available facilities

- Changing the transportation performance standards to accept lower performance
- Adopting measures that reduce auto travel

Can local governments avoid triggering a significant effect by limiting the uses allowed by a proposed plan amendment or zone change?

Yes. In practice, applicants or local governments have done this by calculating either the capacity of the planned transportation system or the intensity of use allowed by existing plans and zoning, and then including zoning restrictions that cap allowed development to avoid a "significant effect". This can be done by adopting trip caps or limits on the allowed uses. Currently, thoughtful applicants, with assistance from their traffic consultants, will carefully calculate the capacity of the planned transportation system and adjust their plan amendment proposal to fit within the available capacity. This may include proposing roadway improvements or other measures to make the proposal fit the available capacity.

How do local governments assess whether there is adequate planned transportation capacity to support proposed uses?

Evaluation is based on applicable adopted transportation plans. These include adopted city and county transportation system plans (TSPs), and the 1999 Oregon Highway Plan adopted by the Oregon Department of Transportation (ODOT).² Basically, local governments compare expected traffic under existing plans with additional traffic that would be allowed under the proposed plan amendment. They then assess whether improvements included in adopted plans will adequately serve the additional traffic. If the increased volume of traffic would cause a performance standard not to be met, there is a significant effect on the transportation system. This assessment is usually based on a traffic impact analysis prepared by a traffic engineer for the applicant.

Does the TPR require traffic impact studies?

While the TPR does not specifically require a traffic impact study, one may be needed to determine whether or not a plan amendment or zone change results in a significant effect. The need for a traffic impact study is usually decided by local government as it reviews a proposed plan amendment. Where a proposed amendment affects a state highway, the local government needs to consult with ODOT to determine whether a traffic impact study or some other analysis is needed.

Does the TPR require a "worst case" analysis - for example, where someone is proposing a zone change to allow a specific use, such as an auto dealership, but the proposed zoning allows other more intense uses, such as fast food restaurants?

No. However, the analysis must be based on the uses that would be allowed by the proposed zoning. An applicant or local government can limit the scope of analysis by limiting the request or approval to specific uses or to a particular level of traffic generation. One approach that is often used is to calculate the amount of traffic expected to be generated by the proposed use and to adopt land use regulations that limit uses in the zone to not exceed this amount.

² The Oregon Highway Plan also includes any specific implementing plans adopted by the Oregon Transportation Commission, such as Highway Corridor Plans or Interchange Area Management Plans. These specific "facility plans" often set different or additional standards for highway performance than are in the OHP document.

Is it possible to defer compliance with the TPR to a subsequent approval, such as a site plan or conditional use approval?

Technically no. However, local governments can achieve this result by limiting development and adopting a local ordinance that essentially mirrors the requirements of Section 0060. Several LUBA rulings³ have upheld local government decisions that, in effect, defer application of the TPR where the following conditions are met:

- (1) The plan amendment and zone change themselves do not allow additional development
- (2) the plan or zoning amendment include the substance of 0060 as a standard for approving any development - typically through a site plan approval process; and
- (3) the local implementation process provides for public review and a hearing including notice to ODOT and other affected transportation providers.

In addition, the Department of Justice has provided ODOT with informal guidance about requirements for local governments to accomplish deferral.

Does DLCD recommend "deferring" transportation analysis required by the TPR?

No. The department recommends against using this approach for several reasons:

- **It undermines the predictability that zoning is intended to provide.** Zoning or rezoning land implies that the land is suitable and appropriate for uses allowed in the zone. If lands are zoned "commercial", for example, property owners rightfully assume that the public has determined that the land is suitable for many commercial uses and can be developed for commercial uses without difficult or complicated reviews. Deferring evaluation of transportation impacts and mitigation to site review works against this objective, especially where expensive improvements are needed to mitigate traffic impacts.
- **It undermines public participation in zoning decisions.** Rezoning is a key opportunity for the public, including neighboring property owners, citizens and agencies, to comment on a proposed zone change. Traffic impacts are often a major concern which the public should understand *before* a zone change is approved. Deferring transportation analysis reduces the opportunity for meaningful public participation.
- **It creates tracking and enforcement problems for local governments.** Where transportation analysis is deferred, future land use decisions and approvals have to be adjusted to include the required transportation analysis. It several years pass between the time the original zone change is approved there is likely to be uncertainty or confusion about what is required – especially if local staff turnover or if property is sold.

³ The LUBA decisions on this issue are:

- Citizens for the Protection of Neighborhoods, LLC v. City of Salem and Sustainable Fairview Associates LLC, 47 OrLUBA 111 (2004): <http://www.oregon.gov/LUBA/docs/Opinions/2004/06-04/03201.pdf>
- *Concerned citizens of Malheur County v. Malheur County and Treasure Valley Renewable Resources, LLP*, 47 OrLUBA 208 (2004).... <http://www.oregon.gov/LUBA/docs/Orders/2004/04-04/04008.pdf>

Overall, local governments, property owners and the public are better served by conducting the traffic analysis as the zone change is considered and making a clear decision about whether the planned transportation system is adequate to serve the allowed uses as part of approving the zone change.

What qualifies as a "planned transportation facility" that local governments may rely upon in determining whether there are adequate facilities to support the planned land use?

Section 0060(4) lists the types of facilities, improvements and services that can be counted as "planned" for purposes of 0060 compliance. Typically, a facility or improvement must be included in the relevant TSP and have some level of funding commitment in place to be considered to be "planned" under section 0060. The rule also allows transportation providers to issue letters to confirm that certain improvements are "reasonably likely" to be provided by the end of the planning period. Where such letters are issued, the improvements may be considered as planned. The rule also allows for improvements that are provided by the applicant, typically as a condition of approval, to be counted as planned improvements.

A detailed list of list of facilities, improvements and services that are considered planned is outlined in Section 0060(4) and includes:

- ❑ Transportation facilities, improvements or services that are funded for construction or implementation in:
 - ❑ the Statewide Transportation Improvement Program
 - ❑ a locally or regionally adopted transportation improvement program or capital improvement plan, or,
 - ❑ program of a transportation service provider. (See OAR 660-012-0060(4)(b)(A).)
- ❑ Transportation facilities, improvements or services that are authorized in a local transportation system plan and for which a funding plan or mechanism is in place or approved. These include, but are not limited to, transportation facilities, improvements or services for which:
 - ❑ transportation systems development charge revenues are being collected;
 - ❑ a local improvement district or reimbursement district has been established or will be established prior to development;
 - ❑ a development agreement has been adopted; or
 - ❑ conditions of approval to fund the improvement have been adopted. (See OAR 660-012-0060(4)(b)(B)).
- ❑ Transportation facilities, improvements or services in a metropolitan planning organization (MPO) area that are part of the area's federally-approved, financially constrained regional transportation system plan. OAR 660-012-0060(4)(b)(C).

Who decides whether a planned facility or improvement is "reasonably likely" to be provided by the end of the planning period?

The decision is made by the relevant transportation facility provider. For example, for state highways, the decision about whether an improvement is reasonably likely is made by

ODOT. For county roads, the decision is made by the county. For city streets, the determination is made by the city. In each case, the entity making the determination may establish its own procedures to determine who is authorized to make reasonably likely determinations and how such determinations will be issued. ODOT's guidelines address this issue for state highways.

Are “reasonably likely” determinations “land use decisions”?

The Commission's intent is that reasonably likely determinations not be land use decisions. The determination is essentially evidence or a finding submitted by a third-party. The rule does not ask or direct that local governments decide as part of the land use proceeding whether an improvement is “reasonably likely” to be funded; that determination is made separately and only the result, not the substance of determination, is at issue in the land use proceeding.

Why does the rule require “reasonably likely” determinations for projects that are included in TSPs? Why aren't all of the projects included in TSPs considered “planned projects” for purposes of 0060?

The amendments to Section 0060 were adopted following a broad evaluation of the TPR and of transportation planning done by Oregon communities over the last 10-15 years conducted jointly by the Oregon Transportation Commission and LCDC. A major finding of the evaluation was that there is a substantial gap between likely funding and the improvements that are called for in TSPs. In short, the transportation improvements included in plans greatly exceeds revenue likely to be generated over the next 20 years, even if there are new or expanded sources of revenue.

The consequence of this funding gap is that many of the projects that TSPs call for in the next 20 years will not be built, and for many communities traffic congestion will worsen. To a large extent, this is a result of past land use decisions – that put in place development patterns that create a need for additional roadway improvements. While LCDC recognizes that more needs to be done to address this gap, the conclusion was that it was not prudent to ignore or worsen the imbalance between land use and transportation by allowing additional land use changes that depend upon improvements that are not likely to be built in the next 20 years.

The TPR says that transportation performance is measured at the “end of the planning period”. How is the applicable “planning period” determined?

The TPR defines planning period as “... the 20-year period beginning with the date of adoption of a TSP to meet the requirements ... of the rule.” (OAR 660-012-0005(18)). This date based on the date of adoption of the applicable city or county TSP. For state highways, the Oregon Highway Plan indicates that the planning period is the one specified in the relevant local TSP applies but not less than 15 years from the date of application.

Are there additional requirements for review of plan and zone changes around freeway interchanges?

Yes. Section 0060 includes additional requirements for review of plan amendments within ½ mile of interchanges on interstate freeways. This includes interchanges on I-5 and I-84, as well as interchanges on I-205, I-405 (in the Portland Metropolitan area) and I-105 in the

Eugene-Springfield area. Additional review was required because of the special significance of the interstate system to the state transportation system.

Within freeway interchange areas the list of “planned improvements” is limited to improvements that have some form of funding commitment and does not include projects that are “reasonably likely” to be funded. However, other improvements can be counted as planned if ODOT agrees that the proposed plan amendment will not adversely affect the interstate highway system. (This part of the rule and ODOTs process for assessing whether amendments will affect the interstate system are outlined in ODOTs Guidelines for implementing Section 0060. See below.)

Who sets the performance standards for deciding whether there is "adequate" transportation capacity and what are they?

Standards for capacity and transportation system performance are set by local governments and ODOT through their adopted transportation system plans (TSPs). For state highways, mobility standards are expressed as acceptable "volume-to-capacity" ratios for traffic. Most local governments use a comparable system that uses letter grades to define acceptable “level of service” or LOS. The system rates service from "A", light traffic and free flow conditions to "F" heavily congested, with significant delays at traffic lights or to make turn movements. Most set "D" or "E" as the acceptable performance standard.

Does 0060 effectively set a "concurrency requirement", i.e. that adequate facilities have to be built or funded before development can be allowed?

No. The rule does not create the kind of “concurrency” requirement that has been adopted in other states, where transportation facilities must be built before new development is approved. . The TPR requires local governments to assess whether planned facilities – that are expected to be constructed over the planning period – will – at the end of the planning period – be adequate to meet needs. This allows for development to occur in advance of needed transportation improvements being constructed.

Will Section 0060 delay the development of "shovel-ready" industrial sites?

No. Industrial sites are not certified as "shovel-ready" until and unless they have the necessary plan and zoning designations for the appropriate industrial uses and are served by adequate public facilities, including transportation facilities. Section 0060 does not apply to sites already designated as "shovel-ready" and, therefore, will not cause a delay in their development.

Can local governments adopt concurrency requirements or other standards that are stricter than those in 0060 standards?

Yes. The TPR is basically a minimum state standard for review of plan amendments and zone changes. Individual cities can adopt ordinances regulating new development to meet particular local needs or circumstances that are stricter than the TPR. Several local governments have adopted concurrency type standards, requiring that needed improvements be constructed or funded or in place at the same time new development occurs.

Can a local government change performance standards to accept greater levels of congestion?

Yes. Where a planned development will result in an exceedance of the applicable performance standard, the TPR authorizes local governments to amend their TSPs to modify the performance standards to accept greater motor vehicle congestion OAR 660-012-0060(2)(d). Where state highways are affected, local governments need to get ODOT to agree to change its performance standards as well. Metro in the Portland metropolitan area, in coordination with the Oregon Transportation Commission and ODOT, has adopted performance standards that accomplish this objective and support the implementation of the region's Metro 2040 plan.

Where can I get more information about Section 0060?

The full text of the Transportation Planning Rule, including Section 0060, is available on DLCD's website at www.lcd.state.or.us

ODOT has produced guidelines for use by its staff in applying Section 0060. The guidelines are available on the ODOT website at:

<http://www.oregon.gov/ODOT/TD/TP/docs/TPR/tprGuidelines.pdf>

While the guidelines are intended principally for use by ODOT staff, they can also provide useful guidance to help local governments and applicants understand and apply Section 0060. Key to the amended rule are decisions by ODOT (and local governments) about whether or not needed improvements are funded or "reasonably likely" to be funded during the planning period. The ODOT guidance provides direction about how ODOT staff are to make reasonably likely determinations.

Numerous LUBA decisions provide useful guidance in understanding details of applying the Section 0060. The text of LUBA opinions and headnotes summarizing LUBA decisions related to Goal 12 and the Transportation Planning Rule are available on LUBA's website at www.orldba.state.or.us

REPLINGER & ASSOCIATES LLC
TRANSPORTATION ENGINEERING

November 15, 2019

Ms. Christina Robertson-Gardiner
City of Oregon City
PO Box 3040
Oregon City, OR 97045

**SUBJECT: REVIEW OF TRANSPORTATION ANALYSIS – BEAVERCREEK CONCEPT
PLAN AND LEGISLATIVE AMENDMENTS – LEG19-03**

Dear Ms. Robertson-Gardiner:

In response to your request, I have reviewed the Transportation Analysis (TA) submitted in support of the Beavercreek Concept Plan and proposed legislative amendments. The TA, dated June 21, 2019, was prepared under the direction of Kevin Chewuk and Amanda Deering of DKS Associates.

The focus of the analysis was to demonstrate that the requirements of Oregon Administrative Rule (OAR) 660-012-0060, the Transportation Planning Rule (TPR), are met for the Beavercreek Concept Plan area in Oregon City, Oregon. The study area comprises the adopted 2008 Beavercreek Concept Plan area, which established land use designations, design guidelines and future transportation infrastructure needs. The Beavercreek Concept Plan area is roughly bounded by the Urban Growth Boundary to the east, Beavercreek Road to the west, Old Acres Road to the south and Thayer Road to the north. The TA shows adequacy of the current Oregon City Transportation System Plan (TSP) to accommodate development specified in the Beavercreek Concept Plan.

The analysis focused on assessing the transportation impact of a more intense development of the Concept Plan area than had been assumed for the development of the TSP. According to the TA, the net increase resulting from the implementation of the Concept Plan would be 750 new dwelling units and 4095 new jobs. The analysis is for the TSP horizon year as is typically performed for showing compliance with the TPR. No interim or intermediate years were analyzed.

Overall

I find the TA addresses the city's requirements and provides an adequate basis to demonstrate compliance with the TPR.

Comments

- 1. Trip Generation.** The TA presents information on PM peak hour trip generation from more intense development of the Concept Plan area. The authors calculate that under the plan designations and zoning proposed for Concept Plan that area would accommodate an additional 750 new dwelling units and 4095 new jobs above those assumed for the TSP. Trip generation characteristics were based on the rates the PM peak hour in modeling developed for the TSP. Based on the new dwelling units and new jobs, the net effect of the plan designations and zoning changes would be 925 PM peak hour trips being added to the regional street network. The trip generation calculations appear to be accurate and reasonable.
- 2. Transportation System Used for Analysis.** As described above, the focus was on demonstrating compliance with the TPR. The base transportation system used for the analysis included projects within and adjacent to the Concept Plan area. Specifically, the analysis assumed the following projects for both the baseline (TSP level development) and the more intense development consistent with the Beavercreek Concept Plan:

 - Roundabout at the **Beavercreek Road/Glen Oak Road** intersection (TSP Project D39)
 - Roundabout at the **Beavercreek Road/Loder Road** intersection (TSP Project D44)
 - **Meyers Road** extension from OR 213 to High School Avenue (TSP Project D46)
 - **Meyers Road** extension from Beavercreek Road to the Meadow Lane Extension (TSP Project D47)
 - **Clairmont Drive** extension from Beavercreek Road to the Holly Lane South Extension (TSP Project D54)
 - **Glen Oak Road** extension from Beavercreek Road to the Meadow Lane Extension (TSP Project D55)
 - **Timbersky Way** extension from Beavercreek Road to the Meadow Lane Extension (TSP Project D56)
 - **Holly Lane** extension from Thayer Road to the Meadow Lane Extension (TSP Projects D58 and D59)
 - **Meadow Lane** extension to the Urban Growth Boundary, north of Loder Road (TSP Projects D60 and D61)
 - **Loder Road** extension from Beavercreek Road to Glen Oak Road (TSP Project D64)

- **Beavercreek Road** improvements from Clairmont Drive to the Urban Growth Boundary, south of Old Acres Lane (TSP Projects D81 and D82)
- **Loder Road** improvements from Beavercreek Road to the Urban Growth Boundary (TSP Project D85)

The analysis included two scenarios for Holly Lane. The operational analysis described below was conducted both with and without the section of Holly Lane between Maplelane Road and Thayer Road.

3. Operational Analysis. The operational analysis of key intersections identified above and assuming the TSP projects listed above was conducted for the PM peak hour. The analysis was performed using appropriate traffic analysis tools including Syncro for signalized intersections and Sydra for roundabouts. The authors of the TA conclude:

“During the evening peak hour, all study intersections operate within adopted mobility targets under all scenarios after assuming the baseline transportation system improvements from the TSP.”

The authors’ conclusions about all study area intersections meeting operational standards applies regardless of whether Holly Lane was included or excluded in the system. It is also worth noting that the authors found Beavercreek Road would meet mobility standards with the configuration specified in the TSP. Mobility standards would also be met if Beavercreek Road were to widened to five lanes in sections where three lanes had been specified.

Appropriate tools and procedures appear to have been used to evaluate the study area intersections. I concur with the authors’ analysis and conclusions about meeting TSP mobility targets.

4. Conclusions. The authors of the TA conclude:

“Overall, the current TSP includes adequate transportation system projects for the Beavercreek Concept Plan area to comply with the Transportation Planning Rule (TPR). All transportation impacts as a result of the additional housing units and employees in the Beavercreek Concept Plan area are addressed by current TSP projects.”

I concur with the authors’ conclusion that the proposal is consistent with the TPR. The proposed plan designation changes and rezoning do not change the functional classification of any existing or planned transportation facility; do not degrade the performance of existing or planned facilities such that mobility standards are not met;

Ms. Christina Robertson-Gardiner
November 15, 2019
Page 4

and do not cause a significant effect as defined under the Transportation Planning Rule.

Conclusion and Recommendations

I find that the TA provides an adequate basis upon which impacts of the development can be assessed. The TA provides documentation that the key intersections will meet adopted mobility standards and that the proposed changes comply with the TPR.

If you have any questions or need any further information concerning this review, please contact me at replinger-associates@comcast.net.

Sincerely,

A handwritten signature in black ink that reads "John Replinger". The signature is written in a cursive, flowing style.

John Replinger, PE
Principal



Oregon

Kate Brown, Governor

Department of Transportation

Region 1 Headquarters
123 NW Flanders Street
Portland, Oregon 97209
(503) 731.8200
FAX (503) 731.8259

11/18/19

City of Oregon City
Community Development Division
PO Box 3040
698 Warner Parrott Rd.
Oregon City, OR 97045

ODOT Case No: 9386

Subject: LEG 19-00003: Beaver Creek Road Concept Plan Implementation

Attn: Christina Robertson-Gardiner, Senior Planner

We have reviewed the applicant's proposal to amend various Chapters of the Oregon City Municipal Code, Zoning Map and Comprehensive Plan Map to implement the Beaver Creek Road Concept Plan. The site is in the vicinity of the Highway 213/Beaver Creek Road intersection. ODOT has permitting authority for this facility¹ and an interest in assuring that the proposed zone change/comprehensive plan amendment is consistent with the identified function, capacity and performance standard of this facility.

For zone changes and comprehensive plan amendments, local governments must make a finding that the proposed amendment complies with the Transportation Planning Rule (TPR), OAR 660-012-0060. There must be substantial evidence in the record to either make a finding of "no significant effect" on the transportation system, or if there is a significant effect, require assurance that the land uses to be allowed are consistent with the identified function, capacity, and performance standard of the transportation facility.

In order to determine whether or not there will be a significant effect Oregon City had DKS prepare a traffic impact study (TIS) dated June 21, 2019. ODOT concurs with the conclusion that:

"Overall, the current TSP includes adequate transportation system projects for the Beaver Creek Concept Plan area to comply with the Transportation Planning Rule (TPR)"

ODOT would like to emphasize that the City is able to make this finding based on the alternative mobility targets adopted by the City and the Oregon Transportation Commission, which includes the Holly Lane segment between Maple Lane Road and Thayer Road.

Thank you for providing ODOT the opportunity to participate in this land use review. If you have any questions regarding this matter, please contact me at 503.731.8234.

¹ OAR 734-051 website: http://arcweb.sos.state.or.us/rules/OARS_700/OAR_734/734_051.html

Sincerely,

A handwritten signature in cursive script, reading "Seth Brumley".

Seth Brumley
Development Review Planner

C: Avi Tayar, P.E., ODOT Region 1 Traffic



To: Mayor Holladay and City Commission

From: Christina Robertson-Gardiner, Senior Planner
Dayna Webb, City Engineer
John Replinger, PE, Replinger & Associates LLC

RE: Beaver Creek Road Design

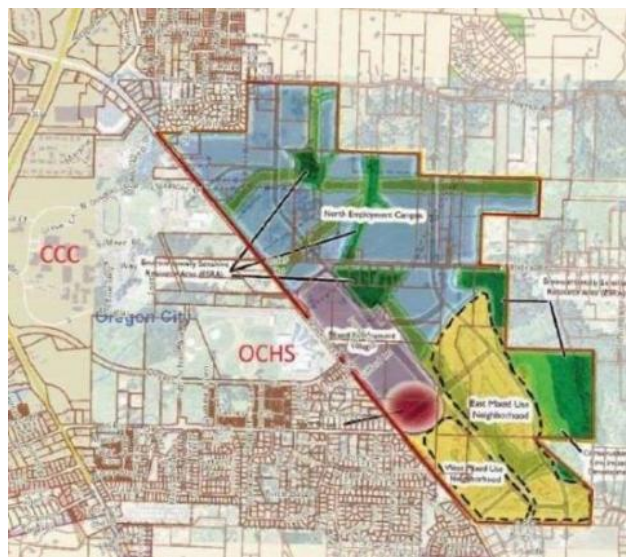
Date: November 5, 2019

The Beaver Creek Road Concept Plan (BRCP) is a guide to the creation of a new neighborhood in southeast Oregon City. The adopted plan provides a framework for urbanization of 453 acres within the urban growth boundary including a diverse mix of uses (an employment campus north of Loder Road, mixed-use districts along Beaver Creek Road, and two mixed-use neighborhoods), all woven together by open space, trails, a network of green streets, and sustainable development practices. The plan has been crafted to create a multi-use community linking Clackamas Community College, Oregon City High School, and adjacent neighborhoods together.

The city is currently updating the Comprehensive Plan and Oregon City Municipal Code (OCMC) to allow planned housing and mixed-use development in the Beaver Creek Road Concept Plan area. Development of each newly zoned parcel will be based on market conditions, which could take many years to build out fully. Transportation impacts will be addressed at the time of each development application, which requires compliance with the Concept Plan and city development standards. More information can be found at www.orcity.org/BeaverCreekRoadConceptPlan.

However, staff and City Commissioners were hearing from the public that 11 years after Concept Plan adoption, a fresh look may be needed to see if the adopted 3-lane design of Beaver Creek Road (roughly Old Acres Road to Clairmont Road) reflected the community vision compared to a 5-lane section and review the type of intersection control (roundabouts or traffic lights) along the corridor.

At the August 13, 2019 City Commission work session, the City Commission requested that staff return at a future work session with more detail about the cost and design impacts of roadways width and intersection control for



Beaver Creek Road Concept Plan Boundary

the area of Beavercreek Road that abuts the Beavercreek Road Concept Plan boundary as well as more feedback from the public.

The following memo and attachments will provide additional background on the different approaches to the road design of Beavercreek and provide options for next steps on this issue.

City Commission Direction

Staff is looking for direction from the City Commission on a variety of items. Depending on the design approach, an additional work session focused on funding strategies may be needed.

- **How many lanes should Beavercreek Road be within the Concept Plan corridor?**
 - 3 lanes
 - 5 lanes
 - A transition from 5 lane to 3 lanes at either Meyers or Loder Roads.
- **What type of intersections should Beavercreek Road have within the Concept Plan corridor?**
 - Traffic signals
 - Roundabouts
 - Both (Should the City further investigate roundabout designs at specific intersections?)
- **Should the City renegotiate with ODOT to revise the Alternate Mobility Standard by removing Holly Lane connection projects from the Transportation System Plan (TSP)?**
 - No
 - Yes
- **Should Beavercreek Road along the Concept Plan corridor be constructed by developers incrementally as development is built or pursued as a capital improvement project all at once?**
 - The roadway should be constructed incrementally as development occurs.
 - The City should create a funding mechanism for building the roadway as a single project.

Once the preferred cross-section and intersection control are identified, the Transportation System Plan (TSP), Transportation Capital Improvement Project list (CIP), and the Beavercreek Road Concept Plan will be amended to include the preferred projects. Considerations for the City Commission to inform the above is provided below.

Tradeoffs – Number of Lanes

Creating additional lanes help vehicles move quicker through areas during peak traffic periods. However, during off-peak periods there may be little effect on travel times. Additional lanes also generally allow turning movements to and from the minor streets to be made with less delay. Additional lanes, particularly near signalized intersection, will reduce the length of the vehicle queues allowing cars to stop closer to the intersection rather than stretching the congestion out in a longer line. This additional capacity that results from added lanes can erode over time; however, as other drivers chose the newly expanded street over their previous commute route, also known as [induced demand](#). Increasing the number of lanes generally results in increased travel speeds by motorists. The resulting increase in travel speed does not result in increased capacity as drivers feel the need to create additional buffer space in front and beside them. Increased travel speeds do result in more severe crashes that are particularly

devastating for pedestrians and bicyclists. More lanes and higher speeds also require longer intervals for pedestrian crossing signals and longer yellow times. These decrease the overall efficiency of signalized intersections.

Overall, increasing the number of lanes vary from no change in travel time during off-peak periods to real reductions in travel time at peak periods if regional growth is greater than predicted and if vehicle demand approaches or exceeds the capacity of the number of lanes provided on a road. It is difficult to provide definitive prediction of the travel time on a particular section of road as a three-lane or five-lane section because of the various factors that influence a prediction including use of alternative routes and the timing of completion of projects further along the corridor that reduce congestion such as the dedicated right turn lane to Highway 213 northbound.

Addressing Future Growth

Traffic models account for growth in other jurisdictions and their effects on Oregon City. Clackamas County, Oregon City, and the Oregon Department of Transportation all look at how growth is affecting their transportation network and create a list of funded projects that can address safety concerns or add system capacity. As you can imagine, this is not an easy task. Every year there are more project needs than budgeted funds. It is up to Oregon City to assure that all of the necessary projects are identified, even if we do not own the roadway.

Future Major Transportation Projects

Oregon City has identified a few automobile projects that will add connectivity and additional capacity to the road network in this area.

1. The [Meyers Road Extension Project](#) from 213 to the Oregon City High School
2. Extension of High School Avenue to Loder Road
3. Creation of a north/south road parallel to Beavercreek within the Concept Plan boundary
4. Improvements to Highway 213 and Beavercreek Road (conversion of the existing yield to free-flow right Turn lane onto northbound 213 from Beavercreek Road Northbound acceleration lane to merge into with traffic).

Adding more road connections, like Meyers Road, provides drivers alternate routes and decreases the dependency on using any one road. For example, currently most of the vehicles going to the high school from the west side of Hwy 213 are traveling on Hwy 213 to Beavercreek Road or Glen Oak Road, then to the High School. The Meyers Road extension will create a new east-west connection, removing a portion of the trips from both Hwy 213 and Beavercreek Road. In addition to the vehicular connections above, additional bicycle and pedestrian improvements are also identified.

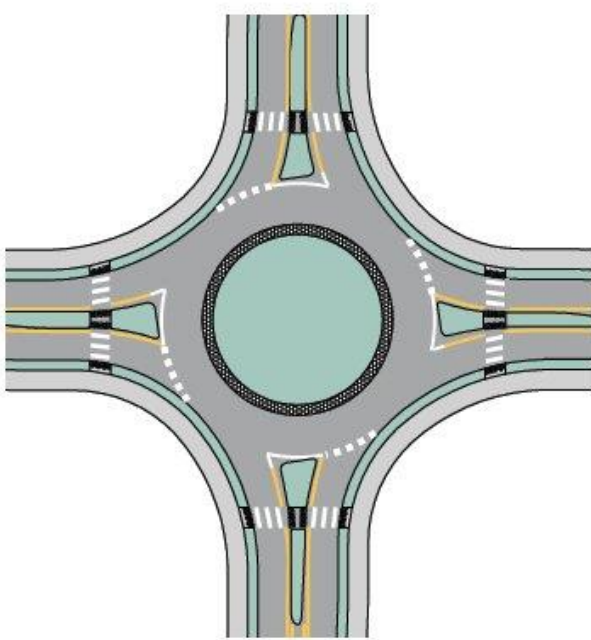
Access Management/Intersection Control (Roundabouts vs. Signals)

When the Concept Plan area is developed, access to Beavercreek Road will only occur through the existing intersections (Clairmont Drive, Loder Road, Meyers Road, and Glen Oak Road). No new driveways will be allowed on Beavercreek Road. The 2008 Concept Plan identified roundabouts as a good approach to intersections, but the Transportation System Plan (TSP) also identifies some traffic signals along the roadway.

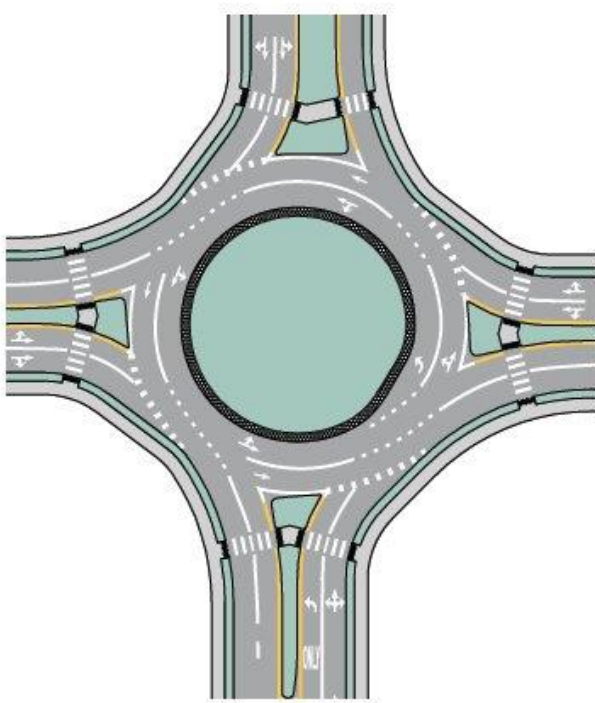
Roundabouts

Roundabouts are circular intersections designed to eliminate left turns by requiring traffic to exit to the right of the circle. Drivers travel counterclockwise around a center island. There are no traffic signals or

stop signs in a modern roundabout. Drivers yield at entry to traffic in the roundabout, then enter the intersection and exit at their desired street.



3- LANE ROUNDABOUT



5-LANE ROUNDABOUT

Think of roundabouts as a series of “T” intersections, where entering vehicles yield to one-way traffic coming from the left. A driver approaching a roundabout must slow down or stop for vehicles stopped ahead, yield to pedestrians in the crosswalk, and yield to traffic already in the roundabout. Roundabouts are designed to accommodate fire trucks and large vehicles. Large trucks may have to drive on the concrete apron around the central island in order to get through the roundabout.

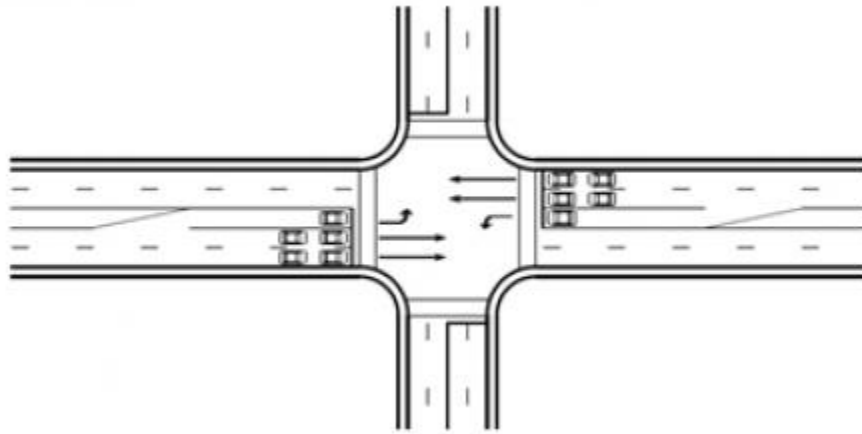
What are the advantages and disadvantages of roundabouts?

- Greater safety is achieved primarily by slower speeds and elimination of left turns which can greatly decrease the number & severity of accidents.
- Operation is improved by smooth flowing traffic (with less stop and go than a signalized intersection).
- Aesthetics are enhanced by landscaping.
- Roundabouts can distinguish the Concept Plan area as different than others in the City.
- Additional landscaping requires a long-term maintenance commitment but normally costs less in the long run than signal maintenance.
- Drivers must pay attention; pedestrians don't have a signal to help them cross and bicyclists must merge with motor vehicles to enter the roundabout or utilize a larger shared-use ped/bike sidewalk. This can be intimidating for people trying to cross the road.
- In general, multi-lane roundabouts are not recommended in areas with high levels of pedestrian and bicycle activity due to safety concerns of multiple threat crashes for pedestrians, especially those with visual impairments, and bicyclists.

- The process to acquire additional needed property can require more time and money compared to a signal installation in an existing urban intersection. Though once built, the long-term maintenance cost for roundabout can be less than traditional signal maintenance, assuming slow growing and low maintenance landscaping amenities are provided.
- Legs of a signalized intersection can be built in phases, whereas roundabouts need to be substantially built in the first phase of construction.
- Repaving or utility construction through an established roundabout is complicated and often more impactful to the traveling public than it would be through a signalized intersection due to the site limitations that result from curved lanes and medians.

Signalized Intersections (Traffic Signals)

Traffic signals are designed to allow for the safe and efficient passage of road users when demand exists.



What are the advantages and disadvantages of signalized intersections?

- Legs of a signalized intersection can be built in phases, whereas roundabouts need to be substantially built in the first phase of construction.
- Pedestrians have priority when crossing signalized intersections. However, accidents can prove more fatal from cars running intersections at full speed compared to cars that slow down to yield at a roundabout.
- Construction costs can be less for standard intersections, but long-term signal timing and maintenance will increase the overall cost.
- Multi-lane intersections create a longer crossing distance but can be configured to allow additional pedestrian crossing time, whereas multi-lane roundabouts can create confusion between pedestrians, bikes, and vehicles on who has the right of way.
- Signalized intersections do not create a unique sense of place.
- Cars often speed up and slow down between intersections, especially on a wider road.

Roundabout Conceptual Study

Attached are conceptual overlays of 3 and 5 lane roundabouts along existing intersections that abut the Concept Plan boundary. This was an inhouse exercise that took standard roundabout designs and overlaid them to the existing city maps, centered at the existing intersections, to allow the City Commission to see how different approaches to intersection design could affect neighboring properties.

Though this is just a high-level exercise to see the comparative difference in scale between the size of a 3 and 5 lane roundabout, one can see that a 5 lane roundabout requires much more land than a 3 lane roundabout and that the land around many of the intersections on Beavercreek Road is constrained with existing homes. In the event Commission directs staff to move forward with roundabouts more work would be required to identify the exact location, shape, and configuration of the roundabout at each intersection to minimize conflicts with adjacent properties.

Survey

A survey was released on October 24, 2019 to get an understanding of public opinion about Beavercreek Road design along the Concept Plan Corridor. The questions were set to be more of a value-based approach to understanding priorities and perception of using roundabouts and signals at intersections. While this was shared widely including through the project eblast list, Neighborhood Associations, Oregon City School District, Chamber of Commerce, Hamlet of Beavercreek, social media platforms, etc., it should not be viewed as a statistically significant sample. Rather, the results of this survey allow the City Commission to get a pulse of community members who may not have time to attend a Commission hearing or send in public comment but are interested in the topic. The survey closes on November 11, 2019 and a final analysis will be shared with the City Commission at the November 12th work session.

Jurisdictional Transfer

The portion of Beavercreek Road within the Concept Plan boundary is owned by Clackamas County, though much of it is within the city limits of Oregon City. Through the Clackamas County Coordinating Committee (C4) and discussions about the Clackamas County Vehicle Registration Fee (VRF), the County has agreed to set aside a “Strategic Investment Fund” which would allocate 10% of the revenues collected from the VRF for projects like jurisdictional transfers and other joint agency interest roadway capital projects. The details of this are currently under consideration by the County and C4. In those discussions Beavercreek Road is tentatively identified as Oregon City’s priority Road/project.

City staff began conversations with Clackamas County about a jurisdictional transfer of the roadway so that it may be design and maintained to City standards. In order to move forward with this, staff would need to let the County formally know we are interested in taking jurisdiction of Beavercreek Road. If that is desired, the two agencies will create an Intergovernmental Agreement or Memo of Understanding, related to the future transfer of the roadway. This document will lay out the interim terms of the ownership and maintenance between now and the formal transfer of jurisdiction in the future. This would include who maintains the pavement, ditches, street lighting, traffic signals, and who will have permitting authority for franchise permits and development along the corridor.

Holly Lane

During the [Transportation System Plan \(TSP\)](#) update in 2012, it was determined that the intersection of Hwy 213 & Beavercreek Road would be too congested in the future and would not meet Oregon Highway Plan mobility standards through the TSP planning horizon year of 2035. The TSP recommended the City move forward with a project to address the need for a refinement plan at the intersections.

Over the next 3 years, the City worked with ODOT and a Technical Advisory Group and a Community Advisory Group identified a variety of reasonable improvements to increase the capacity and/or safety of the intersection along with alternative mobility targets for measuring congestion which was adopted by the City and the Oregon Transportation Commission. Holly Lane and its long-term connection to the Concept Plan area through Maple Lane and Thayer Road was identified as an alternate route to the intersection of Beavercreek and Highway 213. Seth Brumley, Region 1 Planner with the Oregon

Department of Transportation (ODOT) submitted a letter identifying that removing Holly Lane extension projects from the TSP would require the City to revise the alternate mobility target and provide an alternate project that meets or exceeds the benefit of the Holly Lane extension. Staff is currently unable to identify an alternate project which is affordable and has not allocated funding or staff time towards the creation of such an alternative. The city is currently working with Clackamas County on the implementation of the Holly Lane connection and believes that the project is an important alternate route to the system to ease congestion in this area.

Conceptual Cost Estimates

Staff has completed the following order of magnitude cost estimate of the options being discussed. The following cost estimates of the initial construction of various road width and intersection controls were created utilizing the methodology from the Transportation System Plan (TSP) and are based on conceptual designs only with the assumptions noted below. The costing exercise looks at the adopted 3-lane street section and a more standard urban 3 and 5-lane configuration. Please note that the assumptions were used for a costing exercise and the final cross-section may be different than identified below.

Beavercreek Road Options	Adopted 3-Lane 90 feet wide ROW	Optimal 3-Lane Roadway 76 feet wide ROW	Optimal 5-Lane Roadway 100 feet wide ROW
Signals	\$26M	\$22M	\$34M
Roundabouts	\$32M	\$29M	\$48M

The following assumptions were used in creating the conceptual cost estimates:

Adopted 3-lane (90 feet ROW)

- 6' sidewalks, 10' planter, 6' bike lane + 2' bike buffer each side, 12' travel lanes (2) and an 18' center turn lane/median
- Approximately 15 tax lots would be impacted by property acquisition along the corridor. Acquisition cost assumptions vary along the corridor.

Optimal 3-lane Roadway (76 feet ROW)

- 6' sidewalks, 6' planter, 6' bike lane + 2' bike buffer each side, 12' travel lanes (2) and a 12' center turn lane/median
- Approximately 15 tax lots would be impacted by property acquisition along the corridor. Acquisition cost assumptions vary along the corridor.

Optimal 5-lane Roadway (100 feet ROW)

- 6' sidewalks, 6' planter, 6' bike lane + 2' bike buffer each side, 12' travel lanes (4) and a 12' center turn lane/median
- Over 40 tax lots would be impacted by property acquisitions along the corridor, many of these are along the west side of the corridor
- Acquisition cost assumptions vary along the corridor, some parcels include full acquisition.

Options to mitigate the total project cost:

- The order of magnitude cost estimates are based on traditional lane widths, we could identify slightly narrower lane widths, which would provide a small cost savings in both right of way acquisitions and construction costs.
- The footprint of roundabouts is much larger than a signalized intersection, due to this larger right of way requirement, a roundabout is more expensive than a signalized intersection to construct.
- If a 5-lane cross-section is selected, it will be expensive and difficult to construct the second southbound lane due to the existing development along the west side of the roadway. One option that would decrease the overall cost of the 5-lane project is shifting the centerline of the roadway. This decreases the cost as the land on the east side is undeveloped, and the price per square foot of undeveloped land is less than developed land. The downside to this option is that the downsides to this option are:
 1. It utilizes more of the land allocated to job creation.
 2. It impacts a planned and land use approved live-work development at Beaver Creek Road and Meyers Road
 3. It still impacts a few existing homes but would reduce the number of home acquisitions
 4. This option also requires the project be built all as one, not incrementally by development
- Creating additional refined details for the preferred design on this corridor will require additional funding and a timeline for completion. This work would be completed in cooperation with a contracted consulting firm, and the level of design work would be matched with the needed level of certainty of the design. Without further refinement of the question being asked and the level of detailed needed to answer the question, the cost for preliminary design work could be anywhere from \$50,000 to \$300,000 for this corridor.

Funding Large Scale Improvements

Many agencies struggle with how to transition from a two-lane roadway to fully built roadway. If a roadway is built as development occurs, it can and will be piece-meal. Often not occurring linearly along a corridor, which creates difficulties in implementing a center turn lane. If the city wants to build this before development occurs, we will need to identify how we fund a project of this magnitude.

Current Approach

- The adopted TSP project cost for Beaver Creek Road was solely based on repaving and for a standard two-lane section with some sidewalk additions. The cost for the Beaver Creek Corridor is identified as \$8.6 million, assuming 2 lane roundabouts at Glen Oak Road and Loder Road, leaving existing signals at Clairmont Drive and Meyers Road.
- Currently, our transportation SDC methodology identifies projects in the Beaver Creek Road corridor that total \$8.6 million, of which \$3.8 million is attributed to growth and therefore would be funded by SDC's. The remaining \$4.8 million, would come from other sources.
- This \$8.6 Million is insufficient to fund all the improvements called for in a 3 lane configuration and well under the need for a 5 lane configuration. However, identified capital improvement projects within the Beaver Creek Concept area total a growth share of nearly \$50 Million. Similar to the bond supported LID option, a capital funding bond could be authorized and reimbursed through future SDC revenues after the project is funded and built. The City would need to take a more detailed look into the entire Beaver Creek Concept area project list and determine how onsite funding for transportation projects might be allocated less to the internal streets and more toward Beaver Creek Road

Other Funding Options

- Another option to fund the improvements is the implementation of a Local Improvement District. A Local Improvement District (LID) is a method by which a group of property owners can share in the cost of infrastructure improvements. The LID is a method of providing public financing for the construction of public works improvement projects that benefit private properties. The property owners within the LID benefit area are responsible for repaying the costs of the project. If the project also benefits the general public, in addition to private property within the LID, the City can assist with those costs.
- LID's are a good way to share the cost amongst several benefitting property owners and in this case, the LID generated funds would be one element of the financial leverage plan contributing to the overall project costs which would include developer funding, SDC's, and possibly other smaller funding options. LID's are typically funded using existing City funds which are reimbursed over time which in this case would complicate the City's cash flow unless supported via a capital improvement bond.
- Urban Renewal is a mechanism that can assist in funding the development of a growing area. The creation of an Urban Renewal District is complex and requires voter approval.
- Projects that abut mixed-use or low-density residential along the urban fringe do not score well for state and federal grants. The highest scoring projects provide safety improvements, congestion relief along existing urban corridors, are in areas of historically underrepresented communities that are regionally important and leverage other funding sources. Currently, this corridor is not likely to score well with these criteria.
- Another option to fund the transportation improvements in the Beavercreek Concept Plan area is the creation of an area-specific Transportation System Development Fee (SDC). Typically, these additional SDCs are collected in an overlay area, that is intended to only be used in that area. Depending on the size of the area and the cost of the additional projects, the resulting Transportation SDC increase could have a negative effect on attracting new businesses and keeping housing affordable. The Bethany and Witch Hazel Village South (Hillsboro) Concept Plan areas utilize this approach.
- Beavercreek Road is a multi-jurisdictional roadway that is currently under the authority of Clackamas County, and a significant volume of traffic using Beavercreek Road is generated from outside the City. A meaningful Clackamas County contribution to the full development of Beavercreek Road is a policy issue that should be raised with the Board of County Commissioners (BCC). It is common for the BCC to support multi-jurisdictional roadway improvements in other cities within the County

Staff Recommendation

- **How many lanes should Beavercreek Road be within the Concept Plan corridor?**
 - A transitional section extending the existing 5 lane section near Maple Lane and transitioning to a 3 lane section at Loder Road.
- **What type of intersections should Beavercreek Road have within the Concept Plan corridor?**
 - Traffic signals
- **Should the City renegotiate with ODOT to revise the Alternate Mobility Standard by removing Holly Lane connections from Transportation System Plan (TSP)?**

- No
- **Should Beaver Creek Road along the Concept Plan corridor be constructed by developers incrementally as development is built or pursued as a capital improvement project all at once?**
 - The roadway should be constructed incrementally as development occurs.

Additional Design Considerations

- To be able to utilize a fully built out 5-lane Beaver Creek Road, staff recommends that the center lane of the road is shifted to the east. This approach also is very hard to build incrementally and should be pursued as a capital improvement project.
- A 3-lane Beaver Creek Road can be built as a capital improvement project or incrementally.
- Roundabouts (3 or 5-lane) should be pursued as a capital improvement project.
- If the City Commission wishes a transition from 5 to 3-lanes through incremental development, staff suggest transitioning from 5 lanes to 3 lanes at Loder Road. Existing patterns at Meyers Road and Glen Oak Roads would result in only the northbound section of Beaver Creek Road to be built out over time, in effect having 2 lanes northbound and 1 lane southbound at Concept Plan buildout.
- The adopted 90 feet wide 3-lane cross-section shows a large inverted crown stormwater section in the middle of the road. Abutting grades and the location of existing utilities make this design very difficult to implement. Staff recommends moving the stormwater area to the outside planter section of the road for both the 3 and 5-lane configurations.
- Keeping the adopted 90-foot width for the 3-lane section would allow for an increased width of the pedestrian/bikeway, which could include a separated bike lane on the eastside. A standard 12 feet planter medium can remain in the center turn lane.

Transportation System Plan (TSP) Consistency and Transportation Planning Rule (TPR) Compliance

Overall, the current TSP includes projects in and around the Beaver Creek Road Concept Plan area, including the 3-lane segment along Beaver Creek Road comply with the Statewide Transportation Planning Rule (TPR) and best practice congestion standards and planned intersection management solutions at key locations. These are required to be met when rezoning property within the city. If the City Commission would like to add additional lanes on Beaver Creek Road or replace traffic signals identified in the TSP with roundabouts identified in the Concept Plan, those would also meet the TPR requirements. The Legislative file ([LEG 19-00003](#)) implementing the Zoning in the Concept Plan area can move forward concurrently with the Beaver Creek Road design refinement process without delaying the adoption process. A final condition of approval could even be added that limits development until a final Beaver Creek Road design is adopted.

Next Steps

Staff is looking for broad direction with the questions found at the front of the memo. All of the proposed configurations have cost implications that will need further City Commission direction and may require some additional engineering studies. Depending on the design approach – an additional work session focused on funding strategies is recommended.



Beavercreek Road Design

November 12, 2019 City Commission Work
Session

Beavercreek Background



Project Purpose- Implement the Beavercreek Concept Plan by adopting new Zoning and Comprehensive Plan Maps and creating development code to implement vision of the plan



Grant- Department of Land Conservation and Development (DLCD)



Build upon existing public process that adopted the Concept plan in 2008 and readopted in 2016



Public Comments Spring 2019- 11 years later a fresh look may be needed to see if the adopted 3-lane design of Beavercreek Road reflected the community vision



Presented initial findings

DKS Associates-all potential road configurations met the requirements for rezoning, including the Transportation Planning Rule (TPR)



City Commission asked for additional information on Holly Lane Extension projects, roundabout design and lane costs



Staff reached out to the public with Beavercreek Road Design Survey and mailed information to abutting property owners



Staff ready to present additional information-looking for broad direction on design approach.

August 13, 2019 City Commission
Worksession

City Commission Direction

How many lanes should Beaver Creek Road be within the Concept Plan corridor?

- 3 lanes
- 5 lanes
- A transition from 5 lane to 3 lanes at either Meyers or Loder Roads.

What type of intersections should Beaver Creek Road have within the Concept Plan corridor?

- Traffic signals
- Roundabouts
- Both

City Commission Direction

Should the City renegotiate with ODOT to revise the Alternate Mobility Standard by removing Holly Lane connection projects from the Transportation System Plan (TSP)?

- No
- Yes

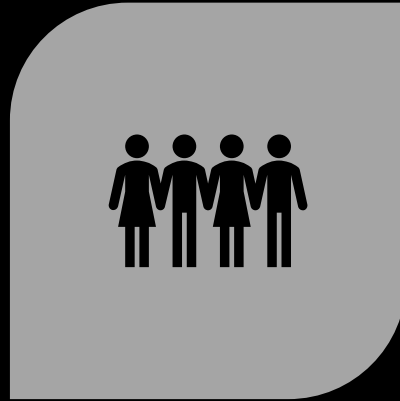
Should Beaver Creek Road along the Concept Plan corridor be constructed by developers incrementally as development is built or pursued as a capital improvement project all at once?

- The roadway should be constructed incrementally as development occurs.
- The City should create a funding mechanism for building the roadway as a single project.

What We Learned



COST IMPLICATIONS



NEIGHBOR IMPACT



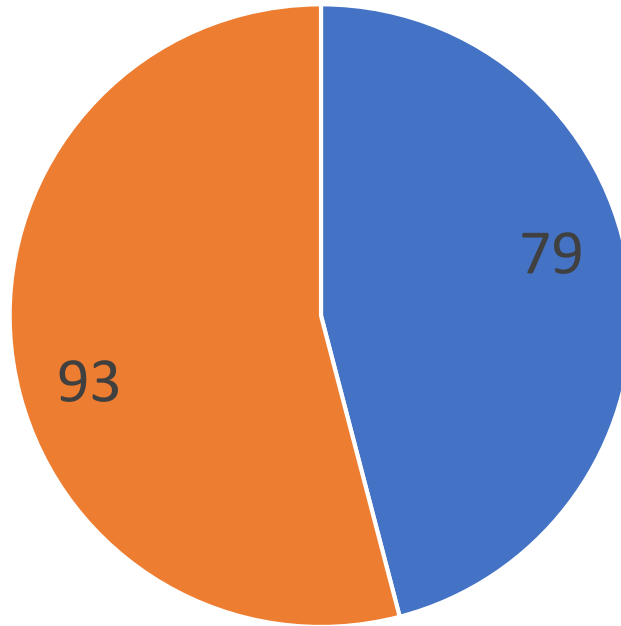
PROCESS TO BUILD

Survey Results

**October 24, 2019 to
November 11, 2019**

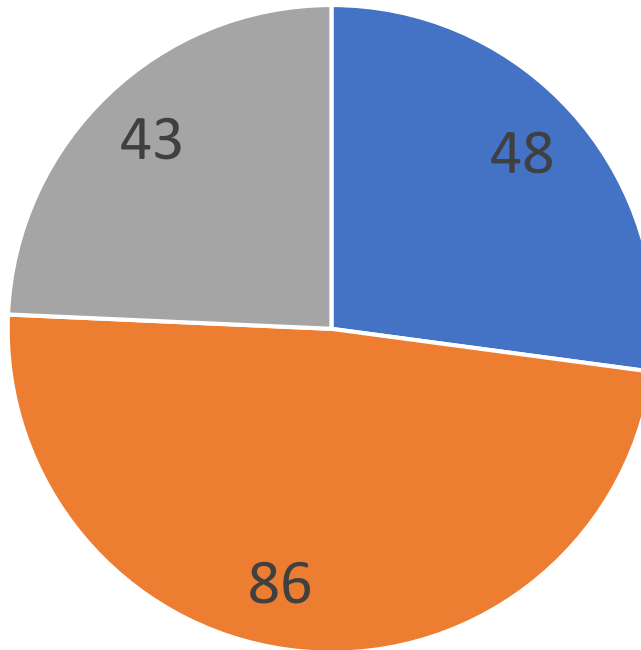


Would you prefer using roundabouts or traffic signals along this section of Beavercreek Road?



■ Traffic signals ■ Roundabouts

Would you prefer seeing a 3-lane section, 5-lane section or a transition from 5-lanes to 3 lanes along this section of Beaver Creek Road?



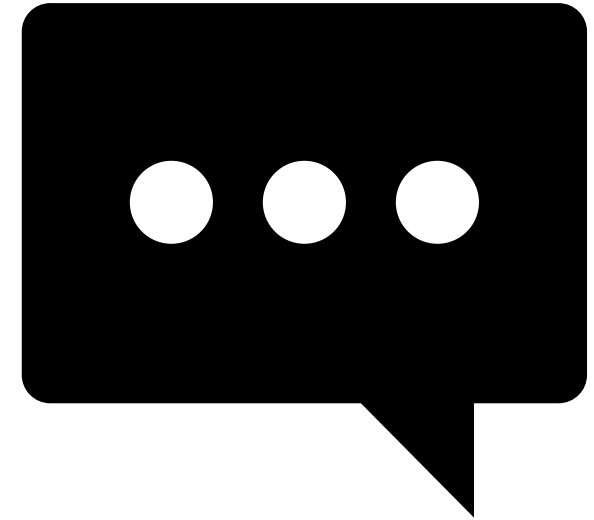
■ 3 - Lane ■ 5-Lane ■ Transition

Transportation decisions often involve tradeoffs, knowing that price may be a limiting factor, what elements of Beaver Creek Road are important to you?

	Very Import	Somewhat Important	Important	Not Important	Not Important At All
Pedestrian safety	106	20	32	4	3
Bike safety	77	30	37	11	8
Aesthetics/creating a sense of place	36	36	51	30	6
Reducing vehicle congestion	121	31	15	3	1
Ease of long-term maintenance	54	44	56	10	2
Ease of crossing Beaver Creek Road	70	39	37	12	4

Selected Comments

- “Move the traffic and make it happen. Roundabouts work great, people just need a little time to figure them out.”
- “Traffic signals will allow for safer pedestrian and bicycle traffic. Will also allow for safer methods to cross Beavercreek Rd. especially in the school zone at the high school.”
- “OC is not going to stop future growth along BC Rd. There are no other access roads to get to 213 from Beavercreek due to topography and existing housing. This road will only get busier. Build it out for the future, not just for today.”
- “It sounds as if the traffic studies completed do not recommend a 5-lane cross section. This seems overkill, especially given the future transportation projects mentioned above. I do feel that the posted 20 mph speed limit during 7-5 p.m. on school days is one of the major causes of congestion.”
- “Mostly DON'T want a transition from 5 to 3 lane since it creates such a bottleneck and as a resident of the area already have to deal with that on 213 which is most unpleasant.”



Considerations



Tradeoffs – Number of Lanes

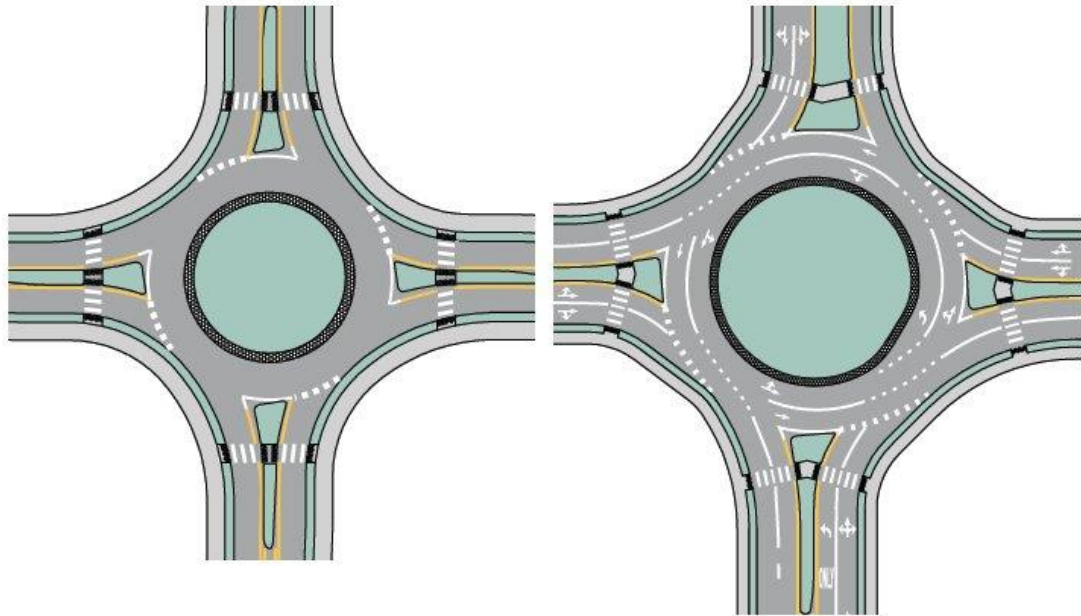
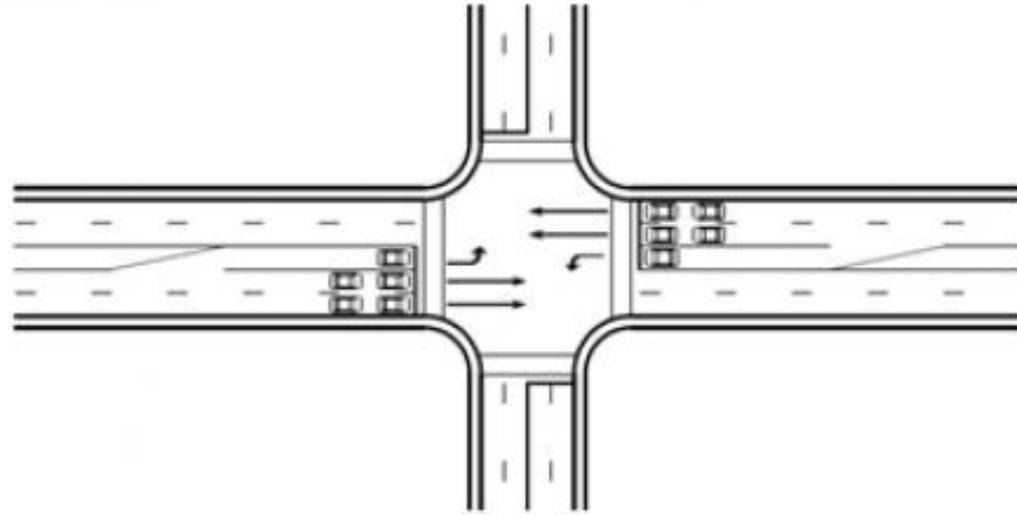


Addressing Future Growth



**Future Major Transportation
Projects**

Intersection Control

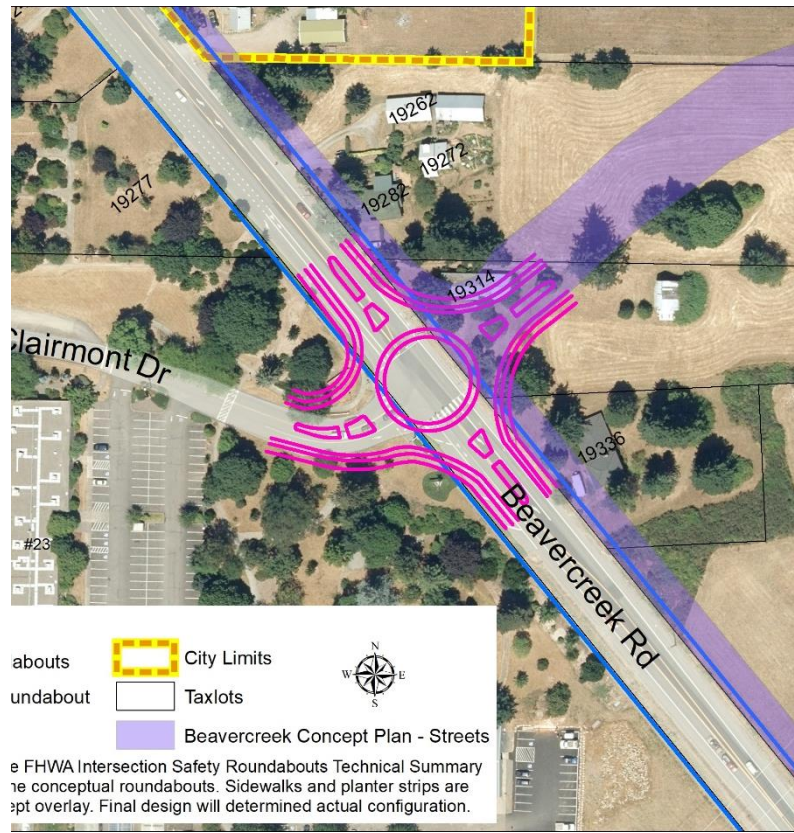


3- LANE ROUNDABOUT

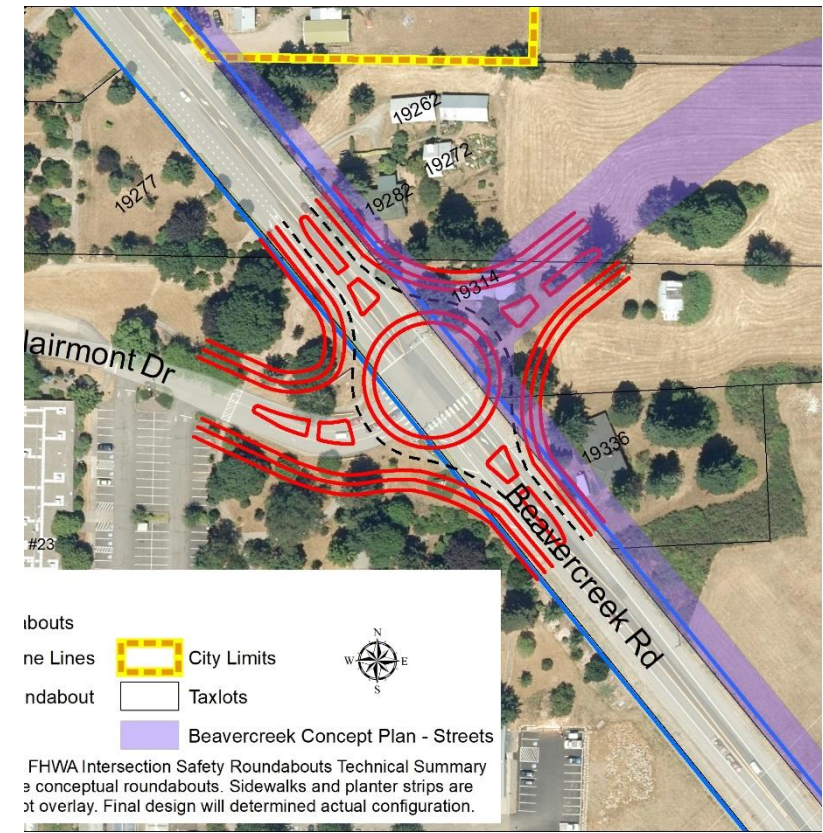
5-LANE ROUNDABOUT



Existing



3-Lane

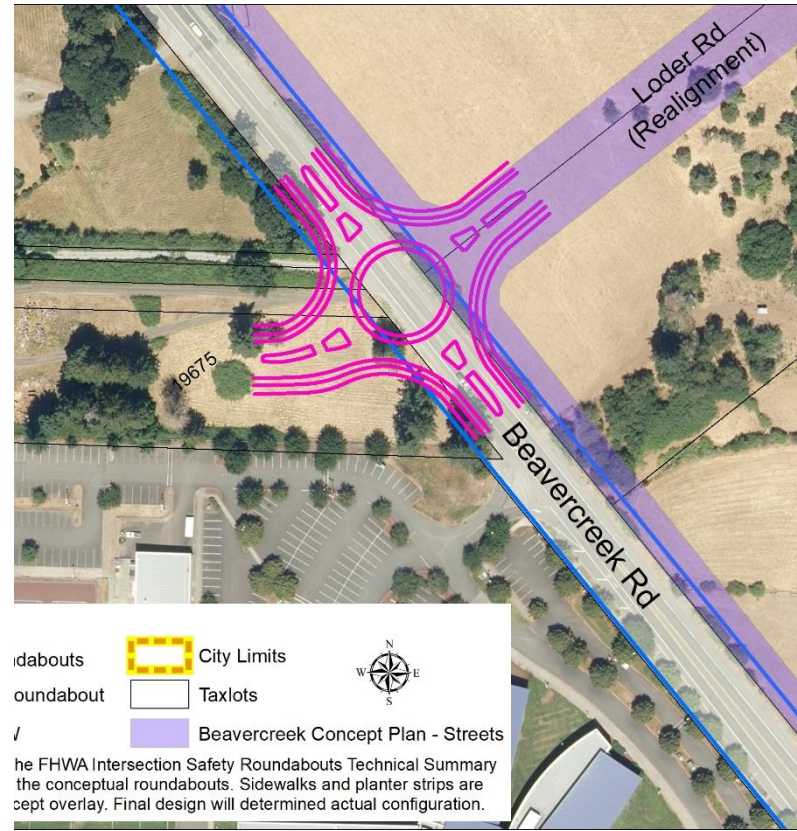


5-Lane

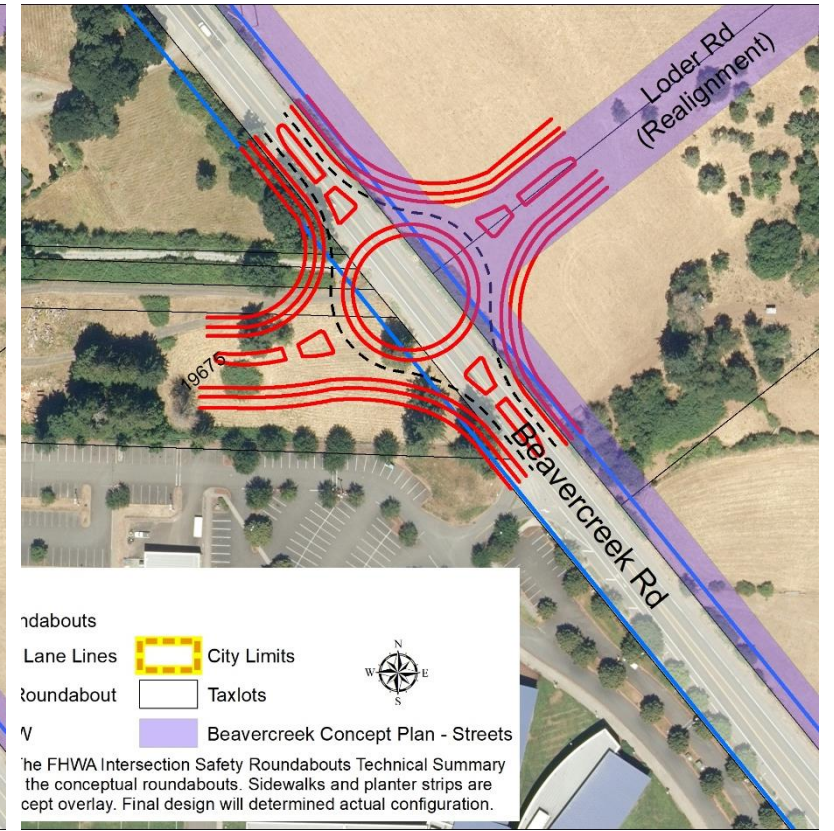
Clairmont Drive and Beaver Creek Road



Existing



3-Lane

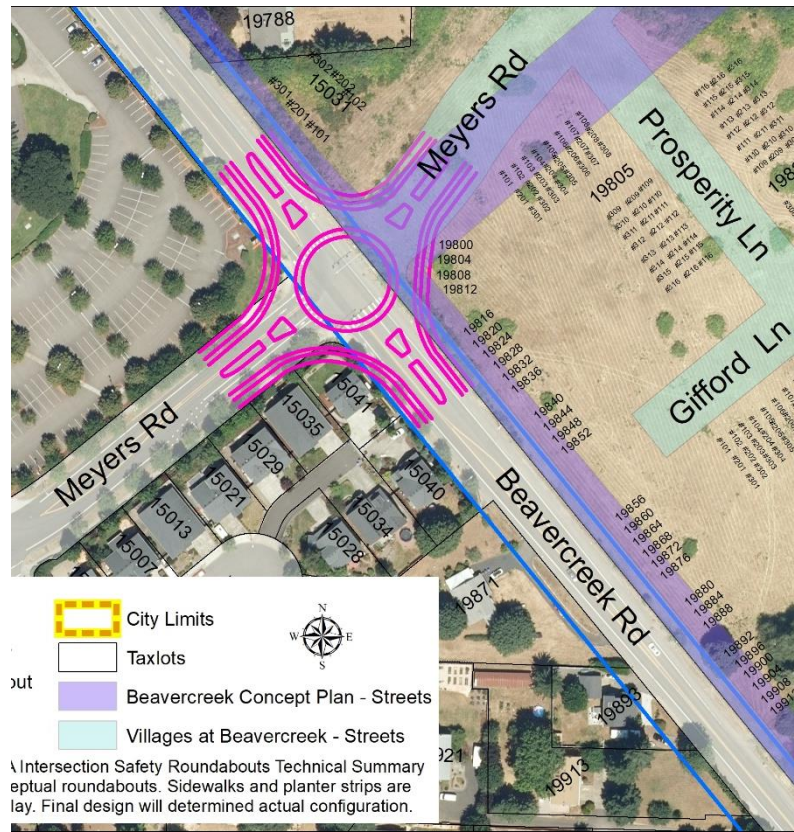


5-Lane

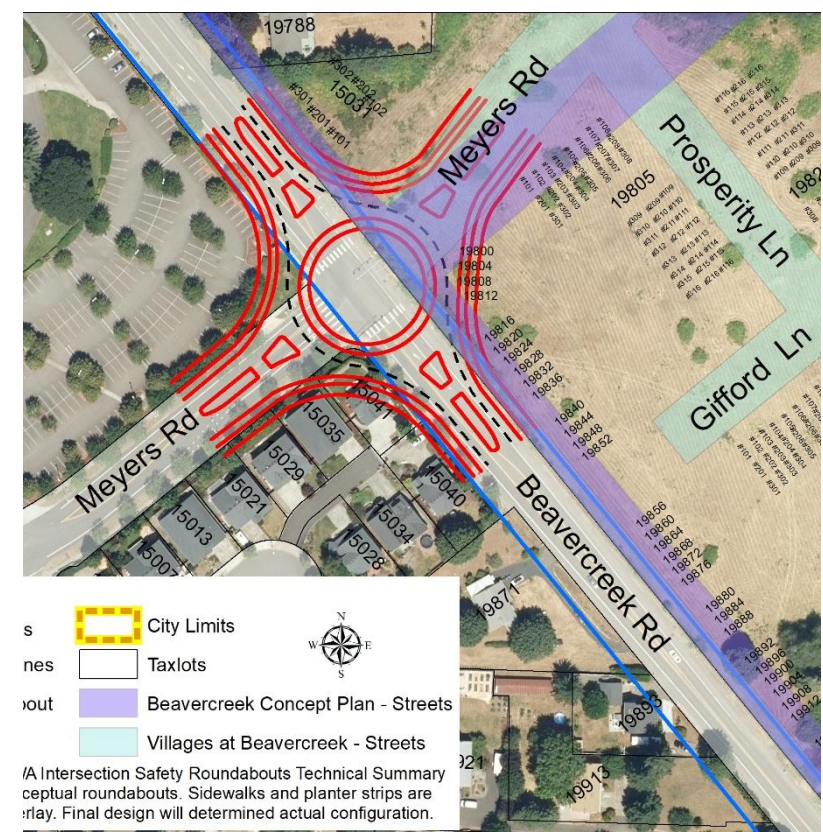
Loder Road and Beavercreek Road



Existing



3-Lane

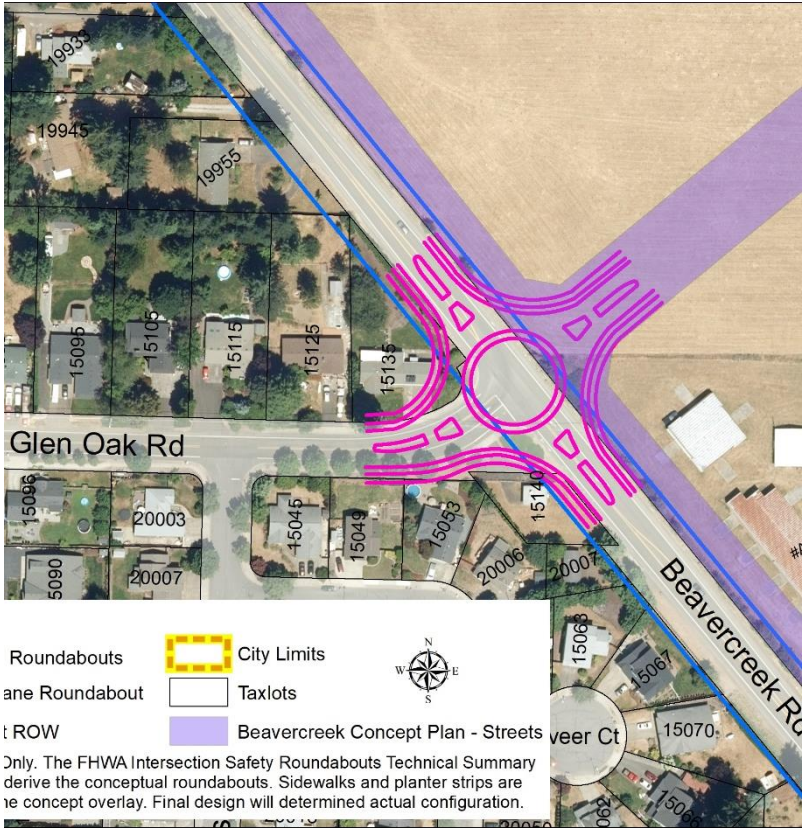


5-Lane

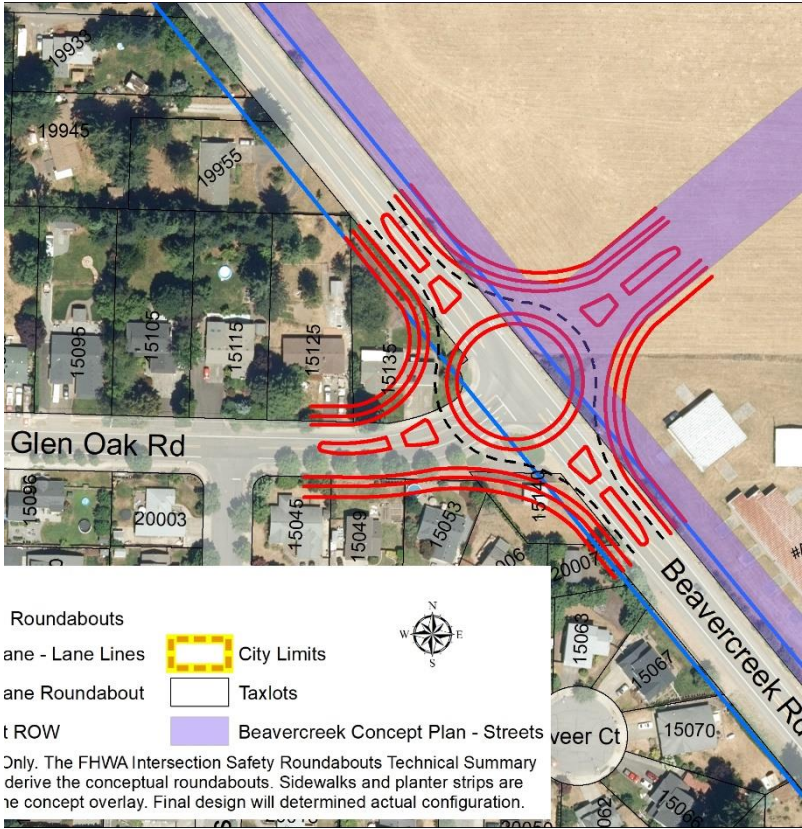
Meyers Road and Beaver Creek Road



Existing



3-Lane



5-Lane

Glen Oak Road and Beaver Creek Road

Conceptual Cost Estimates

Beavercreek Road Options

Adopted 3-Lane
90 feet wide ROW

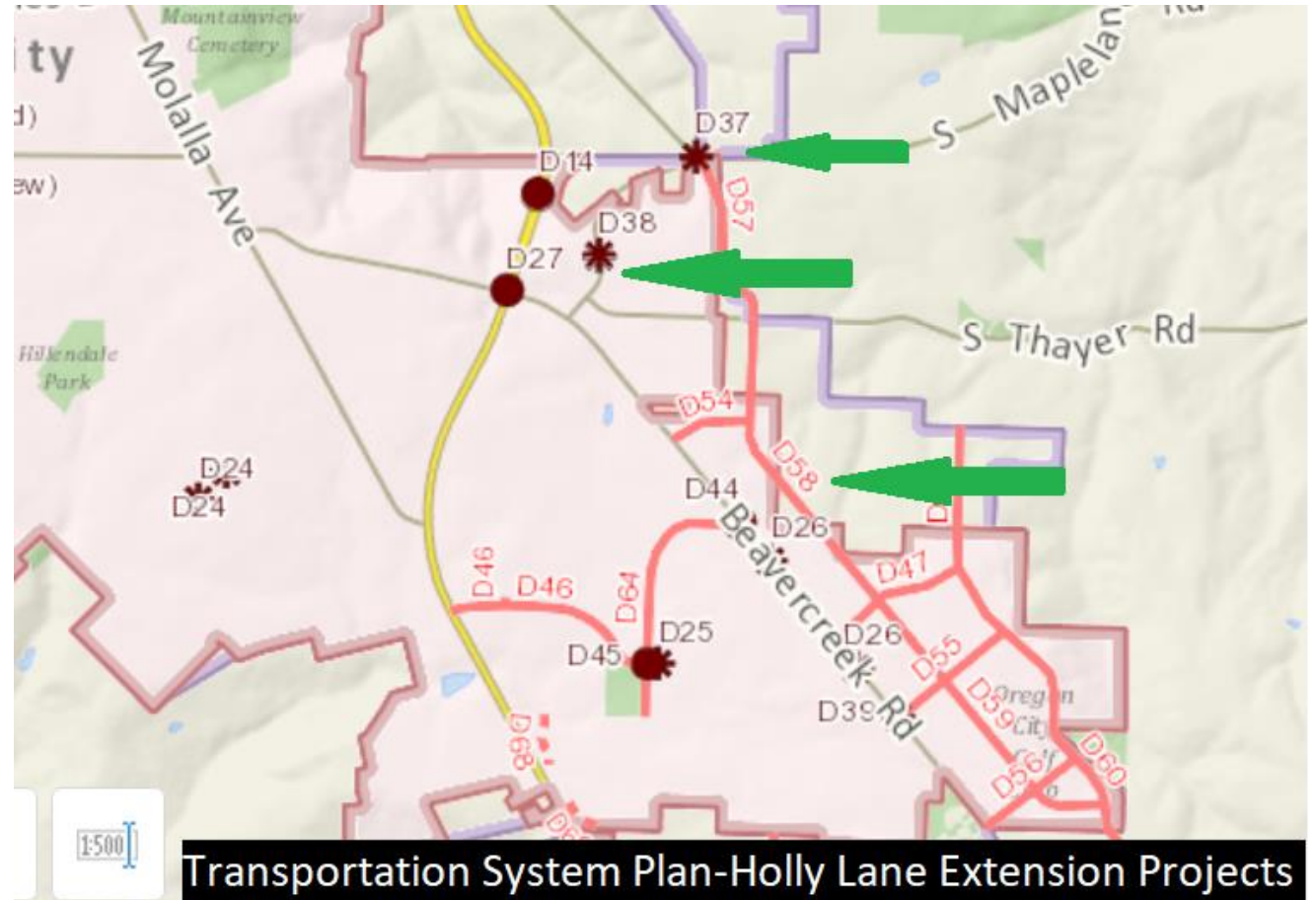
Optimal 3-Lane Roadway
76 feet wide ROW

Optimal 5-Lane Roadway
100 feet wide ROW

Signals	\$26M	\$22M	\$34M
Roundabouts	\$32M	\$29M	\$48M

Holly Lane Extension- Alternate Mobility

- Removing Holly Lane extension projects from the TSP would require the City to revise the alternate mobility target and provide an alternate project that meets or exceeds the benefit of the Holly Lane extension.
- Staff is currently unable to identify an alternate project which is affordable and has not allocated funding or staff time towards the creation of such an alternative.
- The city must continue work with Clackamas County on the implementation of the Holly Lane connection and believes that the project is an important alternate route to the system to ease congestion in this area.



D37- roundabout at Maple Lane and Holly Lane
D83- Holly Lane -improve cross-section from Redland Road to Maple Lane
(joint County TSP project)
D57 & D58 new collector road

Funding Large Scale Improvements



Developer Funded



Local Improvement District (LID)



Urban Renewal



Grants



Area-specific Transportation System Development Fee (SDC).



Jurisdictional Transfer

Staff Recommendation



**How many lanes should
Beavercreek Road be within the
Concept Plan corridor?**

**A transitional section extending the
existing 5 lane section near Maple Lane
and transitioning to a 3- lane section at
Loder Road.**

Staff Recommendation



**What type of intersections should
Beavercreek Road have within the
Concept Plan corridor?**

Traffic signal

Staff Recommendation



Should the City renegotiate with ODOT to revise the Alternate Mobility Standard by removing Holly Lane connections from Transportation System Plan (TSP)?

No

Staff Recommendation

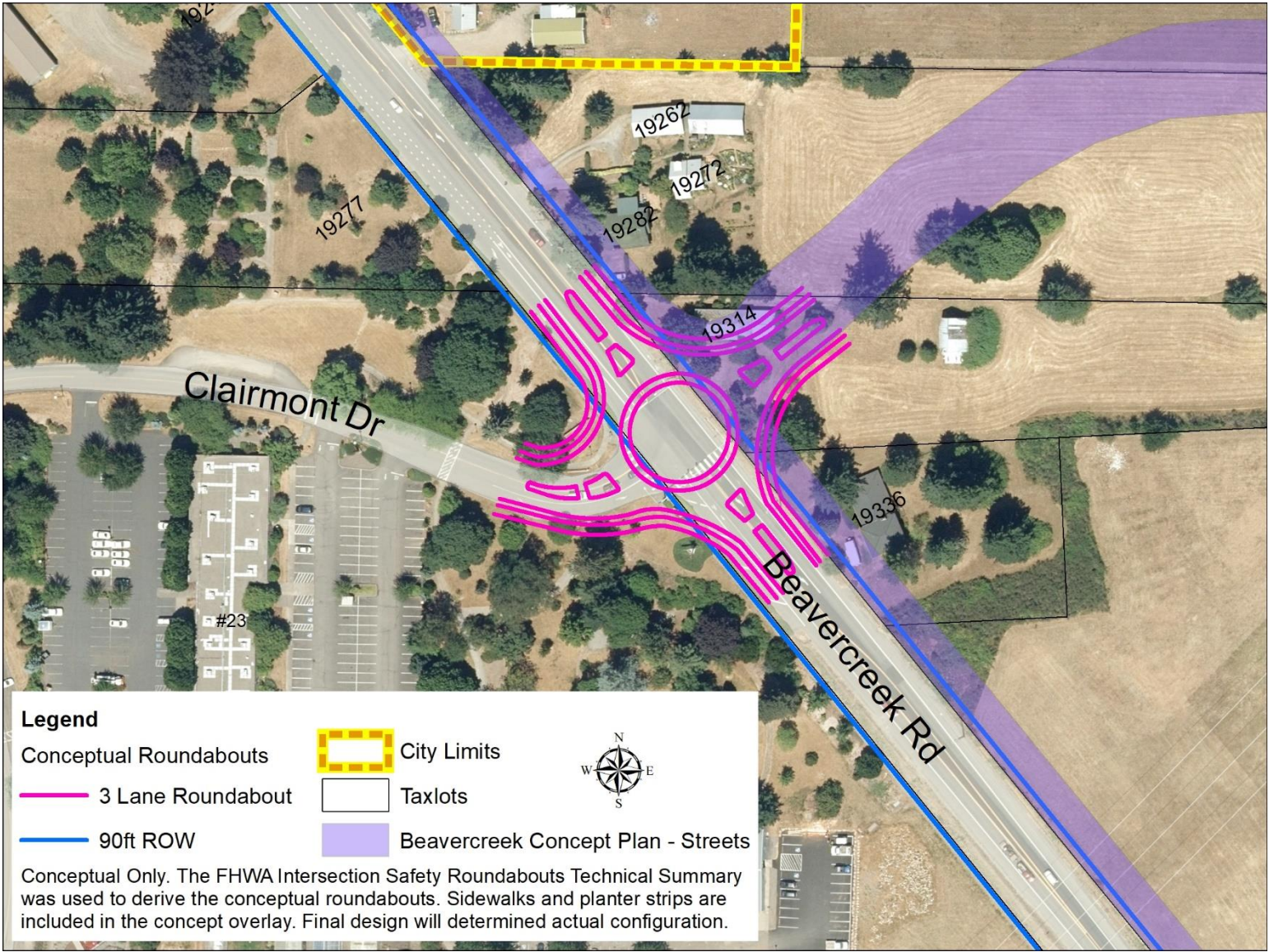


Should Beaver Creek Road along the Concept Plan corridor be constructed by developers incrementally as development is built or pursued as a capital improvement project all at once?

The roadway should be constructed incrementally as development occurs.

Questions and Next Steps

Clairmont Drive and Beaver Creek Road

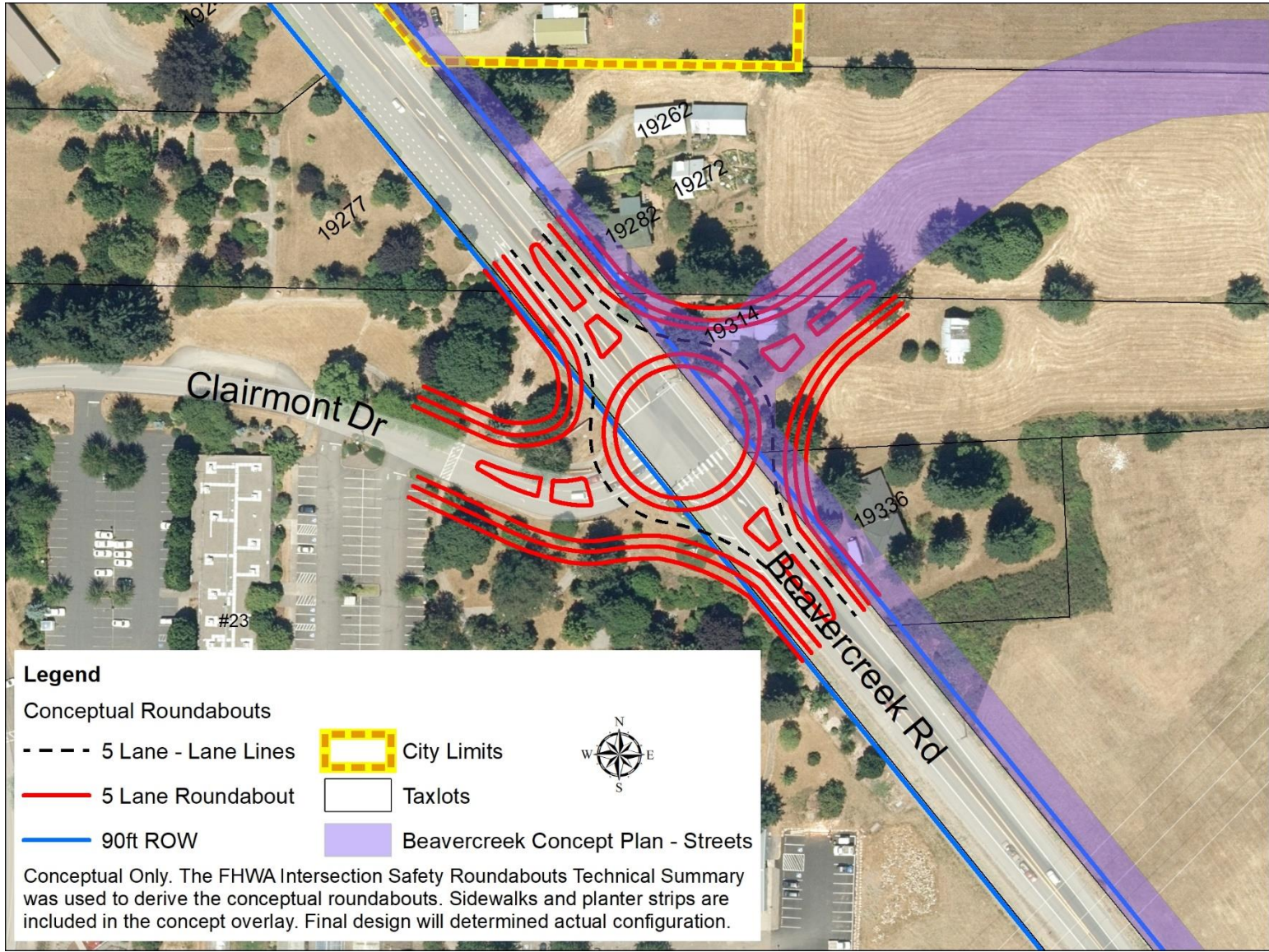


3-Lane Roundabout

Land acquisition implications: Property not part of a land use application would need to be acquired prior to construction. These could include portions of Clackamas Community College Property abutting Clairmont Drive & 19314 Beavercreek Road.

Alignment considerations: The roundabout is currently centered on the intersection. The Clairmont Drive intersection is currently not built out, which provides more opportunities to identify a design and construct a roundabout without impacting existing development and structures.

Cost considerations: The footprint and property required for a 3 lane roundabout is larger than is required for a signalized intersection. The cost is also greater for a 3 lane roundabout than a signalized intersection.



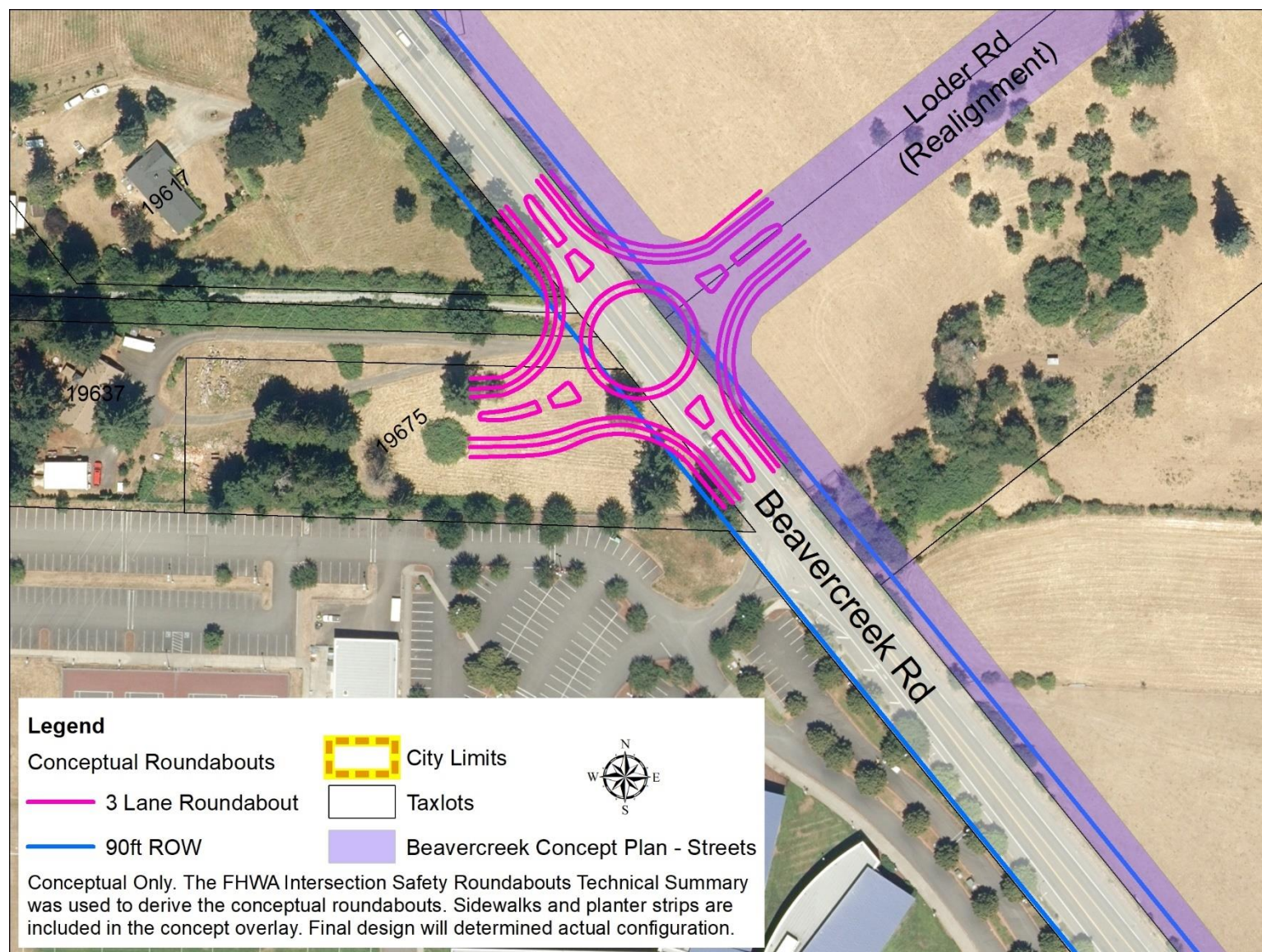
5-Lane Roundabout

Land acquisition implications: Property not part of a land use application would need to be acquired prior to construction. These could include portions of Clackamas Community College Property abutting Clairmont Drive & 19314 Beavercreek Road.

Alignment considerations: The roundabout is currently centered on the intersection. The Clairmont Drive intersection is currently not built out, which provides more opportunities to identify a design and construct a roundabout without impacting existing development and structures.

Cost considerations: The footprint and property required for a 5 lane roundabout is larger than is required for a 3 lane roundabout. The cost is also greater for a 5 lane roundabout than a 3 lane roundabout or signalized intersection.

Loder Road and Beaver Creek Road

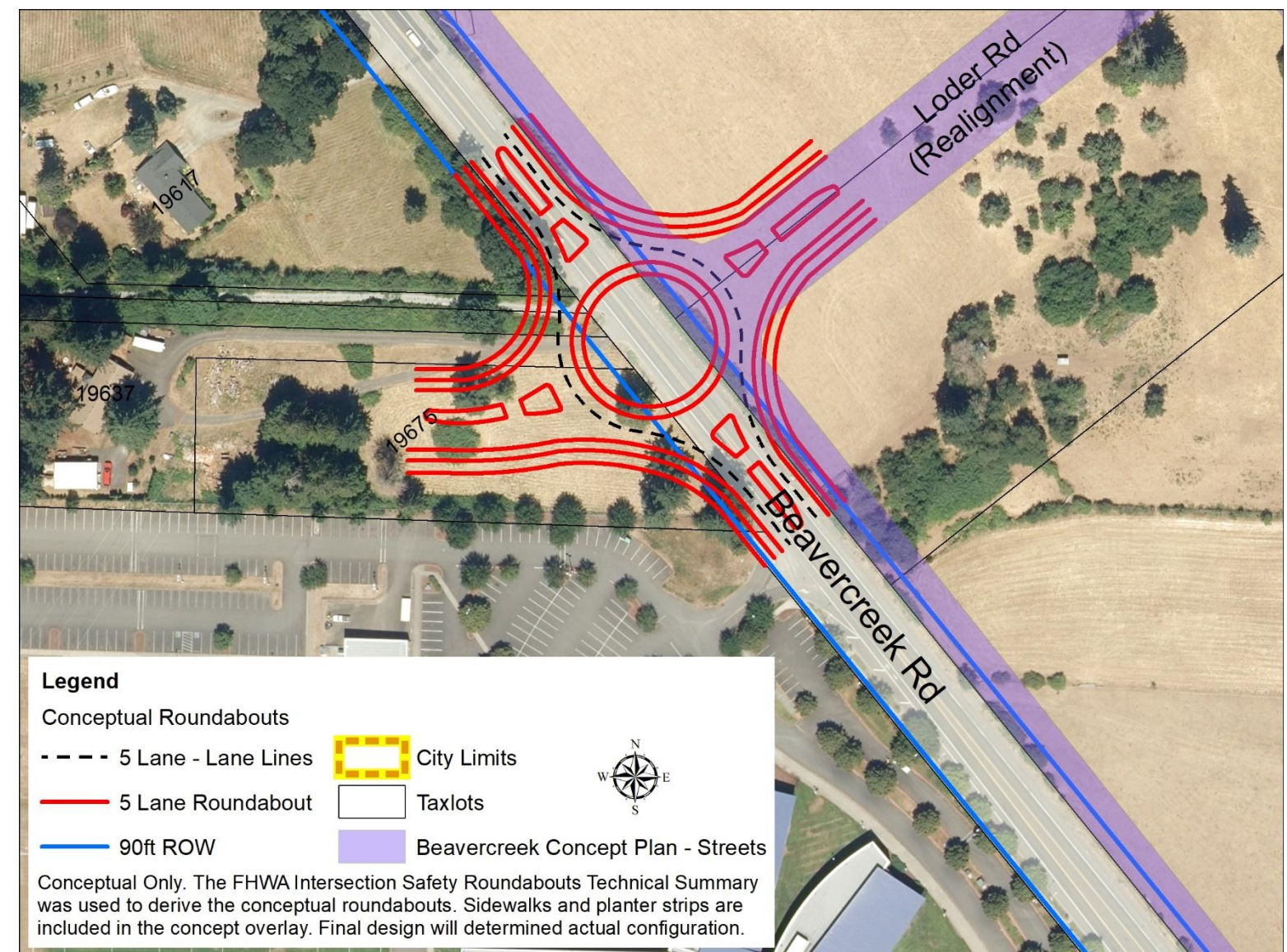


3-Lane Roundabout

Land acquisition implications: Property not part of a land use application would need to be acquired prior to construction.

Alignment considerations: The roundabout is currently centered on the intersection. The Loder Road intersection is currently not built out, which provides more opportunities to identify a design and construct a roundabout without impacting existing development and structures.

Cost considerations: The footprint and property required for a 3 lane roundabout is larger than is required for a signalized intersection. The cost is also greater for a 3 lane roundabout than a signalized intersection.



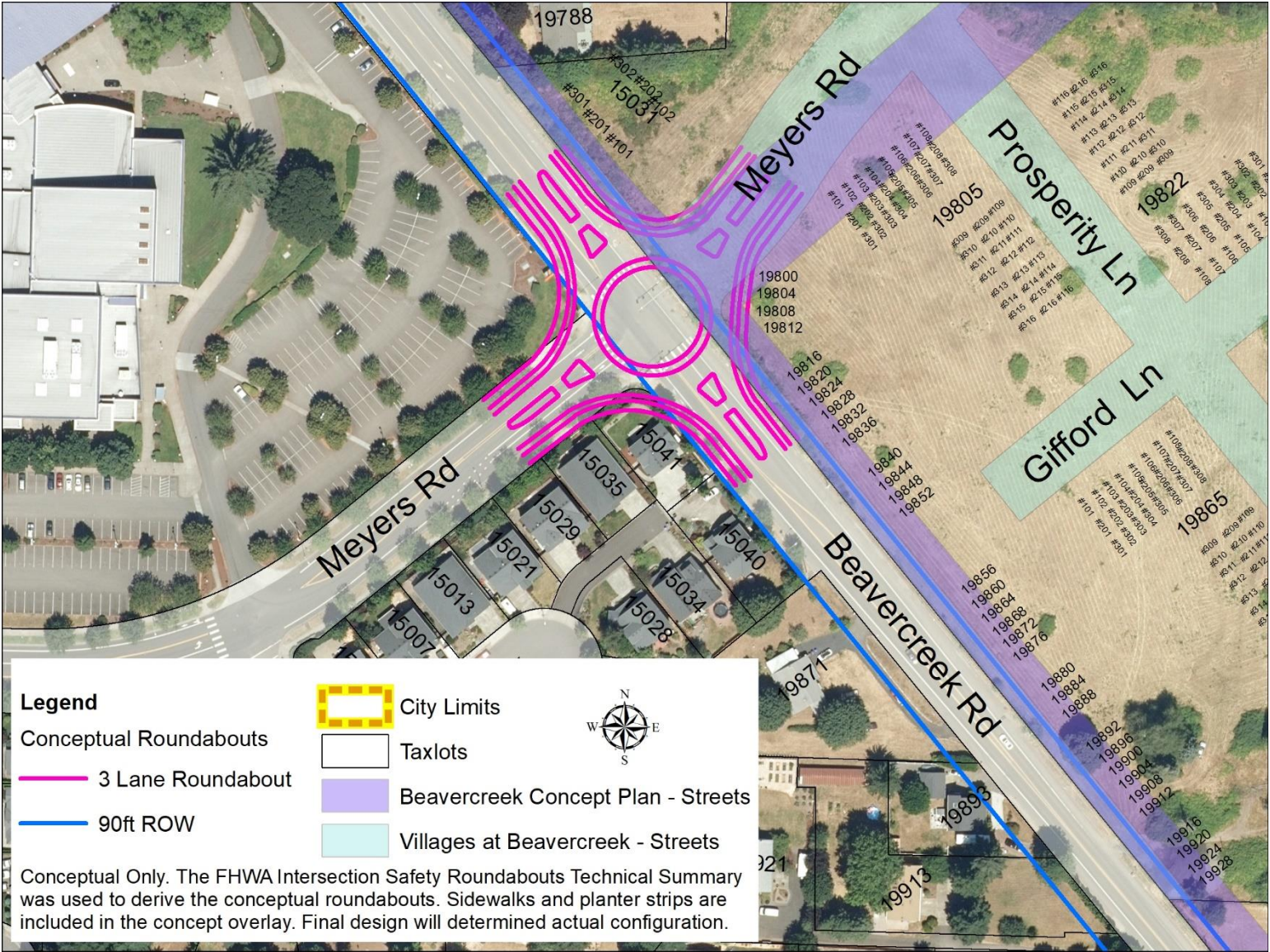
5-Lane Roundabout

Land acquisition implications: Property not part of a land use application would need to be acquired prior to construction.

Alignment considerations: The roundabout is currently centered on the intersection. The Loder Road intersection is currently not built out, which provides more opportunities to identify a design and construct a roundabout without impacting existing development and structures.

Cost considerations: The footprint and property required for a 5 lane roundabout is larger than is required for a 3 lane roundabout. The cost is also greater for a 5 lane roundabout than a 3 lane roundabout or signalized intersection.

Meyers Road and Beaver Creek Road

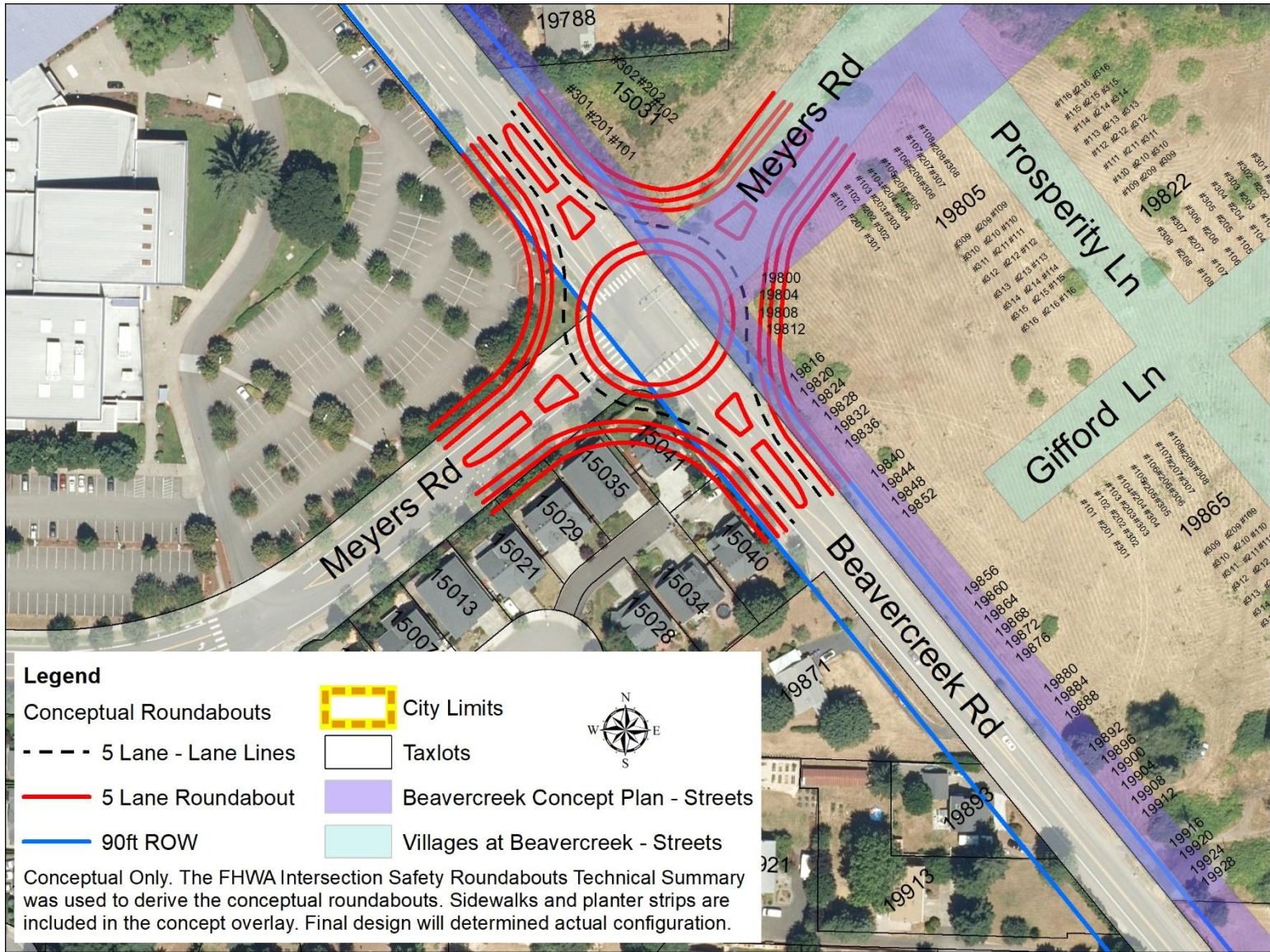


3-Lane Roundabout

Land acquisition implications: Property not part of a land use application would need to be acquired prior to construction these could include portions of Oregon City High School parking lot, 15041 & 15035 Emerson Court, and some portions of approved but not built Villages at Beavercreek Apartments located southeast of the intersection.

Alignment considerations: The roundabout is currently centered on the intersection. The Meyers Road intersection is fairly built out, which provides few opportunities to identify a design and construct a roundabout without impacting existing development and structures.

Cost considerations: The footprint and property required for a 3 lane roundabout is larger than what is currently available with the signalized intersection. The cost is also greater for a 3 lane roundabout than a signalized intersection.



5-Lane Roundabout

Land acquisition implications: Property not part of a land use application would need to be acquired prior to construction these could include portions of Oregon City High School parking lot, 15040, 15041 & 15035 Emerson Court, and some portions of approved but not built Villages at Beavercreek Apartments located southeast of the intersection.

Alignment considerations: The roundabout is currently centered on the intersection. The Meyers Road intersection is fairly built out, which provides few opportunities to identify a design and construct a roundabout without impacting existing development and structures.

Cost considerations: The footprint and property required for a 5 lane roundabout is larger than is required for a 3 lane roundabout and a signalized intersection. The cost is also greater for a 5 lane roundabout than a 3 lane roundabout and a signalized intersection.

Glen Oak Road and Beaver Creek Road



3-Lane Roundabout

Land acquisition implications: Property not part of a land use application would need to be acquired prior to construction. These could include portions of 15135 & 15140 Glen Oak Road (CRW Pump Station), 15053 & 15049 Homestead Drive.

Alignment considerations: The roundabout is currently centered on the intersection. The Glen Oak Road intersection is fairly built out, which provides few opportunities to identify a design and construct a roundabout without impacting existing development and structures.

Cost considerations: The footprint and property required for a 3 lane roundabout is larger than what is currently available with the signalized intersection. The cost is also greater for a 3 lane roundabout than a signalized intersection.



5-Lane Roundabout

Land acquisition implications: Property not part of a land use application would need to be acquired prior to construction. These could include portions of 15125, 15135 & 15140 Glen Oak Road (CRW Pump Station), 15045, 15053 & 15049 Homestead Drive and 20007 Beaver Creek Road.

Alignment considerations: The roundabout is currently centered on the intersection. The Glen Oak Road intersection is fairly built out, which provides few opportunities to identify a design and construct a roundabout without impacting existing development and structures.

Cost considerations: The footprint and property required for a 5 lane roundabout is larger than is required for a 3 lane roundabout and a signalized intersection. The cost is also greater for a 5 lane roundabout than a 3 lane roundabout and a signalized intersection.



Oregon

Kate Brown, Governor

Department of Transportation

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FAX (503) 731.8259

11/4/19

City of Oregon City
Community Development Division
PO Box 3040
698 Warner Parrott Rd.
Oregon City, OR 97045

ODOT Case No: 9386

Subject: Beaver Creek Road Concept Plan Traffic Analysis

Attn: Christina Robertson-Gardiner, Senior Planner

We have reviewed the applicant's proposed Oregon City Beaver Creek Analysis from DKS Associates dated August 6, 2019. The Oregon City Commission is holding a work session on November 12th and ODOT would like to provide some context regarding the Holly Lane extension between Maple Lane Rd and Thayer Rd.

The traffic study relies on an alternative mobility target for the Highway 213/Beaver Creek Rd intersection to show that the transportation system can accommodate proposed land use changes in the Beaver Creek Road Concept Plan area. The Transportation Planning Rule (OAR 660-012) requires Cities to adopt transportation system plans to support the planned land uses in their comprehensive plans. The adequacy of the transportation system is measured with mobility targets found in the Oregon Highway Plan (OHP). OHP policy 1F.3 allows Cities to adopt alternative mobility targets "where it is infeasible or impractical to meet the mobility targets".

Oregon City and the Oregon Transportation Commission adopted an alternative mobility target for the Highway 213/Beaver Creek Rd intersection in 2018. That target relies on the Holly Lane extension as a key parallel route in the Highway 213 corridor. If this connection is not included in future plans, the alternative mobility target would be jeopardized, the transportation system plan would need to be updated, and development in the area, including the Beaver Creek Road Concept Plan, may not be able to be implemented as envisioned. While this connection may be difficult to complete in the near term, in the future it will provide essential connectivity for all modes of transportation in the community.

Thank you for providing ODOT the opportunity to participate in this review. If you have any questions regarding this matter, please contact me at 503.731.8234.

Sincerely,

A handwritten signature in cursive script, reading "Seth Brumley".

Seth Brumley
ODOT Senior Planner

C: Avi Tayar, P.E., ODOT Region 1 Traffic



Beavercreek Road Concept Plan- Beavercreek Road Design Survey

October 24, 2019 to November 11, 2019

Transportation decisions often involve tradeoffs, knowing that price may be a limiting factor, what elements of Beavercreek Road are important to you?

	Very Import	Somewhat Important	Important	Not Important	Not Important At All
Pedestrian safety	106	20	32	4	3
Bike safety	77	30	37	11	8
Aesthetics/creating a sense of place	36	36	51	30	6
Reducing vehicle congestion	121	31	15	3	1
Ease of long term maintenance	54	44	56	10	2
Ease of crossing Beavercreek Road	70	39	37	12	4

Would you prefer using roundabouts or traffic signals along this section of Beavercreek Road?

Traffic signals 79

Roundabouts 93

Would you prefer seeing a 3-lane section, 5-lane section or a transition from 5-lanes to 3 lanes along this section of Beavercreek Road?

3-lane section the length of the Concept Plan boundary (Clairmont to southern golf course boundary) 48

5-lane section the length of the Concept Plan boundary (Clairmont to southern golf course boundary) 86

A transition from a 5-lane section to a 3-lane section somewhere along the length of the Concept Plan boundary (Clairmont to southern golf course boundary) 33

Tell us some information about you (click all that apply).

I am a resident of Oregon City	120
I am a resident of Clackamas County	116
I am a resident of the Caufield Neighborhood	38
I have a child enrolled in the Oregon City School District	49

(*Please note that the 1st 25 respondents were unable to chose more than once option)

Can you let us know what factors led to your decision (# of Lanes)?

The 5 lane transition would be a nightmare in congestion at the transition point. Oregon City residence have yet to absorb the zipper concept as you can see on Hwy 213 at Meyers.

Beavercreek needs a full 5 lanes for current and future traffic. Traffic only backs up when transitioning to fewer lanes. Learn from ORE 213.

Transition from 5 lane to 3 lane at Glen Oak. Most of the traffic on Beavercreek goes to the school and Glen Oak. If there is a round a bout at Glen oak and it transitions down to three anes going forward from glen Oak that would make the most sense. Trying to transition down to two lanes at the southern end by the gulf course would cause a major backup with the light at Henrici.

Overall traffic congestion improvements, including high school, CCC and daily commuter flow

Minimize the adverse impact that the overall Plan will have to traffic.

Due to the present and anticipated traffic volumes, vehicle left turns off of Beavercreek will be a problem. Referencing the experience with Molalla from Warner Milne to Division, when it was four lanes (with no center turn lane) rear end accident rate was high. The three lane section reduced that rate.

Also with 4 travel lanes it encourages drivers to "lane shift" to maintain a higher overall velocity.

1. The solution should respect the pre-existing through traffic that predates this concept plan proposal and even predates much south Oregon City development. Staff has on occasion called slowed traffic a solution -- the public does NOT agree; both neighborhood and regional traffic does not like wasting time nor wasting carbon dioxide in an inefficient transportation system. Slow downs also affect emergency vehicles like police, fire and ambulances and put people's lives in danger.
2. Cost should not be a factor as it is in the introduction "Every year there are more projects than budgeted funds." Really this statement means that the governments being discussed have not properly adjusted their System Development Charges for local and regional road improvements although Oregon law provides for both. Adjust the System Development Charges so that the road system is NOT degraded by this development. Growth should pay its own way. It should be a net benefit to the city. It should not require the subsidies and the life deterioration of the city's residents.
3. A 5-lane road, when needed, can have a "sense of place", a sense of beauty and tranquility e.g. if the landscaping is so construed.
4. If road speeds make bicyclists uncomfortable, as stated, (and many unwilling to bike), then the bike lane separation needs to be increased (whether by a greater distance or by a hump or curb or whatever it takes) especially in this area where cycling is supposed to increase.
5. Ordinary speakers of English interpret the City Comprehensive Plan and Code to require that "livability" in the city is protected; this potential development should not make life more inconvenient nor time-consuming or hazardous or frustrating or unpleasant for road way users.
6. Road way users should not have the continuous feeling that the road is over-crowded, over-capacity, that

they are put upon, that life is annoying frustrating, a headache, that the city staff didn't do their job, that they should throw them all out. The traffic experience should not even be noticeable "livable" so the person can focus on the rest of their day.

7. The Oregon City Code provides for 5 lane roads for major arterials for a reason and that reason is valid here. Unless necessary I don't see the need for five lands across the entire plan. If the traffic demand increases I would expect the plan to be expanded to be all five lanes. Having five lanes I would expect to have less congestion as there's no flow restriction other than the traffic light.

Reduce speeding

I am fine with either a 3 lane or 5 lane as long as the idea is also for long term growth in that area and the ability to allow cross streets like Glen Oak to be able to turn and sidewalks for pedestrians.

I used to live near a four lane road. That one was changed to one lane in each direction, a center turn lane (and bike lanes.). Traffic, surprisingly, moved better after that change as the left turners we're out of the way.

I would not like to see Beavercreek become a high speed highway.

It sounds as if the traffic studies completed do not recommend a 5-lane cross section. This seems overkill, especially given the future transportation projects mentioned above. I do feel that the posted 20 mph speed limit during 7-5 p.m. on school days is one of the major causes of congestion. I also think that a traffic study that is 11 years old, should be revisited and refreshed before making a decision. Perhaps the High School speed zone can be reevaluated when the study is revisited?

It seems like it would be confusing to transition the lanes from 3 - 5 lanes.

There would be better visibility with 3 lanes, and less potential for accidents. the current traffic loads at 630a-8a and 3p-5p can be significant between 213 and Henrici and if more traffic is going to be dumped in this area more lanes are needed

I have a bias toward prioritizing bike and pedestrian facilities and safety. 3 lanes is ideal for a safe road that is a real destination rather than a stroad.

Too busy as it is right now. Traffic congestion will increase shortly

traffic is already a problem by the high school to 213. The number of vehicles joining the traffic flow from the new development will make it impossible to get to 213 in the mornings without several more lanes including merging lanes onto 213.

from OCHS to Hwy 213 needs 5 lanes with all the growth planned in that corridor.

Having to wait 30 - 45 seconds for traffic to clear during morning commute hours and having to be in long lines of cars and missing traffic lights (chiefly at Meyers Road). And I remind you, that this is BEFORE any development of businesses or retail stores in the Thimble Creek Business Park. Why did Kruse Way in Lake Oswego have to be 5 lanes? I submit that it was because it was a main thoroughway from I-5/Hwy 217 into Lake Oswego. Beavercreek Road is a similar thoroughway.

Build for the future not the next 10 years.

Less land used and less traffic

Mostly DON'T want a transition from 5 to 3 lane since it creates such a bottleneck and as a resident of the area already have to deal with that on 213 which is most unpleasant. If a protected ped/bike lane is incorporated and other improvements are actually made such as the free flow right turn lane, this might be enough.

I don't think 5 lanes are necessary the entire distance given the increased speed issue stated in your concerns above and with the Myers Rd adjustment, there should be alternate routes to get where you want to go. I am all for promoting walking and biking!

Traffic is already at a standstill during main commute hours

Please see my additional comments. I am concerned that there is little language in your plan thus far to include making the area a neighborhood that is not only safe but enjoyable to walk and bike around. With the parklike setting of CCC and the high school fields, you should consider ways to provide community walking access across beavercreek road.

Making a compromise between traffic congestion and the cost of construction and maintenance

This section of Beavercreek has substantial backups in peak hours due to the lack of lanes. This could prohibit freight along this corridor. A 5 lane section will provide opportunity for freight. It may be reasonable to transition to a 3 lane road at some point depending on projections that a traffic consultant could provide.

Increase density with apartment, truck traffic, bike and walking paths

I guess I need to leave that to the traffic experts.

Threat of even more than current congestion.

Consistency seems to help the flow

OC is not going to stop future growth along BC Rd. There are no other access roads to get to 213 from Beavercreek due to topography and existing housing. This road will only get busier. Build it out for the future, not just for today.

Since I drive daily on Beavercreek Road and time my driving to avoid school congestion, I believe the road from Clairmont to Glen Oak really must be five lanes wide. South of Glen Oak towards Henrici there should be a transition to three-lanes. The right-of-way there seems to be adequate for future expansion if it become necessary. The 20-mile-an-hour speed limit in front of the High School during school days significantly hampers traffic on Beavercreek Road. The bottlenecks on Beavercreek Road occur at Meyers Road during school hours (7am to 5pm) September-June, and at Marjorie Lane north of Clairmont due to stacking at Maple Lane and Highway 213 in the mornings, from 7:00 to 9:30 am all year. I have lived here for twelve years and do not witness excessive speed on Beavercreek Road, except when school lets out and the teenagers are turned loose.

A 3-lane section could reduce the amount of total traffic that uses Beavercreek Rd. A 3-lane section will also allow for more space for sidewalks and bike lanes improving the overall safety of the corridor.

Do not want more people driving along here. Want pedestrian, bike safety (alternate transportation than cars) to be safe. Would like better shoulder especially by the golf course but not more lanes. More lanes are much more dangerous for pedestrians and bikes.

As a cyclist and pedestrian, a 3-lane section is safer for me than a 5-lane section. The 3-lane section is also safer for all other road users. While motorists may think widening the road to a 5-lane section will speed up their trip, induced demand has shown repeatedly that the long-term result of widening the road is a similar or worse level of service. Please do not widen the road to 5 lanes!

Whenever there is lane merge/reductions traffic congestion's and if we can mitigate the reduction more smoothly traffic will flow better.

Building for the future, not for right now

Seeing what works

I don't want to see any more left hook pedestrian fatalities. They are life changing events and we can not have any more simply because people fear change.

Construct as 3-lane but allow room for future 5-lane development as growth increases.

the transitions can be tricky for traffic backup.....ie, the "Zipper" on 213.

This is a busy road and congestion is a problem.

This is a busy road and congestion is a problem.

I would prefer that any roads be over-built for the plan rather than having to be redone in 10 years so my initial thought was the 5 lanes all the way but it seems silly to go from 5 lanes to two so a gradual transition seems best.

Plan for the future! As the area develops be prepared for the increased traffic/congestion
Agree that more lanes, while convenient, would lead to more people choosing that route. Let the new upcoming road connectors take care of the congestion.

Because the more lanes the better. Transition lanes just creates back up and bottlenecks. OC is already getting crowded.

Portland epitomizes how to underlane development. Thats all the evidence needed. Take a look at Division st, Holgate Blvd, and so many other examples. Don't do that.

Beavercreek Road is already very busy and traffic is horrible around the time I pick up my high school student. Having more lanes would help with the congestion of cars.

I would like to see more consideration on Hwy 213 improved flow. If Beavercreek Road is changed to a 5 lane road then it will become the desired route instead of Hwy 213.

I think 5 lane at least to the high school. Traffic decreases south of Myers Road, so could go either way from there.

The new developments in the BCDP will lead to higher population density in the planned area. In addition, Beavercreek Hamlet is also increasing in size with new developments. This section of road will be utilized heavily in the coming 10 years and we should reduce overhead of continued expansion projects by getting the appropriate intersections and lane sizing correct during this initial project. I believe a 3 lane or 5 to 3 lane convergence will need to be upgraded in less than 10 years and the overall cost at that point will be larger than just doing it now.

No feelings.

Provides opportunity for dedicated left and right turn lanes to allow through traffic to be maintained.

Growth will happen, plan for it now.

The area is already congested and backs up from the light at 213 in the morning. More lane options would allow better flow.

this would likely cause more congestion than 5 lanes, but would slow people down and make it faster to cross at crosswalks.

If you go 5 lanes, then it's going to be a bottleneck at the golf course to go back down to less lanes. I live in Beavercreek and would prefer not to have that.

More road and possible bike lanes

Property backs to Beavercreek road in the noted area. Preference to not reduce green spaces between home and road

The 5 lane section will help the most busy area which would allow traffic to better flow through. However, The city has to account for the new business park to get a lot more traffic. Commercial as well as the new residential building on the golf course will warrant 5 lanes.

Speed! Traffic rips along Beavercreek now, I can only imagine how it would be with 5 lanes. How would 5 lanes impact the 20 mph at the High School. Doesn't sound again very bike or pedestrian friendly.

Merging into less lanes causes accidents and slows traffic down even more.

I visualize future grow down Beavercreek Road and if not now, in the future a need for a 5 lane road. If we reduce the road to three lanes at the end of the golf course it would be expectable and future expansion could be added when and if it becomes necessary in the future.

hope to avoid bottlenecks like the one at Meyers and 213 which is a daily occurrence

Traffic is getting heavier and needs more lanes.

It seems to often cities start with the 3 lane, and down the road they need to add lanes. the community is growing fast, development in the proposed corridor, plus the growth outside the city limits warrants a need to move more traffic from point A to point B with less congestion and back up of traffic during rush hours. Single lane with turn lanes backs traffic up for blocks, which tends to irritate drivers and make at times for unsafe conditions.

We need to create enough capacity in the Beavercreek Road Design Plan, that eliminates any and all justification for directing traffic (incidents of travel) in any way to Holly Lane. Holly Lanes cannot be improved to meet the standards of a major arterial, going through multiple known landslide areas. Additionally, incidents of travel are growing exponentially fast east of the Beavercreek Plan area at this time, where a 3 lane Beavercreek Road would have an inadequate capacity as soon as it was built. I have been on the Clackamas County Transportation Commission as part of creating their TSP.

More lanes just make things more complicated

Want to keep traffic flowing but do not want to induce demand for more traffic on an already congested road. An very worried that reading will increase to the point that area becomes unlivable. Do not want to lose the rural/natural areas of Beavercreek road.

I don't want to see Beavercreek road speed up.

No note, just opinion

Expected volume of traffic

Volume of vehicles at slow "School Zone" speeds.

Turning left from a street that isn't at a light is way better with 3 lanes than 5. As long as cars can pull to middle to wait to turn left, it would be better than current.
Traffic congestion currently.

the definitions of roundabouts and number of lane explanations.
Traffic is already heavy along Beavercreek Road. 5 lanes with traffic signals would move traffic well.

Long-term costs. It will only be more expensive to expand from 3 to 5 lanes in the future.

While more complex, I have seen them in place in other areas of Portland and they are functional while allowing more traffic.

Better traffic flow and works with existing roads near 213.

Volume forecasts for Beavercreek Road, especially south of Clairmont, do not warrant a five-lane cross-section, which would significantly reduce safety and ensure the long tradition of car-centric neighborhoods in Oregon City. There are schools and parks west of Beavercreek that should be accessed by families that walk or bike from the new neighborhoods in the concept plan area.

Less pavement is better.

Take a drive on a school day at 7:45am on beavercreek rd starting at the college and driving south. Let me know what you think. It would be great to have that insight when planning your design. Don't let a builder go in and permit him to design a parking lot like oc point. The parking spaces are too cramped.

I've experienced near accidents in 5-lane section roundabouts and think that the 3-lane would be safer and more cost effective all around.

Creating a large shoulder for five lanes would be a happy medium to allow for future expansion to five lanes and start with three lanes the entire length to see how it goes and lower initial investment cost of improvements. Plan for a 5-lane section regardless in terms of right-of-way. Build a 3-lane section where possible if cost is a factor.

Build to road you need for the future today vs going back and widening it later when the Hamlett of Beavercreek becomes the next area to boom.

5 lane has to be very expensive. They would encourage high speeds.

It would add unwanted congestion if traffic went from 5 to 3 lanes...example is the 205 congestion's OC bridge! at th

Hopefully, a transition back to three lanes would be help to some extent to keep development from spreading further towards Beavercreek.

as stated above.

Traffic flow is important.

My kids going to OCHS. Traffic is already bad there at drop off and pick up. I don't want my kids sitting forever in cars waiting to get to and from school.

"the great intellectual black hole in city planning, the one professional certainty that everyone thoughtful seems to acknowledge, yet almost no one is willing to act upon."

3 lanes is just going to extend the morning backup that already exists from 213 back to CCC each morning.

The increased speed issue is more important than the congestion issue.

There is sooo much traffic using that corridor now that a round about would not necessarily, in our opinion, allow for merging in a timely manner to facilitate movement of the less than main traffic flow. And the pedestrian/bike traffic would not necessarily be safer using this area. Necking down lanes only backs up traffic needlessly. Ease of driving

We need to think we'll into the future. 5 lanes are needed. If there's a transition then there will be bottle necks.

Obviously with what is planned, Beavercreek will need to be widened, but it should be done incrementally with development and structured to impact the fewest current residents.

For the amount of construction/congestion being proposed, a 5 lane will be needed in order to keep traffic moving... THAT IS ONLY IF THE HWY 213 AND BEAVERCREEK ROAD INTERSECTION IS FIXED WITH A GRADE SEPARATION. Otherwise 5 lanes will go to a bottleneck and not be helpful at all.

I think consistency is important and reduces confusion.

Can you let us know what factors led to your decision? (Intersection)

There is too much traffic passing through on BC Road and the round about is going to cause congestion. Beavercreek Rd has far too much traffic and delays already, only to install more traffic signals that back up traffic more than it is already.

More traffic lights on beavercreek will not ease congestion, will only make it worse.

Continuous flow of traffic; better flow on stretch between Henrici and Clairmont intersections

Constantly moving traffic.

pedestrians and bikes are slower and need more thought to allow their movement safely across and along the streets.

Roundabouts are not good for this area because 1) they seem more for local traffic as they slow things and they don't respect pre-existing through traffic; 2) make the travel distance longer which people-powered transportation cares about; 3) this area is supposed to increase walking and bicycling; 4) they are confusing and unsafe for pedestrians and bicyclists and the pedestrian feels lost and wants to walk the shortest distance (across the island) and many people are kept from biking by the thought of having to mix with traffic.

I find roundabouts to be effective at reducing congestion and increases driver alertness to yield and look for cars as well as pedestrians.

Roundabouts, as used in Oregon, appear to reduce congestion and are more pleasant than traffic signals. However, for very high traffic flows, roundabouts appear to increase congestion in my experience. Roundabout also are more aesthetically pleasing and encourage a greater sense of community.

I am having a hard time visualizing the roundabouts along Beavercreek with so many driveways. Also, there is so much traffic on Beavercreek that there are times that I can't turn in either direction (also slightly hard to see cars coming from high school towards Henrici because of where the stop line is) for quite some time. If Beaver creek is backed up because of the High School, no one will be able to turn left from Glen Oak to Beavercreek with a round about. Also, there needs to be more of a connection sidewalk for pedestrians. I have seen groups of

High Schoolers running along Beavercreek for track or cross country training and there is no sidewalk or safety space.

Experience with roundabouts. Lights are safer for pedestrians and bikes and easier for drivers when traffic is heavy. If we add the number of people in the plan area to what we already have, we will have heavy traffic...at least at certain times of the day.

Creating a sense of place and 'parkway' feel to Beavercreek Road would be desirable via a roundabout instead of traffic lights. I do have concerns about how pedestrians and bicycles are safely incorporated into a roundabout design. It almost seems as if these two components should be separated from a roundabout design by providing a wide, multi-use path/trail that stretches from the southern extents of the concept plan (S Old Acres Ln) to at least Hwy 213. It could connect to the future Newel Creek Canyon, to other amenities and natural areas within the City, eventually to downtown and the Willamette Falls Riverwalk via the Oregon City Loop Trail!

In some ways the roundabouts seem safer.

the current traffic loads at 630a-8a and 3p-5p can be significant between 213 and Henrici.

I have a general belief that roundabouts are more effective all around. I would defer to experts though. There is presently very little to no pedestrian or bike traffic. Driver ease is better with traffic lights. roundabouts require very more concentration of surrounding traffic.

really might need both what with all the school bus traffic around OCHS.

This is a main throughway (along with Hwy 213) for residents living beyond Henrici Road. Roundabouts are fine on feeder or back road intersections, but not on main throughways - they slow down traffic way too much.

TIMED lights would be appropriate. Keep them few, but of longer length (i.e., only 2 or 3 main intersections with lights, but make them so many cars could get through at the rush hour peaks); If you have 5 lanes (with a turning lane) commuters should be able to use the turning lanes without impeding traffic flow.

Future growth and inclusion of urban reserves first to UGB and then to the city to the south of Beavercreek concept plan will only increase traffic flow through the concept plan. Build for the future not now. Roundabouts take up more land.

I would like to see both. Pedestrian safety by the high school is hugely important and roundabout would not address this, but may be better for traffic flow. If current signal at Meyers Rd is kept for busses and residents of Glen Oak to get in and out but put roundabouts at other road crossings Roundabouts keep traffic flow moving and I would like to see more infrastructure encouraging walking and biking.

in your own words:

"In general, multi-lane roundabouts are not recommended in areas with high levels of pedestrian and bicycle activity because of safety concerns of multiple threat crashes for pedestrians, especially those with visual impairments, and bicyclists."

with the high school adjacent to Beavercreek Rd there will be a large number of pedestrians and bicycles along the roadways during school hours especially if the new complex will house restaurants and coffee shops.

We have got to plan ahead beyond the next ten years towards a time when more and more people will need to walk and bike places. Pedestrian safety is our future, but also our present. I am a daily walker, jogger, who often must cross traffic at bad spots or be on the road without a sidewalk or bike lane. Please plan for people

like myself, and plan for the future and make this a neighborhood area that will attract people who want to live and walk and bicycle here!

Safety for non-motorized travelers is important to me.

A roundabout will negatively impact freight which is necessary for economic development and jobs. Beaver Creek is a road that should have as much through traffic as possible without delays. With the amount of crossings that may occur between potential residential, school and jobs - pedestrians will have safety issues with roundabouts whereas they will have signalized safe opportunities if signalized. Roundabouts do not provide proper safe crossings for bikes or pedestrians especially in heavy traffic volume or speeds which Beaver Creek will have.

Power outages and maintenance

Need to slow traffic at intersection

Safety - though you can't put a crosswalk on a roundabout, can you?

Clarity of a signalized intersection is needed for safety especially considering inexperienced High School-age drivers ... in cars & on bicycles; & pedestrians, too.

5-Lanes on Beaver Creek Rd is absolutely needed to address congestion of future area development growth, College & High School traffic, & much more attractive to prospective buyers of commercial property in this Beaver Creek Rd Concept area.

More attractive and has a community feel

Roundabouts allow for ease of traffic and reduce speeds. Pedestrians will still be able to use the crossing at Meyers Rd to get to/from HS and any shops across the street.

I drive regularly up Stafford Road through the roundabout at Borland Rd. I very rarely encounter excess vehicle stacking at that site. However, the roundabout at Stafford and Rosemont seems to be always difficult to negotiate. At peak times between 3:00 pm and 6:00 pm the traffic headed north on Stafford Road can be stacked up past Johnson Road to the south. This occurs because the majority of traffic coming south on Stafford from Lake Oswego/High School area has priority traveling west to Rosemont and the West Linn housing/business area. Traffic going north on Stafford simply sits waiting for a break. I see this exact problem happening on Beaver Creek Road at /Henrici/Glen Oak/Meyers/Loder if roundabouts are used. My driveway onto Beaver Creek Road is between Meyers and Glen Oak. I sometimes have to wait up to 4-5 minutes to get a break to turn north. Without the traffic lights moderating the flow, I might never get out. With a roundabout at Glen Oak, I am assuming there will be no option to turn north out of my driveway and I will be forced to turn right to go around the roundabout in order to continue north. This would be exactly the problem at the Stafford/Rosemont roundabout.

Traffic signals will allow for safer pedestrian and bicycle traffic. Will also allow for safer methods to cross Beaver Creek Rd. especially in the school zone at the high school.

I do not like roundabouts. I don't think it would work very well on Beaver Creek Road because there is too much traffic.

A well-designed roundabout can improve safety, operations and aesthetics of the intersection.

Roundabouts work better.

Roundabouts are much more efficient for vehicle traffic and would reduce congestion
Roundabouts work very well in Central Oregon

It is already congested Trying to go from 213 to Glen Oak on Beavercreek Road. We need more lanes to help the congestion. Need more lights, especially a light or a roundabout at Glen Oak road. It is going to be difficult to get out with the increased traffic

As a world traveler I see first hand the tremendous safety inherent to roundabouts. They all but eliminate fatalities both traffic related and pedestrian. There is a misconception of confusion associated with roundabouts but they are quickly adapted to. Fear and an anxiety should not be factors associated with road design. The citizens need good leadership and part of that is designing what's best for the citizens.

A 5-lane roundabout seems confusing and would create accidents.

They work well in western Washington County and in the Bend area.

Close to Highschool, so less need to slow down traffic in addition to school zone. Do need access to Beavercreek to Glen Echo signaled for safety.

Traffic signals i feel are a better option. They're less confusing and people usually know how to navigate them.

It's bad enough when people run stop signs and signals. Can you imagine what they'll do when faced with a roundabout!?! The average driver is not accustomed to roundabouts, so be ready for more accidents than normal.

It would really depend on what type of building there will be across from the high school and CCC. If there will be only houses, then most people will use their cars to get places and roundabouts would be better. But if it is going to be mixed use buildings ie mostly houses but some businesses, small stores, fast food places, then lights would be a better option because of the pedestrian traffic from the schools and houses.

roundabouts keep traffic moving reducing backups
Experience driving that road, and experience with roundabouts in other areas.

When people know how to use roundabouts they ease waiting and keep the flow going. It's just a steep learning curve and with a lot of new drivers along Beavercreek due to the HS some community education needs to happen.

Because there is always flowing traffic. Beavercreek Rd & 213 get too backed up ie signal lights. In my whole driving life I have never seen a backup through a roundabout. I have also never seen a crash at a roundabout. They are safer.

Roundabouts are remarkably efficient and convenient. Traffic flows constantly by design as opposed to lighted intersections. Having driven through western Europe, I am a roundabout fan.

Roundabouts are confusing sometimes on which way you can turn. That could slow down traffic even more on Beavercreek Road.

The traffic now on Beavercreek road is very congested in the AM and PM commutes. The right turn lane from Beavercreek Rd to Hwy 213 should have a lane to merge which would reduce congestion in the area. Also the left turn from Hwy 213 onto Beavercreek Road is dangerous in the commute as the left turn onto Maple Lane backs up onto Hwy 213. These items should be addressed before adding additional traffic on Beavercreek Road. The Loder Road area is currently unsafe and if additional traffic is added it will need to be addressed with a stop light and turn lanes. Also, many people use Beavercreek Road as Hwy 213 between Clackamas Community College and Myers Road due to the traffic on Hwy 213 which is heavily congested during commute hours. If the lane that ends at Meyers Road were extended out to Leland Road your traffic flow would be much better and reduce the need to use Beavercreek Road. If you choose to increase the number of lanes on Beavercreek Road then careful consideration needs to be made around the High School area. I have witnessed too many close calls

with Pedestrians as people do not adhere to the school zone in that area. Additionally, it is dark in that area during the Winter and visibility is poor.

Pedestrian and bicycle safety. There are many kids in the neighborhoods along Glen Oak and also more coming with the new apartments that will be built across the street from the high school.

Roundabouts provide a smoother flow of traffic, are easier to maintain long term, and are more aesthetically pleasing. Additionally, roundabouts REDUCE the types of crashes where people are seriously hurt or killed by 78-82% when compared to conventional stop-controlled and signalized intersections, per the AASHTO Highway Safety Manual. Given these statistics and my priorities, roundabouts make the most sense for Beaver Creek road.

There will be no broadside impacts since all the traffic will be going in the same direction. I like the idea of landscaping. Traffic flow will have to be slower too.

It doesn't seem that development will have frontage focused on the highway. While peds and bikes will use Beaver Creek Rd., this area is not really a town center, even with the High School, that would generate an abundance of ped traffic.

You have young teen drivers in the area getting to the High School. Traffic lights are less confusing which would then make them safer.

I've experienced the positive effect of roundabouts. I think they are the best choice.

Flow of traffic is more efficient and there is already so much congestion near the High School. Less waiting around with a roundabout.

I have used roundabouts and have found them to provide smoother traffic flow.

You get such crazy people that don't understand roundabouts and they don't yield correctly. I think it would cause more accidents, especially the two lane ones.

Roundabouts are so successful in Europe and I would love to see more here
Smoother transition

I feel that this section of Beaver Creek Rd is way too busy for a roundabout. I would be very concerned about pedestrian safety and cyclists on the road.

I believe there is too much traffic on Beaver Creek Road for a roundabout. I usually turn left from Glen Oak onto Beaver Creek. It would seem that the roundabout would only take one car at a time entering the roundabout to turn left. That car would have to wait for traffic before entering Beaver Creek Road. I think there would be a back-up of cars on Glen Oak. Also this is supposed to be a bike and pedestrian friendly development, but roundabouts are not friendly for them.

More signals mean more traffic back up! Roundabouts makes traffic move better.

Pedestrian traffic crossing Beaver Creek Road safely is a real concern with the development of a downtown area across from Glen Oak. I see many on the West side of Beaver Creek Road walking to this downtown area and I believe a signal would be a safer crossing. Other intersections may work better with Roundabouts.
long term maintenance and power outages affecting signals

Ease of travel.

I agree that traffic signals will move more traffic at a given time and with heavy traffic people tend to be confused with roundabouts, there not sure when to yield, stop, or go, which then creates a slow down or back up.

Roundabouts are far too expensive, take up too much land on critical corners and reduce their value and ability to develop them. New traffic lights are becoming more affordable and more reliable. Traffic Lights work better and are less problematic for emergency vehicles. Pedestrians have a better and safer route crossing intersection with traffic lights.

There is already so much vehicle congestion and the use of roundabouts can help eliminate that traffic.

Roundabouts improve traffic flow

We lived overseas for four years and roundabouts keep traffic moving. (One is needed at Glen Oak onto Beavercreek. I don't know how those residents get out at that intersection)

The teenage drivers and community college young adults are not mature or experienced to responsibly operate roundabouts, additionally it poses a risk to pedestrians. My husband also added the the high schoolers will probably make a game of the round about practicing drifting and other reckless maneuvers

Expected volume of traffic

There is already a school zone for the High School, so traffic is already slowed. 5 lanes would be preferable.

I was originally thinking a light at Glen Oak would be better, but I think a light would back traffic up even more so. Exiting Fairway Downs subdivision is going to be difficult enough without a line of cars. Maybe a roundabout will keep traffic moving. I do think that the morning commute and the evening after work drive is going to be especially affected.

For pedestrians, this is a no brainer. Intersection for sure. I wouldn't allow my preteen to cross a roundabout by himself!

i have a current high school freshman and an incoming freshman in 2 yrs. They will be traveling on Beavercreek a lot.

Lots of high school kids walk home on Beavercreek Road -- needs to be safe. Traffic signals seem safer for the kids.

It is contradicting to say that roundabouts are more aesthetic with landscaping, although large trucks have to drive through the center area. I think this is a nightmare for large trucks. Also, many people do not stop at a roundabout and it is dangerous for the car behind you as they may hit you if you cant get in (having to yield) also, during high traffic periods, it could become very difficult to get into the round about.

1. Safety
2. Environmental impacts; air quality, fuel consumption, etc. not mentioned above.
3. Long-term costs

Roundabouts remove the 'straightaway' where cars race up and down Beaver Creek road today. With the existing signals I believe they could be synchronized. and take up less land.

I would not make a blanket recommendation for one or the other at all major intersections along the route. Selection should be location-specific.

Do less transportation planning for cars and more planning for people and bikes. Roundabouts keep traffic moving but also tend to be fairly pedestrian friendly when designed with pedestrians in mind.

Experience.

Put a school traffic light on beavercreek rd like the light on molalla ave by carus grade school slowing traffic to 20mph in the morning when children are arriving and afternoon when they're departing. The old high school had many drop off sites on every side of the building and never a wait to drop off students. The current high school has always been a congested mess when dropping off or picking up students and is the main problem of congestion on beavercreek rd. More entry and exit choices around the school and a driving route thru ccc from beavercreek rd to ochs for student drop off and pickup. Take some of the lawn out between beavercreek rd and the high school and add additional space for cars to pull in to drop off students

Roundabouts cause traffic because of unfamiliar with merging.

To encourage free-flowing traffic and fewer delays.

Long term vision is important to me. If there are fewer lanes to begin with, can we plan for the additional lanes in the future with ease of making improvements?

Aesthetics are important as visual appeals brings pride in community and creates a culture of positive reinforcement. Safety for pedestrians and bicyclists can be achieved with great visual appeal.

Roundabouts are a better long term solution with better aesthetic appeal and no left turn safety concerns. A roundabout also requires less maintenance than timing traffic control devices.

Roundabouts keep traffic moving and does not hold up vehicles unnecessarily.

Move the traffic and make it happen. Roundabouts work great, people just need a little time to figure them out.

Traffic flow, less major crashes, safety

I feel round abouts lessen congestion and do keep speed down

Prior experience with roundabouts

It will allow ease of traffic during peak times of student release from CCC and OCHS. Also possibly reduce the speeding of teen drivers which is very common.

I believe the cons outweigh the pros

Better flow

Experience.

Roundabouts will be too expensive and will require the city too condemn property that is integral to the land use component of the concept plan.

Lights cause unnecessary delays.

Because of the high school, there are MANY first and second year drivers using this exact section of Beaver Creek road daily. Any changes to the area need to take student safety and ease of navigation into consideration.

I feel much more safe on single lane roundabouts than I do the double lane roundabouts.

I feel the roundabouts are much safer than traffic signals.

Roundabouts, hands down handle traffic congestion better than traffic signals. Traffic lights only back up traffic, in some cases to the point of traffic grid lock. Case in point, Beavercreek Rd & HW 213 intersection.

Roundabouts do not work. Look what happened to the 213 road at the bottom of the hill leading to the hardware store. Heavy traffic and people afraid of the situation of using a roundabout. Not the way to go.

Have you driven this section of road at peak volume? A Round-about will slow things down you say. There needs to be a solution that relieves this traffic congestion, not creating more.

There are a number of pedestrians, particularly students from the high school and college who walk on that road. It is already unsafe.

Personal preference

I have seen many accidents in round about a. I don't believe they are safe. Beavercreek rd is already backed up at times. With more traffic there is a definite need for more lanes.

Roundabouts are ok in higher traffic areas, but should not be in residential neighborhoods and by schools where you have a lot of pedestrian traffic.

Keeps traffic moving

Under the existing conditions

If we are to help encourage commuters to walk or bicycle to their destinations, thereby reducing the number of vehicles on the road, we MUST make travel safer.

In addition, there may be individuals who do not own a vehicle, and need to walk or cycle to their destination. We should be able to encourage and help those individuals who have employment but no vehicle.

Do you have any additional comments/ideas/concerns that should be part of the discussion?

Yes, everywhere I see roundabouts, the municipality feels the need to landscape the crap out of the middle, only reducing the visibility and safety of the traffic entering and already in the circle. Please don't plant anything that grows higher than 18". Anything higher makes it difficult for drivers, especially those not in a jacked up 4X4, to see traffic entering and already in the circle. This is basic common sense! Kind of like feeling the need to plant trees along the sidewalks, only to later have to replace sidewalks after the root structure has damaged the concrete. A waste of taxpayer dollars!

I live off of Beavercreek Rd, next to the golfcourse, and have to deal with this traffic mess every day. It starts at 5:30am out here! In the afternoon, I've waited for several traffic signal changes at the high school just to get from the Chevron station to Golf course... sometimes over 20 minutes. I'm sure the city and county can improve on this!

Scrap the whole idea.

Traffic congestion that this development would contribute to and interact with should be solved e.g. Beaver Creek Rd./Hwy 213 intersection, Hwy 213 itself, and the regional system. It is not enough to say, "if there is congestion ahead, additional lanes can help stack cars closer to the congestion." This plan should have some expectation and adequate mechanisms to correct known problems that will diminish area livability, or it should not proceed.

The Hwy 213 "free flow" right turn lane ignores bicyclists and pedestrians and their safety which is already a problem. The staff (including the attorney) should be required to walk and bike through this situation before recommending it (defending it). This concept plan is supposed to increase pedestrians and bicyclists in this area, but this "solution" works against both and makes most people too uncomfortable to walk or bike.

There should not be parallel parking off of Beaver Creek Rd. e.g. at the development opposite the high school. Parallel parking could be handled like in the Willamette area where it is separated from the street by a sidewalk.

The high school speed zone is unnecessary and affects the BRCP situation. This needs to be solved in the plan.

I live off of Glen Oak, I ride my bike, run and so do others along Beaver Creek Rd, to get anywhere. There is no safe space to run longer than 2 miles or if people want to walk/bike to Beaver Creek or more into town (Berry Hill and other side of 213). I would like to see the stretch of Beaver Creek that is in the Concept Plan have more walk ability and the ability for cars pulling into Beaver Creek from their driveways and other road.

I live at xxxxx Old Acres Ln and even though I am technically a Clackamas County resident, I am directly impacted by the Beaver Creek Road Concept Plan, as my house abuts the southern extents of the golf course. I bought my house in 2016, knowingly in support of this project. I appreciate the City's communication and project updates. Keep up the great work!

do not limit access of Old Acres Lane on to Beaver Creek Rd. this is due to both our ability to come and go from our neighborhood and access of life safety equipment (our only fire hydrant is located at this intersection).

I think this is a complete waste of time I hate to see that this is happening!!!!

I am not looking forward to the nightmare of traffic for the many years during the building phase. Build out the road improvements before any actual construction!

I think that the intersection flow of Hwy 213/Beaver Creek Road should be solved very soon by the city/county/state. If 5 lanes are not considered for development in the first phases of the development of businesses in Thimble Creek Business Park and only 3 lanes are considered, then AT A MINIMUM, the city should REQUIRE an easement of the equivalent of 2 more lanes on the vacant land side (East side??) of the entirety of Beaver Creek Road. This would assure a low amount of disruption to businesses and homes when the other 2 lanes would go in. Business could use the area for parking or some other use that would not cause great disruption when uprooted for the new 2 lanes.

P.S. I could only click on one item below; not "all that apply"

Please take into consideration the extra traffic also to be added as the property at the corner of Beaver Creek & 213 (the old bus barn) gets ready to be developed and how that will further slow down Beaver Creek.

I would like to see more infrastructure encouraging walking and biking. People who live along Beaver Creek should not be REQUIRED to get into their vehicles to run daily errands. My hope is that it can all be done on foot or by bike. Grocery shopping, eating out, doctor visits, vet visits, gym visits etc would ideally all be non-driving activities. More walking and biking cuts down on long term maintenance of roads because there are simply less cars than there otherwise would be.

Don't build multi-story (4 or 5 story) buildings like in Portland and Milwaukie. These buildings do not provide for a sense of community instead they create congestion.

I believe that we can relieve traffic congestion with this plan, HOWEVER please consider ways to include pedestrian and bicycle safety. This might include new highway crossing areas with pedestrian lights for neighbors to cross Beaver Creek to access the trails at CCC. If you are going to expand traffic considerations, you should find a way to do the same to make this area a place people can enjoy walking through.

I hope that the businesses in the "employment Par" or whatever you called it are small local businesses. I would love a food cart pod with the safe ability to cross (maybe a pedestrian bridge) from the high school (they don't have the capacity to channel all those kids through on-site meals, and they take off in cars over lunch to get junk food elsewhere. Healthier choices, please. . No Walmarts, McDonalds, Targets, Panda Expresses, national or international chains. It's already tacky enough up "on the Hill" and we are all mourning the addition of Hobby Lobby in our community. Take the hill the way Main Street is going, and please let international food carts into our community for we can get a little ethnic variety!! Safety of crossing Beaver Creek Rd will need to be high on list of considerations with new residential housing being planned with kids crossing to attend OCHS & CCC; also, current residents will be walking across Beaver Creek Rd to get new centralized town businesses & cafes at corner of Glen Oak Rd. You all are going great!

Build the road before you approve building permits. Remember what they did on Sunnyside Road by allowing a buildout past 132nd and then decided to widen the road - it was a nightmare. Insist that the developers pay their share of the road improvements before they are allowed to break ground on development.

There is significant heavy equipment, tractor-trailers, log trucks and commercial vehicle traffic along Beaver Creek Road all day long. The idea of a fully-loaded log truck barreling north on Beaver Creek Road at 6:00 am and delicately driving around a cute little roundabout at Glen Oak Road is positively ludicrous. There is virtually no pedestrian traffic along Beaver Creek Road from Clairmont to Glen Oak, except just before and after High School sessions, and then only on the west side. There are perhaps 3 people who bike along the road on a daily basis. Should the Beaver Creek Apartments project ever really come to be, the idea of parallel parking on Beaver Creek Road to allow more housing units to be built in that development is an insane proposition. There should never be any kind of parking along Beaver Creek Road. Ever. Parallel or otherwise.

The speed limit of the Beaver Creek Rd. corridor is currently too high. I would suggest that the highest speed limit should be 35 mph. I would also suggest installing automatic school zone flashers for the high school. This will make it easier for drivers to know when school zone hours are in effect and will help to improve the overall safety of Beaver Creek Rd. for students.

pedestrian bridge?

I reviewed the traffic study and I could not find transit data in the intersection counts. TriMet and the CCC Xpress Shuttle should have data in the Beaver Creek Road and Highway 213 intersection. The CCC Xpress Shuttle also operates on Beaver Creek Road to Clairmont Hall on the Oregon City campus. Transit data needs to be included in the traffic study.

We need bike lanes or trails as motorists are hostile to cyclists on the existing roads.

The traffic will increase tremendously, what are you planning to do for the additional noise for the houses in the Caufield neighborhood whose backyards line Beaver Creek Road? Beaver Creek is going to become a highway more or less and the vehicle noise is going to double if not triple the current noise. What is the plan for the intersection at Glen Oak and Beaver Creek? It is hard to cross as is, with the increased traffic, it will become unsafe to cross. It is already hard to see the oncoming traffic as it is.

We need roundabouts

Is the city using eminent domain for the 51 (unsure) properties needed for this development?

I hope that this plan will be similar to the Happy Valley area with mostly houses but some stores and small strip malls strategically placed so that there is some incentive to live there because there is everything you need in your neighborhood. The housing developments off of Holcomb hold no appeal for me because it's a food desert. It's very inconvenient for a quick run to the store because I forgot one ingredient for dinner. Or a quick run to a restaurant because I don't want to cook dinner. Mixed use geared towards people being able to have everything they need in their neighborhood appeals to me.

The school zone by the high school needs to have the school zone signal lights. Because people who don't have kids in school don't always know when there isn't school = don't need to drive 20mph in the zone. Would help with traffic flow as well if we only had to drive 20mph when the lights are flashing vs. 7-5pm.

Please make sure there is a time specific school zone signal for the High School. The system now is as frustrating as it can be.

Several areas need improvement before additional development should be considered. Sidewalks, sidewalks, sidewalks!! I get so nervous for the kids I see walking along Beaver Creek Road and Glen Oak Road where they have to walk in the street. It's so dangerous.....especially now that kids are looking down at their phones rather than at the traffic coming towards them.

No.

I am definitely concerned about the addition of so many homes in an area that already has such bad traffic congestion.

Just getting out to Beaver Creek is getting to be a traffic mess. There are so many people that go farther out than Henrici now. Don't forget about us. There is also more developing going on out there. Also can you get a flashing high school light with their speed showing to slow people down only during times the kids are actually around?

Also can something be done to help the Beaver Creek, Leland, Kamrath intersection? I'm surprised there aren't more accidents there. It's very unsafe.

My biggest concern is that we do just enough to satisfy needs for today and not consider future growth that would add major additional costs that we could have because of thinking about today and not tomorrow.

There is a need for a "Separated Bike and Pedestrian Path" extending on the south side of Beaver Creek Road at Highway 213 and the Berry Hill Shopping Center to and just past Oregon City High School. This requirement is to provide enhanced and thus expanded use of multi-mode options and development that does not require a car.

A roundabout on the intersection of 213 and Beavercreek would be great. I know this isn't about that but it would cut wait times immensely.

Traffic has changed in the last few years on Beavercreek rd. More traffic, more congestion. Please tell me you look at models in other areas with similar development has occurred with like establishments. I would like to see it stay more neighborhood friendly, not warehouses.

Video surveillance

Need lights at each intersection...Loder, Meyers, Glen Oak and Clairmont

Nothing matters if the intersection of 213 and Beavercreek is not addressed first. Need to create the right hand passthru lane first before any work on the concept plan.

I would not be in favor of 2 lane roundabouts. It sounds confusing and dangerous for pedestrians.

Non-residents of Oregon City should not influence this decision - unless they want to pay for what they use.

Yes I would eliminate the parallel road in the concept plan that runs along Beavercreek. It takes up way too much land for what it gains. The cost benefit is just not there.

I can appreciate the desire for public and stakeholder engagement, but most of these questions should not be put to a popularity contest. These are technical considerations that people build careers to consider and address. The general public opinion, particularly in suburban areas and particularly in Clackamas County is that more lanes, higher speeds, and free flow car travel is the gold standard. The City of Oregon City has been pretty progressive for a suburban community, so I hope that this practice will continue on Beavercreek Road.

I would love to go to a concert or movie in the park. Walking trails are important and giving as many houses and businesses as possible, thru your design, to enjoy the beautiful view of mt hood. Beautiful natural spaces are important

Create sustainable value in the improvements that can be maintained well with current resources is my goal. If resources increase then we can use them to maintain what we have sustainably.

Property owners abutting Beavercreek Road need to participate and let their thoughts be known now or never.

Please take seriously the unique use of this road with busses and students. I am also concerned that Beavercreek citizens are not identified on the last section of this survey. Beavercreek road is our main access out of the hamlet. 213 at Meyers gets very backed up where it switches to 2 lanes and making the trip to I-205 even longer is a significant lifestyle impact.

Call me in and let me give you my comments

I would like to have more information from the college as to if they actually intend to purchase property outside of the current campus that would lead to expansion across Beavercreek. I would also like to hear about real businesses and development companies willing to take on these projects. Given that there is already undeveloped land for businesses within the current city boundaries it seems strange to me that this development down Beavercreek is necessary.

I think this area should be left as is with no development. Leave the green space alone.

I agree with the committee's recommendations in regards to traffic signals over roundabouts and the Holly lane connector should be implemented. Growth is an unknown commodity, where assumptions can be made, but economics and preferences still play a large role in how accurate predictions are. The greatest impact of road design should be factored into the new development and not destroy homes and land values of people that chose this area 10-20 years ago.

Please consider to set up the BUMP at the long straight street in the residential area.

To: Planning Commission
From: Christina Robertson-Gardiner, Senior Planner
RE: LEG 19-0003-Beavercreek Road Concept Plan Zoning and Code Amendments
Date: November 8, 2019

Background

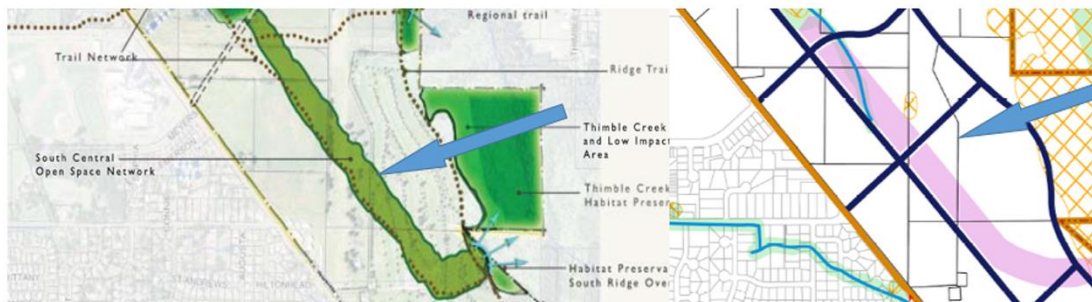
The Planning Commission is reviewing the zoning and code amendments for the Beavercreek Road Concept Plan (BRCP) over multiple meetings during the late summer and fall of 2019. Each meeting will be broken into 2-3 topics to allow the Planning Commission, staff, and the public time to focus their energies. Planning Commission comments and direction, as well as public comments, will be tracked throughout the hearings, and topics may be added to future meetings if new items are identified or issues have not been resolved. Please refer to the updated calendar attached to each Planning Commission packet for meeting topics.

The following topics were identified either by public comment or the Planning Commission for the November 18, 2019 Hearing. Staff will provide background on the issue and offer a recommendation if warranted.

1. Parks Acquisition Code Amendments

The BRCP prioritizes an open space network that preserves identified environmental resource areas, parks, trails, and viewpoints, including the South-Central Open Space Network and the Low Impact Conservation Area upslope of Thimble Creek on the eastern edge of the district. The proposed code amendments will create the South-Central Open Space Network and Low Impact Conservation Area through required parkland dedication at the time of development and protect trail corridors throughout the district's open space system by also requiring the dedication of easements at the time of development. This code is not for the construction of these elements, only for the dedication of land. System Developments fees would be used for construction of parkland acquired by this code.

Linear Park: Pearl and String Approach



East Ridge – Thimble Creek Conservation Area



The dedication of park property happens at the time of development based on a specific proportional calculation. Please note, the draft code below refers to the “neighborhood park” and has been amended to include the Thimble Creek Conservation Area.

The Parks and Recreation Advisory Committee (PRAC) recommended that the Conservation Area also be acquired as a city park/open space during development review. At the October 14, 2019 Planning Commission Meeting, the Planning Commission concurred with PRAC’s recommendation and directed staff to also look into the need to revise the number of acres the city could acquire through exaction in the development process. Currently, it is 8 acres. Staff will have a recommendation of the proposed revised number of acres at the November 18, 2019 Planning Commission Meeting.

The Parks and Recreation Advisory Committee was not able to review the proposed park elements at the October 24, 2019 PRAC Meeting. Staff is working on getting this item on the next available agenda. Below are the recommended redlines to include the East Ridge-Thimble Creek Conservation area into the park dedication requirements.

16.08.042 (&17.62.058) - Additional Public Park and Open Space Requirements in Beavercreek Road Concept Plan area.

- A. Each development within the Beavercreek Road Concept Plan area that includes residential development must provide for land for neighborhood parks and open space during a development application which meets the requirements of this section.
- B. The minimum amount of land in acres dedicated for a parks shall be calculated according to the following calculation: $(2.6 \text{ persons per dwelling units}) \times (\text{total number of dwelling units proposed in the development}) \times (\text{8.0 x acres}) / (1,000 \text{ persons})$.
- C. The entire acreage must be dedicated prior to approval or as part of the final plat or site plan development approval for the first phase of development.
- D. If a larger area for a neighborhood park or open space is proposed than is required based on the per-unit calculation described in subsection (A), the City must reimburse the applicant for the value of the amount of land that exceeds the required dedication based on the fee-in-lieu formula expressed in subsection (E)(1).
- E. The City may accept a fee-in-lieu as an alternative to this dedication at its discretion or may require a fee-in-lieu if a suitable site meeting the criteria described in subsection (F) of these provisions is not available with the development site. The calculation of the fee-in-lieu or other monetary contribution must meet the following standards.

1. *The amount of the fee in lieu or other monetary contribution is set in dollars per acre of required dedication and is equivalent to the appraised cost of land within the development, as provided by a certified appraiser chosen by the City and with the assumption that zoning and other land use entitlement are in place.*
 2. *The fee-in-lieu or other monetary contribution must be paid prior to approval of the final plat or development approval for each phase of development.*
- F. *Neighborhood park and open space sites proposed for dedication must meet the following criteria.*
1. *Located within the South Central Open Space Network as shown in Figure 16.08.042-1. or the East Ridge-Thimble Creek Conservation Area 16.08.042-2.*
Figure 16.08.042-1 & 2 (To be provided, will show the South Central Open Space Network & East Ridge-Thimble Creek Conservation Area as mapped on the Development Constraints Map.)
 - a. *Meeting either of the following standards:*
 - a. Pearl standard. (To be developed with Parks input.)*
 - b. String standard. (To be developed with Parks input.)**Waiting for PRAC Direction*
 2. *Located within the East Ridge- Thimble Creek Conservation Area*
 - a. *Meeting either of the following standards:*
Waiting for PRAC Direction

Draft Park Elements

South Central Open Space-Neighborhood Park

- *30 foot ped/bikeway string along the east side of Holly Lane extension to be located in the right of way and will not be considered part of a pearl.*
- *3-4 pearls of various sizes spread along the open space network*
- *Min and maximum sizes pearls: TBD*
- *Min combined size of all pearls: 8 acres*
- *Min average width: TBD*
- *Min average depth: TBD*
- *At least 5 acres to be developed with active recreation components*

East Ridge- Thimble Creek Conservation Area

- *Two public viewpoints: size TBD*
- *½ of area between the Thimble Creek stream buffer and the 490-foot elevation ridgeline to be open space*
- *700-foot non-interrupted view corridor along open space*
- *Provide a forest trail from one view-point to another along the Ridge Parkway*

Staff recommendation: The Parks and Recreation Advisory Committee (PRAC) was not able to review the proposed park elements at the October 24, 2019 PRAC Meeting. Staff is working to get the item on the next available agenda. If the Planning Commission has specific recommendations, staff will pass these onto PRAC for future discussions.

2. Enhanced Home Occupation/Cottage Industry

At the September 9, 2019 Planning Commission Hearing, the Planning Commission directed staff to look at options to increase employment opportunities in the Residential Districts of the Beavercreek Road Concept Plan. An initial survey was sent out to over 200 people participating in the Beavercreek Road Concept Plan email listserve.

The survey looks at different ways the home occupation license could be enhanced within the Beavercreek Road Concept Plan area to allow more intense employment options. Survey results show that there are varied opinions for these options, and staff requesting further direction on the following items at the October 14, 2014 PC Hearing:

- Retail (picking up goods for sale)
- Outdoor storage associated with a business (landscaping equipment, construction materials)
- Parking commercial vehicles (landscape trucks, 5th wheel cabs)
- Work performed outdoors (welding, outdoor yoga)
- Offsite employees working at the residence (1-3 employees checking in at residence or working at the house)
- Using a majority of a residence for business (more than 50% of the residence devoted to business use)

At the October 14, 2019 Planning Commission Meeting, the Planning Commission provided staff direction on the above options and staff has provided recommended code revisions. Staff has not separated the options between the Low-Density and High-Density Dwelling Districts and will be looking for additional direction from the Planning Commission on this item.

Staff is also looking for some additional direction on retail categorization. Sales incidental to service could be tricky to enforce through code enforcement as the term is subjective. Staff is looking for further discussion and direction on this topic.

October 14, 2019 Planning Commission Recommendation

Retail- Yes with restriction (size restriction, incidental to services, hours)

Outdoor Storage: No

Parking Commercial Vehicles: How can we allow?- smaller one-person vehicles, and above 10,000 lbs but below 26,000 lbs.

Work Performed Outdoors: No

Off-site Employees: Hours?- not too early- not too late,

More than 50% of the site used for business: No

17.04.580 -Home occupation. "Home occupation" means an occupation carried on solely by the resident or residents of a dwelling unit as a secondary use in accordance with 17.54.120

17.54.120 -Home Occupations

Home occupations shall comply with all of the following:

A.No employees reporting to work onsite who are not residents unless otherwise required by State law. The business may have off-site employees or partners provided that they do not report for work at the subject residence;

B. All business conducted on sites shall be conducted within the home or accessory structure;

C.No outdoor storage of materials or commercial vehicles associated with the business shall occur on-site; and

D.Not more than one-half of the square footage of the primary dwelling is devoted to such use.

17.54.120 -Home Occupations/Cottage Industry- Thimble Creek Concept Plan Area

Home occupations and Cottage Industries within the Thimble Creek Concept Plan Area are allowed an expanded level of uses to support job creation in Oregon City and shall comply with all of the following:

A. Up to 3 offsite employees are allowed to work at the residence. Offsite employees may work onsite Monday-Friday 7:00 am-6:00 pm and Saturday and Sunday 9:00 am to 6:00 pm;

B. All business conducted on-site shall be conducted within the home or accessory structure;

C. No outdoor storage of materials associated with the business shall occur on-site;

D. Not more than one-half of the square footage of the primary dwelling is devoted to such use;

E. One commercial vehicle associated with the business with a weight between 8,000 to 26,000 pounds gross weight may be stored onsite outside of an accessory building. There is no restriction in the number of commercial vehicles associated with the business under 8,000 pounds gross weight allowed to be stored outside of an accessory building. No commercial vehicles associated with the business may be stored in the Right of Way;

D. Retail of items associated with a service is allowed on site. Any dedicated retail space located within the residence may be no larger than 300 square feet. Retail hours may not exceed Monday-Friday 7:00 am-6:00 pm and Saturday and Sunday 9:00am to 6:00 pm.

17.04.255 -Commercial vehicles. "Commercial vehicle" means: A. A vehicle of over eight thousand pounds gross weight that is designed for or being used to transport merchandise, or a vehicle of less than eight thousand pounds gross weight with the business name of the user permanently exhibited on one or both of its sides that is designed and being used to transport merchandise; B. A station wagon or other vehicle with the business name of the user permanently exhibited on one or both of its sides, when used for transporting merchandise

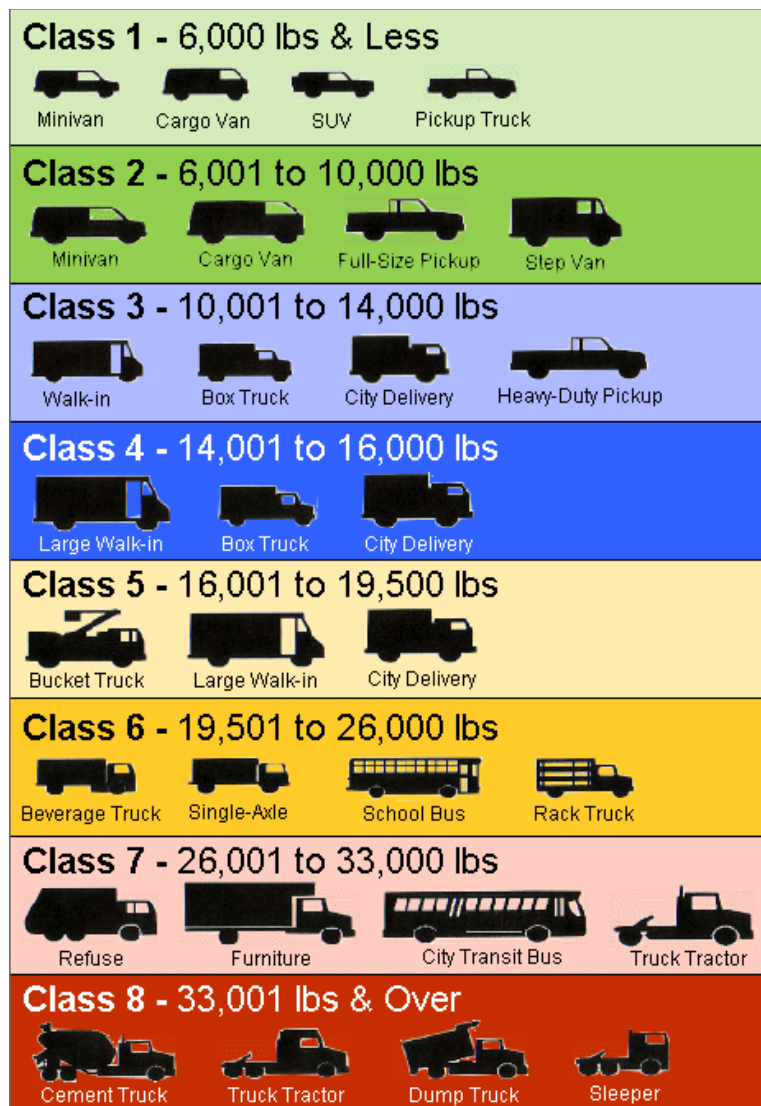


Figure 1-Reference chart for discussion. Chart will not be adopted into municipal code (www.energy.gov)

Staff recommendation: Provide staff further direction on the proposed amendments as outlined in the memo. Broader public engagement will occur once draft code amendments have been finalized.

LEG 19-0003

BEAVERCREEK ROAD CONCEPT PLAN ZONING AND CODE AMENDMENTS

TOPIC: PARKS, EXPANDED HOME
OCCUPATION/COTTAGE
INDUSTRY

NOVEMBER 18, 2019 PLANNING
COMMISSION MEETING

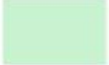


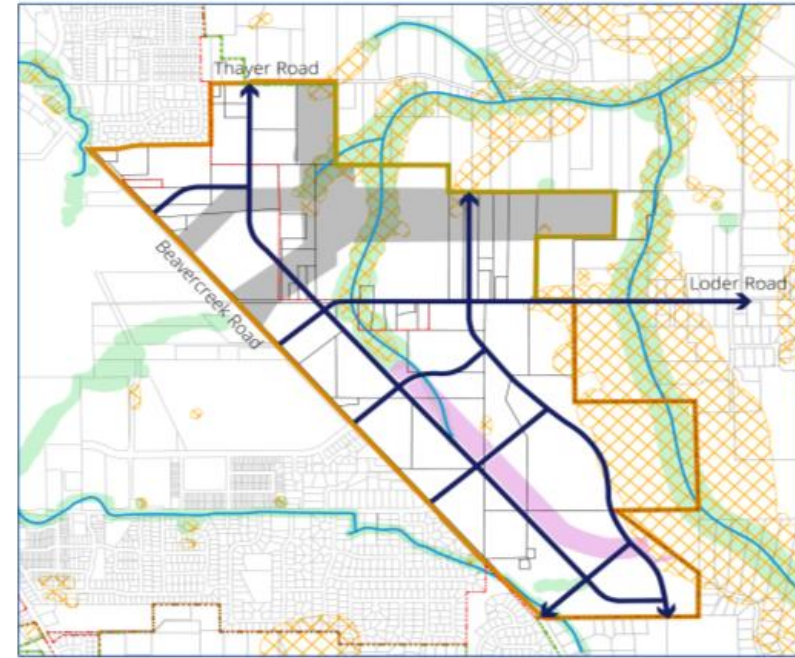


The following topics were identified either by public comment or the Planning Commission for the November 18, 2019 Hearing. Staff will provide background on the issue and offer a recommendation if warranted.

Staff is looking for direction from the Planning Commission on each item discussed this evening.

Parks & Open Space Mapping

-  Natural Resources Overlay District (NROD)
-  Geologic Hazard Overlay District (GHOD)
-  South-Central Open Space Network
-  Powerline Corridor



PARKS ACQUISITION CODE

LINEAR PARK ELEMENTS

- 30 foot ped/bikeway string along the east side of Holly Lane extension to be located in the right of way and will not be considered part of a pearl.
- 3-4 pearls of various sizes spread along the open space network
- Min and maximum sizes pearls:TBD
- Min combined size of all pearls: 8 acres
- Min average width:TBD
- Min average depth:TBD
- At least 5 acres to be developed with active recreation components

Linear Park: Pearl and String Approach



THIMBLE CREEK CONSERVATION AREA ELEMENTS

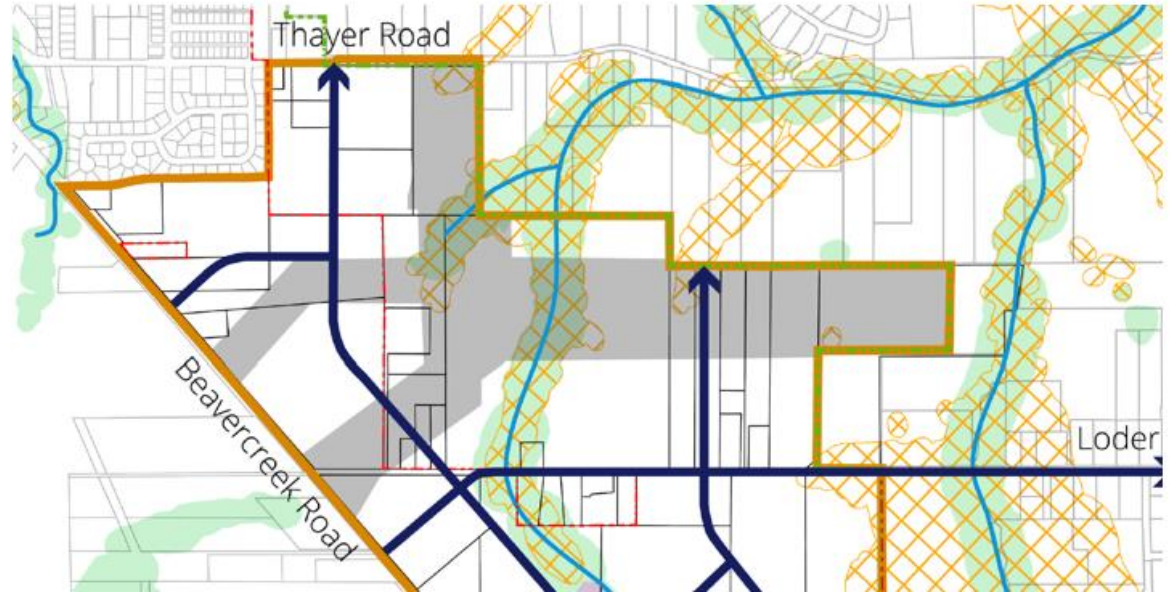
- Two public viewpoints: size TBD
- ½ of area between the Thimble Creek stream buffer and the 490-foot elevation ridgeline to be open space (approximately 70 acres)
- 700-foot non-interrupted view corridor along open space
- Provide a forest trail from one viewpoint to another along the Ridge Parkway
- Staff and Parks and Recreation Advisory Board recommendation is to indicate that this area is a public open space amendment to Parks Master Plan

East Ridge – Thimble Creek Conservation Area



Beavercreek Road Concept Plan Trails in Power Line Corridor

-  Natural Resources Overlay District (NROD)
-  Geologic Hazard Overlay District (GHOD)
-  South-Central Open Space Network
-  Powerline Corridor



TRAIL CORRIDOR

30-FOOT TRAIL WIDTH
TEN-FOOT WIDE PATH

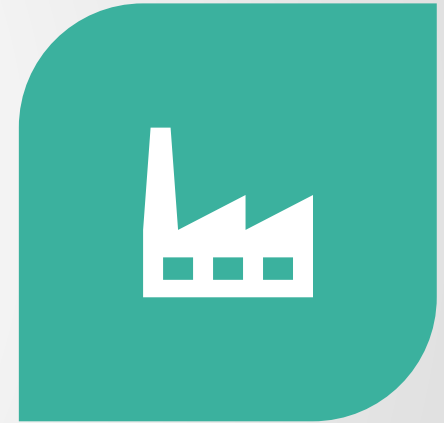
PARK CODE AMENDMENTS



TONIGHT: INCLUDE THIMBLE CREEK
CONSERVATION AREA ELEMENTS INTO
ACQUISITION CODE



NOVEMBER/DECEMBER: PRAC
RECOMMENDATION OF PARK ELEMENTS



DECEMBER: CODE RECOMMENDATION
FOR PROPORTIONAL CONTRIBUTION
OF NON-RESIDENTIAL PROPERTIES

EXPANDED HOME OCCUPATION/COTTAGE INDUSTRY



Retail- Yes with restriction (size restriction, incidental to services, hours)



Outdoor Storage: No



Parking Commercial Vehicles:
How can we allow?- smaller one-person vehicles, above 10,000 lbs but below 26,000 lbs.



Work Performed Outdoors:
No



Off-site Employees: Yes-
Hours?- not too early- not too late,



More than 50% of the site used for business: No

VEHICLE CLASSIFICATION

Class 1 - 6,000 lbs & Less



Minivan



Cargo Van



SUV



Pickup Truck

Class 2 - 6,001 to 10,000 lbs



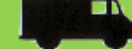
Minivan



Cargo Van



Full-Size Pickup



Step Van

Class 3 - 10,001 to 14,000 lbs



Walk-in



Box Truck



City Delivery



Heavy-Duty Pickup

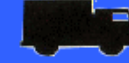
Class 4 - 14,001 to 16,000 lbs



Large Walk-in



Box Truck



City Delivery

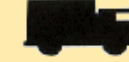
Class 5 - 16,001 to 19,500 lbs



Bucket Truck



Large Walk-in



City Delivery

Class 6 - 19,501 to 26,000 lbs



Beverage Truck



Single-Axle



School Bus



Rack Truck

Class 7 - 26,001 to 33,000 lbs



Refuse



Furniture



City Transit Bus



Truck Tractor

Class 8 - 33,001 lbs & Over



Cement Truck



Truck Tractor



Dump Truck



Sleeper

PROPOSED CODE

17.54.120 -Home Occupations/Cottage Industry- Thimble Creek Concept Plan Area

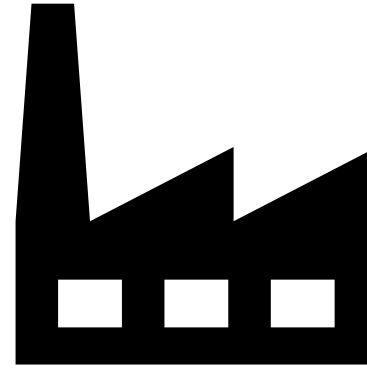
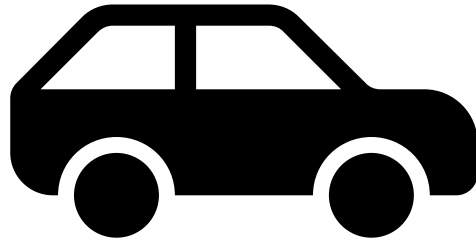
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- D. Not more than one-half of the square footage of the primary dwelling is devoted to such use;*
- E. One commercial vehicle associated with the business with a weight between 8,000 to 26,000 pounds gross weight may be stored onsite outside of an accessory building. There is no restriction in the number of commercial vehicles associated with the business under 8,000 pounds gross weight allowed to be stored outside of an accessory building. No commercial vehicles associated with the business may be stored in the Right of Way;*
- D. Retail of items associated with a service is allowed on site. Any dedicated retail space located within the residence may be no larger than 300 square feet. Retail hours may not exceed Monday-Friday 7:00 am-6:00 pm and Saturday and Sunday 9:00am to 6:00 pm.*

STAFF DIRECTION

Staff has proposed amendments to the code to implement the direction by the Planning Commission, but is looking for the PC to confirm:

- If the language correctly implements the direction of the PC
- If any standard should differ for a particular zoning designation. (High Density Residential vs Medium Density Residential)
- If retail sales is correctly categorized. Sales incidental to service could be tricky to enforce through code enforcement as the term is subjective



November 25, 2019

Planning Commission Meeting

Topic: Transportation

December 16, 2019

Planning Commission Meeting

Topic: Initial Planning Commission Recommendation, Parks

January 13th or 27th, 2020

Planning Commission Meeting

Topic: Formal Planning Commission Recommendation

To: Planning Commission
From: Christina Robertson-Gardiner, Senior Planner
RE: LEG 19-0003-Beavercreek Road Concept Plan Zoning and Code Amendments
Date: October 7, 2019

Background

The Planning Commission is reviewing the zoning and code amendments for the Beavercreek Road Concept Plan (BRCP) over multiple meetings during the late summer and fall of 2019. Each meeting will be broken into 2-3 topics to allow the Planning Commission, staff, and the public time to focus their energy. Planning Commission comments and direction, as well as public comments, will be tracked throughout the hearings, and topics may be added to future meetings if new items are identified or issues have not been resolved. Please refer to the updated calendar attached to each Planning Commission packet for meeting topics.

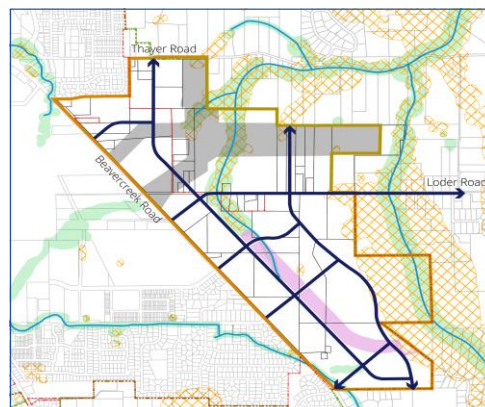
The following topics were identified either by public comment or the Planning Commission for the October 14, 2019 Hearing. Staff will provide background on the issue and offer a recommendation if warranted.

1. Parks Acquisition Code Amendments

The BRCP prioritizes an open space network that preserves identified environmental resource areas, parks, trails, and viewpoints, including the South-Central Open Space Network and the Low Impact Conservation Area upslope of Thimble Creek on the eastern edge of the district. The proposed code amendments will create the South-Central Open Space Network and Low Impact Conservation Area through required parkland dedication at the time of development and protect trail corridors throughout the district's open space system by also requiring dedication of easements at the time of development. This code is not for the construction of these elements, only for the dedication of land. System Developments fees would be used for construction of parkland acquired by this code.

Parks & Open Space Mapping

-  Natural Resources Overlay District (NROD)
-  Geologic Hazard Overlay District (GHOD)
-  South-Central Open Space Network
-  Powerline Corridor



The dedication of park property happens at the time of development based on a specific proportional calculation. Please note, the draft code below refers to the “neighborhood park” and will be amended before the Planning Commission sends their formal recommendations to the City Commission to also include the Thimble Creek Conservation Area. The Parks and Recreation Advisory Committee and staff also recommends that the Conservation area also be acquired as a city park during development review.

16.08.042 (&17.62.058) - Additional Public Park Requirements in Beavercreek Road Concept Plan area.

- A. Each development within the Beavercreek Road Concept Plan area that includes residential development must provide for land for neighborhood parks which meets the requirements of this section.*
- B. The minimum amount of land in acres dedicated for a park shall be calculated according to the following calculation: (2.6 persons per dwelling units) x (total number of dwelling units proposed in the development) x (8.0 acres) / (1,000 persons).*
- C. The entire acreage must be dedicated prior to approval or as part of the final plat or site plan development approval for the first phase of development.*
- D. If a larger area for a neighborhood park is proposed than is required based on the per-unit calculation described in subsection (A), the City must reimburse the applicant for the value of the amount of land that exceeds the required dedication based on the fee-in-lieu formula expressed in subsection (E)(1).*
- E. The City may accept a fee-in-lieu as an alternative to this dedication at its discretion or may require a fee-in-lieu if a suitable site meeting the criteria described in subsection (F) of these provisions is not available with the development site. The calculation of the fee-in-lieu or other monetary contribution must meet the following standards.*
 - 1. The amount of the fee in lieu or other monetary contribution is set in dollars per acre of required dedication and is equivalent to the appraised cost of land within the development, as provided by a certified appraiser chosen by the City and with the assumption that zoning and other land use entitlement are in place.*
 - 2. The fee-in-lieu or other monetary contribution must be paid prior to approval of the final plat or development approval for each phase of development.*

Along with the draft code, the two new parks and trail map will need to be added to the Parks Master Plan and Trails Master Plan with some descriptive information to provide guidance to future developers and city staff. The Parks and Recreation Advisory Committee (PRAC) will be adopting recommended exhibits to be added to the Parks Master Plan as part of this adoption process. They will be reviewing the draft exhibits at the October PRAC meeting. Staff will include these exhibits into the record at a future Planning Commission Meeting. If the Planning Commission has any specific recommendations for required park elements that will be adopted in the Parks Master Plan, staff will pass them onto the Parks and Recreation Advisory Committee for their meeting on October 24, 2019.

Linear Park: Pearl and String Approach



Linear Park Elements

- 30 foot ped/bikeway string along the east side of Holly Lane extension to be located in the right of way and will not be considered part of a pearl.
- 3-4 pearls of various sizes spread along the open space network
- Min and maximum sizes pearls: TBD
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East Ridge – Thimble Creek Conservation Area



Thimble Creek Conservation Area Elements

- Two public viewpoints: size TBD
- ½ of area between the Thimble Creek stream buffer and the 490-foot elevation ridgeline to be open space
- 700-foot non-interrupted view corridor along open space
- Provide a forest trail from one view-point to another along the Ridge Parkway
- Staff and Parks and Recreation Advisory Board recommendation is to indicate that this area is a public open space amendment to Parks Master Plan

Beavercreek Road Concept Plan Trails in Power Line Corridor

-  Natural Resources Overlay District (NROD)
-  Geologic Hazard Overlay District (GHOD)
-  South-Central Open Space Network
-  Powerline Corridor



Trail Elements

- 30-foot trail width
- Ten-foot wide path

Staff recommendation: Staff recommends the draft code that refers to the “neighborhood park” and be amended before the Planning Commission sends their formal recommendations to the City Commission to also include the Thimble Creek Conservation Area. If the Planning Commission has any specific recommendations for required park elements that will be adopted in the Parks Master Plan, staff will pass them onto the Parks and Recreation Advisory Committee for their meeting on October 24, 2019.

2. Enhanced Home Occupation/Cottage Industry (follow-up from September 9, 2019 PC Meeting)

At the September 9, 2019 Planning Commission Hearing, the Planning Commission directed staff to look at options to increase employment opportunities in the Residential Districts of the Beavercreek Road Concept Plan. An initial survey was sent out to over 200 people participating in the Beavercreek Road Concept Plan email listserve, and the combined response can be found attached to the memo.

The survey looks at different ways the home occupation license could be enhanced within the Beavercreek Road Concept Plan area to allow more intense employment options. Survey results show

that there are varied opinions for these options and staff will be requesting further direction on the following items at the October 14, 2014 PC Hearing:

- Retail (picking up goods for sale)
- Outdoor storage associated with a business (landscaping equipment, construction materials)
- Parking commercial vehicles (landscape trucks, 5th wheel cabs)
- Work performed outdoors (welding, outdoor yoga)
- Offsite employees working at the residence (1-3 employees checking in at residence or working at the house)
- Using a majority of a residence for business (more than 50% of the residence devoted to business use)

Once further direction is given, staff will return at a future hearing with proposed code amendments. Broader public engagement will occur once draft code amendments have been created for this topic.

As previously discussed at the September 9, 2019 Planning Commission Hearing, as part of the 2016 re-adoption of the plan, the Planning Commission recommended that as part creating the implementing zoning for the BRCP, the City Commission direct staff to further analyze the issue of allowing expanded home occupation uses, also known as cottage manufacturing/industry within the mixed-use and residential areas.

“In 2008, the City Commission specifically considered amending the plan to include cottage manufacturing within the mixed-use area, consistent with the instructions on remand, and decided the details of cottage housing are more appropriately addressed when the code language was created “Additionally, live-work units and home occupations, that may include cottage industries, are supported by the mixed-use approach. Adoption of the BRCP does not preclude the provision of cottage manufacturing or a greater variety of home occupations within the mixed use and residential areas. The proposed land use mix, combined with the improved transportation network, will guide the future development of the area in a manner that supports this policy. Finally, as part of creating the implementing zoning for the BRCP, the City Commission directs staff to further analyze the issue of allowing expanded home occupation uses, also known as cottage manufacturing, within the mixed use and residential areas.” Cottage industry was not added to the text of the Beaver Creek Road Concept Plan in 2008 or in 2016. ¹

As the term cottage industry or cottage manufacturing was not incorporated into the adopted plan, it is neither encouraged nor discouraged. As part of the code implementation process, the Planning Commission should make findings relating to this issue and how it was addressed as part of the adoption process.

The Merriam Webster Dictionary definition defines cottage industry as:

- 1: an industry whose labor force consists of family units or individuals working at home with their own equipment
- 2: a small and often informally organized industry
- 3: a limited but enthusiastically pursued activity or subject

¹ Response Brief of Respondent City of Oregon City -LUBA No. 2016-044 Page 8

In Oregon City, a home occupation is a business carried on by the resident of a dwelling as a secondary use, with the activity conducted so that there is no audible, visual, or other appearance of a business. The primary use must continue to be a residence. Partners or employees are not allowed onsite for business purposes. This means that the business must be conducted by the resident(s) and family members who live at the dwelling. In order to renew your business license, your home occupation statement must be reviewed annually. All of this is shorthand for – do your work inside a building and make sure it is not adversely affecting your neighbors.

17.04.580 -Home occupation. "Home occupation" means an occupation carried on solely by the resident or residents of a dwelling unit as a secondary use in accordance with 17.54.120.

17.54.120 -Home Occupations

Home occupations shall comply with all of the following:

- A. No employees reporting to work onsite who are not residents unless otherwise required by State law. The business may have off-site employees or partners provided that they do not report for work at the subject residence;*
- B. All business conducted on sites shall be conducted within the home or accessory structure;*
- C. No outdoor storage of materials or commercial vehicles associated with the business shall occur on-site; and*
- D. Not more than one-half of the square footage of the primary dwelling is devoted to such use*

*Please note that restriction of retail sales onsite was left off the definition that was adopted on August 2, 2019. A revised definition, which includes the prohibition of retail sales onsite is part of the *Amendments to the Recently Adopted Code for Clarifications, Corrections of Errors, or Improvements* that is also being heard tonight. Once adopted, the retail restriction component will once again be part of the home occupation definition.

Public Comment

The following question was discussed at the April 9, 2019 BRCP Meeting #2, which was also available through an online survey.

11. East Mixed-Use Neighborhood- Should home occupations and/or live/work units be broadened to allow "cottage industries" that manufacture and sell goods? What additional compatibility standards should apply, such as use limitations, impacts, size, storage, or customer visits? Are there other ideas to integrate live-work opportunities in these neighborhoods, and the district generally?

There was very little feedback on this question from either in person comments or through online comments. At the April 9, 2019 meeting, the question asked to those assembled if there should be additional allowances for offsite employees, retail customers, outside storage, or outside activities in the R-2 or R-5 residential zones within the BRCP. Very little people expressed support for adding additional elements to the home occupation definition.

Staff recommendation: Once further direction is given on the specifics of the enhanced employment options; staff will return at a future hearing with proposed code amendments. Broader public engagement will occur once draft code amendments have been created for this topic.

3. Concept Plan Renaming

One issue that came up over and over again in public outreach conversations and public comments this winter and spring was a concern that the name of the concept plan area was geographically confusing and was being confused with the Hamlet of Beavercreek. One way to lessen this concern is to potentially begin referring to the area with a new name as part of the code amendment project. Ideally, the new name should not be geographically confusing.

Historic References: Most of the property is on the Andrew Hood Donation Land Claim. Until the golf course was built, the area was mainly farm fields for people who lived at Maple Lane or lived in the city and kept farms nearby. When the golf course was established, the newspaper reported it going in at "Maple Lane." According to Karin Morey, local history enthusiast, a survey map for "Skypark" which was the airfield was identified west of the golf course. Google maps show it today as Fairways Airfield. None of the references above create a unique geographic name.

Additional names provided during the public outreach during the spring of 2019 were: Thimble Creek, East Caufield, Loder Road, SE Industrial (Oregon City), Two Creeks, and Thayer Greens. As Thimble Creek runs through the site, is not very long and empties into Abernethy Creek soon after it leaves the site, staff finds it to be the best alternative name option.

Staff recommendation: Staff recommends that if the Planning Commission wishes to rename the Concept Plan as part of this process, Thimble Creek Concept Plan is the best option.

LEG 19-0003

BEAVERCREEK ROAD CONCEPT PLAN ZONING AND CODE AMENDMENTS

TOPIC: PARKS, EXPANDED HOME
OCCUPATION/COTTAGE
INDUSTRY, RENAMING

OCTOBER 14, 2019 PLANNING
COMMISSION MEETING

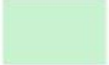


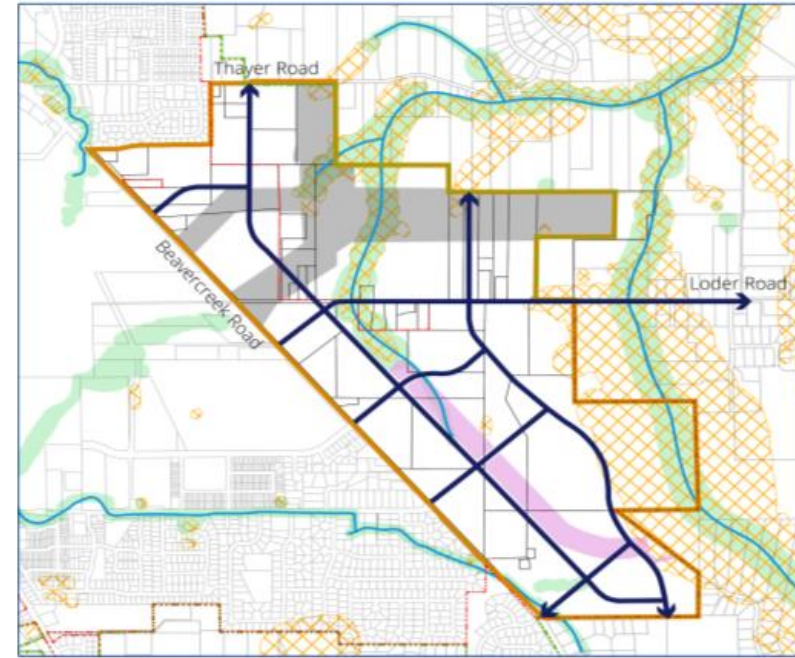


The following topics were identified either by public comment or the Planning Commission for the October 4, 2019 Hearing. Staff will provide background on the issue and offer a recommendation if warranted.

Staff is looking for direction from the Planning Commission on each item discussed this evening.

Parks & Open Space Mapping

-  Natural Resources Overlay District (NROD)
-  Geologic Hazard Overlay District (GHOD)
-  South-Central Open Space Network
-  Powerline Corridor



PARKS ACQUISITION CODE

LINEAR PARK ELEMENTS

- 30 foot ped/bikeway string along the east side of Holly Lane extension to be located in the right of way and will not be considered part of a pearl.
- 3-4 pearls of various sizes spread along the open space network
- Min and maximum sizes pearls:TBD
- Min combined size of all pearls: 8 acres
- Min average width:TBD
- Min average depth:TBD
- At least 5 acres to be developed with active recreation components

Linear Park: Pearl and String Approach



THIMBLE CREEK CONSERVATION AREA ELEMENTS

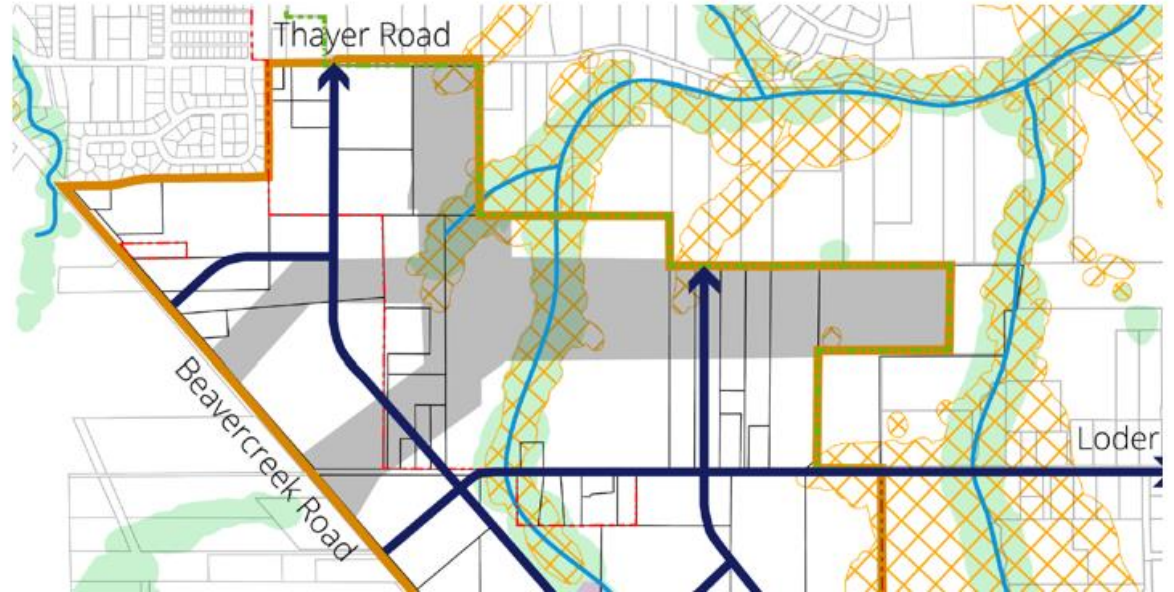
- Two public viewpoints: size TBD
- ½ of area between the Thimble Creek stream buffer and the 490-foot elevation ridgeline to be open space
- 700-foot non-interrupted view corridor along open space
- Provide a forest trail from one viewpoint to another along the Ridge Parkway
- Staff and Parks and Recreation Advisory Board recommendation is to indicate that this area is a public open space amendment to Parks Master Plan

East Ridge – Thimble Creek Conservation Area



Beavercreek Road Concept Plan Trails in Power Line Corridor

-  Natural Resources Overlay District (NROD)
-  Geologic Hazard Overlay District (GHOD)
-  South-Central Open Space Network
-  Powerline Corridor



TRAIL CORRIDOR

30-FOOT TRAIL WIDTH
TEN-FOOT WIDE PATH

EXPANDED HOME OCCUPATION/COTTAGE INDUSTRY



Retail (picking up goods for sale)



Outdoor storage associated with a business (landscaping equipment, construction materials)



Parking commercial vehicles (landscape trucks, 5th wheel cabs)



Work performed outdoors (welding, outdoor yoga)



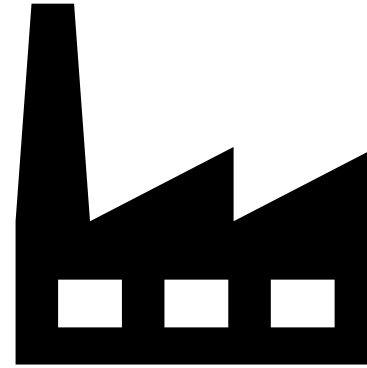
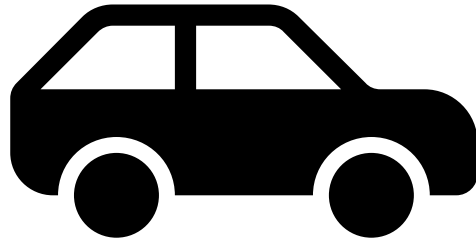
Offsite employees working at the residence (1-3 employees checking in at residence or working at the house)



Using a majority of a residence for business (more than 50% of the residence devoted to business use)



CONCEPT
PLAN
RENAMING



NOVEMBER 12, 2019
CITY COMMISSION WORK SESSION

TOPIC:TRANSPORTATION

NOVEMBER 18, 2019
PLANNING COMMISSION MEETING

TOPIC: HOME OCCUPAYION

NOVEMBER 25, 2019
PLANNING COMMISSION MEETING

TOPIC:TRANSPORTATION



Beavercreek Road Concept Plan- Cottage Industry- Expanded Home Occupation Options

This page shows analysis of submitted data as of October 7, 2019

Do you support allowing the following uses in subdivison areas (houses) in the Beavercreek Road Concept Plan Area?

	I SUPPORT this within subdivision developments (houses)	I SUPPORT this within subdivision developments (houses) with additional restrictions	I DO NOT support this within subdivision (houses) developments
Retail (picking up goods for sale)	0	6	12
Outdoor storage associated with a business (landscaping equipment, construction materials)	0	5	13
Parking commercial vehicles (landscape trucks, 5th wheel cabs)	0	3	15
Work performed outdoors (welding, outdoor yoga)	0	5	13
Offsite employees working at the residence (1-3 employees checking in at residence or working at the house)	1	8	9
Using a majority of a residence for business (more than 50% of the residence devoted to business use)	0	5	13

**Do you support allowing the following uses in multifamily areas in the
Beavercreek Road Concept Plan Area?**

	I SUPPORT this within multi-family development (apartments)	I SUPPORT this within multi-family development (apartments) with additional restrictions	I DO NOT support this within multi- family development (apartments)
Retail (picking up goods for sale)	0	4	14
Outdoor storage associated with a business (landscaping equipment, construction materials)	0	1	17
Parking commercial vehicles (landscape trucks, 5th wheel cabs)	0	0	18
Work performed outdoors (welding, outdoor yoga)	0	2	16
Offsite employees working at the residence (1-3 employees checking in at residence or working at the house)	1	6	11
Using a majority of a residence for business (more than 50% of the residence devoted to business use)	0	4	14

**Even if allowed in the Beavercreek Road Concept Plan area, should developers
and home owner associations (HOAs) be allowed to create private covenants that
restrict these expanded uses?**

Yes 9

No 5

Tell us some information about you (click all that apply).

I am a resident of Oregon City	8
I am a resident of Clackamas County	13
I am a resident of the Caulfield Neighborhood	2
I started my business in my home but moved it to another location as it grew	1
I have experience in commercial or residential real-estate	5
I build residential buildings	3
I would move to the Beavercreek Road Concept Plan area to take advantage of the new allowed uses	1

Specific Comments

Do you any have additional concerns about allowing expanded uses in residential areas within the Beavercreek Road Concept Plan?

Yes, anything outside the already defined and approved uses will bring in additional traffic congestion, noise and crime.

Too much traffic on Beavercreek Road

Do not allow businesses that may produce airborne particulate/pollution or effluent into water systems

POTENTIALLY VERY HIGH ROAD TRAFFIC WITH THE ABOVE. TRAFFIC PLANNING WILL BE NEEDED IN ADVANCE

There should be a way to address nuisance complaints quickly

Noise and traffic congestion

Oregon City bullying their way into building where infrastructure doesn't exist and isn't wanted by rural residence.

Traffic is going to be a nightmare if all the planned multifamily units are built - last thing needed is commercial traffic too



To: Planning Commission
From: Christina Robertson-Gardiner, Senior Planner
RE: LEG 19-0003-Beavercreek Road Concept Plan Zoning and Code Amendments
Date: September 16, 2019

Background

The Planning Commission is reviewing the zoning and code amendments for the implementation of the Beavercreek Road Concept Plan (BRCP) over multiple meetings during the late summer and fall of 2019. Each meeting will be broken into 2-3 topics to allow the Planning Commission, staff and the public time to focus their energy. Planning Commission comments and direction, as well as public comments, will be tracked throughout the hearings and topics may be added to future meetings if new items are identified or issues have not been resolved. Please refer to the updated calendar attached to each Planning Commission packet for meeting topics.

The following topics were identified either by public comment or the Planning Commission for the September 23, 2019 Hearing. Staff will provide background on the issue and offer a recommendation if warranted.

Geologic Hazards

1. Please provide more information on the Geologic Hazards District and how it regulates development proposals.

Northwest Clackamas County is more susceptible to landslides than many other locations in the Portland-Metro area. Slides are commonly triggered by heavy rain, rapid snowmelt, earthquakes, grading/removing material from bottom of slope or adding loads to the top of the slope, or concentrating water onto a slope (for example, from landscape irrigation, roof downspouts, or broken water/sewer lines). Slides generally occur on moderate to steep slopes, especially in weak soil.

The City of Oregon City has a [digital mapping program](#); once there, you can access the City's GIS mapping program, OCWebMaps, which includes Oregon City and outlying areas. In the Map Layers list, there is a section labeled "Hazards and Flood Info," which contains information for steep slopes and landslide areas (please note that to view a layer, you must check the box beside it, AND check the box beside the "Hazards and Flood Info" section). Essentially, you can navigate to your address and see if your residence is in any of the known hazardous areas.

Oregon City regulates and limits tree removal, grading, and development in areas with steep slopes or historic landslides; more information can be found in [Chapter 17.44 of the Oregon City Municipal Code](#).

Geologic hazards fall into two categories: steep slopes and historic landslide deposits. The City regulates properties of 25% or greater and a buffer of 50 feet from those sloped areas as well as ancient landslide areas and a buffer of 200 feet from the landslide areas. Density is limited on slopes between 25-35% and prohibited in most cases on slopes greater than 35%. Most developments within the Geologic Hazards Overlay District requires extensive review to minimize cuts and fills and overall disturbance to the existing land. Construction in geologic hazard areas is generally limited to May 1 to October 31. The City uses a third-party consultant to verify the work of an applicant's geotechnical engineer, resulting in two engineers reviewing the appropriateness of development.

Josh Wheeler, Assistant City Engineer will provide a presentation on the Geologic Hazards Overlay District at the September 23, 2019 Planning Commission Meeting.

Staff recommendation: No recommendation is needed. Staff response is informational only.

2. Upland Habitat regulation under OCMC 17.49 Natural Resource Overlay District (NROD).

In 2008, the city was in the middle of the design and adoption of the Beavercreek Road Concept Plan and was beginning reviewing code amendments to implement Metro Title 13, which conserves and protects streamside corridor system integrated with upland wildlife habitat.

The aim of Title 13 is to combine the ecological needs of wetlands and streams with habitat protection. Oregon City adopted a stream protection code in 1999 which placed a 50-foot buffer from break-in 25% slope (up to 200 feet) along a perennial stream and 15 feet protection from a seasonal stream. Anadromous or fish-bearing streams such as the Willamette River and Abernethy Creek received a 200-foot buffer.

In 2008 and 2009, Oregon City worked with Metro to identify habitat areas within Oregon City. A majority of the areas identified as conservation habitat areas were located within the existing stream buffers or were further regulated by the Geologic Hazards Overlay District. The city requested compliance with this approach and included any city-owned parks and open spaces habitat areas if located outside of the existing stream buffer into the newly revised Natural Resource Overlay District (NROD). A June 3, 2009 letter to Pete Walter from Brian Harper, Metro Assistant Regional Planner confirming compliance with Title 13 can be found attached to this memo.

Staff has reviewed the 2008 Site Inventory Map and has identified some areas that are not currently regulated under OCMC 17.49- Natural Resources Overlay District or OCMC 17.44 Geologic Hazards.

Using the analysis below, staff has determined that a sufficient amount of land identified as habitat is being protected through the city's existing code to show compliance with the goals and policies of the Beavercreek Road Concept Plan. Additional regulation could be adopted to address these areas, though they would most likely be separate from the Geologic Hazard or NROD Overlay Districts.

Below are three maps that further described this issue. The 1st map- Figure 1, looked at streams, wetlands and habitat areas during the Concept Plan design process prior to the adoption of the revised Title 13 code amendments. The areas identified in orange are labeled as habitat area.

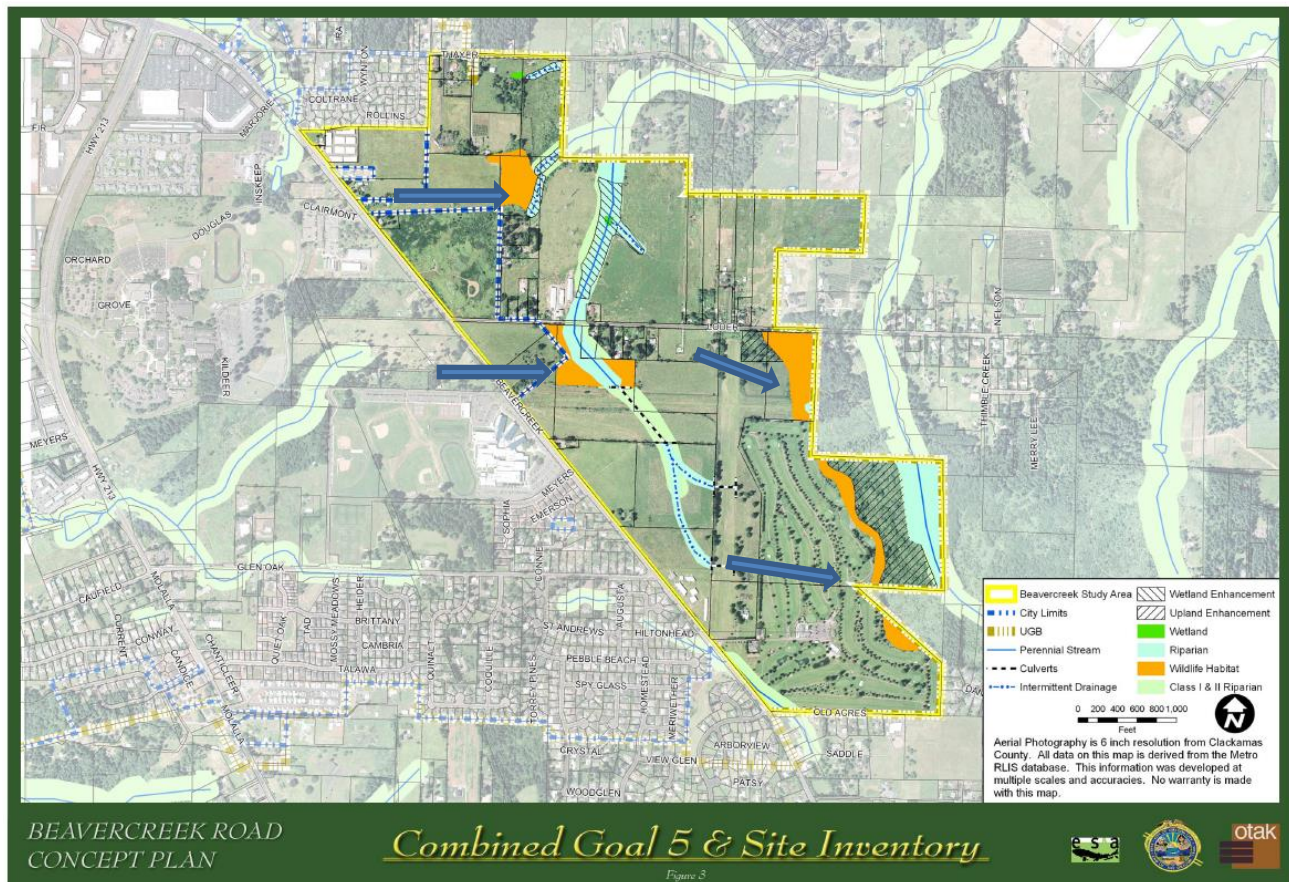


Figure 1 - Goal 5 Site Inventory- Beavercreek Road Concept Plan Design Process

The 2nd Map- Figure 2 consists of the adopted Metro Title 13 compliant Natural Resource Overlay District. The habitat areas are identified as salmon pink, and the Natural Resource Overlay District is identified as bright pink. Please note that the Metro identified habitat areas regulated under OCMC 17.49 Natural Resource Overlay District are smaller than the habitat areas identified by the consultant team above in Figure 1 and have been demarcated with red numbers (1-4)

All of the currently regulated habitat areas located within the Natural Resource Overlay District in this area are protected through OCMC 17.49.

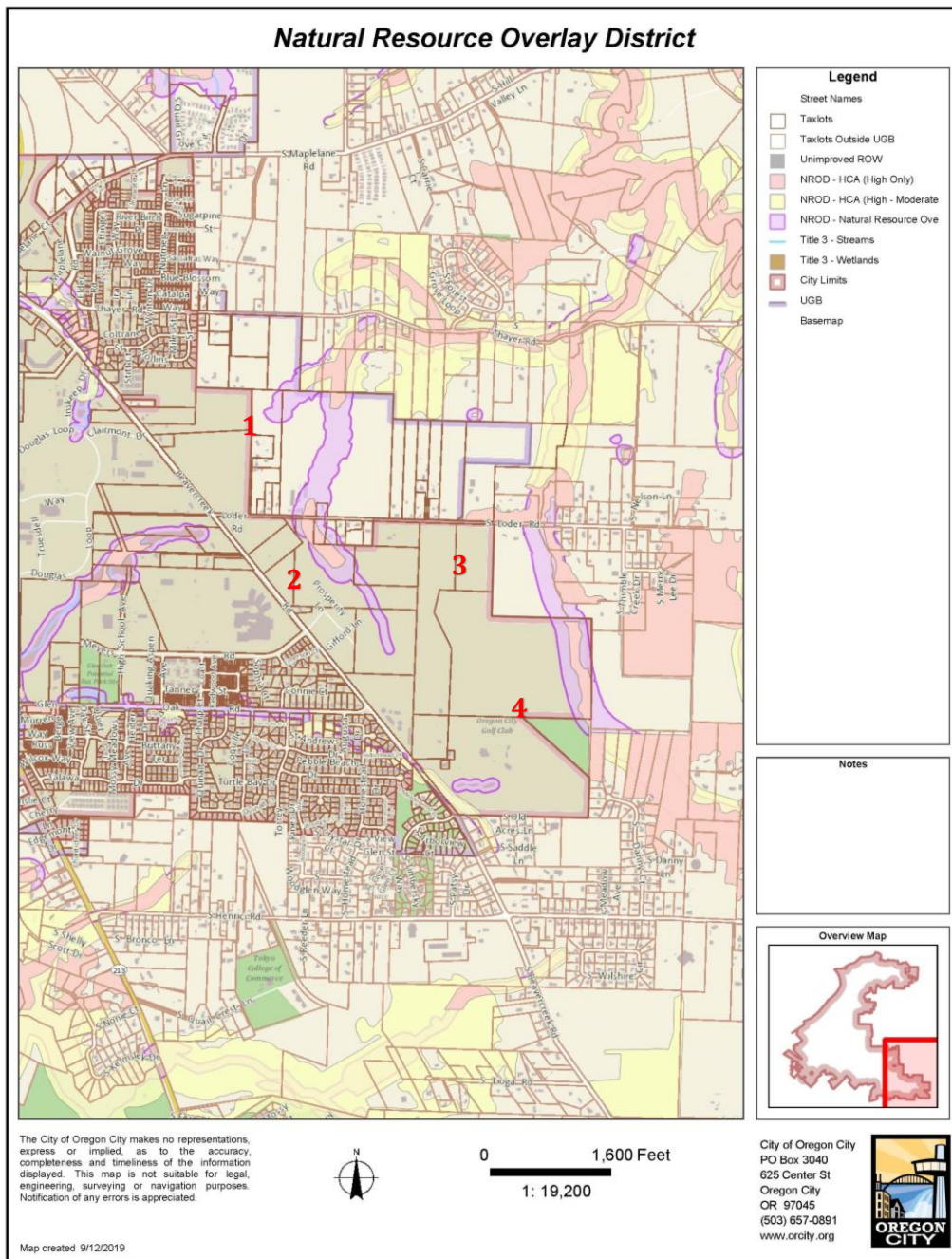


Figure 2 Natural Resource Overlay District (NROD)

The areas located outside of the NROD District and identified as orange in Concept Plan Inventory in Figure 1 are further protected through the Geologic Hazards District. Figure 3 below identifies areas with historic landslides, sloped over 25% slope and 50 buffers around these features. Development is greatly reduced and oftentimes restricted within the Geologic Hazards Overlay District.

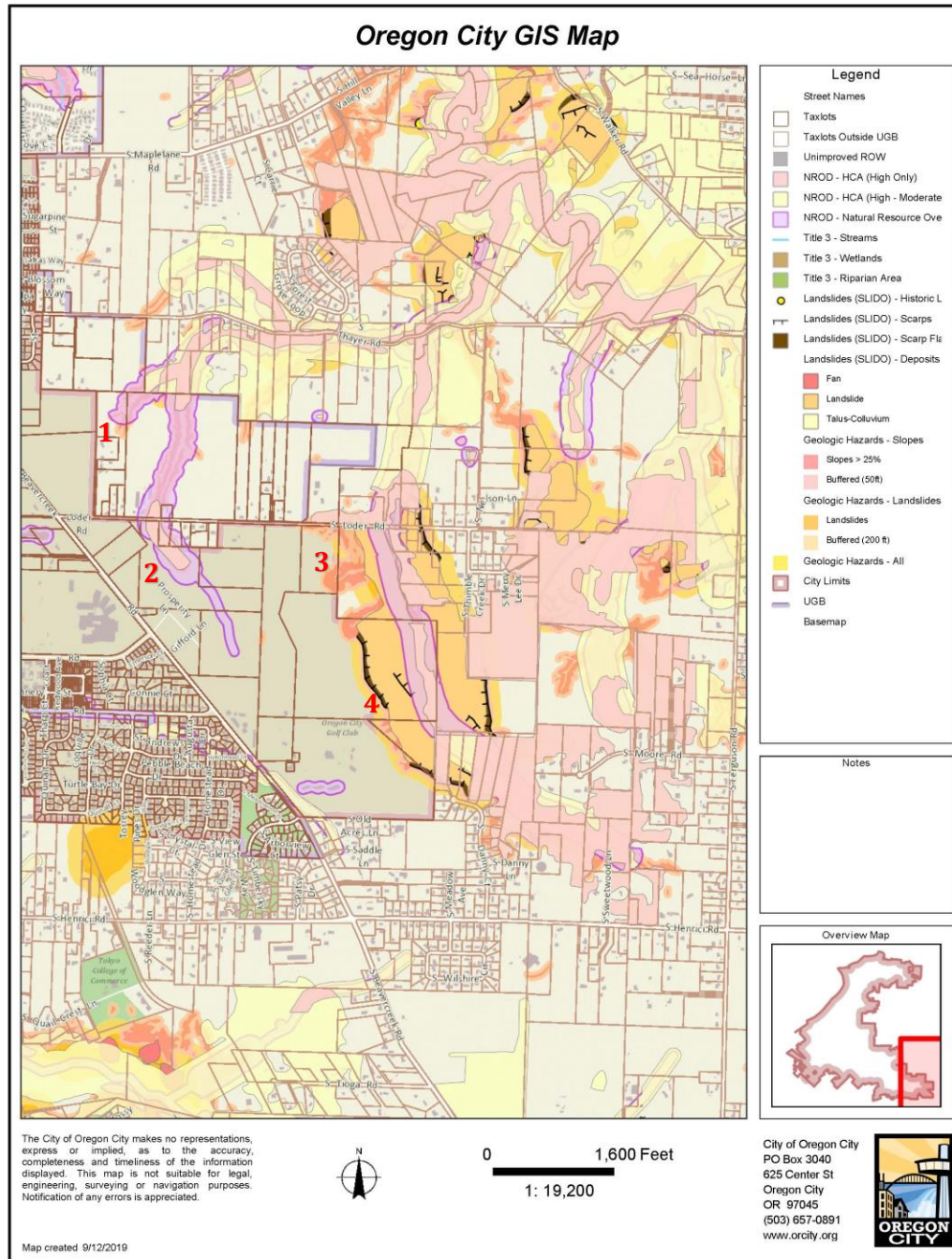


Figure 3- Geologic Hazards + Natural Resource Overlay District (NROD)

The Natural Resource Overlay District (OCMC 17.49) and Geologic Hazards (17.44) account for much of the concept plan identified habitat area associated with Thimble Creek Canyon (area 4) at the far SE quadrant of the plan and some of Area 3 closer to Loder Road.

The Concept Plan identified habitat area proposed to be zoned Campus Industrial (areas 1 and 2) that abuts the existing vegetative corridor which runs north along the airfield and crosses over Loder Road is not fully regulated by these two overlay districts.

However, OCMC Chapter 17.41 Tree Protection, Preservation, Removal, and Replanting Standards provides some additional protection along this tributary to Thimble Creek. Any tree removed in non-residential districts prior to a development application or any development removed as part of a development application in a residential district requires mitigation per the table below. While the replanting of trees removed may not necessarily be completed in the same area- the mitigation tree replanting provides an approach to no net loss of city tree canopy as part of a development application. Please note that dead, diseased or dangerous trees do not require replanting per OCMC 17.41.

Table 17.41.060-1
Tree Replacement Requirements
All replacement trees shall be either:
Two-inch caliper deciduous, or
Six-foot high conifer

Size of tree removed (DBH)	Column 1 Number of trees to be planted. (If removed Outside of construction area)	Column 2 Number of trees to be planted. (If removed Within the construction area)
6 to 12"	3	1
13 to 18"	6	2
19 to 24"	9	3
25 to 30"	12	4
31 and over"	15	5

The analysis contained above reviews at how the city regulates the area identified in the Beavercreek Road Concept Plan habitat areas. Staff finds that the combination of OCMC 17.49 Natural Resource Overlay District, Geologic Hazards Overlay District and Chapter 17.41 Tree Protection, Preservation, Removal, and Replanting Standards provide substantial implementation of protection standards to meet the goals and vision of the Concept Plan. Moreover, the areas with the largest gap in protection have been identified for future Campus Industrial jobs, which is a major goal of the Concept plan. At this time, no additional overlay protection or text amendment to the Beavercreek Road Concept Plan, which would clarify the approach to habitat areas is anticipated, though they could be added to the final documents if desired by the Planning Commission.

Staff will also be presenting this item at the October 9, 2019 Natural Resource Committee meeting and will provide feedback at a future Planning Commission meeting.

Staff recommendation: Staff does not recommend any revisions to the proposed code amendments.

3. Master Planning Requirement- Clear and Objective Standards for Housing

Senate Bill 1051, passed in 2017, requires jurisdictions to provide clear and objective standards for housing. Clear and objective standards are metric based and rely on analysis using measurable standards such as height, setback, material selection, window transparency, and other architectural features that can be measured. The 2017 senate bill expanded the requirement for clear and objective standards to now apply to all residential development (not just “needed housing”), and prohibited cities from denying applications that meet clear and objective standards. The new provisions are aimed at removing barriers to residential development as part of efforts to increase the supply of affordable housing options across the state.

The 2008 Beavercreek Concept Plan looked at implementation through a more subjective Master Plan process that requires applicant's to show how their proposed development is consistent with the adopted plan. This would occur through a Type III Master Plan application reviewed by the City Commission at a public hearing. Findings would be made showing substantial compliance with discretionary criteria such as the goals and policies of the Comprehensive Plan. This approach was seen as the easiest path for compliance review including acquisition of park land as part of a development application.

The proposed code for the Beavercreek Road Concept Plan can be approved in a clear and objective manner to show consistency and compliance with SP 1051 and thus there is no need for a Master Plan to be required for all development. The Master Plan process, however, is still an option for future applicants wishing to pursue an alternative approach that also meets the intent of the adopted plan.

All of the districts proposed in the Concept Plan area allow for some amount of housing except for the Campus Industrial District (CI). Standards that are less clear and objective could be proposed in this district; however as job creation is a major goal of the Beavercreek Road Concept Plan, staff does not see a larger interest being met by separating industrial development from the clear and objective approach to code implementation.

The way to address compliance with SB 1051 will be to amend the Beavercreek Road Concept Plan and remove this requirement from the text. Staff will prepare a redline exhibit that will be added to the final Ordinance that amends the Concept Plan to no longer require development to be approved through a Master Plan process in order to be consistent with SB 1051.

Staff recommendation: Staff recommends amending the Beavercreek Road Concept Plan text to no longer require implementation through the Master Plan process.

LEG 19-0003

BEAVERCREEK ROAD CONCEPT PLAN ZONING AND CODE AMENDMENTS

TOPIC: GEOLOGIC HAZARDS,
UPLAND HABITAT AND MASTER
PLANNING REQUIREMENT

SEPTEMBER 23, 2019 PLANNING
COMMISSION MEETING



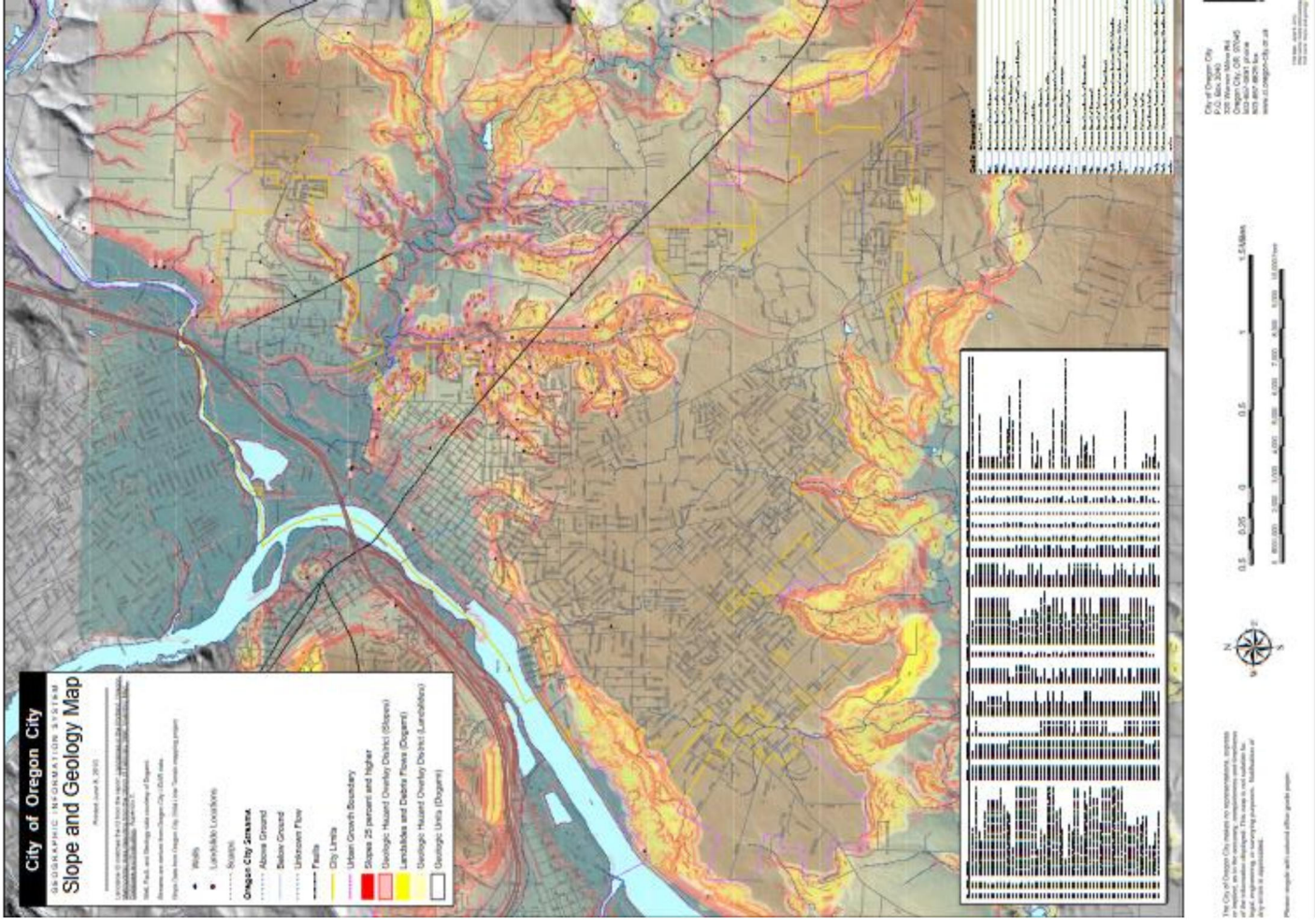


The following topics were identified either by public comment or the Planning Commission for the September 23, 2019 Hearing. Staff will provide background on the issue and offer a recommendation if warranted.

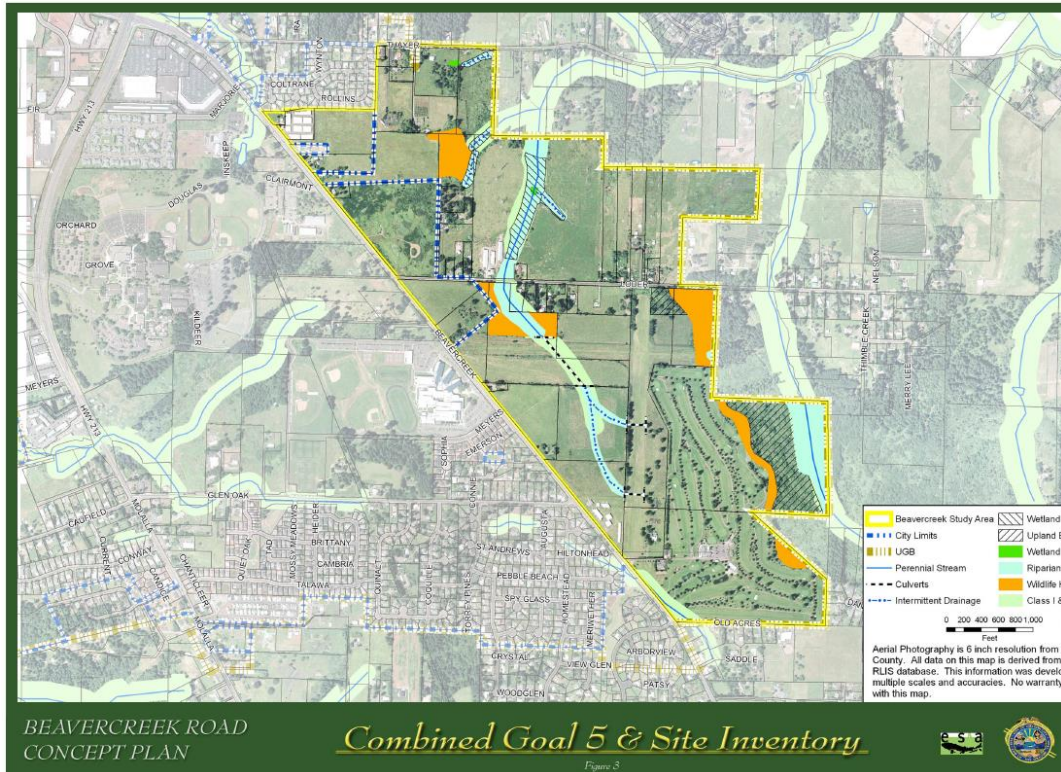
Staff is looking for direction from the Planning Commission on each item discussed this evening.

GEOLOGIC HAZARDS

Josh Wheeler, Assistant City Engineer will provide a presentation on the Geologic Hazards Overlay District.



UPLAND HABITAT REGULATION UNDER OCMC 17.49 NATURAL RESOURCE OVERLAY DISTRICT (NROD).



In 2008 and 2009, Oregon City worked with Metro to identify habitat areas within Oregon City. Most of the areas identified as conservation habitat areas were located within the existing stream buffers or were further regulated by the Geologic Hazards Overlay District

Staff has reviewed the 2008 Site Inventory Map and has identified some areas that are not currently regulated under OCMC 17.49-Natural Resources Overlay District or OCMC 17.44 Geologic Hazards.

Using the analysis in the staff memo, staff has determined that a sufficient amount of land identified as habitat is being protected through the city's existing code to show compliance with the goals and policies of the Beaver Creek Road Concept Plan.

Additional regulation could be adopted to address these areas, though they would most likely be separate from the Geologic Hazard or NROD Overlay Districts.

- **Staff recommendation:** Staff does not recommend any revisions to the proposed code amendments.

MASTER PLANNING REQUIREMENT- CLEAR AND OBJECTIVE STANDARDS FOR HOUSING



Senate Bill 1051, passed in 2017, requires jurisdictions to provide clear and objective standards for housing.

Clear and objective standards are metric based and rely on analysis using measurable standards such as height, setback, material selection, window transparency, and other architectural features that can be measured.

Staff and the consultant team has been preparing code for the Beavercreek Road Concept Plan that can be approved in a clear and objective manner to show consistency and compliance with SP 1051

The 2008 Beavercreek Concept Plan looked at implementation through a more subjective Master Plan process that requires applicants to show how their proposed development is consistent with the adopted plan.

- **Staff recommendation:** Staff recommends amending the Beavercreek Road Concept Plan text to no longer require implementation through the Master Plan process.

OCTOBER 14, 2019 PLANNING COMMISSION MEETING

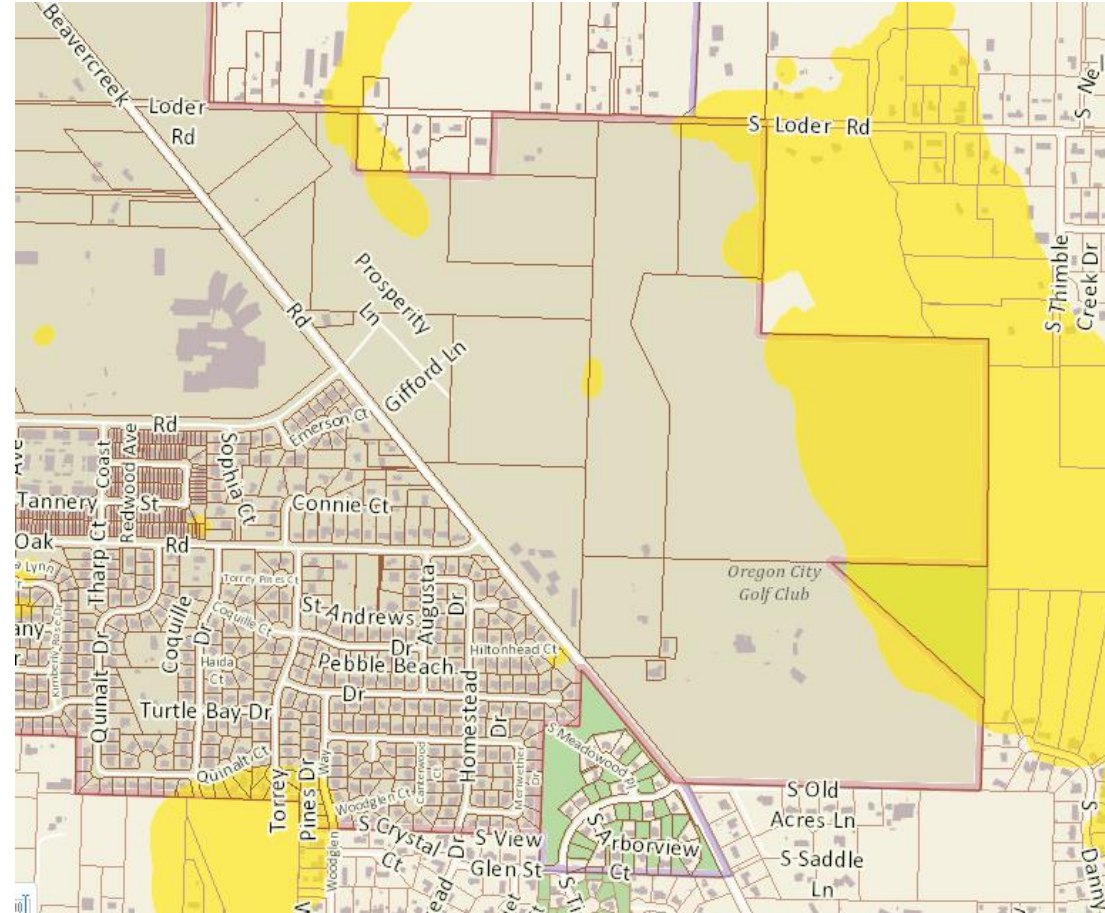


PARKS

RENAMING CONCEPT PLAN

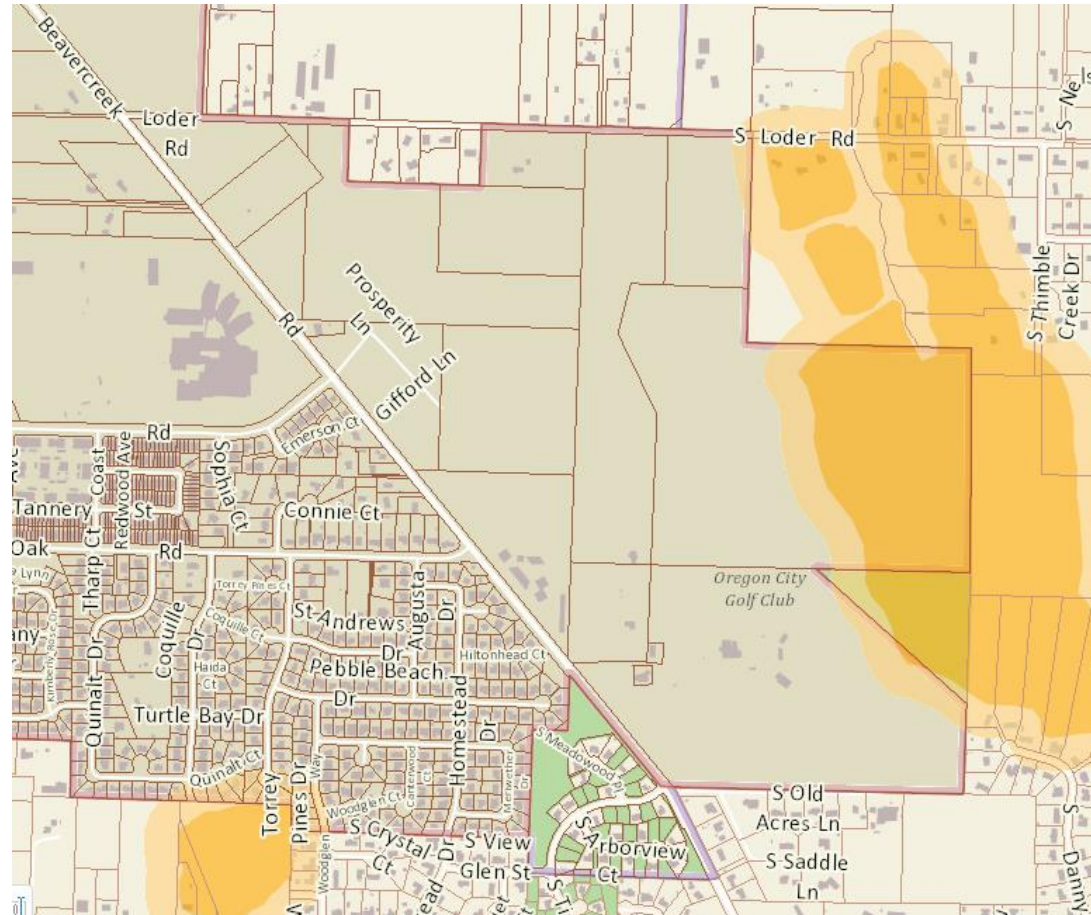
HOME OCCUPATION/COTTAGE INDUSTRY

Beavercreek Concept Area : Geologic Hazards



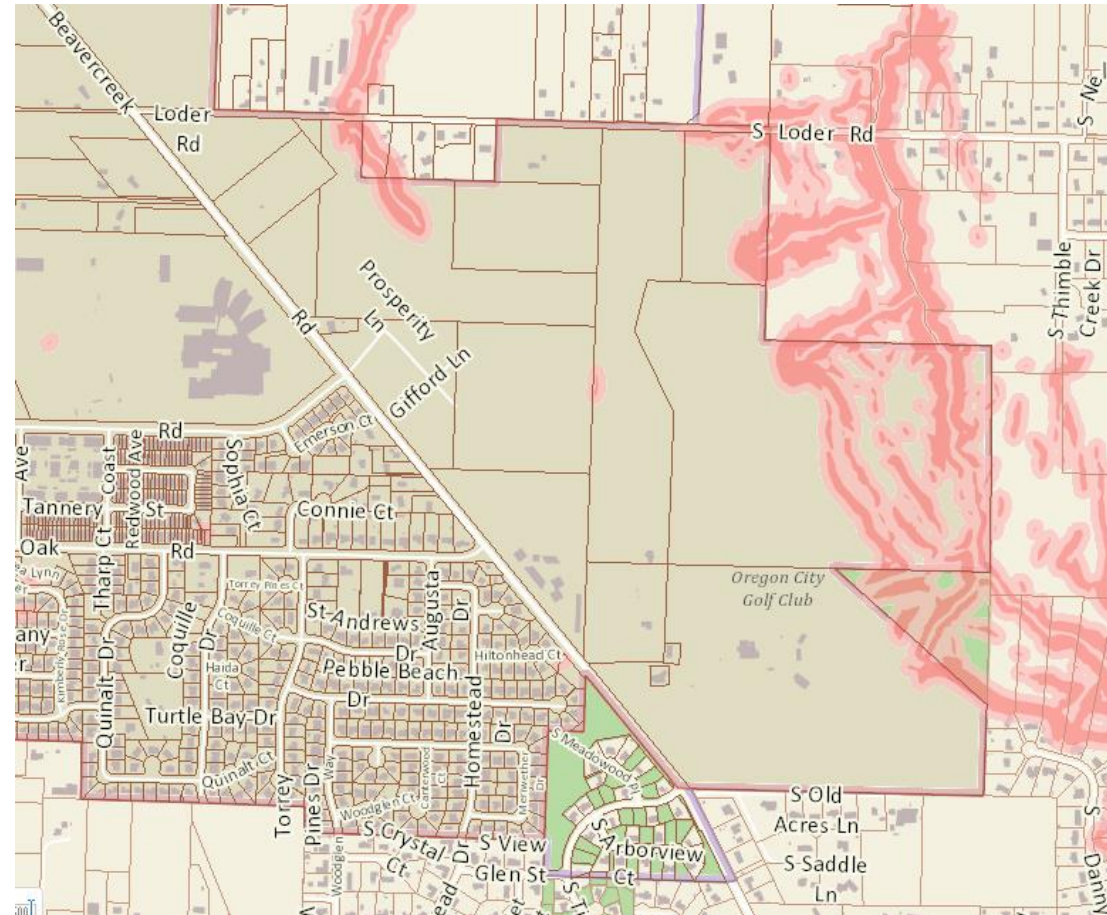
General Geologic Hazard Overlay

Beavercreek Concept Area : Geologic Hazards



Landslide Deposits

Beavercreek Concept Area : Geologic Hazards



Slopes greater than 25%

Beavercreek Concept Area : Geologic Hazards

- Detailed Analysis required when:
 - Installation of construction of accessory structure greater than 500 square feet
 - General development
 - Tree removal on slopes greater than 25% where canopy removal exceeds 25%
 - Excavation which exceeds 2 feet in depth or 25 cubic yards of earth

Beavercreek Concept Area : Geologic Hazards

- Exemptions from the Geologic Hazard Code :
 - Excavation or fill less than 2 feet in depth, less than 25 cubic yards of volume
 - Structural alteration of any structure less than 500 square feet
 - Installation, construction, replacement of utility lines in right of way
 - Removal of noxious vegetation
 - Emergency Actions

Beavercreek Concept Area : Geologic Hazards

- Geologic Hazard Code Standards :
 - Minimize Cuts and Fills
 - Work is only allowed between May 1 and October 31
 - Follow natural topography as much as possible
 - Density is more restrictive than underlying zoning for slopes greater than 25%
 - Shall not exceed 2 dwelling units per acre
 - No more than 4,000 square feet of surface area (or 50% of the surface area, whichever is smaller)
 - Development is prohibited in slopes greater than 35%
 - Additional detailed technical requirements

Beavercreek Concept Area : Geologic Hazards

- New Geologic Hazard State Standards:
 - Created by Department of Land Conservation Development (DLCD)
 - To be published soon
 - City was used as an example within the document
 - Short presentation at the City Commission Work Session October 8



Oregon City Municipal Code Chapter 17.44 Geologic Hazards

Footnotes:

--- (21) ---

Editor's note— Ord. No. 08-1014, adopted July 1, 2009, repealed Chapter 17.44 in its entirety and enacted new provisions to read as herein set out. Prior to amendment, Chapter 17.44 pertained to similar subject matter. See Ordinance Disposition List for derivation.

17.44.010 - Intent and purpose.

The intent and purpose of the provisions of this chapter are:

- A. To ensure that activities in geologic hazard areas are designed based on detailed knowledge of site conditions in order to reduce the risk of private and public losses;
- B. To establish standards and requirements for the use of lands within geologic hazard areas;
- C. To provide safeguards to prevent undue hazards to property, the environment, and public health, welfare, and safety in connection with use of lands within geologic hazard areas;
- D. To mitigate risk associated with geologic hazard areas, not to act as a guarantee that the hazard risk will be eliminated, nor as a guarantee that there is a higher hazard risk at any location. Unless otherwise provided, the geologic hazards regulations are in addition to generally applicable standards provided elsewhere in the Oregon City Municipal Code.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.44.025 - When required; regulated activities; permit and approval requirements.

No person shall engage in any of the following regulated activities within the adopted Oregon City Geologic Hazards Overlay Zone as defined in section 17.04.515 of the Oregon City Municipal Code without first obtaining permits or approvals as required by this chapter:

- A. Installation or construction of an accessory structure greater than 500 square feet in area;
- B. Development of land, construction, reconstruction, structural alteration, relocation or enlargement of any building or structure for which permission is required pursuant to the Oregon City Municipal Code;
- C. Tree removal on slopes greater than 25 percent where canopy area removal exceeds 25 percent of the lot.
- D. Excavation which exceeds two feet in depth, or which involves twenty-five or more cubic yards of volume;

The requirements of this chapter are in addition to other provisions of the Oregon City Municipal Code. Where the provisions of this chapter conflict with other provisions of the Oregon City Municipal Code, the provisions that are the more restrictive of regulated development activity shall govern.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.44.030 - Procedures.

No building or site development permit or other authorization for development shall be issued until the plans and other documents required by this chapter have been reviewed and found by the review authority to comply with the requirements of this chapter.

- A. Where the development is part of a land use permit application, review shall occur in the manner established in Chapter 17.50 for review of land use decisions.
- B. Where the development is part of a limited land use permit application, review shall occur in the manner established in Chapter 17.50 for review of limited land use decisions.
- C. Where the development is solely part of a grading permit or building permit, the city engineer may allow review to occur in the manner established in Title 15, Chapters 15.04 and 15.48 if the application meets Section 17.44.060 development standards.
- D. For any other proposed development not otherwise subject to review as a land use or limited land use permit application, review shall occur in the manner established in Chapter 17.50 for limited land use decisions.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.44.035 - Exemptions.

The following activities, and persons engaging in same, are EXEMPT from the provisions of this chapter.

- A. An excavation which is less than two feet in depth, or which involves less than twenty-five cubic yards of volume;
- B. A fill which does not exceed two feet in depth or twenty-five cubic yards of volume;
- C. Structural alteration of any structure of less than five hundred square feet that does not involve grading as defined in this chapter;
- D. Installation, construction, reconstruction, or replacement of utility lines in city right-of-way, or public easement, not including electric substations;
- E. The removal or control of noxious vegetation;
- F. Emergency actions which must be undertaken immediately to prevent an imminent threat to public health or safety, or prevent imminent danger to public or private property. The person undertaking emergency action shall notify the building official on all regulated activities associated with any building permit or city engineer/public works director on all others within one working day following the commencement of the emergency activity. If the city engineer/public works director or building official determine that the action or part of the action taken is beyond the scope of allowed emergency action, enforcement action may be taken.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.44.050 - Development—Application requirements and review procedures and approvals.

Except as provided by subsection B. of this section, the following requirements apply to all development proposals subject to this chapter:

- A. A geological assessment and geotechnical report that specifically includes, but is not limited to:
1. Comprehensive information and data regarding the nature and distribution of underlying geology, the physical and chemical properties of existing soils and groundwater; an opinion of site geologic stability, and conclusions regarding the effect of geologic conditions on the proposed development. In addition to any field reconnaissance or subsurface investigation performed for the site, the following resources, as a minimum, shall be reviewed to obtain this information and data:
 - a. The State of Oregon Department of Geology and Mineral Industries (DOGAMI) in Bulletin 99, Geology and Geological Hazards of North Clackamas County, Oregon (1979), or in any subsequent DOGAMI mapping for the Oregon City area;
 - b. Portland State University study entitled "Environmental Assessment of Newell Creek Canyon, Oregon City, Oregon" (1992);
 - c. Portland State University study, "Landslides in the Portland, Oregon, Metropolitan Area Resulting from the Storm of February 1996: Inventory Map, Database and Evaluation" (Burns and others, 1998);
 - d. DOGAMI Open File Report O-06-27, "Map of Landslide Geomorphology of Oregon City, Oregon, and Vicinity Interpreted from LIDAR Imagery and Aerial Photographs" (Madin and Burns, 2006);
 - e. "Preliminary Geologic Map of the Oregon City Quadrangle, Clackamas County, Oregon" (Madin, in press);
 2. Information and recommendations regarding existing local drainage, proposed permit activity impacts on local drainage, and mitigation to address adverse impacts;
 3. Comprehensive information about site topography;
 4. Opinion as to the adequacy of the proposed development from an engineering standpoint;
 5. Opinion as to the extent that instability on adjacent properties may adversely affect the project;
 6. Description of the field investigation and findings, including logs of subsurface conditions and laboratory testing results;
 7. Conclusions regarding the effect of geologic conditions on the proposed development, tree removal, or grading activity;
 8. Specific requirements and recommendations for plan modification, corrective grading, and special techniques and systems to facilitate a safe and stable site;
 9. Recommendations and types of considerations as appropriate for the type of proposed development:
 - a. General earthwork considerations, including recommendations for temporary and permanent cut and fill slopes and placement of structural fill;
 - b. Location of residence on lot;
 - c. Building setbacks from slopes;
 - d. Erosion control techniques applicable to the site;
 - e. Surface drainage control to mitigate existing and potential geologic hazards;
 - f. Subdrainage and/or management of groundwater seepage;

- g. Foundations;
 - h. Embedded/retaining walls;
 - i. Management of surface water and irrigation water; and
 - j. Impact of the development on the slope stability of the lot and the adjacent properties.
10. Scaled drawings that describe topography and proposed site work, including:
- a. Natural physical features, topography at two or ten-foot contour intervals locations of all test excavations or borings, watercourses both perennial and intermittent, ravines and all existing and manmade structures or features all fully dimensioned, trees six-inch caliper or greater measured four feet from ground level, rock outcroppings and drainage facilities;
 - b. All of the features and detail required for the site plan above, but reflecting preliminary finished grades and indicating in cubic yards whether and to what extent there will be a net increase or loss of soil.
 - c. A cross-section diagram, indicating depth, extent and approximate volume of all excavation and fills.
- [11.] For properties greater than one acre, a preliminary hydrology report, prepared by a suitably qualified and experienced hydrology expert, addressing the effect upon the watershed in which the proposed development is located; the effect upon the immediate area's stormwater drainage pattern of flow, the impact of the proposed development upon downstream areas and upon wetlands and water resources; and the effect upon the groundwater supply.
- B. Review procedures and approvals require the following:
- 1. Examination to ensure that:
 - a. Required application requirements are completed;
 - b. Geologic assessment and geotechnical report procedures and assumptions are generally accepted; and
 - c. All conclusions and recommendations are supported and reasonable.
 - 2. Conclusions and recommendations stated in an approved assessment or report shall then be directly incorporated as permit conditions or provide the basis for conditions of approval for the regulated activity.
 - 3. All geologic assessments and geotechnical reports shall be reviewed by an engineer certified for expertise in geology or geologic engineering and geotechnical engineering, respectively, as determined by the city. The city will prepare a list of prequalified consultants for this purpose. The cost of review by independent review shall be paid by the applicant.
- C. The city engineer may waive one or more requirements of subsections A and B of this section if the city engineer determines that site conditions, size or type or development of grading requirements do not warrant such detailed information. If one or more requirements are waived, the city engineer shall, in the staff report or decision, identify the waived provision(s), explain the reasons for the waiver, and state that the waiver may be challenged on appeal and may be denied by a subsequent review authority.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.44.060 - Development standards.

Notwithstanding any contrary dimensional or density requirements of the underlying zone, the following standards shall apply to the review of any development proposal subject to this chapter. Requirements of this chapter are in addition to other provision of the Oregon City Municipal Code. Where provision of this chapter conflict with other provision of the Oregon City Municipal Code, the provisions that are more restrictive of regulated development activity shall govern.

- A. All developments shall be designed to avoid unnecessary disturbance of natural topography, vegetation and soils. To the maximum extent practicable as determined by the review authority, tree and ground cover removal and fill and grading for residential development on individual lots shall be confined to building footprints and driveways, to areas required for utility easements and for slope easements for road construction, and to areas of geotechnical remediation.
- B. All grading, drainage improvements, or other land disturbances shall only occur from May 1 to October 31. Erosion control measures shall be installed and functional prior to any disturbances. The city engineer may allow grading, drainage improvements or other land disturbances to begin before May 1 (but no earlier than March 16) and end after October 31 (but no later than November 30), based upon weather conditions and in consultation with the project geotechnical engineer. The modification of dates shall be the minimum necessary, based upon the evidence provided by the applicant, to accomplish the necessary project goals. Temporary protective fencing shall be established around all trees and vegetation designed for protection prior to the commencement of grading or other soil disturbance.
- C. Designs shall minimize the number and size of cuts and fills.
- D. Cut and fill slopes, such as those for a street, driveway accesses, or yard area, greater than seven feet in height (as measured vertically) shall be terraced. Faces on a terraced section shall not exceed five feet. Terrace widths shall be a minimum of three feet and shall be vegetated. Total cut and fill slopes shall not exceed a vertical height of fifteen feet. Except in connection with geotechnical remediation plans approved in accordance with the chapter, cuts shall not remove the toe of any slope that contains a known landslide or is greater than twenty-five percent slope. The top of cut or fill slopes not utilizing structural retaining walls shall be located a minimum of one-half the height of the cut slope from the nearest property line.
- E. Any structural fill shall be designed by a suitably qualified and experienced civil or geotechnical engineer licensed in Oregon in accordance with standard engineering practice. The applicant's engineer shall certify that the fill has been constructed as designed in accordance with the provisions of this chapter.
- F. Retaining walls shall be constructed in accordance with the Oregon Structural Specialty Code adopted by the State of Oregon.
- G. Roads shall be the minimum width necessary to provide safe vehicle and emergency access, minimize cut and fill and provide positive drainage control. The review authority may grant a variance from the city's required road standards upon findings that the variance would provide safe vehicle and emergency access and is necessary to comply with the purpose and policy of this chapter.
- H. Density shall be determined as follows:
 - 1. For those areas with slopes less than twenty-five percent between grade breaks, the allowed density shall be that permitted by the underlying zoning district;
 - 2. For those areas with slopes of twenty-five to thirty-five percent between grade breaks, the density shall not exceed two dwelling units per acre except as otherwise provided in subsection I of this section;
 - 3. For those areas with slopes over thirty-five percent between grade breaks, development shall be prohibited except as otherwise provided in subsection I.4. of this section.
- I. For properties with slopes of twenty-five to thirty-five percent between grade breaks:

1. For those portions of the property with slopes of twenty-five to thirty-five percent, the maximum residential density shall be limited to two dwelling units per acre; provided, however, that where the entire site is less than one-half acre in size, a single dwelling shall be allowed on a lot or parcel existing as of January 1, 1994 and meeting the minimum lot size requirements of the underlying zone;
2. An individual lot or parcel with slopes between twenty-five and thirty-five percent shall have no more than fifty percent or four thousand square feet of the surface area, whichever is smaller, graded or stripped of vegetation or covered with structures or impermeable surfaces.
3. No cut into a slope of twenty-five to thirty-five percent for the placement of a housing unit shall exceed a maximum vertical height of fifteen feet for the individual lot or parcel.
4. For those portions of the property with slopes over thirty-five percent between grade breaks:
 - a. Notwithstanding any other city land use regulation, development other than roads, utilities, public facilities and geotechnical remediation shall be prohibited; provided, however, that the review authority may allow development upon such portions of land upon demonstration by an applicant that failure to permit development would deprive the property owner of all economically beneficial use of the property. This determination shall be made considering the entire parcel in question and contiguous parcels in common ownership on or after January 1, 1994, not just the portion where development is otherwise prohibited by this chapter. Where this showing can be made on residentially zoned land, development shall be allowed and limited to one single-family residence. Any development approved under this chapter shall be subject to compliance with all other applicable city requirements as well as any applicable state, federal or other requirements;
 - b. To the maximum extent practicable as determined by the review authority, the applicant shall avoid locating roads, utilities, and public facilities on or across slopes exceeding thirty-five percent.
- J. The geotechnical engineer of record shall review final grading, drainage, and foundation plans and specifications and confirm in writing that they are in conformance with the recommendations provided in their report.
- K. At the city's discretion, peer review shall be required for the geotechnical evaluation/investigation report submitted for the development and/or lot plans. The peer reviewer shall be selected by the city. The applicant's geotechnical engineer shall respond to written comments provided by the city's peer reviewer prior to issuance of building permit.
- L. The review authority shall determine whether the proposed methods of rendering a known or potential hazard site safe for construction, including proposed geotechnical remediation methods, are feasible and adequate to prevent landslides or damage to property and safety. The review authority shall consult with the city's geotechnical engineer in making this determination. Costs for such consultation shall be paid by the applicant. The review authority may allow development in a known or potential hazard area as provided in this chapter if specific findings are made that the specific provisions in the design of the proposed development will prevent landslides or damage. The review authority may impose any conditions, including limits on type or intensity of land use, which it determines are necessary to assure that landslides or property damage will not occur.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.44.070 - Access to property.

- A. Shared private driveways may be required if the city engineer or principal planner determines that their use will result in safer location of the driveway and lesser amounts of land coverage than would result if separate private driveways are used.
- B. Innovations in driveway design and road construction shall be permitted in order to keep grading and cuts or fills to a minimum and to achieve the purpose and policy of this chapter.
- C. Points of access to arterials and collectors shall be minimized.
- D. The city engineer or principal planner shall verify that adequate emergency services can be provided to the site.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.44.080 - Utilities.

All new service utilities, both on-site and off-site, shall be placed underground and under roadbeds where practicable. Every effort shall be made to minimize the impact of utility construction. Underground utilities require the geologic hazards permitting and review prescribed herein.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.44.090 - Stormwater drainage.

The applicant shall submit a permanent and complete stormwater control plan. The program shall include, but not be limited to the following items as appropriate: curbs, gutters, inlets, catch basins, detention facilities and stabilized outfalls. Detention facilities shall be designed to city standards as set out in the city's drainage master plan and design standards. The review authority may impose conditions to ensure that waters are drained from the development so as to limit degradation of water quality consistent with Oregon City's Title III section of the Oregon City Municipal Code Chapter 17.49 and the Oregon City Public Works Stormwater Management Design Manual and Standards Plan or other adopted standards subsequently adopted by the city commission. Drainage design shall be approved by the city engineer before construction, including grading or other soil disturbance, has begun.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.44.100 - Construction standards.

During construction on land subject to this chapter, the following standards shall be implemented by the developer:

- A. All development activity shall minimize vegetation removal and soil disturbance and shall provide positive erosion prevention measures in conformance with OCMC Chapter 17.47—Erosion and Sediment Control.
- B. No grading, clearing or excavation of any land shall be initiated prior to approval of the grading plan, except that the city engineer shall authorize the site access, brush to be cleared and the location of the test pit digging prior to approval of such plan to the extent needed to complete preliminary and final engineering and surveying. The grading plan shall be approved by the city engineer as part of the city's review under this chapter. The developer shall be responsible for the proper execution of the approved grading plan.
- C. Measures shall be taken to protect against landslides, mudflows, soil slump and erosion. Such measures shall include sediment fences, straw bales, erosion blankets, temporary sedimentation ponds,

interceptor dikes and swales, undisturbed buffers, grooving and stair stepping, check dams, etc. The applicant shall comply with the measures described in the Oregon City Public Works Standards for Erosion and Sedimentation Control (Ordinance 99-1013).

- D. All disturbed vegetation shall be replanted with suitable vegetation upon completion of the grading of the steep slope area.
- E. Existing vegetative cover shall be maintained to the maximum extent practicable. No grading, compaction or change in ground elevation, soil hydrology and/or site drainage shall be permitted within the drip line of trees designated for protection, unless approved by the city.
- F. Existing perennial and intermittent watercourses shall not be disturbed unless specifically authorized by the review authority. This includes physical impacts to the stream course as well as siltation and erosion impacts.
- G. All soil erosion and sediment control measures shall be maintained during construction and for one year after development is completed, or until soils are stabilized by revegetation or other measures to the satisfaction of the city engineer. Such maintenance shall be the responsibility of the developer. If erosion or sediment control measures are not being properly maintained or are not functioning properly due to faulty installation or neglect, the City may order work to be stopped. (Ord. 03-1014, Att. B3 (part), 2003; Ord. 94-1001 §2(part), 1994)
- H. All newly created lots, either by subdivision or partition, shall contain building envelopes with a slope of thirty-five percent or less.
- I. The applicant's geotechnical engineer shall provide special inspection during construction to confirm that the subsurface conditions and assumptions made as part of their geotechnical evaluation/investigation are appropriate. This will allow for timely design changes if site conditions are encountered that are different from those anticipated.
- J. Prior to issuing an occupancy permit, the geotechnical engineer shall prepare a summary letter stating that the soils- and foundation-related project elements were accomplished in substantial conformance with their recommendations.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.44.110 - Approval of development.

The city engineer shall review the application and verify, based on the applicant's materials and the land use record, whether the proposed development constitutes a hazard to life, property, natural resources or public facilities. If, in the city engineer's opinion, a particular development poses such a hazard, the city engineer shall recommend to the review authority permit conditions designed to reduce or eliminate the hazard. These conditions may include, but are not limited to, prohibitions on construction activities between November 1st and March 31st.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.44.120 - Liability.

Approval of an application for development on land subject to this chapter shall not imply any liability on the part of the city for any subsequent damage due to earth slides. Prior to the issuance of a building permit, a waiver of damages and an indemnity and hold harmless agreement shall be required which releases the city from all liability for any damages resulting from the development approved by the city's decision.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.44.130 - Compliance.

Nothing contained in this chapter shall relieve the developer of the duty to comply with any other provision of law. In the case of a conflict, the more restrictive regulation shall apply.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)

17.44.140 - Appeal.

The review authority's decision may be appealed in the manner set forth in Chapter 17.50.

(Ord. No. 08-1014, §§ 1—3(Exhs. 1—3), 7-1-2009; Ord. No. 10-1003, § 1(Exh. 1), 7-7-2010)



Metro | *People places. Open spaces.*

June 3, 2009

Pete Walter, AICP
Associate Planner
City of Oregon City
221 Molalla Avenue, Suite 200
Oregon City, Oregon 97045

Dear Pete:

In our continuing effort to work with Oregon City on compliance with Title 13 of the Metro Urban Growth Management Functional Plan, Metro staff has reviewed the materials you submitted dated May 29, 2009 that responds to our questions on your mapping and protection levels. As you know, Title 13 compliance consists of three major elements: Code protections for established Habitat Conservation Areas (HCAs); mapping of HCAs for the purposes of delineating areas of protection; and the implementation of or removal of barriers to Habitat Friendly Development Practices (HFDP).

Based on our review, we have found that the City's proposed approach to expand and implement existing adopted zoning overlays and the corresponding regulatory framework is sufficient to provide Oregon City with substantial compliance with Title 13.

Specifically:

1. Title 13 requires the removal of barriers to Habitat Friendly Development Practices (HFDP). Your submittal clarifies where and how the City meets the intent of removing barriers to, or will, implement HFDPs.
2. Your proposed code changes incorporating Title 13 language provide clear standards for the process of determining land use decisions in protected areas.
3. Based on review of your recently submitted map changes and corrections, staff concurs that the areas you have mapped as Natural Resource Overlay District (NROD) substantially cover the identified regional HCAs. Upon adoption of your proposed amendments, please send Metro your NROD map changes in a compatible electronic format for inclusion in the regional database of HCAs.

Please submit this letter into the record for the City Council hearing on June 3, 2009. If you have any questions regarding this letter please do not hesitate to contact me at 503-797-1833. On behalf of Metro, thank you for the time and effort spent in helping the region meet its goals of critical habitat protection.

Sincerely,

Brian Harper
Assistant Regional Planner

cc: Councilor Carlotta Collette, District 2
Chris Deffebach, Land Use Planning
Tim O'Brien, Land Use Planning



To: Planning Commission

From: Christina Robertson-Gardiner, Senior Planner

RE: LEG 19-0003-Beavercreek Road Concept Plan Zoning and Code Amendments

Date: August 30, 2019

Background

The Planning Commission is reviewing the zoning and code amendments for the Beavercreek Road Concept Plan (BRCP) over multiple meetings during the late summer and fall of 2019. Each meeting will be broken into 1-3 topics to allow the Planning Commission, staff and the public time to focus their energy. Planning Commission comments and direction as well as public comments will be tracked throughout the hearings and topics may be added to future meetings if new items are identified or issues have not been resolved. Please refer to the updated calendar attached to each Planning Commission packet for meeting topics.

The following topics were identified either by public comment or the Planning Commission for the September 9, 2019 Hearing. Staff will provide background on the issue and offer a recommendation if warranted.

Zoning

1. Setbacks Differentiation Between the Northern Concept Plan Boundary and the Southern Concept Plan Boundary.

Southern Boundary

The southern concept plan boundary along Old Acres Lane is will be zoned R-5 and has the following proposed code language. The purpose of the increased setback of 40 feet is to protect the existing grove of trees at the southern property line. Staff has identified two additional revisions in red for clarification purposes.

- Timbersky/Beavercreek intersection. There may be a connection to Beavercreek Road at the Timbersky intersection that could be a right in/right out approach, therefore a road may need to be allowed within the 20 feet of the southern boundary
- The addition of the clarification for the 40 foot setback at the southern boundary to primary structures indicates that accessory structures would be allowed in the 40 setback.



Google Maps 2012

D. Southern Perimeter Transition. Along the southern boundary of the Beavercreek Road Concept Plan area between Beavercreek Road and the eastern-most point of Tax Lot 00316, located on Clackamas County Map #32E15A, additional standards apply to create a perimeter transition.

1. For all lots adjacent to the southern boundary and within 20 feet of the southern boundary, uses shall be limited to single-family detached residential and **roads**, parks, trails and open space.
2. For all lots adjacent to the southern boundary and within 20 feet of the southern boundary, minimum lot size for residential uses shall be 6,000 square feet.
3. All **primary** structures shall be set back a minimum of 40 feet from the southern boundary for all lots adjacent to the southern boundary and within 20 feet of the southern boundary.
4. Within the 40-foot wide setback, a combination of landscaping and screening shall be provided to buffer the perimeter. The landscaping and screening shall meet one of the two standards:
 - a. Utilize existing vegetation in compliance with OCMC 17.41 resulting in preservation or replanting of a minimum of 12 inches of tree diameter inches per lot with trees spaced an average of one tree for every 30 linear feet along the southern property line. These trees may be located on the residential lots or an abutting tract created for tree preservation consistent with OCMC 17.41.050.B or other similar landscaping or open space purpose.
 - b. Provide a combination of landscaping and screening to include:
 - (i) A minimum of 12 inches of tree diameter inches per lot, or a minimum of an average of one tree with minimum caliper of two inches DBH for every 30 linear feet along the southern property line, whichever is greater; and

(ii) A minimum six-foot tall, decorative, sight-obscuring fence or wall running parallel to the southern boundary. The fence or wall shall be constructed of wood, stone, rock, or brick. Other durable materials may be substituted with Planning Director's approval. Chainlink fencing with slats shall be not allowed to satisfy this standard.

5. An alternative southern perimeter transition may be proposed as part of a Master Plan per OCMC 17.65, provided it is consistent with the goals of the adopted Beaver Creek Road Concept Plan.

Northern Boundary

The northern boundary is zoned CI and has the following buffering requirements to residentially properties. The purpose of the zoning language is to provide a visual buffer for residential uses while maximizing development area for campus industrial properties. The additional buffer requirements found in the CI zone allow for a smaller setback than the residential buffer to the south. The exchange for quality of the buffer over quantity is often applied in non-residential zones as the landscaping installation and maintenance is easier to enforce than with a single-family residence. Moreover, the Campus Industrial Zone is envisioned to attract businesses that contain their uses inside buildings. The off-hour impact would also be substantially less compared to a single-family residence.

17.37.040 -Dimensional standards

Buffer zone: If a use in this zone abuts or faces a residential use, a yard of at least twenty-five feet shall be required on the side abutting or facing the adjacent residential or commercial zone in order to provide a buffer area, and landscaping thereof shall be subject to site plan review

D. Buffer zone treatment required in OCMC 17.37.040.D shall include:

1. Landscaping shall be installed to provide screening of views of parking, loading and vehicle maneuvering areas, refuse/recycling collection areas, outdoor storage, and building façades. Buffer zone treatment may substitute for perimeter parking lot landscaping required per OCMC 17.52.060.C. Landscaping shall include:
 - a Trees a minimum of two caliper inches dbh planted on average 30 feet on center. Existing mature vegetation may be used to meet this standard if it achieves a similar level of screening as determined by the Planning Director.
 - b An evergreen hedge screen of thirty to forty-two inches high or shrubs spaced no more than 4 feet apart on average.
 - c Ground cover plants, which includes grasses covering all landscaping areas. Mulch (as a ground cover) shall only be allowed underneath plants at full growth and within two feet of the base of a tree and is not a substitute for ground cover.
2. Buffer shall incorporate a berm no less than three feet in height above the existing grade, constructed with a slope no steeper than 3:1 on all sides. The berm shall be planted with plant materials to prevent erosion.
3. A minimum six-foot tall, decorative, sight-obscuring fence or wall. The fence or wall shall be constructed of materials commonly used in the construction of fences and walls, such as wood, stone, rock, brick, or other durable materials. Chainlink fencing with slats shall be not allowed to satisfy this standard.

Staff recommendation: Staff recommends including the two additional redline clarifications for the southern boundary and will await further direction from the Planning Commission on this issue.

2. Definition of Warehousing

Distribution/warehousing is prohibited in the Beavercreek Road Concept Plan CI zone. There was some concern that ancillary warehousing and distribution would not be allowed.

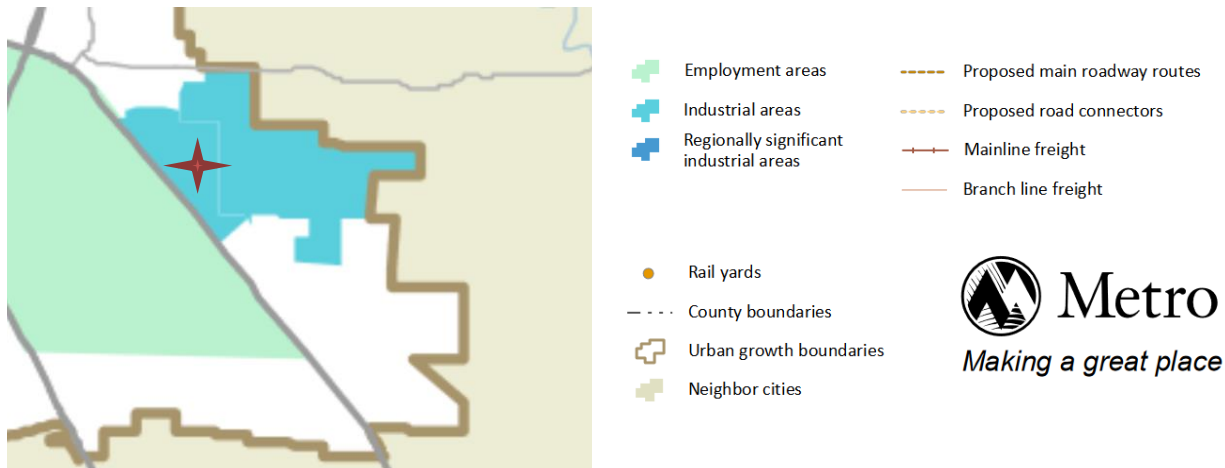
Staff recommendation: Oregon City views the storage and distribution of materials that are constructed or assembled onsite to be part of the permitted use. No changes to the code are recommended.

3. Map Change Request

At the August 12, 2019 Planning Commission Hearing, Paul Edgar requested that the Planning Commission work with Metro to revise the Title 4 Industrial maps to remove a CI zoned parcel owned by Terry Emmert (identified by a red star on the map below) to allow construction of housing for homeless veterans onsite. Portions of the CI area in the BRCP are identified as Title 4 Industrial areas. Any change to the title 4 Map must be adopted by Metro and would need to be completed before the Code amendments are adopted by the City to remain consistent with Title 4.

The Concept Plan envisions a mixed-use neighborhood with 5,000 jobs and 1,000-1,600 housing units. This requested map revision would constitute a substantial change to the Concept Plan, would not honor the extensive public process that created the plan and would affect forecasted jobs numbers. This area of the Concept Plan was brought into the Urban Growth boundary to meet Oregon City's needs for additional jobs.

Title 4 is part of the Metro Functional Plan that identifies and places protection on industrial and employment lands to ensure communities have adequate land for jobs. More information can be found at the following link: <https://www.oregonmetro.gov/industrial-and-employment-land>



Title 4 Map- BRCP 1

Staff recommendation: Staff does not recommend amending the Title 4 Map as it is not consistent with the vision of the Beavercreek Road Concept Plan.

4. City Zoning and Comprehensive Plan Map

The consultant team produced draft maps during the public engagement process. These maps were transferred to the city's mapping program and draft Oregon City Zoning and Comprehensive Plan maps have been created and will be entered into the record at the September 9, 2019 Planning Commission Hearing. These maps are based on the June 7, 2019 draft maps, which were attached to the record at the August 12, 2019 Hearing. Any future revisions to the Zoning or Comprehensive Plan maps will be from the draft city maps.

Staff recommendation: No recommendation is needed for this item.

5. Home Occupation/Cottage Manufacturing

As part of the 2016 re-adoption of the plan, the Planning Commission recommended that as part creating the implementing zoning for the BRCP, the City Commission direct staff to further analyze the issue of allowing expanded home occupation uses, also known as cottage manufacturing/industry within the mixed use and residential areas.

“In 2008, the City Commission specifically considered amending the plan to include cottage manufacturing within the mixed use area, consistent with the instructions on remand, and decided the details of cottage housing are more appropriately addressed when the code language was created “Additionally, live-work units and home occupations, that may include cottage industries, are supported by the mixed-use approach. Adoption of the BRCP does not preclude the provision of cottage manufacturing or a greater variety of home occupations within the mixed use and residential areas. The proposed land use mix, combined with the improved transportation network, will guide the future development of the area in a manner that supports this policy. Finally, as part of creating the implementing zoning for the BRCP, the City Commission directs staff to further analyze the issue of allowing expanded home occupation uses, also known as cottage manufacturing, within the mixed use and residential areas.” Cottage industry was not added to the text of the Beaver Creek Road Concept Plan in 2008 or in 2016. ¹

As the term cottage industry or cottage manufacturing was not incorporated into the adopted plan, it is neither encouraged nor discouraged. As part of the code implementation process, the Planning Commission should make findings relating to this issue and how it was addresses as part of the adoption process.

The Merriam Webster Dictionary definition defines cottage industry as:

- 1 : an industry whose labor force consists of family units or individuals working at home with their own equipment
- 2 : a small and often informally organized industry

¹ Response Brief of Respondent City of Oregon City -LUBA No. 2016-044 Page 8

3 : a limited but enthusiastically pursued activity or subject

In Oregon City, a home occupation is a business carried on by the resident of a dwelling as a secondary use, with the activity conducted so that there is no audible, visual or other appearance of a business.. The primary use must continue to be a residence. Partners or employees are not allowed onsite for businesses purposes. This means that the business must be conducted by the resident(s) and family members who live at the dwelling. In order to renew your business license, your home occupation statement must be reviewed annually. All of this is short hand for – do your work inside a building and make sure it is not adversely affecting your neighbors.

17.04.580 -Home occupation. "Home occupation" means an occupation carried on solely by the resident or residents of a dwelling unit as a secondary use in accordance with 17.54.120.

17.54.120 -Home Occupations

Home occupations shall comply with all of the following:

- A. No employees reporting to work onsite who are not residents unless otherwise required by State law. The business may have off-site employees or partners provided that they do not report for work at the subject residence;*
- B. All business conducted on sites shall be conducted within the home or accessory structure;*
- C. No outdoor storage of materials or commercial vehicles associated with the business shall occur on-site; and*
- D. Not more than one-half of the square-footage of the primary dwelling is devoted to such use*

*Please note that restriction of retail sales onsite was left off the definition that was adopted on August 2, 2019. A revised definition which includes the prohibition of retail sales onsite is part of the *Amendments to the Recently Adopted Code for Clarifications, Corrections of Errors, or Improvements* that is also being heard tonight. Once adopted, the retail restriction component will once again be part of the home occupation definition.

Public Comment

The following question was discussed at the April 9, 2019 BRCP Meeting #2 which was also available through an online survey.

11. East Mixed-Use Neighborhood- Should home occupations and/or live/work units be broadened to allow "cottage industries" that manufacture and sell goods? What additional compatibility standards should apply, such as use limitations, impacts, size, storage, or customer visits? Are there other ideas to integrate live-work opportunities in these neighborhoods, and the district generally?

There was very little feedback on this question from either inperson comments or through online comments. At the April 9, 2019 meeting the question asked to those assembled if there should be additional allowances for offsite employees, retail customers, outside storage or outside activities in the R-2 or R-5 residential zones within the BRCP. Very little people expressed support for adding additional elements to the home occupation definition.

Online and written comments for this question can be found below.

1. *Limit cottage industries to those w/o traffic impact*
2. *Because in 2002 and 2004 Metro and Oregon City brought the Beavercreek Road Concept Plan Urban Growth Boundary Expansion (most of the BRCP area) into the UGB specifically for industrial use due to the need for family-wage jobs in Oregon City and because this need remains, all Residential Densities should allow employment in the BRCP area.*
 - *Oregon City has a very poor job: housing ratio which leads to poor city finances – since business generates more tax revenues and residential costs more services.*
 - *The lack of family wage jobs in Oregon City makes the City a bedroom city with excessive commuting and with multiple roads over capacity already before projected growth occurs and with road subject to alternative mobility standards because the previous higher, more livable standards could not be met without roadway improvements that the City did not budget for. More jobs at home will lessen the increase in road congestion and loss of livability.*
 - *New businesses need to develop in a low risk, low cost environment such as the entrepreneur's home until it begins to be successful and can move to a mature business location.*

Staff recommendation: As there was no clear direction given during the public outreach meetings this spring and there are existing provisions for many types of home occupation allowed city-wide, staff does not recommend any changes to the Home Occupation code for the Beavercreek Concept Plan area.

LEG 19-0003

BEAVERCREEK ROAD CONCEPT PLAN ZONING AND CODE AMENDMENTS

TOPIC: ZONES, MAPS, HOME
OCCUPATION

SEPTEMBER 9, 2019 PLANNING
COMMISSION MEETING





The following topics were identified either by public comment or the Planning Commission for the September 9, 2019 Hearing. Staff will provide background on the issue and offer a recommendation if warranted.

Staff is looking for direction from the Planning Commission on each item discussed this evening.

SOUTHERN PROPERTY LINE



The purpose of the increased setback of 40 feet is to protect the existing grove of trees at the southern property line.

Staff recommendation: Include the two additional redline clarifications for the southern boundary

A. Roads and B. accessory structures allowed in setback.



NORTHERN PROPERTY LINE



25-foot setback when abutting residential uses

Provide a visual buffer for residential uses while maximizing development area for campus industrial properties.

The exchange for quality of the buffer over quantity is often applied in non-residential zones as the landscaping installation and maintenance is easier to enforce than with a single-family residence.

The Campus Industrial Zone is envisioned to attract businesses that contain their uses inside buildings.

The off -hour impact would also be less compared to a single- family residence.

Staff recommendation: No additional revisions to this section is needed.

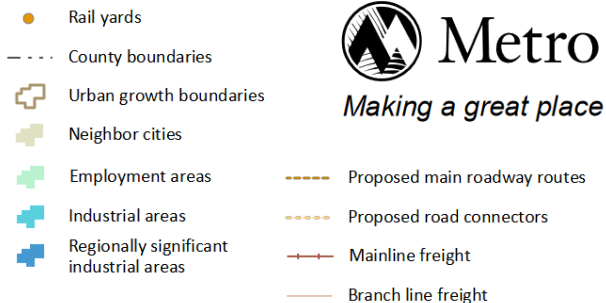
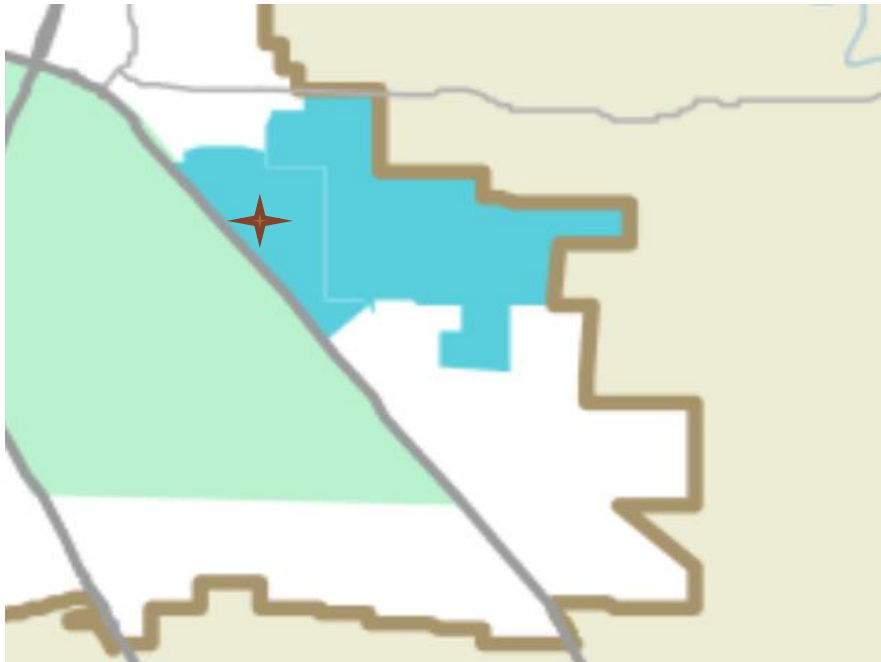
DEFINITION OF WAREHOUSING



Distribution/warehousing is prohibited in the Beavercreek Road Concept Plan CI zone. There was some concern that ancillary warehousing and distribution would not be allowed.

Staff recommendation: Oregon City views the storage and distribution of materials that are constructed or assembled onsite to be part of the permitted use. No changes to the code are recommended.

MAP CHANGE REQUEST



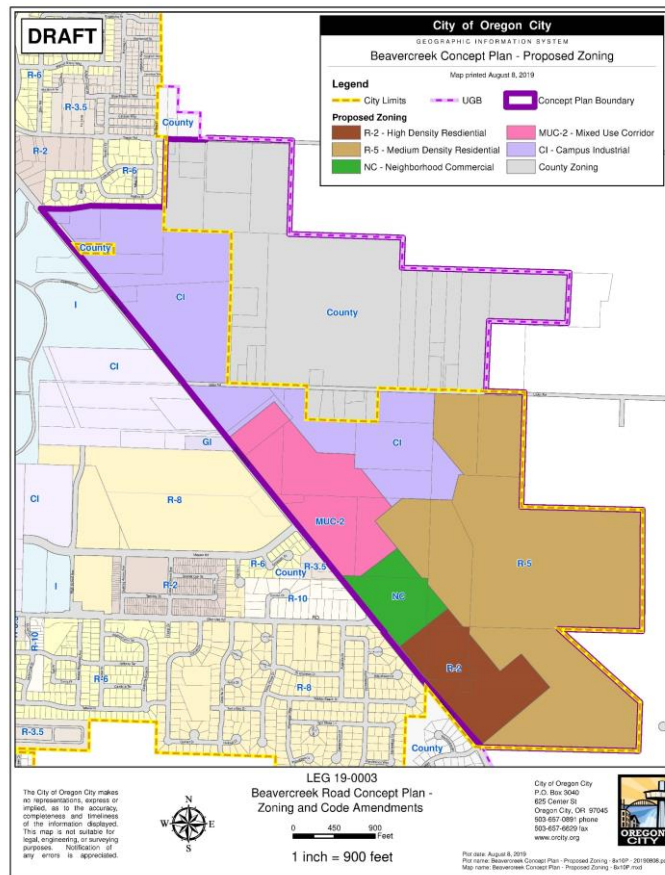
Any change to the title 4 Map must be adopted by Metro and would need to be completed before the Code amendments are adopted by the City to remain consistent with Title 4.

This requested map revision would constitute a substantial change to the Concept Plan, would not honor the extensive public process that created the plan and would affect forecasted jobs numbers.

This area of the Concept Plan was brought into the Urban Growth boundary to meet Oregon City's needs for additional jobs.

Staff recommendation: Staff does not recommend amending the Title 4 Map as it is not consistent with the vision of the Beaver Creek Road Concept Plan.

CITY COMPREHENSIVE PLAN AND ZONING MAPS



These maps are based on the June 7, 2019 draft maps, which were attached to the record at the August 12, 2019 Hearing. These will be added into the record this evening.

Any future revisions to the Zoning or Comprehensive Plan maps will be from the draft city maps.

HOME OCCUPATION/COTTAGE MANUFACTURING



As part of the 2016 re-adoption of the plan, the Planning Commission recommended that as part creating the implementing zoning for the BRCP, the City Commission direct staff to further analyze the issue of allowing expanded home occupation uses, also known as cottage manufacturing/industry within the mixed use and residential areas.

Staff recommendation: As there was no clear direction given during the public outreach meetings this spring and there are existing provisions for many types of home occupation allowed city-wide, staff does not recommend any changes to the Home Occupation code for the Beavercreek Concept Plan area.

SEPTEMBER 23, 2019 PLANNING COMMISSION MEETING



MASTER PLANNING REQUIREMENT
UPLAND HABITAT
GEOLOGIC HAZARDS



OREGON CITY

625 Center Street | PO Box 3040 | Oregon City OR 97045
Ph: (503) 657-0891 | TOLL FREE (888) 873-1676 | Fax (503) 657-3339

HOME OCCUPATION WORKSHEET

Please fill out this worksheet COMPLETELY on both sides, whether applying for the first time or submitting an annual renewal, and return it with your business license application.

OCMC 17.04.580 defines the restrictions on home occupations as follows:

"Home occupation" means an occupation carried on solely by the resident or residents of a dwelling unit as a secondary use, in connection with which no assistants are employed, other than residents of the home, no commodities are sold other than services, no sounds are heard beyond the premises, and there is no display, advertisement or sign board except such signs as by this title may be permitted in the district where the home or occupation is situated, including such occupations as lawyer, public accountant, artist, writer, teacher, musician, home office of a physician, dentist or other practitioner of any of the healing arts, or practices of any art or craft of a nature to be conveniently, unobstructively and inoffensively pursued in a residential dwelling or accessory building of a residence, and not more than one-half of the square-footage is devoted to such use. The business may have off-site employees or partners provided that they do not report for work at the subject residence. No outdoor storage of materials or commercial vehicles associated with the business shall occur on-site.

A home occupation is a business carried on by the resident of a dwelling as a **secondary** use, with the activity conducted so that there is no audible, visual or other appearance of a business. No on-site retail sales are permitted. The primary use must continue to be a residence. **Partners or employees are not allowed onsite for businesses purposes.** This means that the business must be conducted by the resident(s) and family members who **live** at the dwelling. In order to renew your business license, your home occupation statement must be reviewed annually.

A business license does not authorize the holder to conduct business in violation of any zoning ordinance or other state, federal, or local law.

Your signature below indicates that you have read and understand this worksheet, and that you agree to observe and comply with the restrictions for a home occupation as defined in the Oregon City Municipal Code (see above).

Signature: _____

Applicant Name: _____

Business Name: _____

Address: _____

Phone Number: _____

(Please complete reverse side)

Please describe your home business in detail. What activity is conducted at your home (phone calls, bookkeeping, storage, etc.)?

How long has your business been located at your home?

Does your business include retail sales from your home?

Yes ☐ No ☐

Do you have regular business hours from your home for customers / clients?

Yes ☐ No ☐

If “Yes”, please indicate hours:

What is the approximate square footage of your home?

A. _____sf

What is the approximate square footage used for the business?

B. _____sf

What percent of the home is used for the business?

$(B \div A) = \text{_____}\%$

Is any part of your home business conducted outside?

(Note: The home occupation license does not allow outdoor storage.)

Yes ☐ No ☐

If “Yes”, please list activities performed outside:

How many employees work in the business? *(Count yourself as one employee)*

Do any employees live outside the home and travel to the home for employment purposes?

Yes ☐ No ☐

If “Yes”, please explain:

Do you intend to have a sign? (Signs larger than 2 square feet require a permit)

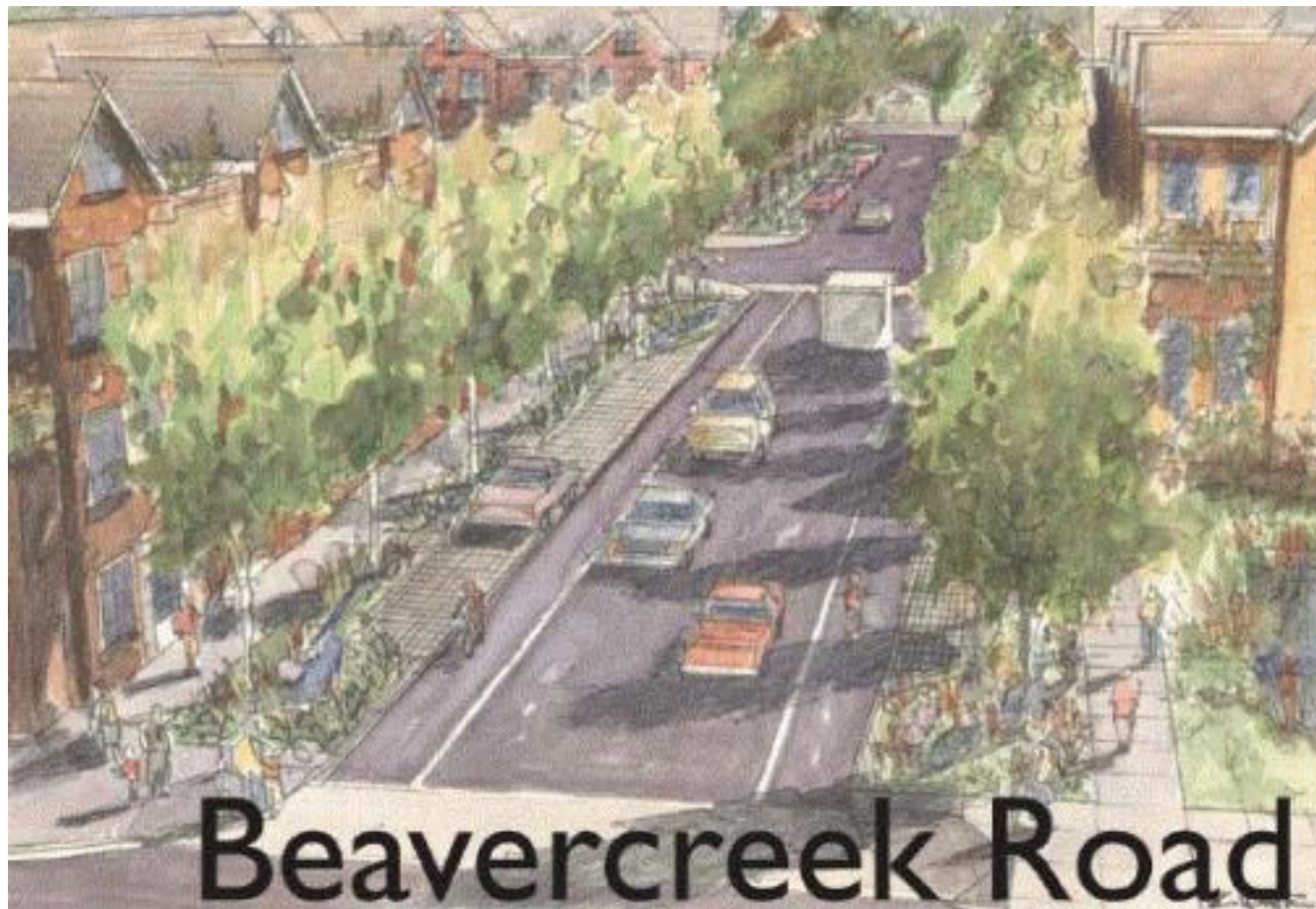
Yes ☐ No ☐

NOTE TO HOME OCCUPATION APPLICANTS:

Completion of this worksheet and application for a business license does not imply approval of the home occupation. The business cannot begin until a City Business License has been issued. This form must be completed **ANNUALLY** in its entirety.

QUESTIONS? For verification of property zoning, please contact the Planning Division, at 221 Molalla Avenue, Suite 200, Monday through Friday between the hours of 8:30 AM and 3:30 PM or call (503) 722-3789.

THANK YOU FOR YOUR ASSISTANCE AND COOPERATION



Concept Plan Implementation – Map and Code Amendments

Planning Commission Hearing| August 12, 2019

Purpose of Tonight's Meeting



- Introduce Tracking Matrices
- Provide an Overview of 8.13.19 City Commission Work Session
- Identify Future Topics/ Review Calendar

Calendar

Below is the tentative meeting schedule. The dates and topics may change as the process moves forward.

August 26, 2019 **Topic:** Introduce Tracking Matrices, an Overview of City Commission WS, Identify Future Topics

September 9, 2019 **Topic:** Beaver Creek Zones, Home Occupation

September 23, 2019 **Topic:** Master Planning Requirement, Upland Habitat, Geologic Hazards

October 14, 2019- **Topic:** Parks, Renaming Concept Plan

October 28, 2019- **Topic:** Transportation (3 questions -roadway width, roundabout, Holly Lane, speed limit)

November 4, 2019 **Topic:** Planning Commission Recommendation (Note: special meeting)

November 11, 2019- City Hall Closed- No Planning Commission Meeting

November 25, 2019 **Topic:** Tentative Approval of Planning Commission Recommendation/ Findings

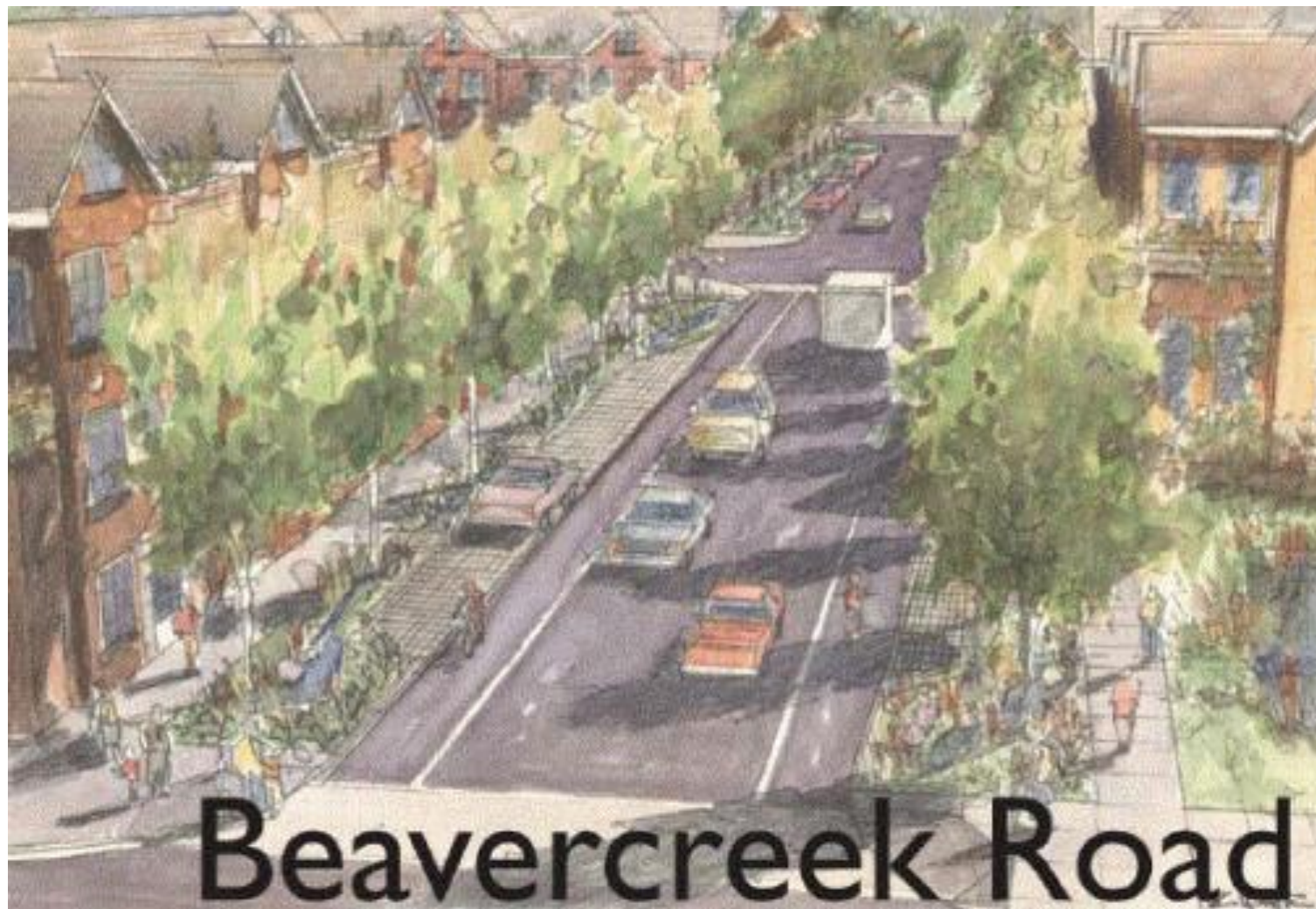
Other Meetings

October 2019 - City Commission Beaver Creek Road Design Work Session- Date TBD

August 29, 2019 PRAC- Parks Intro

September 26, 2019 PRAC Parks recommendation

September 2019 - Additional Public Outreach on Transportation Questions



Concept Plan Implementation – Map and Code Amendments

Planning Commission Hearing| August 12, 2019

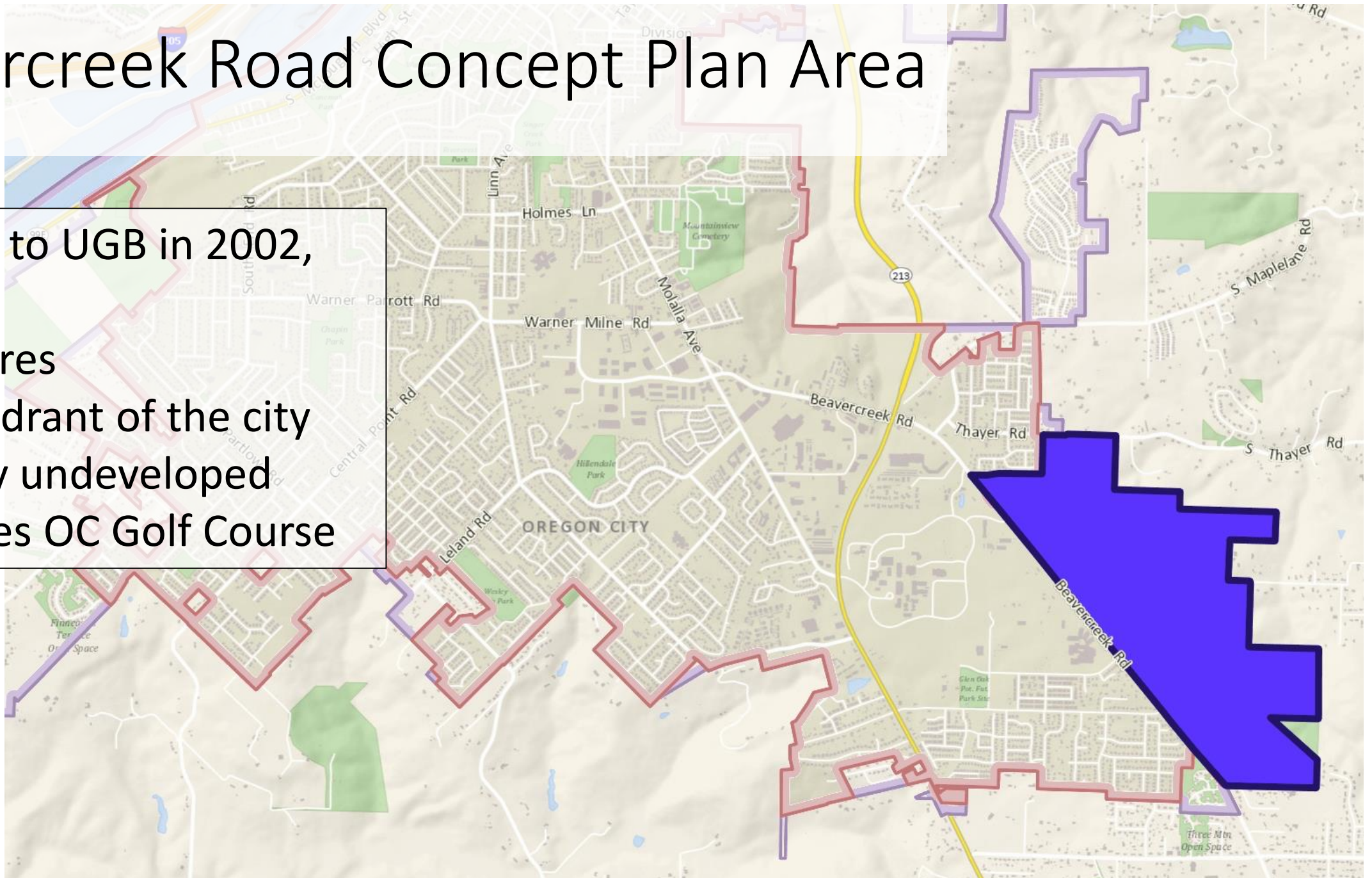
Purpose of Tonight's Meeting



- Listen to Staff Presentation
- Listen to Public Comment
- Identify initial items that the Planning Commission would like to discuss at the August 26, 2019 Hearing
- Continue Hearing to August 26, 2019
- **August 26, 2019 Planning Commission Hearing**
 - Staff Report
 - Public Comment
 - Discussion of Issues
 - Continue to September 9, 2019 – to incorporate additional findings
- **Additional meetings will be scheduled as needed.**

Beavercreek Road Concept Plan Area

- Added to UGB in 2002, 2004
- 453 acres
- SE quadrant of the city
- Largely undeveloped
- Includes OC Golf Course



Beavercreek Road Concept Plan

The 2008 Beavercreek Road Concept Plan envisions a complete community with a diverse mix of uses woven together by open space, trails, a network of green streets, and sustainable development practices, including:

- An employment campus north of Loder Road
- Mixed-use districts along Beavercreek Road
- Two mixed-use residential neighborhoods
- 1,000-1,600 new housing units and up to 5,000 jobs at complete build-out

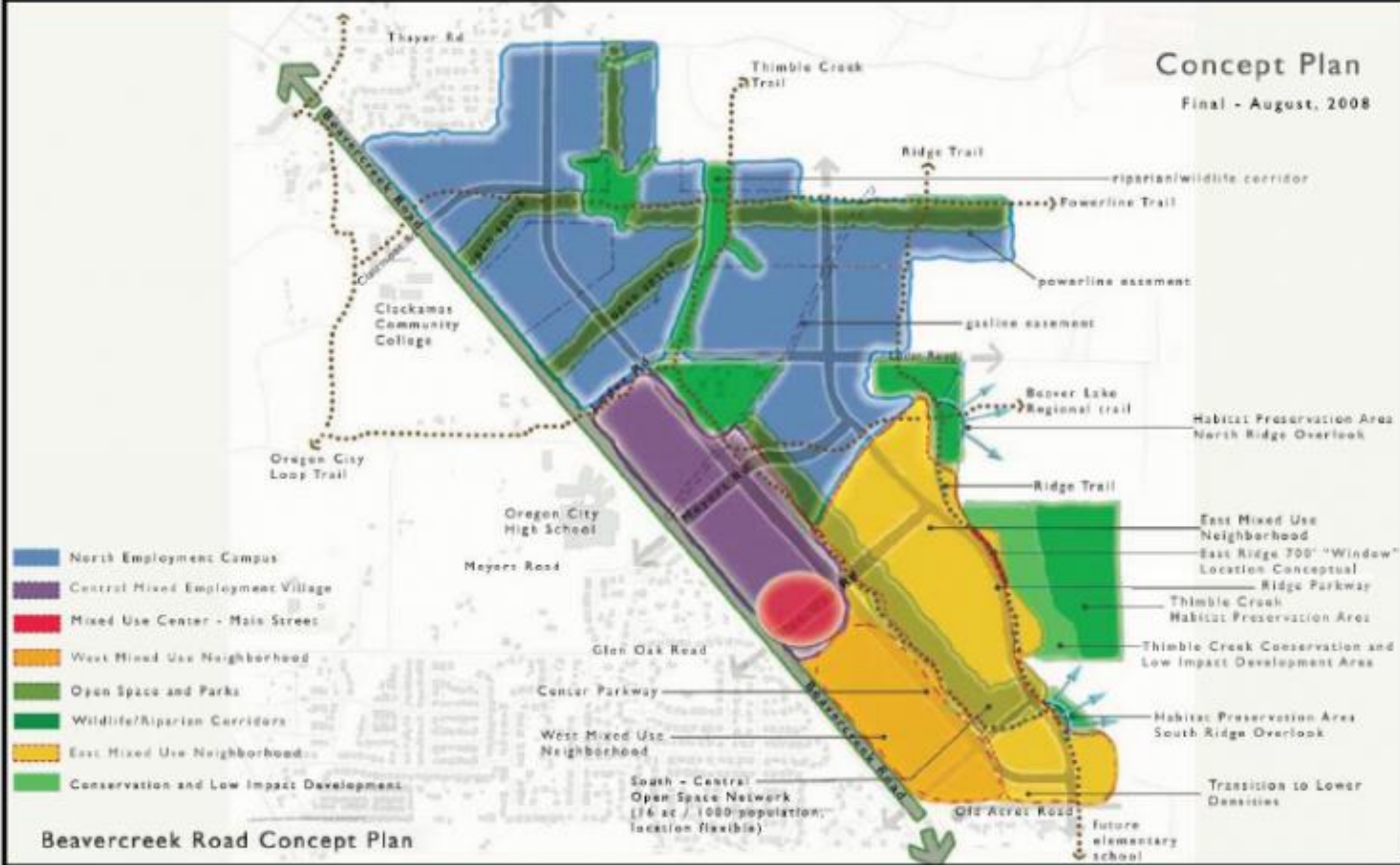
2019 Projection

1105- Housing Units

5,000 -Jobs

Concept Plan

Final - August, 2008



Plan History and Status



Related Efforts:

- Annexation of ~50% of district
- Water Master Plan (2010)
- Transportation System Plan (2013)
- Sewer Master Plan (2014)
- Stormwater LID standards (2015)
- Alternative Mobility Standard (2018)
- Beavercreek Employment Area
- Equitable Housing Code Amendments (2019)

Public Outreach

Community/ Boards and Commissions Meetings-

- Hamlet of Beavercreek, Caufield Neighborhood Associate, Parks and Rec Advisory Board, Transportation Advisory Board, Beavercreek Blue Ribbon Committee

Community-Wide Meetings

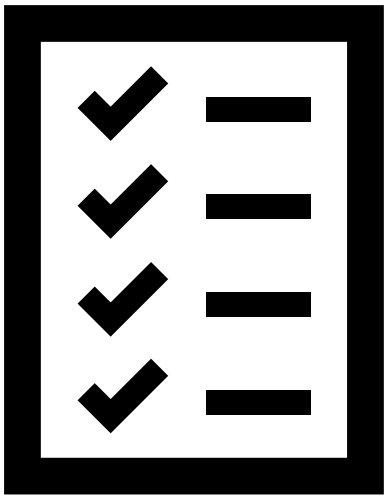
- Meeting 1 : January 29, 2019- Oregon City High School Library-
- Meeting 2: April 9, 2019- Oregon City High School Library
- Open House: June 10, 2019- City Hall Commission Chambers

Planning and City Commission Work Sessions

- Planning Commission Work Session- May 13, 2019
- City Commission Work Session- June 11, 2019

Website, project sign, e-blast, surveys, consultant interviews





Public Comment Tracker Matrix

- Utilized for public hearings portion of the project
- Track comments/ issues, staff recommendation and Planning/City Commission direction.
- Legislative findings will be added to the staff report to add or clarify findings needed to address the issues that are discussed in the hearings process.

Beavercreek Road Concept Plan

Implementation: Map & Code Concepts

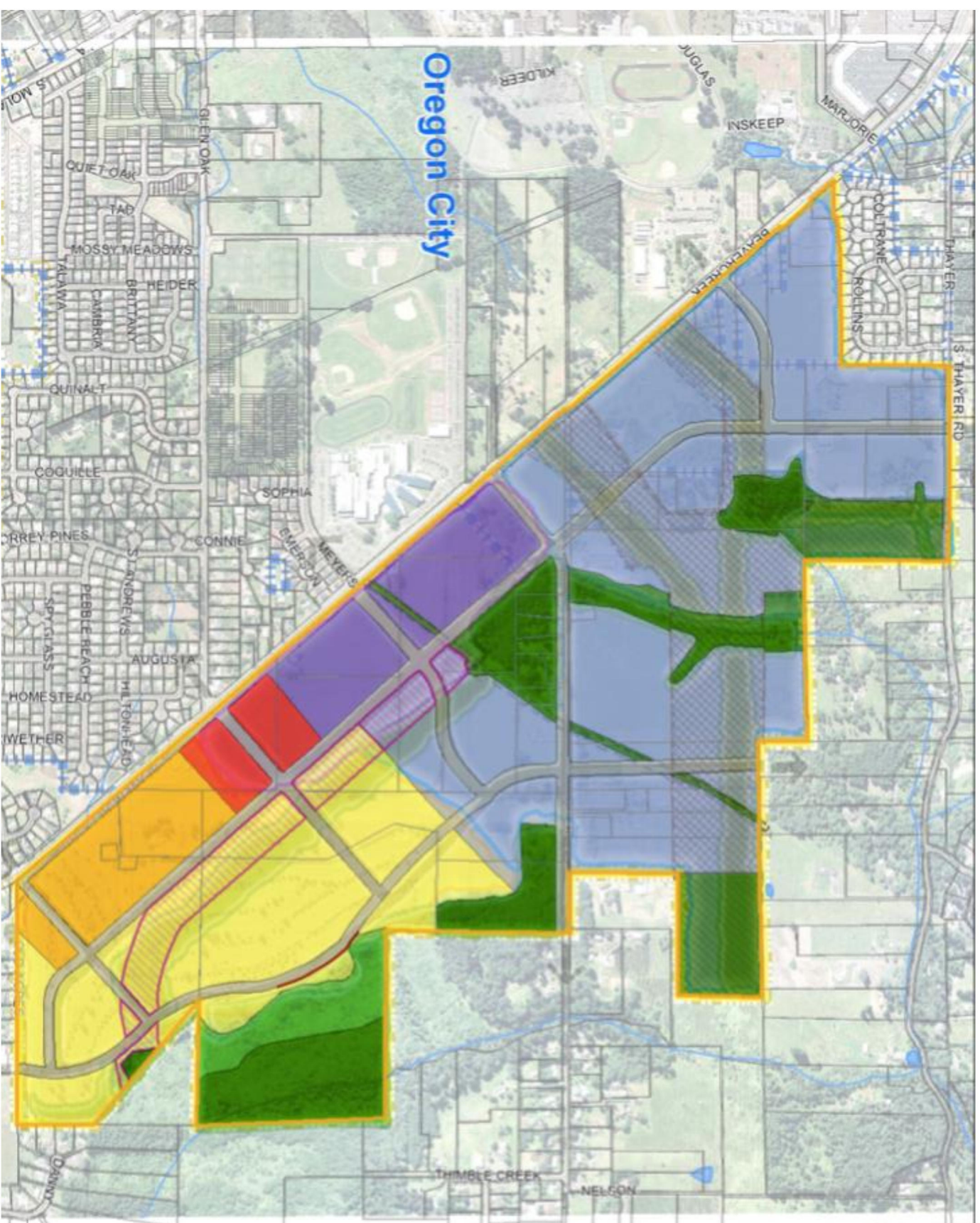
Hybrid Implementation Concept



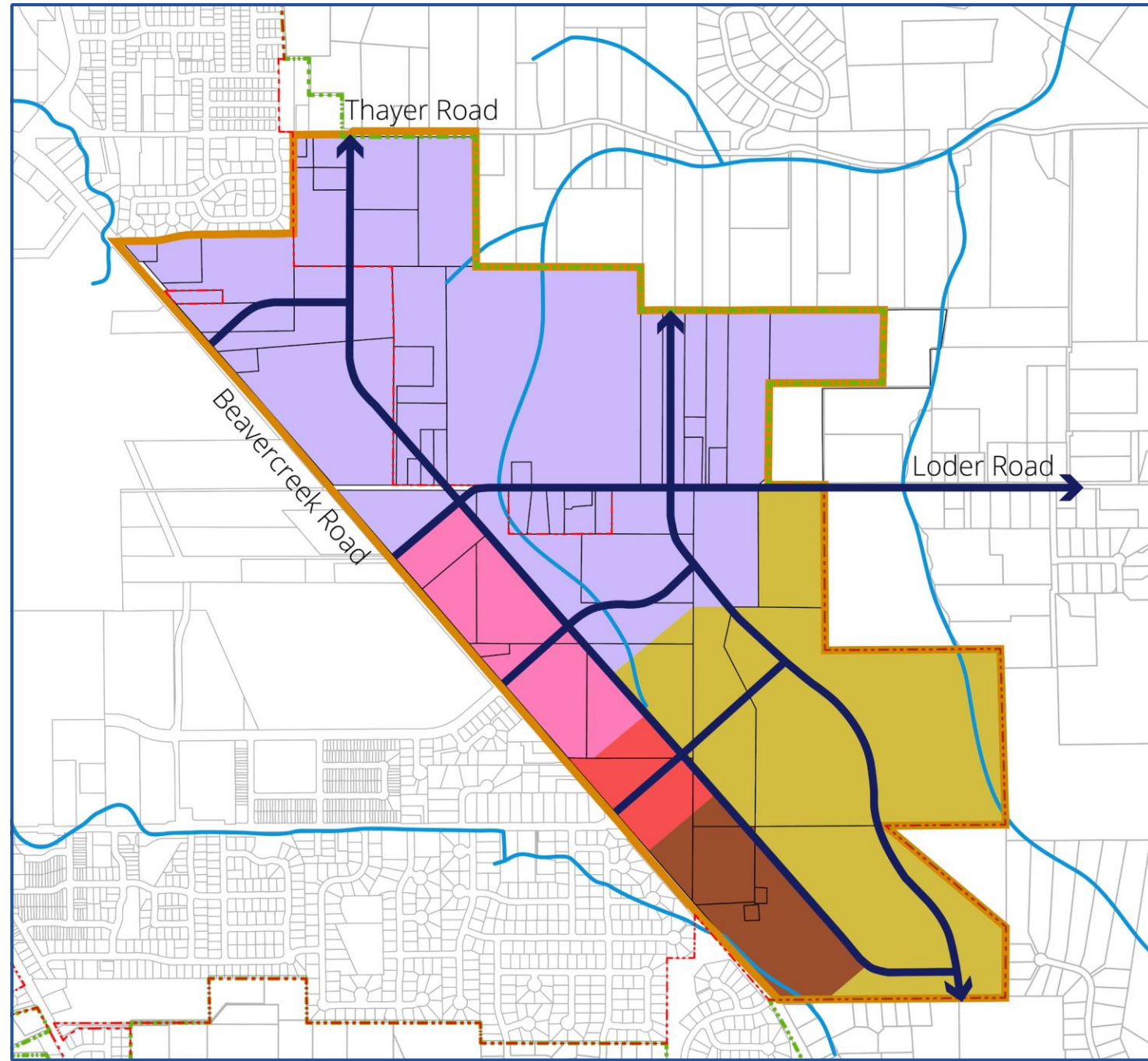
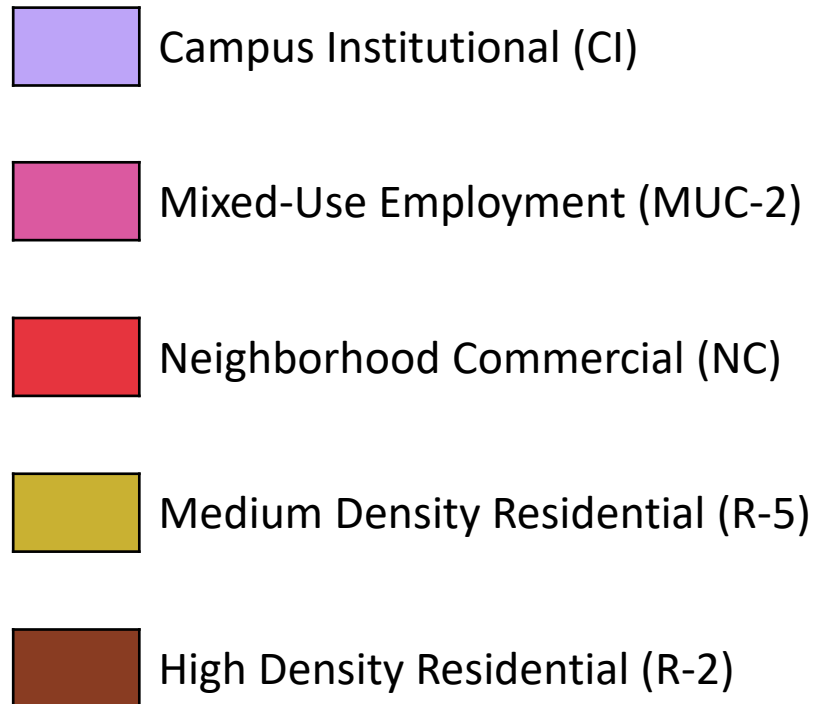
Implementing Designations and Zones

<i>Subdistrict</i>	<i>Zone</i>
North Employment Campus	Campus Institutional (CI)
Mixed Employment Village	Mixed-Use Corridor (MUC-2)
Main Street	Neighborhood Commercial (NC)
West Mixed-Use Neighborhood	High-Density Residential (R-2)
East Mixed-Use Neighborhood	Medium-Density Residential (R-5)

Subdistrict Mapping

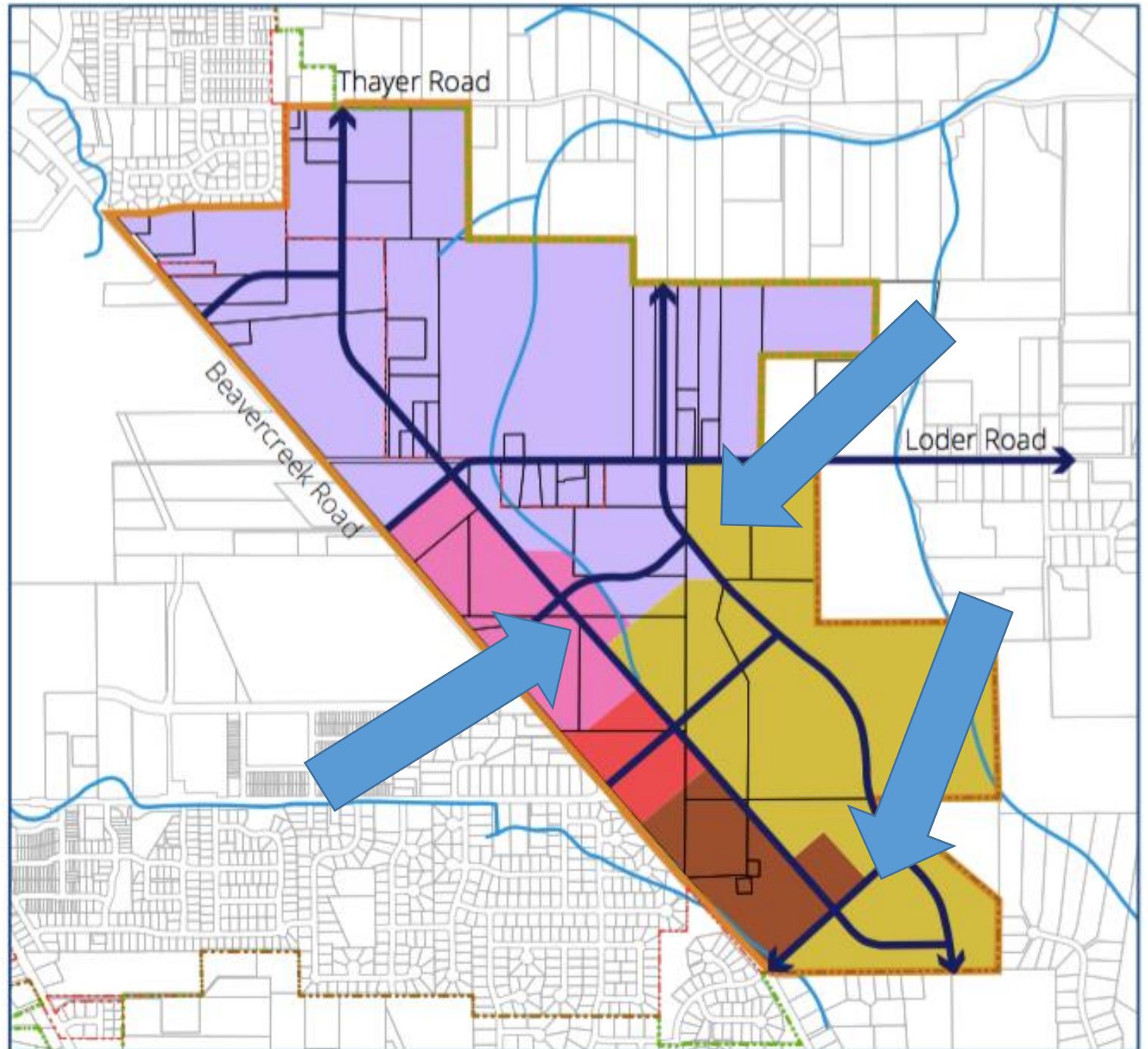


Initial Draft Implementation Map (April 2019)



Revised Draft Implementation Map (June 2019)

-  Campus Institutional (CI)
-  Mixed-Use Employment (MUC-2)
-  Neighborhood Commercial (NC)
-  Medium Density Residential (R-5)
-  High Density Residential (R-2)



North Employment Campus

- Campus Institutional (CI) zone
- Code Refinements:
 - Sustainability site design features
 - Pre-existing residential uses protected
 - 25% maximum outdoor storage
 - Additional buffering requirements near residential uses
 - 30-ft open space corridor in powerline easement areas



Mixed Employment Village

- Mixed-Use Corridor 2 (MUC-2) zone
- Code Refinements:
 - Additional light industrial uses permitted
 - Retail and service uses limited
 - Limited upper-story residential option
 - 0.35 FAR minimum for efficient land use



Main Street

- Neighborhood Commercial (NC) zone
- Code Refinements:
 - Limit individual uses to 10,000 SF
 - New artisan manufacturing use
 - 50% max residential use, upper stories and rear of sites only
 - 0.5 FAR minimum and up to 5 stories permitted
 - Parking located behind buildings



West Mixed Use Neighborhood

- High Density Residential (R-2) zone
- Code Refinements:
 - Live/work dwellings and limited commercial uses permitted
 - 20% density bonus available for projects with sustainability features
 - Additional parkland or fee-in-lieu requirement

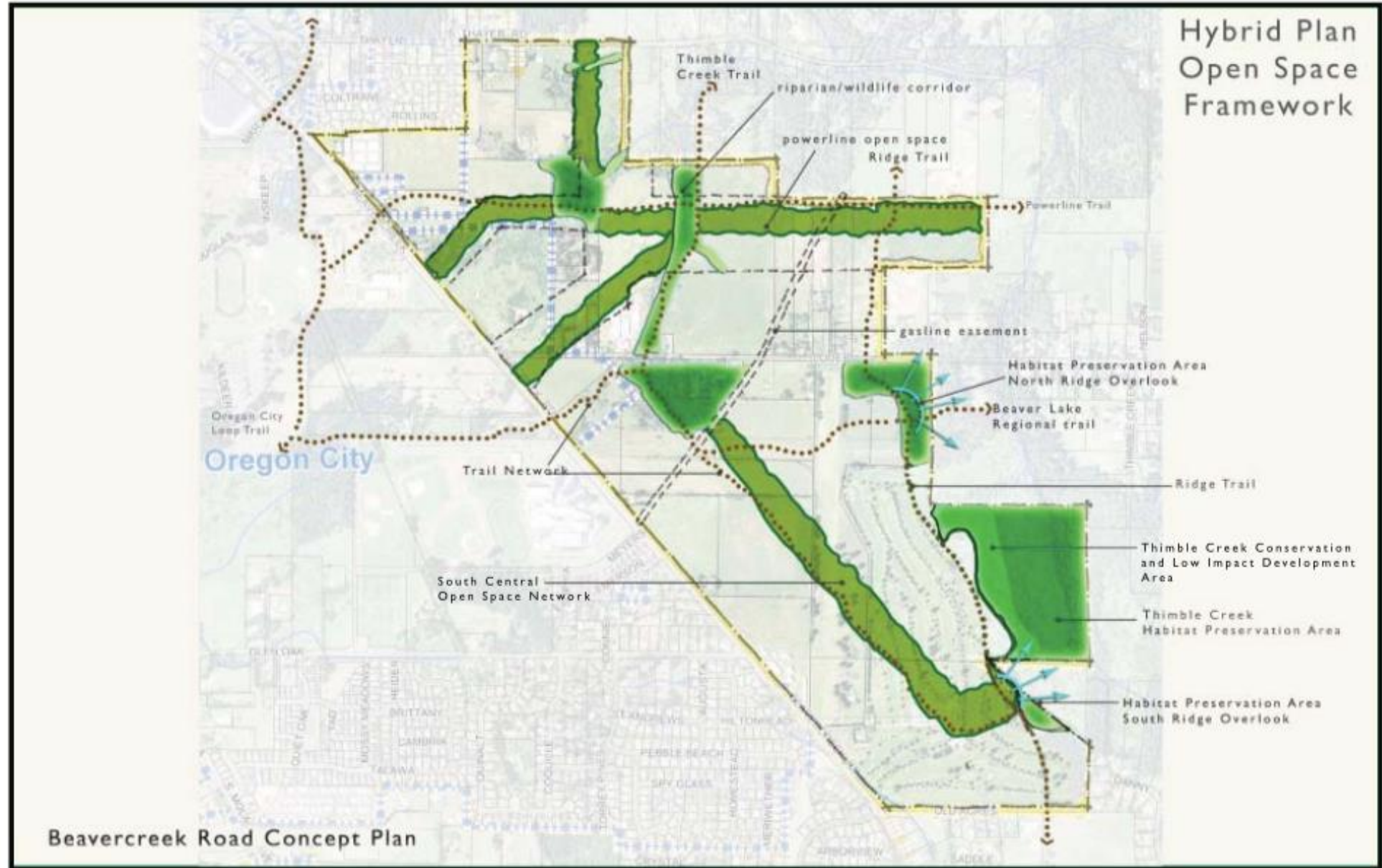


East Mixed-Use Neighborhood

- Medium Density Residential (R-5) zone
- Code Refinements:
 - Uses and dimensional standards as proposed in Equitable Housing code
 - Low-Impact Conservation Area limited to 2 units/acre with view corridor requirements
 - 40-ft buffer required along southern perimeter with landscaping
 - Additional parkland or fee-in-lieu requirement



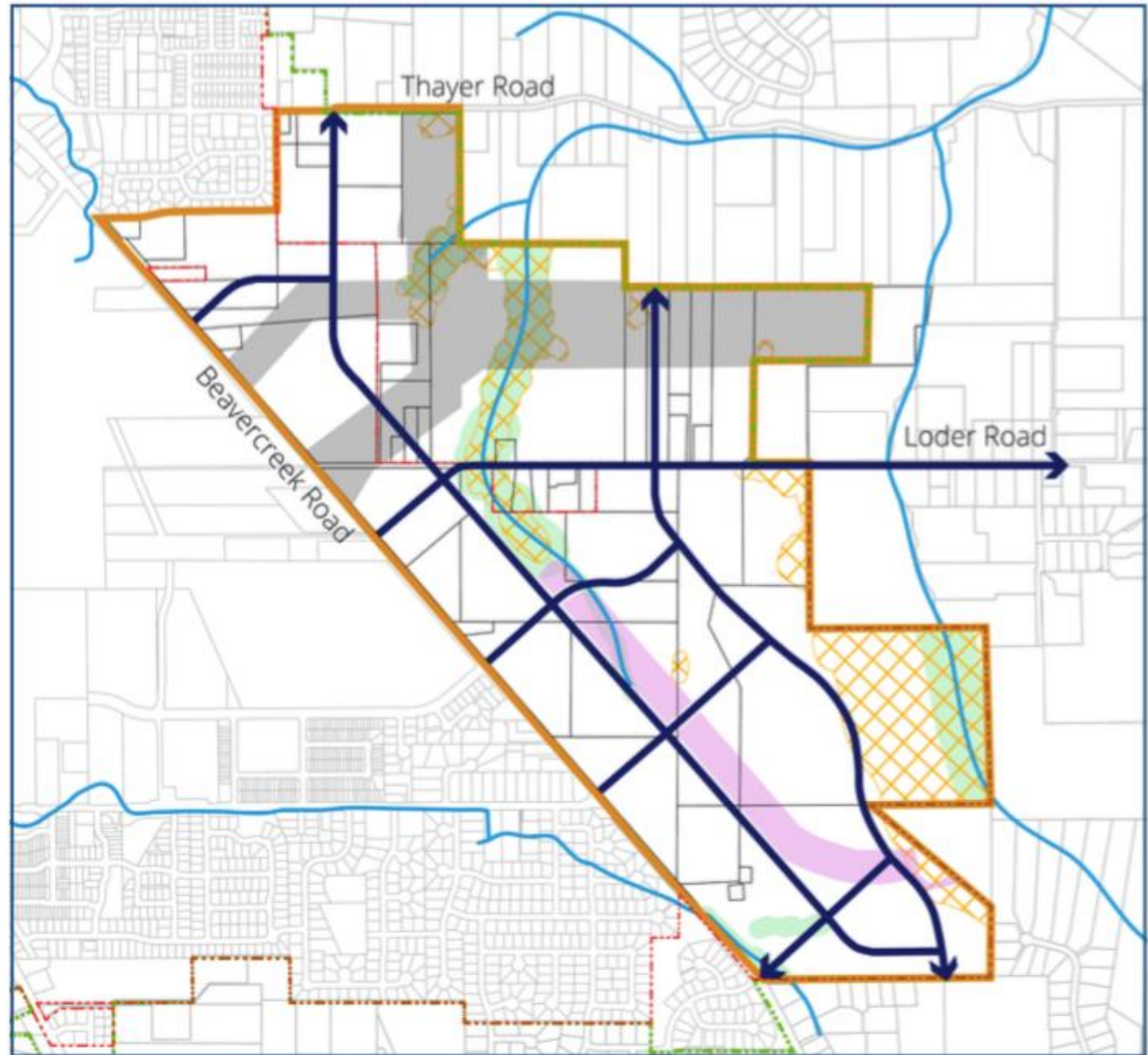
Parks, Trails and Open Space



Parks & Open Space Mapping

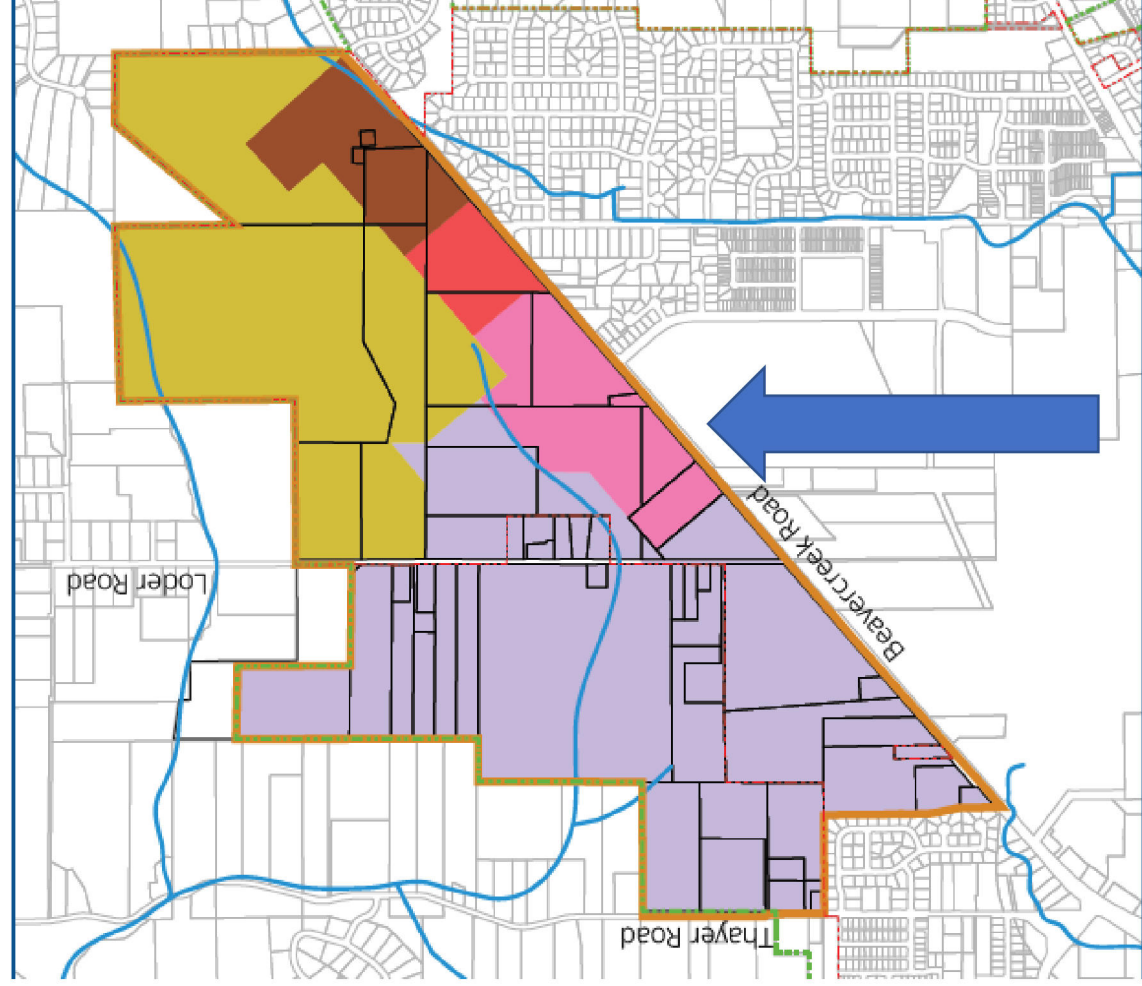
-  Natural Resources Overlay District (NROD)
-  Geologic Hazard Overlay District (GHOD)
-  South-Central Open Space Network
-  Powerline Corridor

August 29, 2019 Parks and
Recreation Advisory Meeting

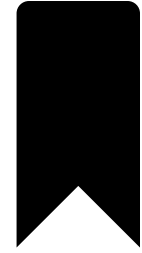


Beavercreek Road Section (8.13.19 CCWS)

- Provide responses to the following three questions identified by the public during the public engagement phase.
- **Intersection Control Analysis.** What is the optimal design for intersection control along the Beavercreek Road Concept Plan boundary- traffic signals or roundabouts?
- **Holly Lane Connection.** How important is the Holly Lane connection to the transportation model? What if it does not connect for a very long time, or is removed?
- **Road Network Evaluation.** What is the optimal cross section for Beavercreek Road?



Outstanding Items - August 26, 2019



- **Parks Master Plan**

- Identification and brief description of public parks in the Beavercreek Concept Plan Boundary

- **Trails Master Plan**

- Identification and brief description of trail width and design within the Beavercreek Road Concept Plan Area

- **Transportation System Plan**

- Potential revisions to the intersection control, Holly Lane connection and lane configuration of Beavercreek Road where it abuts the Concept Plan boundary.

- **Beavercreek Road Concept Plan**

- Revision to remove requirement for master planning to address clear and objective standards for housing and reduce barrier for commercial/industrial development.
- The following may be included based on the direction from the Planning and City Commissions- Upland habitat, Beavercreek Road lane configuration, home occupation, name change